

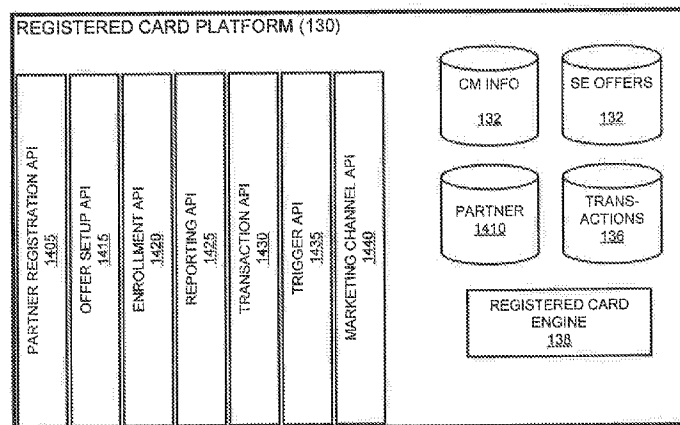


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(72) Inventeurs/Inventors:
DURVASULA, SASTRY, US;
GEBB, LUKE, US;
KOUL, PRIYADARSHINI, US;
MORRIS, MICHAEL, US;
MUTHUKRISHNAN, SATHISH, US;
NEWHOUSE, SHERREE, US;
PURANIK, MANJUSHRI, US;
...
(73) Propriétaire/Owner:
AMERICAN EXPRESS TRAVEL RELATED SERVICES
COMPANY, INC., US
(74) Agent: MARKS & CLERK

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(57) Abrégé/Abstract:

A system and method provide rewards or loyalty incentives to transaction account customers. The system includes a computing platform comprising application programming interfaces that enable users to define marketing programs. The system thus enables an efficient, automated and extensible platform for creating, managing and executing rewards and other marketing related programs.

(72) **Inventeurs(suite)/Inventors(continued)**: ROEN, SCOTT, US; RUSSO, JENNIFER, US; TIKU, SRIPRIYA, US;
WILMES, ROBERT, US; WOLF, DAVID, US

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- (71) Applicant (for all designated States except US): **AMERICAN EXPRESS TRAVEL RELATED SERVICES COMPANY, INC.** [US/US]; 200 Vesey Street, 3 World Financial Center, New York, New York 10285-4900 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DURVASULA, Sastry** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **GEBB, Luke** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **KOUL, Priyadarshini** [IN/US]; 3 World Financial Center, New York, New York 10285 (US). **MORRIS, Michael** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **MUTHUKRISHNAN, Sathish** [US/US]; 2546 W. Cordia Lane, Phoenix, Arizona 85085 (US). **NE-**

WHOUSE, Sherree [US/US]; 3 World Financial Center, New York, New York 10285 (US). **PURANIK, Manjushri** [IN/US]; 3 World Financial Center, New York, New York 10285 (US). **ROEN, Scott** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **RUSSO, Jennifer** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **TIKU, Sripriya** [US/US]; 9663 E. Sharon Drive, Scottsdale, Arizona 85260 (US). **WILMES, Robert** [US/US]; 3 World Financial Center, New York, New York 10285 (US). **WOLF, David** [US/US]; 3 World Financial Center, New York, New York 10285 (US).

(74) Agent: **SOBELMAN, Howard**; Snell & Wilmer L.L.P., One Arizona Center, 400 E. Van Buren, Phoenix, Arizona 85004-2202 (US).

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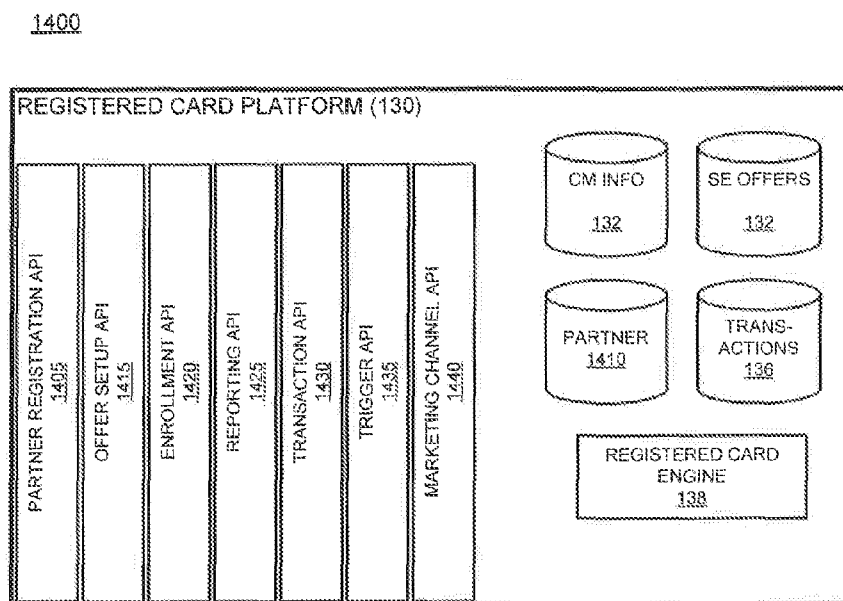


Figure 14

(57) Abstract: A system and method provide rewards or loyalty incentives to transaction account customers. The system includes a computing platform comprising application programming interfaces that enable users to define marketing programs. The system thus enables an efficient, automated and extensible platform for creating, managing and executing rewards and other marketing related programs.

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SYSTEM AND METHOD FOR ADMINISTERING MARKETING PROGRAMS

Field of the Invention

5 The present disclosure relates generally to systems and methods for providing marketing partners an automated platform for managing promotions, and more particularly to systems and methods for establishing and maintaining loyalty incentive programs and other promotions that permit consumers to receive discounts and notices of discounts without requiring a coupon to be redeemed.

10 Background of the Invention

Loyalty incentive or reward programs are used as a form of highly customizable and targeted marketing. A loyalty program provider will attract customers who sign-up for a loyalty program. Shopping benefits such as discounts are offered to the customers by the provider. The provider then markets to merchants that the provider can bring customers to
15 the merchant. For example, a loyalty program provider may approach a merchant, such as the clothing retailer GAP® Inc., with an offer to bring customers to the GAP® in exchange for a fee. The provider would then send a solicitation (via email or regular mail) to its customers offering, for example, a 10% discount coupon that may be redeemed at the GAP® on a particular day. The success of the solicitation can be assessed based on the number of
20 coupons redeemed.

In such a loyalty solicitation, the merchant would pay the loyalty program provider a percentage of the sales (e.g., 10%) that result from the solicitation. The merchant benefits from the increased sales. The loyalty program provider benefits from the commission that it receives, and the customers benefit from the received discount.

25 There are several areas that could be improved in such traditional loyalty programs. For example, such traditional programs suffer from leakage. Leakage occurs when the merchant does not fully report sales resulting from the solicitation. Leakage results in loss revenues for the loyalty program provider. Further, administration marketing programs such as coupon redemption is costly. For example, setting up and maintaining offers, eligibility
30 criteria, redemption criteria, reporting criteria and other functions of a promotion system traditionally requires business analysts of the reward program platform provider to manually configure the platform. What is needed is a marketing and promotions platform that enables

intelligent, automated (e.g., via application programming interfaces) interfaces with a reward platform.

Summary of the Invention

5 In one embodiment, a computing platform includes application programming interfaces that enable third parties to create, configure, manage, modify, update, delete, report on, and enhance reward offers and marketing programs. For example, a program provider may wish to create a custom application ("partner application") that serves as a front-end or interface with the computing platform. The partner application accesses the
10 computing platform via various application programming interfaces (APIs). Although in various embodiments, steps may occur in any order, in an embodiment a marketing program is set up and merchants are associated with the marketing program. Offers are created and associated with the program and/or the merchant and customers are offered and signed up for the offers.

15 In one embodiment an automated marketing system, comprises: a network interface communicating with a memory, the memory communicating with a processor for automated marketing and storing a computer program and a plurality of application programming interfaces (APIs); and the processor, when executing a computer program, performs operations. The operations include receiving, by the processor and via an offer setup API, a
20 first offer setup request, wherein the offer setup API is from the plurality of APIs; parsing, by the processor, the offer set up request into a plurality of first offer parameters; validating, by the processor, at least one of the offer setup request and the first offer parameters; in response to the validating, notifying, by the processor, a first approver of the offer setup request; receiving, by the processor and from the first approver, an approval of the offer set
25 up request; saving, by the processor and to the memory, a first offer comprising the first offer parameters, wherein the first offer is associated with a first marketing program; and determining, by the processor, a first population comprising a plurality of transaction accounts that comply with first offer criteria, wherein the first offer parameters comprise the first offer criteria.

30 In an embodiment, the first offer criteria comprise at least one of a customer identifier, a customer demographic, a customer location, spend frequency, a spend threshold, a spend history, an award cap, a tiered reward requirement, a product identifier, a product

category, a stock-keeping unit (SKU), a universal product code (UPC), a QR code, a merchant, a merchant type, an industry, a merchant location.

In one embodiment, operations performed by the system include receiving via an enrollment API from the plurality of APIs, a first enrollment setup-request; validating the first enrollment setup-request, wherein the validating comprises determining that the first enrollment setup request is associated with at least one of the first offer and a second offer; receiving an approval of the first enrollment setup-request from at least one of the first approver and the second approver; parsing the first enrollment setup request into first enrollment parameters and saving the first offer enrollment parameters to the memory and receiving a first offer acceptance from a first user associated with a first transaction account from the first population.

In another embodiment, a method for operating a loyalty incentive program includes the following steps: a list of participating merchants is received; a list of participating account holders is received; a record of charge corresponding to a purchase by an account holder customer is received from a merchant, and upon receipt, an account of the account holder customer is debited by the amount of the charge, a merchant identification contained in the record of charge is compared with the list of participating merchants, and an account holder identification contained in the record of charge is compared with the list of participating account holders. If the account holder is a participating account holder and the merchant is a participating merchant, then it is determined whether the record of charge qualifies for a rebate credit. If the record of charge qualifies for a rebate credit, then the rebate credit is provided to an account of the account holder customer.

In another embodiment, a method includes the following steps: participation of a merchant in a loyalty incentive program is solicited; an offer from a participating merchant is received; enrollment of an account holder customer to the loyalty incentive program is solicited; the offer is provided to an enrolled account holder customer; information is received which relates to a purchase by the enrolled account holder customer in accordance with the offer from the participating merchant; an amount of a discount in accordance with the offer is calculated; and the amount of the discount is provided to a transaction account provider so that an account of the enrolled account holder customer is credited in the amount of the discount.

In an embodiment, a method for managing a rewards program includes monitoring spend data associated with a transaction account. The spend data may be analyzed and

compared to a set of criteria (spend levels at particular merchants, spend level on classes of products, spend level in a particular region). The transaction account may then be assigned to one or more transaction account populations based on spend data and criteria. The spend data associated with the transaction account is also analyzed to determine whether a beneficiary of the transaction account qualifies for a reward in accordance with a rewards program. Where the spend data complies with the rules governing the rewards program, a reward (e.g. a credit of monetary value to the transaction account, a merchant prepaid account, a discount, a credit of loyalty points) is provided to a beneficiary of the transaction account. The spend data activities associated with the transaction accounts of the population are also monitored. Where the activities comply with criteria associated with the transaction account population, a rewards offer (an offer of a credit of monetary value to the transaction account, a merchant prepaid account, a discount, a credit of loyalty points) is sent to owner of transaction accounts associated with the population.

In an embodiment, the criteria may be established by a merchant or a prepaid account issuer. Enrollment in a transaction account population may be automatic or may include registration by the owner of the transaction account. Further features of various embodiments, as well as the structure and operation of various embodiments are described in detail below with reference to the accompanying drawings.

According to another embodiment, there is provided a method comprising:
receiving, by a payment processing computer and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;

authorizing, by the payment processing computer and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with predefined business rules, wherein partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a business rule associated with the external partner system;

creating, by the payment processing computer and via the offer setup API, an offer setup tool;

determining, by the payment processing computer, user access preferences in response to an input from the external partner system via a partner registration API;

granting, by the payment processing computer, access to the offer setup tool for the external partner system in response to the authorizing;

receiving, by the payment processing computer, an offer setup request via the offer setup tool;

parsing, by the payment processing computer, the offer setup request into a plurality of first offer parameters;

validating, by the payment processing computer, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;

approving, by the payment processing computer, the offer setup request in response to the validating;

creating, by the payment processing computer, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;

registering, by the payment processing computer and in response to the creating, a transaction account with a rewards program system;

linking, by the payment processing computer, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards program system, in response to the registering the transaction account with the rewards program system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account;

authorizing, by an authorization server of the payment processing computer, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on a first amount of credit associated with the transaction account;

reducing, by the payment processing computer, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing computer and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction between the merchant system and the consumer system;

identifying, by the payment processing computer and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing computer and in response to the authorizing, a plurality of offers associated with a plurality of merchants;

selecting, by the payment processing computer and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing computer and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies for a reward in accordance with the first offer of the subset of offers;

determining, by the payment processing computer and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing computer, the reward as a credit to the transaction in the transaction account during a settlement operation;

adjusting, by the payment processing computer, the amount of the available credit for the transaction account, in response to the applying the reward;

linking, by the payment processing computer, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

generating, by the payment processing computer, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

displaying, by the payment processing computer, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and

processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item.

According to another embodiment, there is provided a tangible, non-transitory computer-readable storage medium having computer-executable instructions stored thereon that, when executed by a payment processing computer, causes the payment processing computer to perform a method comprising:

receiving, by the payment processing computer and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;

authorizing, by the payment processing computer and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with the predefined business rules, wherein the partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a first business rule associated with the external partner system;

creating, by the payment processing computer and via the offer setup API, an offer setup tool;

determining, by the payment processing computer, user access preferences in response to an input from the external partner system via a partner registration API;

granting, by the payment processing computer, access to the offer setup tool for the external partner system in response to the authorizing;

receiving, by the payment processing computer, an offer setup request via the offer setup tool;

parsing, by the payment processing computer, the offer setup request into a plurality of first offer parameters;

validating, by the payment processing computer, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;

approving, by the payment processing computer, the offer setup request in response to

the validating;

creating, by the payment processing computer, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;

5 registering, by the payment processing computer and in response to the creating, a transaction account with a rewards program system;

linking, by the payment processing computer, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards program system, in response to the registering the transaction account with the rewards
10 program system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account;

authorizing, by an authorization server of the payment processing computer, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on
15 a first amount of credit associated with the transaction account;

reducing, by the payment processing computer, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing computer and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction
20 between the merchant system and the consumer system;

identifying, by the payment processing computer and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing computer and in response to the authorizing, a
25 plurality of offers associated with a plurality of merchants;

selecting, by the payment processing computer and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing computer and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies
30 for a reward in accordance with the first offer of the subset of offers;

determining, by the payment processing computer and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

35 converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing computer, the reward as a credit to the transaction in the transaction account during a settlement operation;

40 adjusting, by the payment processing computer, the amount of the available credit for

the transaction account, in response to the applying the reward;

linking, by the payment processing computer, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

5 generating, by the payment processing computer, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

10 displaying, by the payment processing computer, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item..

15 According to another embodiment, there is provided a system comprising:
a payment processing processor;
a tangible, non-transitory memory communicating with the processor; and
the processor, when executing a computer program, is capable of performing operation comprising:

20 receiving, by the payment processing processor and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;

25 authorizing, by the payment processing processor and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with predefined business rules, wherein partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a business rule associated with the external partner system;

creating, by the payment processing processor and via the offer setup API, an offer setup tool;

30 determining, by the payment processing processor, user access preferences in response to an input from the external partner system via a partner registration API;

granting, by the payment processing processor, access to the offer setup tool for the external partner system in response to the authorizing;

35 receiving, by the payment processing processor, an offer setup request via the offer setup tool;

parsing, by the payment processing processor, the offer setup request into a plurality of first offer parameters;

validating, by the payment processing processor, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;

40 approving, by the payment processing processor, the offer setup request in response to

the validating;

creating, by the payment processing processor, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;

5 registering, by the payment processing processor and in response to the creating, a transaction account with a rewards program system;

linking, by the payment processing processor, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards program system, in response to the registering the transaction account with the rewards program system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account; authorizing, by an authorization server of the payment processing processor, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on a first amount of credit associated with the transaction account;

15 reducing, by the payment processing processor, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing processor and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction between the merchant system and the consumer system;

20 identifying, by the payment processing processor and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing processor and in response to the authorizing, a plurality of offers associated with a plurality of merchants;

25 selecting, by the payment processing processor and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing processor and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies for a reward in accordance with the first offer of the subset of offers;

30 determining, by the payment processing processor and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

35 converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing processor, the reward as a credit to the transaction in the transaction account during a settlement operation;

40 adjusting, by the payment processing processor, the amount of the available credit for

the transaction account, in response to the applying the reward;

linking, by the payment processing processor, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

5 generating, by the payment processing processor, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

10 displaying, by the payment processing processor, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item.

15 **Brief Description of the Drawings**

A more complete understanding of the present disclosure may be derived by referring to the detailed description and claims when considered in connection with the Figures, wherein like reference numbers refer to similar elements throughout the Figures, and:

20 FIG. 1 is a high level flow diagram of a process for providing loyalty incentives to an account holder customer in accordance with an embodiment;

FIG. 2 is a high level flow diagram showing data management flow of account holder customer information and participating merchant information for transaction matching in the process of FIG. 1;

25 FIG. 3 illustrates an exemplary output file of matched transactions with corresponding statements of credit to an account holder customer and debit to participating merchants.

FIG. 4 is a detailed high level flow diagram of the process of FIG. 1, in accordance with an embodiment;

FIG. 5 is a high level flow diagram showing data flow of account holder customer information and participating merchant information for transaction matching, in accordance with an embodiment;

FIG. 6 is a flow diagram of a transaction matching process, in accordance with an embodiment;

FIG. 7 is a flow diagram illustrating the processes associated with individual steps shown in FIG. 6;

FIG. 8 is a flow diagram of transaction based data flow between a third party loyalty program provider and a transaction account provider, in accordance with an embodiment;

FIG. 9 is a high level flow diagram of a process of providing loyalty incentives to an account holder customer using a transaction card issued by a third party transaction account provider;

FIG. 10 is another high level flow diagram of the process of FIG. 9, providing an exemplary credit statement of the third party transaction account provider, in accordance with an embodiment;

FIG. 11 is a diagram of a method for determining whether a return relates to a purchase for which a rebate credit was provided to the account holder customer, in accordance with an embodiment;

FIG. 12 is a diagram of another method for determining whether a return was made on a purchase in which the account holder received a discount credit, in accordance with another embodiment;

FIG. 13 is a block diagram of an exemplary computer system used for implementing an embodiment; and

FIG. 14 is a block diagram of an exemplary computer system used for implementing an embodiment.

Detailed Description

The present disclosure is directed to a system and method for providing loyalty incentives to an account holder customer and operating a loyalty incentive program. The present system is now described in more detail herein in terms of an exemplary embodiment. This is for convenience only and is not intended to limit the application of the present

disclosure. While specific configurations and arrangements are discussed, it should be understood that this is done for illustrative purposes only. In fact, after reading the following description, it will be apparent to one skilled in the relevant art(s) how to implement the following exemplary embodiments. A person skilled in the pertinent art will
5 recognize that other configurations and arrangements can be used without departing from the spirit and scope of the present disclosure. It will be apparent to a person skilled in the pertinent art that this disclosure can also be employed in a variety of other applications.

The terms "user," "end user," "consumer," "customer," "participant," and/or the plural form of these terms are used interchangeably throughout herein to refer to those
10 persons or entities capable of accessing, using, being affected by and/or benefiting from the tool that the present disclosure provides for the rewards program described herein. This includes both individual consumers and corporate customers such as, for example, small businesses.

Furthermore, the terms "service provider," "service establishment," "business" or
15 "merchant" may be used interchangeably with each other and shall mean any person, entity, distributor system, software and/or hardware that is a provider, broker and/or any other entity in the distribution chain of goods or services. For example, a service provider may be a retail store, a hotel company, an airline company, a travel agency, an on-line merchant or the like.

A "transaction account" as used herein refers to an account associated with an open
20 account or a closed account system (as described below). The transaction account may exist in a physical or non-physical embodiment. For example, a transaction account may be distributed in non-physical embodiments such as an account number, frequent-flyer account, telephone calling account or the like. Furthermore, a physical embodiment of a transaction
25 account may be distributed as a financial instrument.

A financial transaction instrument may be traditional plastic transaction cards, titanium-containing, or other metal-containing, transaction cards, clear and/or translucent transaction cards, foldable or otherwise unconventionally-sized transaction cards, radio-frequency enabled transaction cards, or other types of transaction cards, such as credit,
30 charge, debit, pre-paid or stored-value cards, or any other like financial transaction instrument. A financial transaction instrument may also have electronic and communications functionality. Such functionality may be enabled, for example, by: a network of electronic circuitry that is printed or otherwise incorporated onto or within the

transaction instrument (and typically referred to as a "smart card"); a fob having a transponder and an RFID reader; and/or near field communication (NFC) technologies. For more information regarding NFC, refer to the following specifications all of which are incorporated by reference herein: ISO/IEC 18092 / ECMA-340, *Near Field Communication Interface and Protocol-1* (NFCIP-1); ISO/IEC 21481 / ECMA-352, *Near Field Communication Interface and Protocol-2* (NFCIP-2); and EMV 4.2 available at <http://www.emvco.com/default.aspx>.

"Open cards" are financial transaction cards that are generally accepted at different merchants. Examples of open cards include the American Express®, Visa®, MasterCard® and Discover® cards, which may be used at many different retailers and other businesses. In contrast, "closed cards" are financial transaction cards that may be restricted to use in a particular store, a particular chain of stores or a collection of affiliated stores. One example of a closed card is a pre-paid gift card that may only be purchased at, and only be accepted at, a clothing retailer, such as the clothing retailer Gap®, Inc.

Stored value cards are forms of transaction instruments associated with transaction accounts, wherein the stored value cards provide cash equivalent value that may be used within an existing payment/transaction infrastructure. Stored value cards are frequently referred to as gift, pre-paid or cash cards, in that money is deposited in the account associated with the card before use of the card is allowed. For example, if a customer deposits ten dollars of value into the account associated with the stored value card, the card may only be used for payments together totaling no more than ten dollars.

With regard to use of a transaction account, users may communicate with service providers in person (e.g., at the box office), telephonically, or electronically (e.g., from a user computer via the Internet). During the interaction, the service provider may offer goods and/or services to the user. The service provider may also offer the user the option of paying for the goods and/or services using any number of available transaction accounts. Furthermore, the transaction accounts may be used by the service provider as a form of identification of the user. The service provider may have a computing unit implemented in the form of a computer-server, although other implementations are possible.

In general, transaction accounts may be used for transactions between the user and service provider through any suitable communication means, such as, for example, a telephone network, intranet, the global, public Internet, a point of interaction device (e.g., a

point of sale (POS) device, personal digital assistant (PDA), mobile telephone, kiosk, *etc.*), online communications, off-line communications, wireless communications, and/or the like.

5 An "account," "account number" or "account code," as used herein, may include any device, code, number, letter, symbol, digital certificate, smart chip, digital signal, analog signal, biometric or other identifier/indicia suitably configured to allow a consumer to access, interact with or communicate with a financial transaction system. The account number may optionally be located on or associated with any financial transaction instrument (*e.g.*, rewards, charge, credit, debit, prepaid, telephone, embossed, smart, magnetic stripe, bar code, transponder or radio frequency card).

10 The account number may be distributed and stored in any form of plastic, electronic, magnetic, radio frequency (RF), NFC, wireless, audio and/or optical device capable of transmitting or downloading data from itself to a second device. A customer account number may be, for example, a sixteen-digit credit card number. Each credit card issuer has its own numbering system, such as the fifteen-digit numbering system used by American
15 Express Company of New York, NY.

A merchant account number may be, for example, any number or alpha-numeric characters that identifies a particular merchant for purposes of card acceptance, account reconciliation, reporting and the like.

20 It should be noted that the transfer of information in accordance with various embodiments may be done in a format recognizable by a merchant system or account issuer. In that regard, by way of example, the information may be transmitted from an RFID device to an RFID reader, or from the RFID reader to the merchant system in magnetic stripe or multi-track magnetic stripe format.

25 Because of the proliferation of devices using magnetic stripe format, the standards for coding information in magnetic stripe format were standardized by the International Organization for Standardization in ISO/IEC 7811-n (characteristics for identification cards) which are incorporated herein by reference. The ISO/IEC 7811 standards specify the conditions for conformance, physical characteristics for the card (warpage and surface distortions) and the magnetic stripe area (location, height and surface profile, roughness,
30 adhesion, wear and resistance to chemicals), the signal amplitude performance characteristics of the magnetic stripe, the encoding specification including technique (MFM), angle of recording, bit density, flux transition spacing variation and signal amplitude, the data structure including track format, use of error correction techniques, user

data capacity for ID-1, ID-2 and ID-3 size cards, and decoding techniques, and the location of encoded tracks.

Typically, magnetic stripe information is formatted in three tracks. Certain industry information must be maintained on certain portions of the tracks, while other portions of the tracks may have open data fields. The contents of each track and the formatting of the information provided to each track is controlled by the ISO/IEC 7811 standard. For example, the information must typically be encoded in binary. Track 1 is usually encoded with user information (*i.e.*, name) in alphanumeric format. Track 2 is typically comprised of discretionary and nondiscretionary data fields. In one example, the nondiscretionary field may comprise 19 characters and the discretionary field may comprise 13 characters. Track 3 is typically reserved for financial transactions and includes enciphered versions of the user's personal identification number, country code, current units amount authorized per cycle, subsidiary accounts, and restrictions.

As such, where information is provided in accordance with an embodiment, it may be provided in magnetic stripe track format. For example, the counter values, authentication tags and encrypted identifiers may be forwarded encoded in all or a portion of a data stream representing data encoded in, for example, track 2 or track 3 format.

Persons skilled in the relevant arts will understand the breadth of the terms used herein and that the exemplary descriptions provided are not intended to be limiting of the generally understood meanings attributed to the foregoing terms.

It is noted that references in the specification to "one embodiment", "an embodiment", "an example embodiment", etc., indicate that the embodiment described may include a particular feature, structure, or characteristic, but every embodiment may not necessarily include the particular feature, structure, or characteristic. Moreover, such phrases are not necessarily referring to the same embodiment. Further, when a particular feature, structure, or characteristic is described in connection with an embodiment, it would be within the knowledge of one skilled in the art to effect such feature, structure, or characteristic in connection with other embodiments whether or not explicitly described.

In an embodiment and with references to FIG. 1, a flow diagram illustrates operation of system 1300. A transaction account provider (TAP) (such as American Express Travel Related Services Company, Inc., of New York, NY) operates a registered card platform (RCP) 130 to implement a reward or incentive program (sometimes referred to herein a registered card program), which does not require paper coupons for fulfillment of merchant

offers to account holders. RCP 130 provides the capability to match merchant (SE or "service establishment") offers and account holder (CM) customer information with card transactions for an account holder customer's purchases or returns at a merchant participating in the registered card program. As a result of such matching capability, RCP

5 130 allows TAP to fulfill a merchant's discount offer applicable to account holder customer's purchase by providing a rebate credit in accordance with the discount offer on the account holder customer's transaction account statement. In one embodiment, RCP 130 includes or is accessible by a plurality of application programming interfaces (APIs) that enable a merchant, marketing partner, or other entity to define custom applications that

10 interface with RCP 130 in order to define offers, rewards, offer eligibility, etc. Embodiment of such APIs will be disclosed below. If a return is made on a purchase for which a rebate credit was previously provided, RCP 130 also allows the TAP to debit the account holder customer the amount of the rebate credit and credit the same back to the merchant.

TAP may collaborate with a loyalty program provider to produce the reward or

15 incentive program. While, as used herein, "loyalty program provider" (LPP) refers to an external, third-party provider of marketing packages that may be provided to CMs in accordance with various embodiments, TAP may internally administer loyalty programs, such as restaurant or travel marketing program. Therefore, to distinguish from programs provided by an LPP, TAPs internal loyalty programs will be referred to herein as a "TAP

20 marketing program" or simply a "TAP program." In the figures, the service mark "TailorMade" is used to refer to an example loyalty program offered by an LPP. Accordingly, although embodiments will be described herein in the environment of such collaboration between a TAP and an LPP, one of skill in the pertinent art(s) will recognize that a registered card program can be implemented with or without a loyalty program

25 provider or other types of providers without departing from the spirit and scope of the present disclosure.

As shown in FIG. 1, in step 1, a merchant 102 enrolls and submits a discount offer to a loyalty program or other marketing program. These offers are compiled in an offer database 132. In step 2, an account holder customer (CM) 104 registers their transaction

30 account managed by TAP, such that CM's account is "registered" to the registered card program, thereby permitting the registered CM to receive coupon-less discounts in the form of rebate credits (via CM's account statement). Information relating to CM's now registered card is compiled in enrollee database 134. When CM shops and makes purchases (or

returns) at a merchant using their financial transaction card, TAP will receive a record of charge (ROC) for the transaction, which may be stored in a card transaction database 136. The ROC may be any information that can be used to identify a card transaction. In step 3, matching is performed by RCP 130. In the case of a CM purchase, the CM's statement is credited and the merchant's account is debited in accordance with the merchant's offer, as illustrated in step 140. Further description of providing a credit to the CM and a debit to the merchant in step 140 is described below with reference to FIG. 3.

FIG. 2 provides another high level flow diagram illustrating the steps of solicitation 110 and enrollment 120 relative to transaction matching 130 (performed by the registered card platform), in accordance with an embodiment. Solicitation 110 of a CM may include a targeted invitation, such as by e-mail, from loyalty program provider(s) or TAP, or by simply making available to a CM a link on TAP's website prompting the CM to enroll in TAP's registered card program. During enrollment 120, the CM opts to register their card information to enable RCP 130 to perform future matching of transactions. Box 122 sets forth exemplary fields of information stored by TAP for each enrolled CM. CM information is stored in database 134 (represented here as an arrow 134), and the information is provided to a matching transaction processor 138 of RCP 130. Matching processor 138 is shown and described in the example embodiments presented using the term "registered card engine" (RCE). As shown, in FIG. 2, RCE 138 is provided with merchant transaction information from participating merchants (i.e., a daily, "business as usual" (BAU) transaction file). This transaction information may be stored in transaction database 136 (shown here as an arrow 136). RCE 138 also receives participating merchant offers 132 (shown in FIG. 1) and matches them with transactions 136 made by registered CMs (i.e., via information from enrollee database 134). Matched transactions are provided in an output file 142.

FIG. 3 illustrates an exemplary output file and credit and debit statement for the CM and the merchant, in accordance with step 140 of FIG. 1. Output file 142 from RCE 138 (as shown in FIG. 2) includes an itemization of a discount amount (i.e., incentive payment) to CM for a purchase made (i.e., ROC) at a participating merchant in which a discount offer was applicable. In this embodiment, upon enrollment in the registered card program, the registered accounts of the CM receive a registration identification (i.e., "registered number"), which is also included in output file 142. In this embodiment, output file 142 includes marketing programs administered by TAP and marketing programs administered by a loyalty program provider. One of skill in the pertinent art(s) will recognize that output file

142 may be configured in any number of ways and include less or more information represented in FIG. 3. For example, a separate output file may be provided for each LPP or TAP program, and for each loyalty program offered by the same LPP. Further, the transaction and discount information reflected therein may be provided collectively or
 5 separately for downstream processing of a CM credit statement 144 and a merchant debit statement 146.

As shown in FIG. 3, output file 142 is processed by TAP to provide line item rebate credits on CM statement 144 for each purchase subject to a discount offer available pursuant to a marketing program. For example, CM statement 144 includes a TailorMade rebate
 10 credit of \$71, for an original charge amount of \$355 at participating merchant, Acme Clothing. Similarly, a credit of \$37 under TAP's restaurant marketing program is provided for an original charge amount of \$370 at participating merchant, Acme Food. Merchant debit statement 146 includes line item debits in accordance with CM's rebate credits also as
 15 line items for each marketing program. The debit for the merchant may be equal or unequal to the rebate credit to CM. For example, for Acme Clothing, the merchant debit of \$71 is equal to CM credit of \$71, whereas the debit for Acme Food is \$74, corresponding to the sum of the rebate credit to CM and a commission or service fee of 10% of the original charge amount imposed by TAP for performing the services described herein. Although not
 20 shown here, a similar commission may be imposed by LPP and/or TAP on Acme Clothing's account and incorporated as part of a line item debit on its statement. Alternatively, such commission may be a separate line item from the line item for the merchant's debit for CM's rebate credit.

FIG. 4 is a detailed high level block diagram of the process of FIG. 1, showing processes for registration of a CM, calculation of a rebate credit to the CM (or a negative
 25 discount amount in case of a return), and downstream settlement with the CM and the merchant relating to the rebate credit (or negative discount amount), in accordance with an embodiment. The CM registers with TAP to receive coupon-less discounts for purchases drawn on their transaction card/account. Generally, the registration process begins with solicitation 110 of the CM, followed by enrollment 120 of one or more transaction cards
 30 held by the CM. Description of exemplary embodiments of process for solicitation 110 and enrollment 120 will be provided further below. In order to enroll, each transaction card and corresponding customer information undergoes a validation process 410 to determine whether the CM's card is eligible for participation in TAP's registered card program. This

registered card program may be made available to not only CMs holding transaction cards issued by TAP, but also to CMs holding cards issued by third party transaction account providers in a brand network. Third party transaction account providers are referred to herein collectively as Global Network Services (GNS). For example, "American Express" 5 branded cards are available from both American Express Travel Related Services Company, Inc (referred to herein as proprietary cards, or "Prop cards") as well as from other issuers (referred to herein as "GNS cards"), such as Citibank, N.A. of New York, NY. Accordingly, validation process 410 may include validation of proprietary cards and GNS cards. For proprietary cards, customer information is validated by TAP's card authorization 10 system (CAS) 412, and for GNS cards, CM information is validated by GNS's card authorization system 414.

The CM may be provided the option to enroll more than one card and link each second and additional card to a primary enrolled card, which is illustrated in FIG. 4 as linking 416. Linking 416 provides the capability to assign a single registration identification 15 to the CM and provides the CM the flexibility to make a purchase on any of the linked cards, with discount payments appearing on the CM's statement for the primary card. The linked cards may be all Prop cards, all GNS cards, or a mixture of Prop and GNS cards. Further, the linked cards assigned to a single registration identification may be corporate cards, personal cards, or a mixture thereof. The registration process may also include the 20 capability of batch enrollment 420 of a plurality of cards of one or more CMs in a single instance. Information relating to enrolled CMs are stored in enrollee database 134. Information relating to linking 416 of a plurality of cards to the CM is also contained therein. Information from the enrollee database 134 may then be provided to RCE 138, as described above with reference to FIG. 2.

25 In the embodiment illustrated in FIG. 4, information on participating merchants and their offers are divided into separate databases, i.e., an offer database 452 and a merchant database 454, and provided to RCE 138. As described above, TAP may collaborate with a loyalty program provider (LPP) 460 to deliver loyalty incentives to the CM in the form of coupon-less discounts. Accordingly, offer database 452 and merchant database 454 may be 30 populated by TAP and/or LPP, with offers and merchants associated with TAP's marketing programs and LPP's marketing programs, respectively. TAP may screen merchants participating in LPP's marketing programs prior to accepting and storing them in merchant database 454. TAP's program administrator (not shown) may upload merchants and offers

to the respective databases along with other information associating merchants and offers with one or more marketing programs. In one embodiment, as discussed below, TAP's program administrator may specify offers and programs, reward criteria, eligibility criteria, reporting options, tracking options, triggered alerts, etc. via API's of RCP 130.

5 For marketing programs administered by TAP, registered card engine ("RCE") 138 may include its own calculation of discount 432 for purchases made by registered CMs with merchants participating in TAP's marketing program. Further, LPP 460 may be responsible for calculation of discount 462 for purchases made at merchants participating in marketing programs administered by LPP 460. A merchant may be a participating merchant for a
10 plurality of externally administered and/or internally administered marketing programs. Therefore, these offer and merchant databases may include a field identifying each offer and merchant to one or more marketing programs, as further described below with reference to FIG. 5.

Another input to RCE 138 are merchant ROCs 436, which may be compiled as a
15 daily transaction file and stored in transaction database 136 (shown in FIGs. 1 and 2). RCE 138 performs transaction matching of merchant ROCs 436 with enrolled CM information from enrollee database 134 and participating merchant and offer information from respective databases 454 and 452. Further detail regarding this matching will be described below with reference to FIGs. 5 through 7. Matched transactions relating to loyalty programs
20 administered by loyalty program provider 460 are provided as an output file 444 to LPP 460 for discount calculation 462, whereby LPP 460 returns an output file (represented here as arrow 442), which includes the discount amount, or rebate credit, similar to the incentive payment field in output file 142 described above with reference to FIG. 3. This process of discount calculation by LPP 460 and exchange of information thereof with RCE 138 is
25 discussed below with reference to FIG. 8.

A problem to be overcome in implementing a loyalty incentive program as described herein is how to deal with returns. For example, assume an account holder makes a purchase for \$100 and receives a 10% discount (also called a rebate or incentive) on his or her account. If the account holder then returns the purchased goods to the merchant, it is
30 desirable to be able to ascertain whether the purchase involved an incentive so that a return credit can be made in the appropriate amount. This problem is solved by providing a mechanism for dealing with returns. In the embodiment of FIG. 4, RCE 138 has the capability to process returns 456 on purchases for which a registered CM may have been

provided a rebate credit pursuant to a marketing program. If a rebate credit had been previously provided, then processing of returns 456 includes providing a credit to the merchant for the earlier debited amount of the rebate credit provided to the CM and providing a corresponding debit to the CM of the earlier rebate credit. Processing of returns
5 is similar to the transaction processing of purchases and is described in greater detail below with reference to FIGs. 6 and 7. Accordingly, output file 444 from RCE 438 may include return transactions, whereby loyalty program provider 460 calculates a negative discount, or a discount reversal amount, 464 for each eligible return. Eligible returns may be identified based on a stock keeping unit (SKU) associated with the purchase or based on the date of the
10 purchase and the amount of the purchase (i.e., "backtrack discounts"). Logic associated with matching prior purchases with returns by means other than SKUs is described in further detail with reference to FIGs. 11 and 12.

RCE 138 has the capability to convert the discount amount to an equivalent of membership reward points which may be redeemable in accordance with membership
15 rewards program. Typically, a membership rewards program offers goods or travel packages in exchange for membership reward points. Moreover, the discount amount may be a combination of a monetary credit and an equivalent of reward points. To implement such conversions, as well as to support service fee calculation, etc. RCE 138 may include a configuration table 434. Configuration table 434 may include fields for each marketing
20 program and corresponding information for converting the calculated discount (i.e., the rebate credit) between a monetary credit and/or an equivalence in membership rewards points (shown as "CM (% , \$, Pts)"). Further, since a discount offer may be represented in units of monetary amount off or percent off a purchase price, or in terms of membership rewards points, then for internally calculated discounts 432, RCE uses configuration table
25 434 to match program, merchant, and conversion terms (shown as "SE (% , \$)") to convert the offer terms to the desired units for discount calculation. Configuration table 434 may also have a field for TAP's service fees for each program and participating merchants, and service fees may be in units such percent of purchase or monetary amount (shown as "TAP (% , \$)"). Further, since a merchant may be submitting the same offer for more than one
30 marketing program, configuration table includes a "priority" field that is used to identify repeated offers and ensure that the CM receives only a single rebate credit on a purchase that is eligible to receive a discount pursuant to multiple marketing programs.

The calculated discount (or discount reversal, if relating to a return) is provided to TAP settlement systems 470 for transactions on Prop registered cards, or to GNS settlement systems 480 for transactions on GNS registered cards. An AR system of TAP settlement systems 470 processes the discount amount and provides the rebate credit (as a monetary credit or an equivalence in reward points, or both) on CM's credit statement. If the rebate credit includes membership reward points, then information relating the rebate credit is also provided to membership rewards 472 for appropriate record keeping for that CM. AP systems of TAP settlement systems 470 processes the merchant debit in accordance with CM's rebate credit, as well as any service fee charged by TAP for providing the services described herein. Further detail regarding processing of matched transactions via TAP settlement systems is described below with reference to FIG. 8. GNS settlement systems 480 includes U.S. submissions 482, global clearing and settlement 484, and one or more issuers 486. Global clearing and settlement 484 may be considered a repository for RCE 138's matched transactions associated with GNS cards so as to permit each GNS issuer 486 to retrieve their respective GNS card transaction information, including information of the discount and any service fees charged by TAP. GNS issuers 486 may then use this information to provide a rebate credit to CMs accounts managed by issuers 486 and to provide a debit to participating merchants in a similar manner as described above with reference to FIG. 2. Further details regarding application of the registered card program to GNS registered cards is described below with reference to FIGs. 9 and 10.

RCE 138 may further have the capability to provide TAP with reporting 490, which may include a marketing analysis or monitoring of the success of various marketing programs and information relating to account holder participation therein. Reporting 490 thereby permits TAP to target CMs and deliver merchant offers that are desirable to its registered CMs and/or merchants.

Offer DB 452 may comprise a plurality of offers. In an embodiment, the offers may be predetermined offers and/or offers based on merchant criteria. The offers may be configured to be delivered electronically through reporting 490. The electronic delivery may include delivery via email, text messaging, instant messaging and/or social networking distribution (e.g., via Facebook, Twitter, Myspace, Linked-in). The electronic delivery may be automatic or require a manual input. The offers may be accessible by RCE 138. These offers may be based upon specific parameters which define at least one of a reward, a merchant and/or class of merchants, characteristics of a targeted CM, a predetermined

qualification threshold, and the like. RCE 138 may analyze the parameters to identify intended recipients of the offers. RCE 138 may also analyze the parameters to determine characteristics for a CM population. This capability allows the merchant to quickly and inexpensively target the CM with customized marketing and/or offers. This capability also
5 allows the merchant to provide an offer to targeted CMs before a target list is pulled.

In an embodiment, reporting 490 may be configured to deliver offers to CMs with particular behaviors and/or patterns (e.g., spending behaviors, reward usage behaviors, etc). RCE 138 may be configured to define a particular CM population based on merchant targeted marketing efforts, CM spending patterns, CM demographic data and/or the like.
10 For example, RCE 138 may identify a CM population that spends a predetermined amount of money on electronics in a predetermined period of time. Further, RCE 138 may identify a merchant who offers electronics for purchase, but does not capture significant spending from the identified CM population. In other words, the CMs who spend a predetermined amount on electronics are not spending significant amounts on electronics with the
15 identified merchant. RCE 138 may analyze the CM spending to compare the total amount of spending on a particular class of items (e.g., electronics). RCE 138 may also analyze such CM spending based on merchants that receive the CM spend, to determine the proportions of spending at a particular merchant, class of merchants, and/or the like. Such information may be compared to a predetermined threshold spending amount or proportions
20 of spending at particular merchants and/or classes of merchants. The comparison allows, for example, a merchant to target CMs that do not typically spend significant amounts with a particular merchant or class of merchant, but the CMs buy the types of products and/or services offered by the merchant or class of merchants.

CM populations may be initially created based on, for example, historical data. The
25 historical data accessible to a financial processor, such as spend level data, is leveraged using various data clustering and/or data appending techniques. The CM populations may also be created based on, for example, current spending patterns. The current spend patterns available to a financial processor (e.g., current authorized transactions, posted transactions, and the like) may be leveraged using various data clustering and/or data appending
30 techniques. Associations may be established among entities (e.g. CMs), among merchants, and between entities and merchants. In an embodiment, RCE 138 may receive passively collected spend level data for a transaction of a plurality of CMs, aggregate the collected

spend level data for a plurality of CMs, and cluster the CMs into subsets of the plurality of CMs, based on the aggregated spend level data.

The collection of the spend level data may be passive. For instance, passively collecting spend level data of a CM includes acquiring the spend level data in response to a transaction by a CM with a merchant. In an embodiment, the spend level data may be integral to information processed in a transaction for goods and/or services with a merchant. For instance, a survey and/or survey responses are not needed to capture spend level data, but such data may be used to supplement the data discussed herein. Collecting the spend level data may include acquiring the spend level data from a merchant. In an embodiment, passively collecting the spend level data of a CM includes collecting the spend level data from a transaction database. In yet another embodiment, passively collecting the spend level data includes reconciling the spend level data, transferring the spend level data to a host, organizing spend level data into a format, saving the spend level data to a memory, gathering the spend level data from the memory, and/or saving the spend level data to a database. For instance, if a CM performs a transaction (such as by using a transaction account), spend level data (such as transaction data and/or consumer account data) related to the transaction may be captured and stored in a memory, database, and/or multiple databases. Spend level data (such as transaction data and/or consumer account data) may be stored locally with the merchant, remotely by the merchant and/or transmitted to a remote host (e.g., financial processor) for storing and processing.

In one embodiment, aggregating the collected spend level data includes combining a selectable range of collected spend level data. The selectable range may be a period of time (e.g., time range) and/or from a particular geographic region. The period may be any suitable period and/or periods such as a minute, an hour, a period of hours, one day, one week, one month, a period of days, a period of months, one year, or more than one year. The periods may be consecutive or non-consecutive. In an embodiment, the selectable range may be a value, such as values of spend exceeding a pre-selected threshold. The selectable range may also include frequency, such as spend level data occurring at a particular frequency.

In an embodiment, the spend level data may be segmented by a gender of the entity (e.g., male or female), such that only data collected from merchants in transactions with men are processed by RCE 138. This data may be aggregated, clustered, assigned a weighed percentile and analyzed in accordance with the previous descriptions. Using this exemplary

embodiment of the system, preferences, attributes, and inferences of a selected demographic may be obtained. In one embodiment, spend level data segmented geographically (e.g., zip code) or by other regions can reveal which regions are most compelling to a merchant and/or marketer.

5 Any demographic included within the characteristic data may be selected for pre-segmenting the spend level data. In an embodiment, the spend level data may be segmented by an attribute (e.g., homeowner designation), and data collected from merchants in transactions with entities that are homeowners may be processed by RCE 138. This data may be aggregated, clustered, assigned a weighed percentile and analyzed in accordance
10 with the previous descriptions. From this procedure, a holistic picture of homeowners segmented into different clusters may be created. More than one demographic or attribute may be selected and the spend level data may be pre-segmented any suitable number of times in any suitable order. Additionally, in one embodiment, a particular demographic may be selected to be removed from the larger set of all available spend level data. For instance,
15 the spend level data of very high income entities may be selected for removal and data collected from merchants in transactions with very high income entities may be excluded from processing by RCE 138. The remaining data may be aggregated, clustered, assigned a weighed percentile and analyzed in accordance with the previous descriptions. Using this embodiment, outliers may be removed from the results. Additional details regarding
20 combining CMs into populations are disclosed in, for example, U.S. Application Serial No. 12/690,669, entitled "System And Method For Clustering a Population Using Spend level Data" and filed on January 20, 2010, which is hereby incorporated by reference in its entirety.

The CM populations may be established based on historical data or on current
25 spending patterns, as discussed above, and in one embodiment are modified based on current spending habits. For example, spend level data may be actively captured and used to modify CM populations. As CM spending habits change, the groups are modified to provide greater accuracy for delivering rewards, merchant offers and the like. For example, a CM may be placed in a population of CMs whose spend level data suggests that they attend public
30 entertainment events (e.g. movies, concerts, and the like). As time passes, the system may analyze a shift in the spend level data which suggests that the CM (possibly due to a having a new baby) attends less public entertainment events and spends more for home entertainment items, such as for example, home electronics equipment. In response to the

shift in spend level data, RCE 138 may associate the CM with a new CM population which receives rewards offers for electronics. Further, RCE 138 may also remove a CM from a particular CM population based on current spend level data, wherein the CM was originally placed in a CM population based on historical spend level data, but no longer exhibits
5 spending behavior consistent with the historical spend level data.

In one embodiment, in response to the determination that the CM population is spending on electronics, but not with a particular identified merchant, reporting 490 may send the CM population a reward offer from the identified merchant. The rewards offer may be designed to encourage the CM population to buy electronics from the identified
10 merchant, with whom the CM population had not previously conducted significant business.

The terms of a rewards offer may define a trigger event, such as a threshold spending amount at a particular merchant or class of merchants, or for a class of items. The reward offer may be provided electronically to the CM population based on a trigger event (e.g., in real time). A trigger event may be any action identified by the merchant or the account
15 issuer. The trigger event may be based on spend data, geographic region spend, CM population size, time of year, or any other event. The event may be identified by the merchant, CM and/or account issuer. For example, the trigger event may be based on spend data. In response to a CM population reaching a predetermined spend level on a class of products (e.g. electronics), the rewards offer may be sent to the CM population via e-mail.
20 Similarly, the trigger event may be based on a CM population size. In response to the CM population reaching a predetermined level, a rewards offer is sent to the CM population. In another example, the merchant and a product supplier or manufacturer may create a joint offer, which provides a reward offer if a CM buys a particular item (e.g. a particular model laptop computer) or class of items (e.g. any Sony® television).

In an embodiment, a merchant may wish to market rewards offers to CM populations based on CMs spending at other merchants. For example, a merchant that sells home improvement items (e.g. Home Depot) may wish to market its products and services to a CM population that spends a predetermined amount on electronics. The merchant may formulate a set of criteria to develop a CM population based on spend data for electronics
30 purchases (e.g. televisions) and/or spend data at particular electronics merchants (e.g. Best Buy). Thereafter, rewards offers from the merchant are provided to the CM population in response to a trigger event.

In an embodiment, the identified merchant offer is provided in conjunction with an existing rewards program. For example, the CM may be eligible for a reward based on the CM's pre-existing participation in a rewards program. The reward offer is provided in addition to the existing reward. For example, a CM is provided with a credit based on a particular transaction at a particular merchant. The transaction may also result in the CM becoming a member of a particular CM population that is provided with a rewards offer (e.g. an additional discount with the identified merchant based on the loyal spending behavior). As such, the CM receives the pre-existing reward and the reward offer based on the CM becoming a member of a CM population.

In an embodiment, a CM is automatically enrolled in a program to receive e-mail rewards based on criteria determined by a merchant or account issuer. In an embodiment, a CM may be invited to join a CM population that is eligible to receive rewards offers. The CM may receive a notification which indicates that the CM is eligible to receive rewards offers. The notification may provide for an opt-out period during which the CM can request that the CM is not sent the rewards offers based on the CM's inclusion in a CM population. The notification may also provide that the CM register to receive the rewards offers by taking some affirmative action, such as for example, registering the CM's account via a webpage and/or contacting the account issuer and requesting to be included in the CM population associated with the rewards offers.

RCE 138 may be configured to administer rewards associated with a prepaid transaction account. Such configuration may occur directly or via API's that are included in RCP 130. The prepaid transaction account may comprise embedded rewards, including for example, credits to the prepaid transaction account, merchant specific rewards (e.g. merchant gift cards), discounts, and the like. The rewards may be customized by a merchant. The rewards may be offered in conjunction the pre-paid transaction cards (e.g. American Express Gift Cards, Home Depot Gift Card). Offers may be customized by an individual merchant or a group of merchants. This ability to customize offers allows local and regional merchants to offer rewards to customers that were previously unavailable because of the cost and complexity of administering a rewards program. Further, providing rewards with a prepaid transaction account allows those who are not credit card users to participate in rewards programs traditionally reserved for credit card account holders.

In an embodiment, a prepaid transaction account has an embedded reward which is configured by an offering merchant. For example, a merchant may configure a reward

which provides a credit on purchases of certain products and/or services (e.g. dry cleaning services) at the merchant or within a group of cooperating merchants. The reward may also be based on transactions conducted in a geographic or other region. In one embodiment, the reward may be limited or restricted for use in a similar or other geographic region. The
5 rewards may be offered through a prepaid account, such as a prepaid transaction card, available for purchase through the offering merchant. The prepaid transaction account may be used with any merchant who accepts transaction accounts from the account issuer associated with the prepaid transaction card. Further, the prepaid transaction account may be configured with pre-determined reward criteria from the offering merchant. For example,
10 when seventy percent of the total value of the prepaid card is spent with the offering merchant, a reward is issued. The reward may be issued in the form of a credit to the prepaid transaction account, or may be provided in some other fashion (e.g. another gift card from the offering merchant).

In an embodiment, participation in the rewards program associated with the prepaid
15 transaction account may be automatic or may require registration. Registration may be provided by accessing a webpage and providing identifying information. Registration may also be achieved by contacting an account issuer and requesting that a particular prepaid transaction account be associated with a rewards program.

In an embodiment, any prepaid transaction account associated with an account issuer
20 may participate in any rewards program offered by the account issuer. The transaction account may be registered with the account issuer for a particular rewards program selected by a prepaid transaction account owner. Where the activities associated with the transaction account conform to the rules governing the rewards program, a reward is provided to the prepaid transaction account owner.

25 Cancellations 440 of registered accounts by enrolled CMs are communicated to loyalty program provider 460 as well as to enrollment 120 so as to maintain enrollee database 134 with up-to-date enrolled CM information. Cancellations 440 may arise, for example, from a CM reporting a lost or stolen card or a CM requesting TAP to deregister one or more of its registered cards from the registered card program. In an embodiment,
30 enrollee database 134 may be provided with timely and consistent updates to reflect lost and stolen cards. Cancellations 440 may also include deregistration of a CM from one or more particular marketing programs administered by TAP or LPP 460.

Further description will now be provided with respect to solicitation 110 and enrollment 120. As noted above with reference to FIG. 2, CM may be solicited to join an incentive program offered by TAP via an email invitation from LPP 460. In this instance, a CM may receive a solicitation email providing a link to a loyalty program's website landing page, whereby the CM may begin an enrollment process. The enrollment may include, for example, the steps of agreeing to the incentive program's terms and conditions, setting up a username and password and selecting marketing preferences, etc. Moreover, such an incentive program website may be hosted by LPP 460 and branded by TAP. As such, the enrollment process may further include providing TAP with the CM's email address, such as when the account holder clicks on the link of the solicitation email to start the enrollment process. TAP may use CM's email address to validate the CM prior to enrollment 120 via validation process 410. Further, the incentive program's website may provide registered CMs with a customized home page where they may be presented with personalized offers (such as those identified based on their selected marketing preferences), as well as being able to engage in online shopping of goods and services offered by merchants participating in the particular marketing program(s) in which the account holder enrolls. If a CM receives an email solicitation but is already enrolled in TAP's registered card program, then by clicking on the link provided in the solicitation email, the already enrolled CM may be prompted to log in to their customized homepage. As noted above, a CM may be solicited indirectly simply by being provided with access to a website link to the enrollment webpage and/or TAP's enrollment webpage for the registered card program. Further, enrollment in TAP's registered card program via a TAP-hosted website link may allow for enrollment in TAP's marketing programs as well as a marketing program offered in collaboration with one or more loyalty program providers.

Solicitation 110 may further include a pre-solicitation process prior to sending a solicitation email to a targeted CM. The pre-solicitation process may involve determining which CMs should be targeted and which offer clusters and particular marketing programs the CM may be eligible to participate in pursuant to the registered card program. Accordingly, TAP may collaborate with LPP 460 to identify appropriate CMs for email solicitation based on TAP's data on a CM's spending preferences and the LPP's clusters of merchant offers. These identified, targeted CMs may then reviewed so as to exclude solicitation of any targeted CMs having opted out of receiving direct marketing materials from TAP or LPP 460. TAP then provides LPP 460 with a marketing list of targeted CMs

and associated identifying information (such as salutation, name, gender, and zip code). The marketing list may further be provided to LPP 460 with a given effective period during which solicitation emails may be sent, since the list should be updated periodically to exclude CMs from the list that have since opted out of receiving marketing materials. Upon receipt of the marketing list from TAP, loyalty program provider sends out email invitations to the targeted CMs.

Enrollment 120 may provide an option to the CM to participate in the registered card program as a preferred enrollee. For example, during enrollment an account holder may choose to be eligible for "premium" offers in exchange for paying an enrollment fee. Alternatively, the CM may wish to forego payment of any enrollment fee and be eligible for "everyday" offers. Preferred (i.e., premium) customers may also be eligible for everyday offers. TAP's registered card program may therefore offer tiers of offer packages corresponding to the "premium" and "everyday" tiers of enrolled account holders. Accordingly, RCE 138, during transaction matching, may consider whether an enrolled CM is registered as a premium account holder or an everyday account holder so as to identify CM purchases that qualify for a premium offer and/or an everyday offer.

An embodiment, the TAP collaborates with loyalty program provider 460 will now be described in greater detail with reference to FIGs. 5 through 8. FIG. 5 illustrates transaction-based data flow between databases at TAP during transaction matching by RCE 138. As shown, CM enrollee database 134 may include such data as a CM's registration identification (RCnumber ID) for one or more registered transaction cards linked together in accordance with linking step 416, described above; a list of account numbers for these linked cards; indication of whether the CM is a premium account holder; and whether the CM and/or their registered transaction card(s) are active or canceled pursuant to cancellations 440 (shown in FIG. 4). A second enrollee database (i.e., database identified as "LPPnumber 2") and other additional enrollee databases may be provided for enrollees of each distinct loyalty program or program provider. Alternatively, a single enrollee database 134 may be provided for all enrollees of the registered card program, with another data field provided which identifies the one or more loyalty program providers the CM is associated with. Likewise, separate merchant database may be provided for each loyalty program or program provider, or a single database may be provided with a data field identifying the merchant with the program(s) or provider(s). Merchant database 454 may include a

merchant ID, its SE number, as well as whether the merchant is actively or inactively enrolled in the registered card program.

Merchant offer database 452 may include an offer ID, a corresponding merchant ID, a start and end date for the particular offer, a description, and whether the offer is a premium offer, as described above. Since TAP and LPP may each administer marketing programs, and since there may be multiple loyalty program providers, merchant offer database 452 may also include a field identifying each TAP or LPP marketing program to which the offer belongs. FIG. 5 also shows exemplary data contained in output file 444 provided to the loyalty program provider(s) for discount calculation (or discount reversal calculation, in the case of return), as described above with reference to FIG. 4. In this figure, "Tx" represents the term "transaction." As shown, output file 444 includes: transaction ID, transaction date, merchant ID and offer ID, account holder's registration identification (RCnumber), transaction amount, as well as whether the transaction type is a credit (return) or a debit (purchase).

In this embodiment, output file 444 includes CM's RCnumber as a substitute for the CM's actual transaction account number. Output file 444 is provided to LPP for discount calculation, and the level of security associated with LPP's network may prohibit allowing LPP using the actual account number as a means to identify the transaction for discount calculation. However, it should be understood that for internally calculated discounts 432 (described in FIG. 4) or in instance where secure networks exists with the loyalty program provider(s), then output file may contain the particular transaction account number associated with the transaction. As such, the discount calculated by LPP may be directly matched with the card number and may also be provided on the statement for a secondary card, rather than appearing on the statement of the primary card, which may occur when several linked cards are associated with CM's registration identification (RCnumber).

FIGs. 6 and 7 show in greater detail the process of transaction matching by RCE 138 when a registered CM shops at a participating merchant. FIG. 8 shows in detail an embodiment of a process for calculation (via LPP) of CM discount credits and discount reversal debits and their subsequent processing so as to appear on CM and merchant statements. The processes of FIGs. 6 through 8 are shown to incorporate both CM purchases and their returns. Accordingly, the output file provided to LPP and an input file from LPP to TAP (as shown and later described in step 814 in FIG. 8), as well as creation of a file of merchant credit-debit and account holder credit/debit (as shown in step 822 of FIG.

8), are described to include information relating to both purchases and returns. It should be understood, however, that individual files at the noted steps may be provided, one for processing of discounts for purchases and another for processing discount reversals for returns. Further description of methodologies for identifying whether a return is on a
5 purchase for which a CM received a discount will be described with reference to FIGs. 11 and 12.

FIG. 6 shows steps in a process from the point when the account holder makes a purchase or return at a particular participating merchant to when an output file is provided to an LPP for discount calculation (or discount reversal calculations). In step 610, TAP
10 receives daily ROCs from merchants via its financial capture system (FinCap). In step 620, TAP creates a consolidated daily ROC file of all merchants associated with TAP. As part of the consolidation, TAP may monitor ROC submissions for return ROCs, i.e., ROCs having a negative amount for the transaction amount, and/or for which the transaction type is identified as a credit, whereby the transaction may be subject to additional processing to
15 determine whether a negative discount (i.e., discount reversal) is due prior to including the transaction on the output file provided to the LPP for discount reversal calculation. In step 640, TAP receives the list of participating merchants and offers from LPP. Participating merchants and offers are stored in merchant database 454 and merchant offer database 452, respectively. At step 650, merchants are matched to offers, and at step 660, ROCs are
20 extracted for only those participating merchants that have unexpired offers. Also extracted are credit ROCs (i.e., ROCs for returns).

Once TAP identifies credit ROCs from participating merchants, TAP may compare them to transaction debits stored in transaction database 136 (see FIG. 8) over a given time period (e.g., the last 60 days, or the last 90 days) to determine whether there exists a debit
25 ROC with the same merchant as the credit ROC, for the same registered card. If found, TAP further checks to see if the previous transaction was eligible for a rebate credit and the amount of the rebate credit that was provided to the CM. If the previous transaction is eligible for a rebate credit, then a debit corresponding to the amount of the rebate credit in full (corresponding to full returns) or in part (corresponding to partial returns) is charged to
30 the account holder. These debits thereby adjust the net return credit to equal the original purchase price less the rebate credit. The merchant is reimbursed for the amount of the debited rebate credit, and the merchant's reimbursement appears as a credit on the merchant's account. The determination of the discount reversal amount (i.e., amount of the

debited rebate credit) is based on the CM's rebated credit on the original purchase rather than the debit received by the merchant, since the merchant's previous debit for the CM's rebate credit may include an associated service fee imposed by TAP and/or LPP. As noted above, in one embodiment, stock keeping units (SKU's) of purchased goods/services are used to match purchases with returns and determine the discount reversal amount. In another embodiment, certain assumptions are made in accordance with a return logic policy to do the matching. Exemplary return logic policy is described below with reference to FIGs. 11 and 12.

At step 670, CM information in enrollee database 134 is used to match registered CMs with ROCs extracted in step 660, and each matched transactions is provided with a transaction ID. In step 680, output file 444 is created of transactions matched in step 670. At step 690, output file 444 is provided to loyalty program provider for discount/discount reversal calculation.

FIG. 7 shows in greater detail the matching processes of steps 650 and 670 and the process of extraction step 660 of FIG. 6, in accordance to an embodiment. Step 650, for the matching of merchants to offers, may include steps 652, 654, 656 and 658. In step 652, the list of merchants from merchant database 454 is compared with the list of offers in merchant offer database 452. In step 654, offers are checked to be either premium or everyday offers. In step 656, offers are selected for inclusion in a master file in step 658 if the offers are currently in effect as determined by the offer start and end dates, and in step 658, a master file is created which includes the merchant SEnumber, the offer ID, the offer end date, and the offer type (premium or everyday). Extraction step 660 receives the ROC extraction file from step 630 (see FIG. 6) as well as the master file of step 658. In this embodiment, extraction step 660 includes steps 662, 664, 666 and 668. In step 662, merchant SEnumbers are compared to the ROC extract file of step 660 and master file of step 658, and in step 664, ROCs for merchants participating in TAP's registered card program are selected. Of the selected ROCs for participating merchants, the ROCs are extracted if (in step 666) the transaction date is less than the offer end date reflected in the master file, or if (in step 668) the ROC is a credit ROC. These extracted ROCs are an input to matching step 670 that includes steps 672, 674, 676 and 678. In step 672, CM account/card numbers from the extracted ROC file are matched with the registered accounts stored in enrollee database 134. In step 674, those ROCs corresponding to the registered accounts of CMs are selected. If the registered CM is a premium CM then at step 676, all ROCs are extracted for the CM;

otherwise, at step 678 only ROCs that apply to everyday offers are extracted for the CM. These extracted ROCs are provided to step 680 of FIG. 6 for creation of output file 444.

As shown in FIG. 8, the LPP receives output file 444 from TAP at step 810. In step 812, the LPP calculates the discount or negative discount (i.e., discount reversal) amount for each purchase and return transaction, respectively. In step 814, a file including a discount or discount reversal calculation (such as file 442 provided to RCE 138, described above in FIG. 4) is provided to TAP. TAP uses this file at step 820 to update its transaction database with discount amounts or negative discount amounts, whereby the original ROC transaction is matched with these discounts or negative discounts. At step 822, TAP creates a file of CM credits and corresponding merchant debits for discounts associated with a purchase. Further, TAP may include CM debits and merchant credits for negative discounts associated with returns. In step 824, TAP's SPP (shopping portal processor) platform is used to create a FinCap file which is provided to FinCap, and in step 826, FinCap processes CM discounts (i.e., rebate credits) and CM discount reversals. In particular, as described above in FIG. 4, RCE 138 provides TAP's AP (accounts payable) system with information on merchant debits and credits for processing at step 828 and provides TAP's AR (accounts receivable) system with information on account holder debits and credits for processing at step 830. Pursuant to step 828, a merchant's account is debited for the CM's rebated credit, may be further debited a service fee, and is credited a CM's discount reversal amount in the case of an eligible return. Pursuant to step 840, a CM's account (or monthly statement) shall show a credited amount in accordance with any rebate credit and a debited amount in accordance with any discount reversal arising from an eligible return.

Methodologies unique to processing of account holder returns by means of a return logic policy in accordance with an embodiment are now described with reference to FIGs. 11 and 12. In these figures "TM tx" represents CM transactions which were eligible for a rebate credit in accordance with the TailorMadeSM registered card program described herein. FIG. 11 provides examples of actions taken in response to returns. For example, in line 1 of FIG. 11, a \$1,000 return is made on September 1, 2006. In response to this return, TAP will take no action with respect to debiting any rebate credit, because there were no transactions made in the prior 60 days to correspond to the \$1,000 return. In line 2, for the same return, it is determined that there was a \$1,000 purchase within the prior 60 days along with a \$100 statement credit. Therefore, it is assumed that the \$100 statement credit was a rebate credit that must be debited. In line 3, a \$400 return is made. In this case, a proportional \$40 debit

is made to correspond to the portion of the rebate credit on the \$400 purchase that was returned. Additional examples and assumptions/rationales are provided in FIG. 11.

FIG. 12 provides additional examples of return policy logic in which a CM may be debited for identified rebate credit(s) on TM (TailorMadeSM) transactions. As shown in FIG. 12, if the CM is debited for identified rebate credit(s), and if the CM disputes the credit and claims that the return is part of a non-TM transaction (i.e., a transaction in which the CM did not receive a rebate credit), then the rebate credit is written off of CM's account. For example, in the line 1 of FIG. 12, a return is made for \$1000, and it is assumed that the return is associated with the first exact transaction in the past 60 days for that is the same amount as the return. In this example, transaction "6" is the first transaction of \$1000, and the return is associated with transaction "6." Since transaction "6" was discounted 10%, whereby the CM received a rebate credit of \$100, then the CM is debited the \$100. If the CM disputes the debit, such as by claiming that the return is in fact part of transaction "4," then the debit is written off, since transaction "4" was not subject to a discount.

If in line 1 there is no exact matched transaction identified with the return, then, in line 2, the first transaction in the past 60 days which is greater than the amount of the return is identified with the return. As shown in line 2, transaction "6" for \$5000 is the first matched transaction having an amount greater than the return. Since transaction "6" was not discounted, then no action is taken with regard to debiting CM. If CM claims that the return is part of transaction "5" and "2", then a debit from the CM's account is made in the amount of the rebate credits (15% and 15%) for those transactions. If there is no transaction matched in lines 1 or 2, then in line 3, if the sum of the return is equal or smaller than the sum of all transactions in the past 60 days, then it is assumed that the return refers to TM transactions up to \$1000, and a debit to CM's account is provided in accordance with the discounts on TM transactions 2 and 5.

FIGs. 9 and 10 show high level flow diagrams of a process for transaction matching (via RCE 138) of registered GNS cards. As shown in FIG. 9, transactions deserving of discounts or discount reversals as well as any service fees are provided to U.S. Submissions 482 which is placed at global clearing and settlement 484, which is a repository for collection by GNS issuers 486 for processing of credits and debits on GNS cards held by registered CMs (referred to as "GNS CMs"). Global clearing and settlement 484 is also a repository for daily ROC data that is submitted to RCE 138 for transaction matching. Although not shown here, GNS issuers 486 provide TAP with information on GNS accounts

held by registered CMs to permit transaction matching, and also to permit enrollee database 134 to be updated according to cancellations 440 (as described above with reference to FIG. 4). In an embodiment shown in FIG. 9, card authorization system 414 may involve a one dollar authorization by which the CM's card is validated at enrollment. As shown in FIGs. 9 and 10, U.S. submissions 482 receives discount, returns, and service fee information from RCE 138 that is used by GNS issuers 486 to settle with merchants and GNS CMs. U.S. submissions 482 passes a two line message to GNS issuers 486, which appears on the respective issuer's credit statement. A similar two line message may be provided on GNS CM's account statement, thereby providing transparency of the settlement of transactions made pursuant to TAP's registered card program to both GNS CMs and CMs holding cards issued by TAP, such as in the manner described above with reference to FIG. 2.

The present system or any part(s) or function(s) thereof may be implemented using hardware, software or a combination thereof and may be implemented in one or more computer systems or other processing systems. However, the manipulations performed by embodiments were often referred to in terms, such as matching or selecting, which are commonly associated with mental operations performed by a human operator. No such capability of a human operator is necessary, or desirable in most cases, in any of the operations described herein. Rather, the operations may be machine operations. Useful machines for performing the various embodiments include general purpose digital computers or similar devices.

In fact, in one embodiment, the embodiments are directed toward one or more computer systems capable of carrying out the functionality described herein. An example of a computer system 1300 is shown in FIG. 13.

The computer system 1300 includes one or more processors, such as processor 1304. The processor 1304 is connected to a communication infrastructure 1306 (e.g., a communications bus, cross-over bar, or network). Various software embodiments are described in terms of this exemplary computer system. After reading this description, it will become apparent to a person skilled in the relevant art(s) how to implement various embodiments using other computer systems and/or architectures.

Computer system 1300 can include a display interface 1302 that forwards graphics, text, and other data from the communication infrastructure 1306 (or from a frame buffer not shown) for display on the display unit 1330.

Computer system 1300 also includes a main memory 1308, such as for example random access memory (RAM), and may also include a secondary memory 1310. The secondary memory 1310 may include, for example, a hard disk drive 1312 and/or a removable storage drive 1314, representing a floppy disk drive, a magnetic tape drive, an optical disk drive, etc. The removable storage drive 1314 reads from and/or writes to a removable storage unit 1318 in a well known manner. Removable storage unit 1318 represents a floppy disk, magnetic tape, optical disk, etc. which is read by and written to by removable storage drive 1314. As will be appreciated, the removable storage unit 1318 includes a computer usable storage medium having stored therein computer software and/or data.

In alternative embodiments, secondary memory 1310 may include other similar devices for allowing computer programs or other instructions to be loaded into computer system 1300. Such devices may include, for example, a removable storage unit 1318 and an interface 1320. Examples of such may include a program cartridge and cartridge interface (such as that found in video game devices), a removable memory chip (such as an erasable programmable read only memory (EPROM), or programmable read only memory (PROM)) and associated socket, and other removable storage units 1318 and interfaces 1320, which allow software and data to be transferred from the removable storage unit 1318 to computer system 1300.

Computer system 1300 may also include a communications interface 1324. Communications interface 1324 allows software and data to be transferred between computer system 1300 and external devices. Examples of communications interface 1324 may include a modem, a network interface (such as an Ethernet card), a communications port, a Personal Computer Memory Card International Association (PCMCIA) slot and card, etc. Software and data transferred via communications interface 1324 are in the form of signals 1328 which may be electronic, electromagnetic, optical or other signals capable of being received by communications interface 1324. These signals 1328 are provided to communications interface 1324 via a communications path (e.g., channel) 1326. This channel 1326 carries signals 1328 and may be implemented using wire or cable, fiber optics, a telephone line, a cellular link, a radio frequency (RF) link and other communications channels.

In this document, the terms "computer program medium" and "computer usable medium" are used to generally refer to media such as removable storage drive 1314 and a

hard disk installed in hard disk drive 1312. These computer program products provide software to computer system 1300.

Computer programs (also referred to as computer control logic) are stored in main memory 1308 and/or secondary memory 1310. Computer programs may also be received
5 via communications interface 1324. Such computer programs, when executed, enable the computer system 1300 to perform the features as discussed herein. In particular, the computer programs, when executed, enable the processor 1304 to perform the features of various embodiments. Accordingly, such computer programs represent controllers of the computer system 1300.

10 In an embodiment, software may be stored in a computer program product and loaded into computer system 1300 using removable storage drive 1314, hard drive 1312 or communications interface 1324. The control logic (software), when executed by the processor 1304, causes the processor 1304 to perform the functions of various embodiments as described herein.

15 In another embodiment, hardware components such as application specific integrated circuits (ASICs). Implementation of the hardware state machine so as to perform the functions described herein will be apparent to persons skilled in the relevant art(s).

One skilled in the art will appreciate that system 1300 may employ any number of databases in any number of configurations. Further, any databases discussed herein may be
20 any type of database, such as relational, hierarchical, graphical, object-oriented, and/or other database configurations. Common database products that may be used to implement the databases include DB2 by IBM (White Plains, NY), various database products available from Oracle Corporation (Redwood Shores, CA), Microsoft Access or Microsoft SQL Server by Microsoft Corporation (Redmond, Washington), or any other suitable database
25 product. Moreover, the databases may be organized in any suitable manner, for example, as data tables or lookup tables. Each record may be a single file, a series of files, a linked series of data fields or any other data structure. Association of certain data may be accomplished through any desired data association technique such as those known or practiced in the art. For example, the association may be accomplished either manually or
30 automatically. Automatic association techniques may include, for example, a database search, a database merge, GREP, AGREP, SQL, using a key field in the tables to speed searches, sequential searches through all the tables and files, sorting records in the file according to a known order to simplify lookup, and/or the like. The association step may be

accomplished by a database merge function, for example, using a "key field" in pre-selected databases or data sectors.

More particularly, a "key field" partitions the database according to the high-level class of objects defined by the key field. For example, certain types of data may be designated as a key field in a plurality of related data tables and the data tables may then be linked on the basis of the type of data in the key field. The data corresponding to the key field in each of the linked data tables is preferably the same or of the same type. However, data tables having similar, though not identical, data in the key fields may also be linked by using AGREP, for example. In accordance with one aspect of system 1300, any suitable data storage technique may be utilized to store data without a standard format. Data sets may be stored using any suitable technique, including, for example, storing individual files using an ISO/IEC 7816-4 file structure; implementing a domain whereby a dedicated file is selected that exposes one or more elementary files containing one or more data sets; using data sets stored in individual files using a hierarchical filing system; data sets stored as records in a single file (including compression, SQL accessible, hashed via one or more keys, numeric, alphabetical by first tuple, etc.); Binary Large Object (BLOB); stored as ungrouped data elements encoded using ISO/IEC 7816-6 data elements; stored as ungrouped data elements encoded using ISO/IEC Abstract Syntax Notation (ASN.1) as in ISO/IEC 8824 and 8825; and/or other proprietary techniques that may include fractal compression methods, image compression methods, etc.

In one embodiment, the ability to store a wide variety of information in different formats is facilitated by storing the information as a BLOB. Thus, any binary information can be stored in a storage space associated with a data set. As discussed above, the binary information may be stored on the financial transaction instrument or external to but affiliated with the financial transaction instrument. The BLOB method may store data sets as ungrouped data elements formatted as a block of binary via a fixed memory offset using either fixed storage allocation, circular queue techniques, or best practices with respect to memory management (e.g., paged memory, least recently used, etc.). By using BLOB methods, the ability to store various data sets that have different formats facilitates the storage of data associated with system 1300 by multiple and unrelated owners of the data sets. For example, a first data set which may be stored may be provided by a first party, a second data set which may be stored may be provided by an unrelated second party, and yet a third data set which may be stored, may be provided by an third party unrelated to the first

and second party. Each of these three exemplary data sets may contain different information that is stored using different data storage formats and/or techniques. Further, each data set may contain subsets of data that also may be distinct from other subsets.

As stated above, in various embodiments of system 1300, the data can be stored
5 without regard to a common format. However, in one exemplary embodiment, the data set (e.g., BLOB) may be annotated in a standard manner when provided for manipulating the data onto the financial transaction instrument. The annotation may comprise a short header, trailer, or other appropriate indicator related to each data set that is configured to convey information useful in managing the various data sets. For example, the annotation may be
10 called a "condition header", "header", "trailer", or "status", herein, and may comprise an indication of the status of the data set or may include an identifier correlated to a specific issuer or owner of the data. In one example, the first three bytes of each data set BLOB may be configured or configurable to indicate the status of that particular data set; e.g., LOADED, INITIALIZED, READY, BLOCKED, REMOVABLE, or DELETED.
15 Subsequent bytes of data may be used to indicate for example, the identity of the issuer, user, transaction/membership account identifier or the like. Each of these condition annotations are further discussed herein.

The data set annotation may also be used for other types of status information as well as various other purposes. For example, the data set annotation may include security
20 information establishing access levels. The access levels may, for example, be configured to permit only certain individuals, levels of employees, companies, or other entities to access data sets, or to permit access to specific data sets based on the transaction, merchant, issuer, user or the like. Furthermore, the security information may restrict/permit only certain actions such as accessing, modifying, and/or deleting data sets. In one example, the data set
25 annotation indicates that only the data set owner or the user are permitted to delete a data set, various identified users may be permitted to access the data set for reading, and others are altogether excluded from accessing the data set. However, other access restriction parameters may also be used allowing various entities to access a data set with various permission levels as appropriate.

30 The data, including the header or trailer may be received by a stand-alone interaction device configured to add, delete, modify, or augment the data in accordance with the header or trailer. As such, in one embodiment, the header or trailer is not stored on the transaction device along with the associated issuer-owned data but instead the appropriate action may be

taken by providing to the transaction instrument user at the stand-alone device, the appropriate option for the action to be taken. System 1300 contemplates a data storage arrangement wherein the header or trailer, or header or trailer history, of the data is stored on the transaction instrument in relation to the appropriate data.

5 One skilled in the art will also appreciate that, for security reasons, any databases, systems, devices, servers or other components of system 1300 may consist of any combination thereof at a single location or at multiple locations, wherein each database or system 1300 includes any of various suitable security features, such as firewalls, access codes, encryption, decryption, compression, decompression, and/or the like.

10 In addition to those described above, the various system components discussed herein may include one or more of the following: a host server or other computing systems including a processor for processing digital data; a memory coupled to the processor for storing digital data; an input digitizer coupled to the processor for inputting digital data; an application program stored in the memory and accessible by the processor for directing
15 processing of digital data by the processor; a display device coupled to the processor and memory for displaying information derived from digital data processed by the processor; and a plurality of databases. Various databases used herein may include: client data; merchant data; financial institution data; and/or like data useful in the operation of the present system. As those skilled in the art will appreciate, user computer may include an
20 operating system (e.g., Windows NT, 95/98/2000, OS2, UNIX, Linux, Solaris, MacOS, etc.) as well as various conventional support software and drivers typically associated with computers. The computer may include any suitable personal computer, network computer, workstation, minicomputer, mainframe or the like. User computer can be in a home or business environment with access to a network. In an exemplary embodiment, access is
25 through a network or the Internet through a commercially-available web-browser software package.

As used herein, the term "network" includes any cloud, cloud computing system or electronic communications system or method which incorporates hardware and/or software components. Communication among the parties may be accomplished through any suitable
30 communication channels, such as, for example, a telephone network, an extranet, an intranet, Internet, point of interaction device (point of sale device, personal digital assistant (e.g., iPhone®, Palm Pilot®, Blackberry®), cellular phone, kiosk, etc.), online communications, satellite communications, off-line communications, wireless

communications, transponder communications, local area network (LAN), wide area network (WAN), virtual private network (VPN), networked or linked devices, keyboard, mouse and/or any suitable communication or data input modality. Moreover, although the system is frequently described herein as being implemented with TCP/IP communications protocols, the system may also be implemented using IPX, Appletalk, IP-6, NetBIOS, OSI, any tunneling protocol (e.g. IPsec, SSH), or any number of existing or future protocols. If the network is in the nature of a public network, such as the Internet, it may be advantageous to presume the network to be insecure and open to eavesdroppers. Specific information related to the protocols, standards, and application software utilized in connection with the Internet is generally known to those skilled in the art and, as such, need not be detailed herein. See, for example, DILIP NAIK, INTERNET STANDARDS AND PROTOCOLS (1998); JAVA 2 COMPLETE, various authors, (Sybex 1999); DEBORAH RAY AND ERIC RAY, MASTERING HTML 4.0 (1997); and LOSHIN, TCP/IP CLEARLY EXPLAINED (1997) and DAVID GOURLEY AND BRIAN TOTTY, HTTP, THE DEFINITIVE GUIDE (2002), the contents of which are hereby incorporated by reference.

“Cloud” or “Cloud computing” includes a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction. Cloud computing may include location-independent computing, whereby shared servers provide resources, software, and data to computers and other devices on demand. For more information regarding cloud computing, see the NIST’s (National Institute of Standards and Technology) definition of cloud computing at <http://esrc.nist.gov/groups/SNS/cloud-computing/cloud-def-v15.doc> (last visited February 4, 2011), which is hereby incorporated by reference in its entirety.

The disclosure may be described herein in terms of functional block components, screen shots, optional selections and various processing steps. It should be appreciated that such functional blocks may be realized by any number of hardware and/or software components configured to perform the specified functions. For example, system 1300 may employ various integrated circuit components, e.g., memory elements, processing elements, logic elements, look-up tables, and/or the like, which may carry out a variety of functions under the control of one or more microprocessors or other control devices. Similarly, the software elements of system 1300 may be implemented with any programming or scripting

language such as C, C++, Java, COBOL, assembler, PERL, Visual Basic, SQL Stored Procedures, extensible markup language (XML), with the various algorithms being implemented with any combination of data structures, objects, processes, routines or other programming elements. Further, it should be noted that system 1300 may employ any
5 number of conventional techniques for data transmission, signaling, data processing, network control, and/or the like. Still further, system 1300 could be used to detect or prevent security issues with a client-side scripting language, such as JavaScript, VBScript or the like. For a basic introduction of cryptography and network security, see any of the following references: (1) "Applied Cryptography: Protocols, Algorithms, And Source Code
10 In C," by Bruce Schneier, published by John Wiley & Sons (second edition, 1995); (2) "Java Cryptography" by Jonathan Knudson, published by O'Reilly & Associates (1998); (3) "Cryptography & Network Security: Principles & Practice" by William Stallings, published by Prentice Hall; all of which are hereby incorporated by reference.

These software elements may be loaded onto a general purpose computer, special
15 purpose computer, or other programmable data processing apparatus to produce a machine, such that the instructions that execute on the computer or other programmable data processing apparatus create means for implementing the functions specified in the flowchart block or blocks. These computer program instructions may also be stored in a computer-readable memory that can direct a computer or other programmable data processing
20 apparatus to function in a particular manner, such that the instructions stored in the computer-readable memory produce an article of manufacture including instruction means which implement the function specified in the flowchart block or blocks. The computer program instructions may also be loaded onto a computer or other programmable data processing apparatus to cause a series of operational steps to be performed on the computer
25 or other programmable apparatus to produce a computer-implemented process such that the instructions which execute on the computer or other programmable apparatus provide steps for implementing the functions specified in the flowchart block or blocks.

Accordingly, functional blocks of the block diagrams and flowchart illustrations support combinations of means for performing the specified functions, combinations of
30 steps for performing the specified functions, and program instruction means for performing the specified functions. It will also be understood that each functional block of the block diagrams and flowchart illustrations, and combinations of functional blocks in the block diagrams and flowchart illustrations, may be implemented by either special purpose

hardware-based computer systems which perform the specified functions or steps, or suitable combinations of special purpose hardware and computer instructions. Further, illustrations of the process flows and the descriptions thereof may make reference to user windows, web pages, web sites, web forms, prompts, etc. Practitioners will appreciate that the illustrated steps described herein may comprise in any number of configurations including the use of windows, web pages, web forms, popup windows, prompts and/or the like. It should be further appreciated that the multiple steps as illustrated and described may be combined into single web pages and/or windows but have been expanded for the sake of simplicity. In other cases, steps illustrated and described as single process steps may be separated into multiple web pages and/or windows but have been combined for simplicity.

Practitioners will appreciate that there are a number of methods for displaying data within a browser-based document. Data may be represented as standard text or within a fixed list, scrollable list, drop-down list, editable text field, fixed text field, pop-up window, and/or the like. Likewise, there are a number of methods available for modifying data in a web page such as, for example, free text entry using a keyboard, selection of menu items, check boxes, option boxes, and/or the like.

In one embodiment, RCP 130 includes application programming interfaces that enable third parties to create, configure, manage, modify, update, delete, report on, and enhance reward offers and marketing programs. For example, a program provider (e.g., an LPP or TAP) may wish to create a custom application ("partner application") that serves as a front-end or interface to RCP 130. The partner application accesses RCP 130 via various application programming interfaces (APIs). In one embodiment, the APIs may include a partner registration API, an offer set-up API, an enrollment API, a transaction API, a trigger API, a partner registration API, a reporting API and a marketing channel API. RCP 130 is a robust extensible platform that enables, in various embodiments, a variety of APIs for accessing a variety of functions. While some APIs may correspond directly to a function that may be desired by a partner, others may provide access to core functionality such as, for example, APIs for accessing workflow functionality or for accessing database query functionality.

Fig. 14 includes one embodiment of RCP 130 and a plurality of API's. As shown, RCP 130 may be configured to communicate with (or execute computer programs for) an approval portal, a workflow engine and a number of internal and external databases.

Partner registration API 1405 may enable a marketing partner to access RCP 130 in order to register with and configure access to RCP 130. In one embodiment, a developer portal provides an interface to partner users and a registration request is sent via partner registration API 1405 to RCP 130. RCP 130 validates the registration request and executes a workflow to provision a partner user identification code ("user id") and an API access code. RCP 130 saves a partner profile in the partner database 1410. In one embodiment, RCP 130 allocates memory, databases, file structure and/or other system resources to be used by partner users in testing and in production. In an embodiment, based upon a workflow and/or predefined business rules, RCP 130 executes logic to approve the registration request. The process to approve the registration request may be completely automated and/or may comprise steps whereby RCP administrators provide a manual approval. RCP 130 sends the registration information (e.g., user id and access code) to the partner user. A partner user and/or a RCP administrator may also access RCP 130 via partner registration API 1405 in order to update partner details, and terminate the partner if needed.

Offer setup API 1415 may allow a partner to build their own offer set up tool, may provide access to their own internal users, and/or may allow the partner to open up the tool to external users of their application or service (e.g., a user base of merchants or a company representing merchants). In one embodiment, offer setup API 1415 enables receiving a offer setup request; parsing the offer set up request into offer parameters; validating the offer setup request and/or the offer parameters; notifying a first approver of the offer setup request; receiving from the first approver, an approval of the offer set up request; saving an offer comprising the first offer parameters; associating the offer associated with a marketing program; and determining a first population of transaction accounts that comply with first offer criteria.

In one embodiment, the parsing includes applying logical and/or business rules to a request to divide, reorganize, translate and/or augment the data associated with a request. In various embodiments, parsing may be accomplished as part of the data validation process and/or as part of populating the data in a database. Data validation includes applying logical and/or business rules in order to ensure that data is received in, for example, an expected format and/or structure and that the data conforms in content to business rules that govern the data. Business rules used to parse the data may be based upon, for example, a partner, an offer, a product, an industry, a promotion, a program, a transaction processor, an issuer or

any combination of these or other factors. Data that fails validation may cause an error to be sent to the system that sent the data and/or may cause RCP 130 administrator staff to examine and or modify the data.

Thus, a RCP 138 user (e.g., a partner) may use offer setup API 1415 to configure
5 marketing programs and offers and to determine a population of transaction accounts that
may be eligible for a program. Such data may be useful to a marketing partner in analyzing
and targeting a particular promotion. Offer setup API 1415 may also enable a partner to
specify criteria (e.g., define qualifying transactions, behaviors, events or thresholds) that
qualify for a reward. The offer criteria may include any combination of a customer
10 identifier, a customer demographic, a customer location, spend frequency, a spend threshold,
a spend history, an award cap, a tiered reward requirement, a product identifier, a product
category, a stock-keeping unit (SKU), a universal product code (UPC), a QR code, a
merchant, a merchant type, an industry, a merchant location. Thus, offer set up API 1415
enables a partner to enter, maintain, analyze reward eligibility and configure RCP 130 to
15 execute the offer. These constructs may enable highly targeted marketing promotions
tailored to the specific needs of the partner, or the partner's user base. Any or all of these
factors may also be used to exclude transaction accounts that may participate in an offer
and/or provide criteria for excluding or withholding a reward.

In various embodiments, offer setup API also enables a partner to configure how
20 offer costs are collected from a participating service establishment (e.g., merchant). For
example, offer costs can be debited from the merchant account associated with where the
qualifying transaction actually occurred (e.g., where a customer transacted), or from a single
merchant specified by the partner. Offer setup API also enables a partner to configure the
amount, currency and manner in which rewards are distributed. For example, in addition to
25 fulfilling via statement credits, output files can be generated and passed to the partner to
enable new types of fulfillment such as social currency. In an embodiment, RCP 130
determines that a qualifying transaction (and or event) has occurred and calculates a reward
for a member or transaction account. Distributing the reward may include crediting a first
transaction account, crediting a second transaction account, crediting a rewards account
30 associated with the first transaction account, performing a currency conversion, crediting a
social networking currency and sending reward data to a third party, where the third party
applies the reward based upon the reward data.

Enrollment API 1420 may enable RCP 130 to capture enrollments from programs set up through the offer set up API. It may enable a partner to build their own enrollment functionality and embed the feature into their application. For example, a partner may design a rewards program and wish to solicit participation and enable enrollment in the program using a variety of different methods such as via an email message, a link, a uniform resource locator (URL), a customized web page, a web page hosted by the automated marketing system, a social networking web site, an app, a text message and a mobile application. Thus, the partner may define, via the enrollment API, that a web page be generated and hosted via RCP 130 and used to receive and process enrollments in a program. In an embodiment, the partner may define, via the enrollment API, a custom web page (or URL) by which enrollment may occur and, optionally, may define a access requirements (e.g., user id/password) for enrolling in a program.

The partner may use (e.g., via a custom application or website) enrollment API 1420 to enter and configure enrollment parameters in RCP 130. Enrollment parameters may include defining an enrollment process, instructions for generating a hosted enrollment page, a referral uniform resource locator (URL), a user id, a password, a passcode, an enrollment timeframe, and an enrollment cap, and enrollee (e.g., offer or program participant) tracking data requirements. The enrollee tracking requirements may include a user id, email address, password, product code, and transaction location; thus, the enrollment API is useful in defining how a transaction account or member may enroll in a program and defining data and events by which the partner may track a member's activity. Thus, a partner, program provider or issuer may capture the user ID/e-mail/phone number/password, product category, or other unique identifier(s) (QR code or marketing channel information) and/or may track this information during a program in order to enable additional reporting metrics, specific product opt-ins, and/or the trigger API functionality (discussed below).

Reporting API 1425 may enable real-time, or near real-time, results to an interfacing system (e.g., partner system). Using reporting API 1425, the partner can also define reports and data to be distributed to third parties such as, for example, program participants (merchants and customer), news sites, social media networks, etc. Reporting API may provide the ability to define and/or access a wide range of cumulative and incremental metrics. The metrics may include, for example, number of enrollments, CV, avg. ROC, number discounts, money discounts (or alternate fulfillment method). The partner and the partner's users will also have the ability to opt-in for in-depth pre/post-campaign metrics.

Additional fields captured during enrollment can also be appended to reporting data and passed back to the partner.

Transaction API 1430 may enable a partner to define transactions and/or events that trigger data to be shared with a third party. For example, a transaction account issuer may allow their customers (e.g., transaction account owners) to opt-in to triggered data sharing so that when a customer initiates a transaction, data regarding that transaction is posted to a user's social networking account. For example, a customer swipes a transaction account card at a local florist when purchasing flowers, RCP 138 receives transaction details from the transaction account authorization process, and details regarding the transaction (e.g., merchant name, location, transaction amount, product, product type, time of transaction, etc.) are sent via transaction API to the Facebook account of the consumer. Thus, in one embodiment, RCP 138 leverages the transaction account authorization process to provide a new capability which allows customers to share transaction information in real-time.

Transaction API 1430 may enable a real-time service allowing customers to automatically share their spend behavior with social networks, smartphone applications, and other 3rd party destinations. In one embodiment, customers opt-in for this service, and select criteria for their spend information will be shared (e.g. "only share transactions at restaurants, but never share transactions at jewelry stores.")

In one embodiment, RCP 138 receives, via transaction API 1430, a data sharing opt-in associated with the first transaction account, wherein the data sharing opt-in defines data sharing transactions for which the first user authorizes personal data sharing. RCP 138 obtains transaction notification data for a transaction authorization request associated with the first transaction account and determines that the transaction authorization request qualifies as a data sharing transaction. RCP 130 sends data associated with the transaction authorization request to at least one of a web site, a social networking site, a social networking application, a third party, an individual, and a social networking account of a friend.

Trigger API 1435 may enable a partner to define conditions and/or events that trigger a message or data ("alerts") to be sent passed to the partner or other 3rd parties. In one embodiment, trigger API 1435 enables a partner to configure and manage managed alerts, or alerts for its users who are merchants (or representing merchants). The partner may configure trigger alerts based on any data accessible to RCP 138 (e.g., customer, merchant

or product specific data), any calculation or business rule associated with the data (e.g., a counter, accumulation or threshold)

In an embodiment, RCP 130 receives, via a trigger API, a triggered event request defining triggered alert parameters for triggered offer alerts, wherein the triggered event parameters define offer alerts based upon at least one of: a number of enrollments for an offer; a number of authorization requests associated with an offer, a number of authorization requests associated with a transaction account, an award cap, an award threshold, a tiered reward requirement, a product identifier, a product category, a stock-keeping unit (SKU), a QR code, a universal product code (UPC), a merchant, a merchant type, an industry, a merchant location, and an marketing program result. In an embodiment, RCP 130 receives, via a trigger API, a triggered event request defining triggered alert parameters for triggered customer alerts, wherein the triggered event parameters define customer alerts based upon at least one of: offer progress, program progress, authorization requests associated with an offer, spend associated with an offer, spend associated with a program, spend associated with a merchant, a cross promotion, a second offer, an offer achievement and a customized message. RCP 138 monitors its databases and event logs for criteria for which a trigger is defined, formats a trigger alert and distributes the alert according to distribution criteria defined by the particular trigger parameters.

Marketing channel API 1440 may enable a partner to query offer database and/or other data sources. For example, via offer setup API 1415 a restaurant offers for 5% credit for all meals purchased on Sundays and offers 1% of the transaction value to marketing partners that sign up customers. A marketing channel partner (e.g., Groupon) uses marketing channel API 1440 to query the database, find this offer and opt-in to promoting the offer through the marketing channel. The marketing channel partner uses marketing channel API to determine merchant name, offer details (logo, Ts & Cs, dates etc.), offer construct, merchant location (address and longitude/latitude) for use in the promotion.

In one embodiment, RCP 130 receives, from a requestor and via a marketing channel API, a marketing channel request for a list of at least one of marketing channels, offers and programs. RCP 130 sends, via the marketing channel API, the list to the requestor associated with the marketing channel request. The list includes a merchant name, program details, offer details, offer terms and conditions, an advertisement, a logo and/or a merchant location. RCP receives, via the marketing channel API, a marketing channel opt-in request

associates the requestor with at least one of a marketing channel, a program and an offer associated with the opt-in request.

5 The detailed description of exemplary embodiments herein makes reference to the accompanying drawings and pictures, which show the exemplary embodiment by way of illustration and its best mode. While these exemplary embodiments are described in sufficient detail to enable those skilled in the art to practice the disclosure, it should be understood that other embodiments may be realized and that logical and mechanical changes may be made without departing from the spirit and scope of the disclosure. Thus, the detailed description herein is presented for purposes of illustration only and not of
10 limitation. For example, the steps recited in any of the method or process descriptions may be executed in any order and are not limited to the order presented. Moreover, any of the functions or steps may be outsourced to or performed by one or more third parties. Furthermore, any reference to singular includes plural embodiments, and any reference to more than one component may include a singular embodiment.

15 Benefits, other advantages, and solutions to problems have been described herein with regard to specific embodiments. However, the benefits, advantages, solutions to problems, and any elements that may cause any benefit, advantage, or solution to occur or become more pronounced are not to be construed as critical, required, or essential features or elements of the disclosure. The scope of the disclosure is accordingly to be limited by
20 nothing other than the appended claims, in which reference to an element in the singular is not intended to mean "one and only one" unless explicitly so stated, but rather "one or more." Moreover, where a phrase similar to 'at least one of A, B, or C' is used in the claims or specification, it is intended that the phrase be interpreted to mean that A alone may be present in an embodiment, B alone may be present in an embodiment, C alone may be
25 present in an embodiment, or that any combination of the elements A, B and C may be present in a single embodiment; for example, A and B, A and C, B and C, or A and B and C. All structural, chemical, and functional equivalents to the elements of the above-described exemplary embodiments that are known to those of ordinary skill in the art are expressly incorporated herein by reference and are intended to be encompassed by the present claims.
30 Further, a list of elements does not include only those elements but may include other elements not expressly listed or inherent to such process, method, article, or apparatus.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A method comprising:

receiving, by a payment processing computer and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;

authorizing, by the payment processing computer and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with predefined business rules, wherein partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a business rule associated with the external partner system;

creating, by the payment processing computer and via the offer setup API, an offer setup tool;

determining, by the payment processing computer, user access preferences in response to an input from the external partner system via a partner registration API;

granting, by the payment processing computer, access to the offer setup tool for the external partner system in response to the authorizing;

receiving, by the payment processing computer, an offer setup request via the offer setup tool;

parsing, by the payment processing computer, the offer setup request into a plurality of first offer parameters;

validating, by the payment processing computer, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;

approving, by the payment processing computer, the offer setup request in response to the validating;

creating, by the payment processing computer, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;

registering, by the payment processing computer and in response to the creating, a transaction account with a rewards program system;

linking, by the payment processing computer, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards

program system, in response to the registering the transaction account with the rewards program system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account;

authorizing, by an authorization server of the payment processing computer, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on a first amount of credit associated with the transaction account;

reducing, by the payment processing computer, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing computer and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction between the merchant system and the consumer system;

identifying, by the payment processing computer and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing computer and in response to the authorizing, a plurality of offers associated with a plurality of merchants;

selecting, by the payment processing computer and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing computer and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies for a reward in accordance with the first offer of the subset of offers;

determining, by the payment processing computer and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing computer, the reward as a credit to the transaction in the transaction account during a settlement operation;

adjusting, by the payment processing computer, the amount of the available credit for the transaction account, in response to the applying the reward;

linking, by the payment processing computer, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

generating, by the payment processing computer, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

displaying, by the payment processing computer, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and

processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item.

2. The method of claim 1, further comprising receiving, by the payment processing computer and via an enrollment API, and from a plurality of APIs, an enrollment setup request, wherein the enrollment setup request comprises an enrollment parameter for enrollment of at least one of a transaction account and a population.

3. The method of claim 2, wherein the population is enrolled in response to the population satisfying the enrollment parameter, wherein the enrollment parameter is a spending behavior, and wherein the population is defined by a spending behavior.

4. The method of claim 2, wherein the transaction account is enrolled in response to the transaction account information satisfying the enrollment parameter and wherein the enrollment parameter is a spend behavior.

5. The method of claim 3, wherein the spending behavior is defined by an offering merchant.

6. The method of claim 1, further comprising:

creating, by the payment processing computer and via an enrollment API, an enrollment page and a referral link for the rewards program system, wherein the referral link is configured to

be communicated electronically to potential reward program participants, and wherein the enrollment page is linked to a reward program engine that is configured to analyze offers, transactions and credit rewards;

selecting, by the payment processing computer and in response to inputs from the offer setup tool and via the offer setup API, a group of transaction accounts; and

transmitting, by the payment processing computer and via the enrollment API, the referral link to a group of users associated with the group of transaction accounts.

7. The method of claim 6, further comprising:

approving, by the payment processing computer, the enrollment setup request;

parsing, by the payment processing computer, the enrollment setup request into the enrollment parameter; and

associating, by the payment processing computer, at least one of the transaction account and the population with at least one of the first offer and the second offer in response to the approval and based on the first enrollment parameter.

8. The method of claim 7, further comprising transmitting, by the payment processing computer, a notification associated with at least one of the first offer and the second offer to at least one of an owner of the transaction account and the population, in response to the associating at least one of the transaction account and the population.

9. The method of claim 1, further comprising determining, by the payment processing computer, a population comprising a plurality of transaction accounts that comply with first offer criteria, wherein the first offer parameter comprise the first offer criteria.

10. The method of claim 9, wherein the first offer criteria comprise at least one of a customer identifier, a customer demographic, a customer location, spend frequency, a spend threshold, a spend history, an award cap, a tiered reward requirement, a product identifier, a product category, a stock-keeping unit (SKU), a universal product code (UPC), a QR code, a merchant, a merchant type, an industry, a merchant location.

11. The method of claim 1, further comprising:

receiving, by the payment processing computer, a reporting request defining reporting parameters for reports based upon at least one of program metrics, offer metrics, average spend, discounts awarded, cumulative discount percentage, enrollment metrics, report format, report frequency, report delivery method and a number of qualifying transactions via a reporting API; and

generating, by the payment processing computer, a report based upon the reporting parameters.

12. The method of claim 11, further comprising transmitting, by the payment processing computer, the report to at least one of a merchant system and the rewards program system.

13. The method of claim 1, further comprising:

selecting, by the payment processing computer, a first population based on parameters associated with the first offer, wherein the first population comprises a plurality of transactions accounts, and wherein the plurality of transaction accounts includes the transaction account; and

associating, by the payment processing computer, the population with the first offer based on the first offer parameter.

14. The method of claim 13, wherein the first population is defined by real time spend data, wherein the plurality of transaction accounts are associated with the population based on the real time spend, and wherein the real time spend data is at least one of requests for authorization and posted transactions associated with the transaction account during a first billing cycle.

15. The method of claim 14, further comprising:

transmitting, by the payment processing computer, the first offer to each of the plurality of transaction accounts; and

associating, by the payment processing computer, the reward with the transaction account in response to receiving the transaction information, wherein the transaction information qualified for the first offer.

16. The method of claim 15, wherein the reward has a monetary value, and an indicator of the monetary value is displayed on a statement associated with the transaction account.

17. The method of claim 15, further comprising:
analyzing, by the payment processing computer, the plurality of transaction accounts associated with the first population during a second billing cycle;
associating, by the payment processing computer, at least a portion of the plurality of transactions accounts to a second population based on the requests for authorization and posted transactions associated with each account in the portion of the plurality of transactions accounts during the second billing cycle.
18. The method of claim 17, further comprising removing, by the payment processing computer, the portion of the plurality of transaction accounts from the first population, in response to associating the portion of the plurality of transaction accounts with the second population.
19. The method of claim 1, wherein the parameters associated with the first offer include at least one of spend data associated with a targeted merchant and spend data associated with a class of products.
20. The method of any one of claims 1 to 19, wherein a notification of the reward is transmitted in response to receiving an authorization request associated with the transaction, and wherein the reward is credited to the transaction account in response to receiving settlement information associated with the transaction.
21. The method of any one of claims 1 to 15, further comprising:
applying, by the payment processing computer, the reward to the transaction at a point of sale; and
determining, by the payment processing computer, authorization of the transaction in response to the applying the reward, wherein the reward has a monetary value.
22. The method of any one of claims 1 to 13, further comprising:
determining, by the payment processing computer, authorization of the transaction; and
applying, by the payment processing computer, the reward to the transaction.
23. The method of any one of claims 1 to 22, wherein the credit is a statement credit.

24. The method of any one of claims 1 to 22, wherein the credit is a POS credit.
25. The method of any one of claims 1 to 24, further comprising defining, by the payment processing computer and via a trigger API, an alert associated with the first offer, wherein the alert is associated with a user from the group of users associated with the group of transaction accounts.
26. The method of any one of claims 1 to 9, wherein the offer criteria associated with the offer being defined by the external partner includes an award cap for the external partner.
27. The method of claim 1, further comprising:
- storing, by the payment processing computer, the plurality of offers in a database as ungrouped data elements via a fixed memory offset using a binary large object method with different data sets from different owners with different formats,
 - annotating, by the payment processing computer, the plurality of offers with a header, trailer or indicator to convey information for managing the plurality of offers;
 - annotating, by the payment processing computer, the plurality of offers to include security information establishing access levels;
 - providing, by the payment processing computer, based on the security access level and in response to updating a permissions indicator, access to the plurality of offers;
 - designating, by the payment processing computer, a type of the plurality of offers as a key field in a plurality of related data tables to speed searching for the data;
 - linking, by the payment processing computer, the plurality of related data tables based on the type of the plurality of offers in the key fields;
 - partitioning, by the payment processing computer and using the key field, the database according to a class of objects defined by the key field to speed searching for the plurality of offers;
 - sorting, by the computer based system, the plurality of offers according to a known order to simplify the lookup process; and
 - obtaining, by the payment processing computer, the plurality of offers from the database.

28. A tangible, non-transitory computer-readable storage medium having computer-executable instructions stored thereon that, when executed by a payment processing computer, causes the payment processing computer to perform a method comprising:

- receiving, by the payment processing computer and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;
- authorizing, by the payment processing computer and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with the predefined business rules, wherein the partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a first business rule associated with the external partner system;
- creating, by the payment processing computer and via the offer setup API, an offer setup tool;
- determining, by the payment processing computer, user access preferences in response to an input from the external partner system via a partner registration API;
- granting, by the payment processing computer, access to the offer setup tool for the external partner system in response to the authorizing;
- receiving, by the payment processing computer, an offer setup request via the offer set up tool;
- parsing, by the payment processing computer, the offer setup request into a plurality of first offer parameters;
- validating, by the payment processing computer, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;
- approving, by the payment processing computer, the offer setup request in response to the validating;
- creating, by the payment processing computer, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;
- registering, by the payment processing computer and in response to the creating, a transaction account with a rewards program system;
- linking, by the payment processing computer, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards program system, in response to the registering the transaction account with the rewards program

system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account;

authorizing, by an authorization server of the payment processing computer, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on a first amount of credit associated with the transaction account;

reducing, by the payment processing computer, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing computer and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction between the merchant system and the consumer system;

identifying, by the payment processing computer and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing computer and in response to the authorizing, a plurality of offers associated with a plurality of merchants;

selecting, by the payment processing computer and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing computer and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies for a reward in accordance with the first offer of the subset of offers;

determining, by the payment processing computer and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing computer, the reward as a credit to the transaction in the transaction account during a settlement operation;

adjusting, by the payment processing computer, the amount of the available credit for the transaction account, in response to the applying the reward;

linking, by the payment processing computer, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

generating, by the payment processing computer, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

displaying, by the payment processing computer, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and

processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item.

29. A system comprising:

a payment processing processor;

a tangible, non-transitory memory communicating with the processor; and

the processor, when executing a computer program, is capable of performing operation comprising:

receiving, by the payment processing processor and via an offer setup API, partner access preferences for an external partner system, wherein the offer setup API is from a plurality of APIs;

authorizing, by the payment processing processor and via the Offer Setup API, the external partner system based on the partner access preferences in response to information from the external partner system conforming with predefined business rules, wherein partner access preferences define that the external user is authorized to initiate an offer setup request in accordance with a business rule associated with the external partner system;

creating, by the payment processing processor and via the offer setup API, an offer setup tool;

determining, by the payment processing processor, user access preferences in response to an input from the external partner system via a partner registration API;

granting, by the payment processing processor, access to the offer setup tool for the external partner system in response to the authorizing;

receiving, by the payment processing processor, an offer setup request via the offer setup tool;

parsing, by the payment processing processor, the offer setup request into a plurality of first offer parameters;

validating, by the payment processing processor, the first offer parameter based on the predefined business rules associated with the external user for creating an offer;

approving, by the payment processing processor, the offer setup request in response to the validating;

creating, by the payment processing processor, a first offer comprising the first offer parameter, wherein the first offer is associated with a reward program and wherein the first offer comprises a reward;

registering, by the payment processing processor and in response to the creating, a transaction account with a rewards program system;

linking, by the payment processing processor, the transaction account to a reward program identifier that indicates that the transaction account is associated with the rewards program system, in response to the registering the transaction account with the rewards program system, wherein the transaction account is accessed by the reward program that is configured to distribute offers from an offer database to the transaction account;

authorizing, by an authorization server of the payment processing processor, a transaction with a merchant system in response to a consumer system initiating the transaction with the merchant system using the transaction account, wherein the authorization is based on a first amount of credit associated with the transaction account;

reducing, by the payment processing processor, an amount of available credit for the transaction account by a transaction amount included with the authorization;

receiving, by the payment processing processor and in response to the authorizing, transaction information for the transaction from the merchant system for the transaction between the merchant system and the consumer system;

identifying, by the payment processing processor and in response to the authorizing, the merchant system as an identified merchant system based on the transaction originating with the merchant system;

accessing, by the payment processing processor and in response to the authorizing, a plurality of offers associated with a plurality of merchants;

selecting, by the payment processing processor and in response to the accessing, a subset of the plurality of offers associated with the identified merchant system;

analyzing, by the payment processing processor and in response to the selecting, the transaction amount and a transaction date to determine that the transaction information qualifies for a reward in accordance with the first offer of the subset of offers;

determining, by the payment processing processor and in response to the selecting, the reward based on the offer parameters, an attribute of the transaction account, the transaction information, a type of the offer, lack of spend at a particular merchant, spend at other merchants and a rule;

converting, by the payment processing computer using a configuration table, a calculated discount of the reward between a monetary credit and reward points, based on service fees and percent of a purchase price;

applying, by the payment processing processor, the reward as a credit to the transaction in the transaction account during a settlement operation;

adjusting, by the payment processing processor, the amount of the available credit for the transaction account, in response to the applying the reward;

linking, by the payment processing processor, the reward with the transaction information associated with the transaction and based on the registering the transaction account with the rewards program system;

generating, by the payment processing processor, a record of the reward associated with the transaction account used to conduct the transaction, wherein the record of the reward is associated with a charge associated with the transaction information corresponding to the transaction;

displaying, by the payment processing processor, an indicator of an amount of the reward on a statement in connection with the charge corresponding to the transaction; and

processing, by the payment processing computer, a return transaction by calculating a discount reversal amount for an eligible return item based on a stock keeping unit (SKU) associated with the eligible return item, a date of a purchase of the eligible return item and an amount of the purchase of the eligible return item.

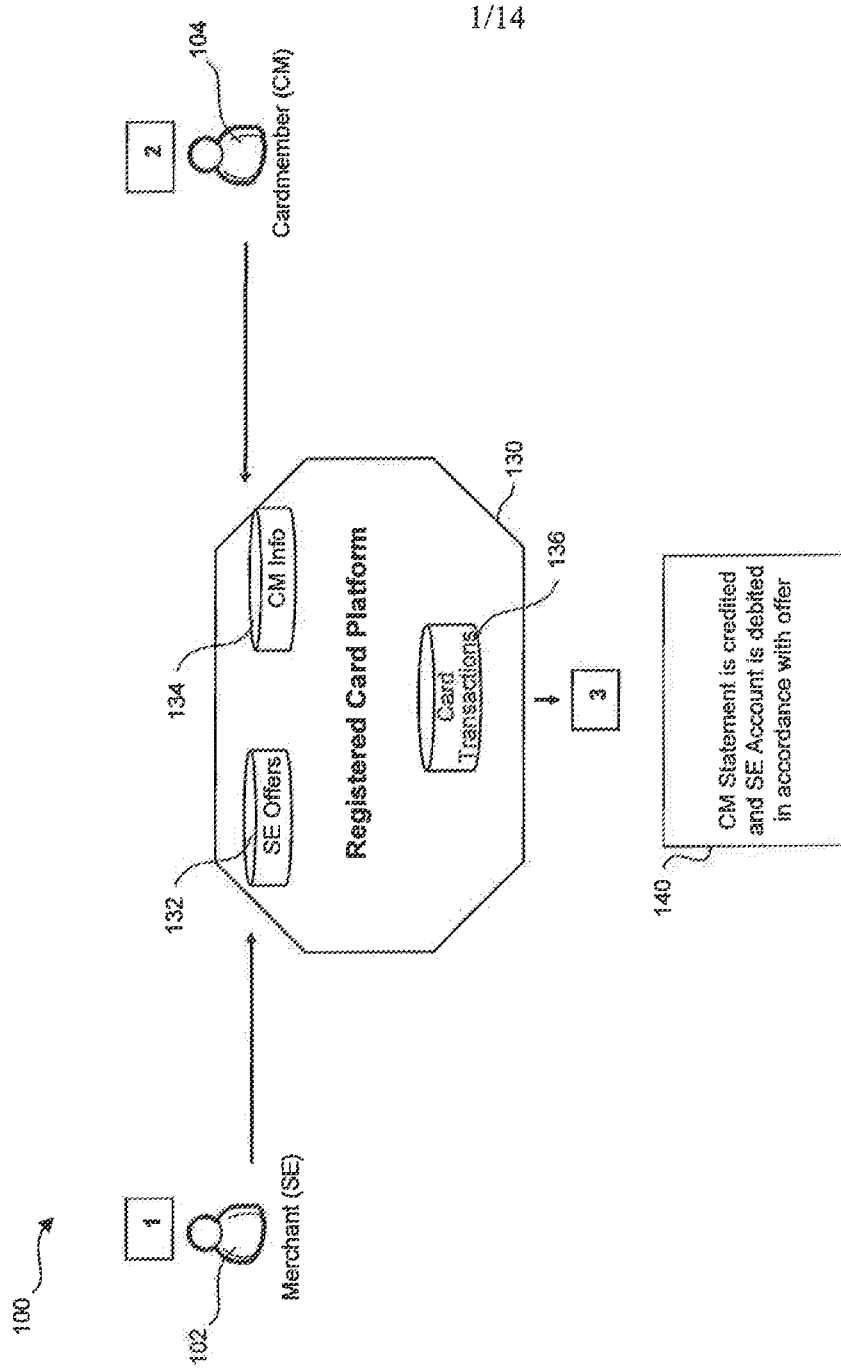


FIG. 1

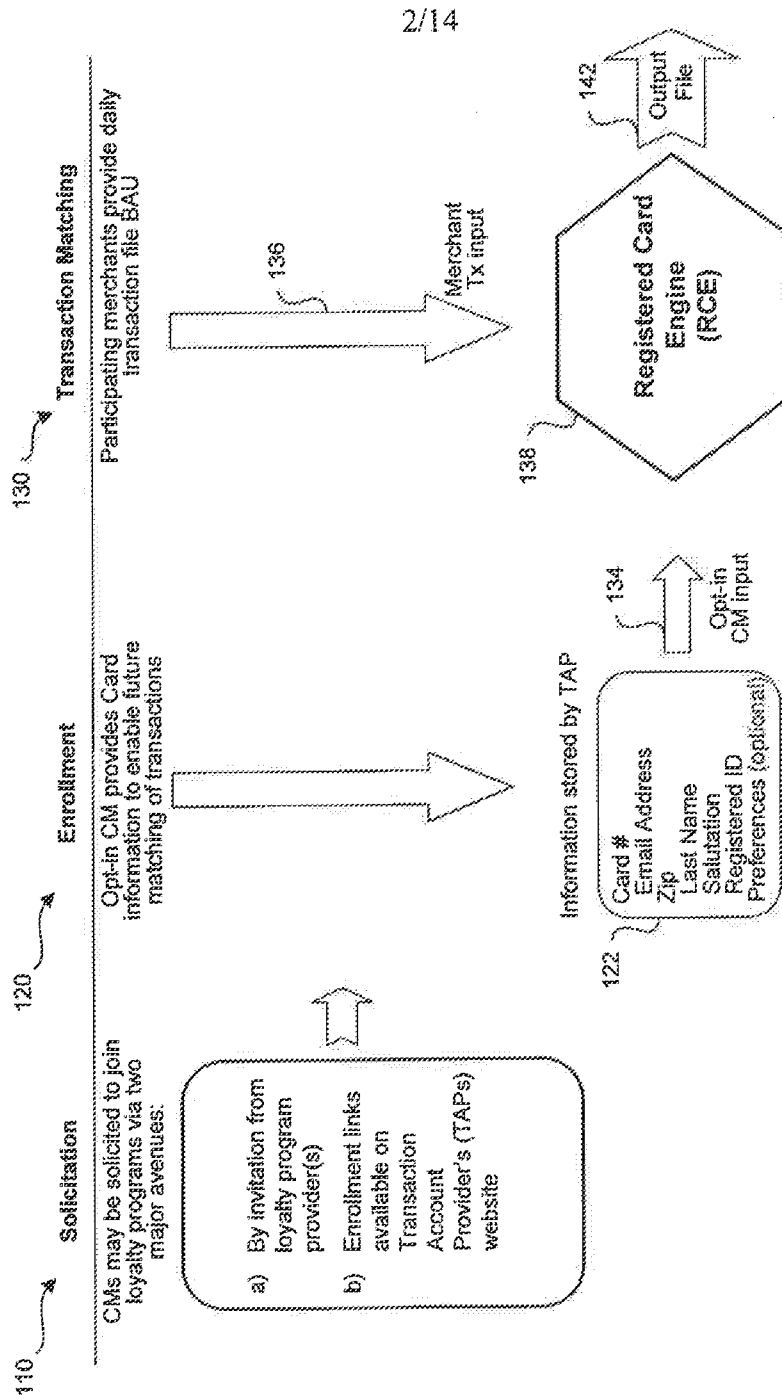


FIG. 2

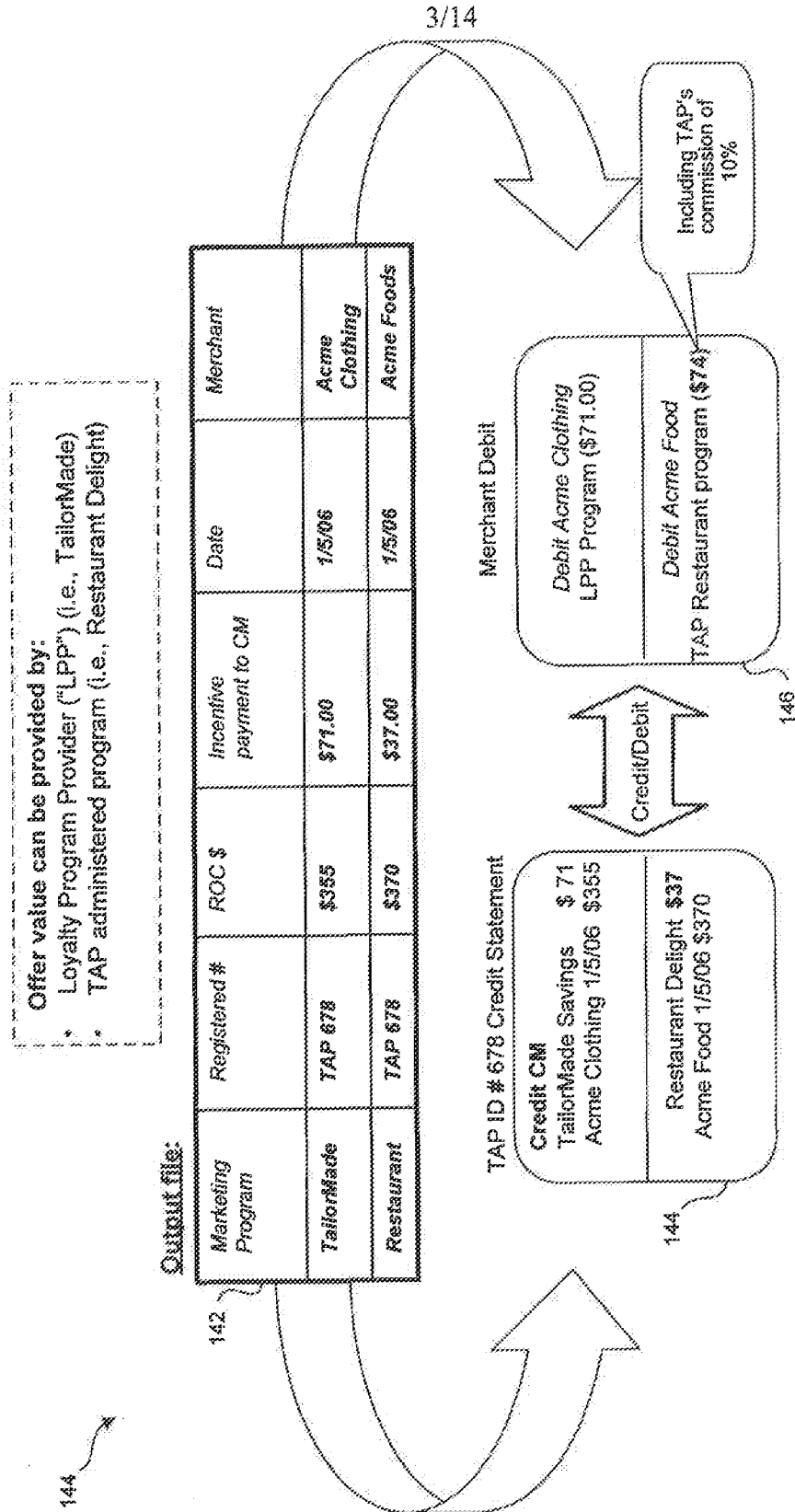
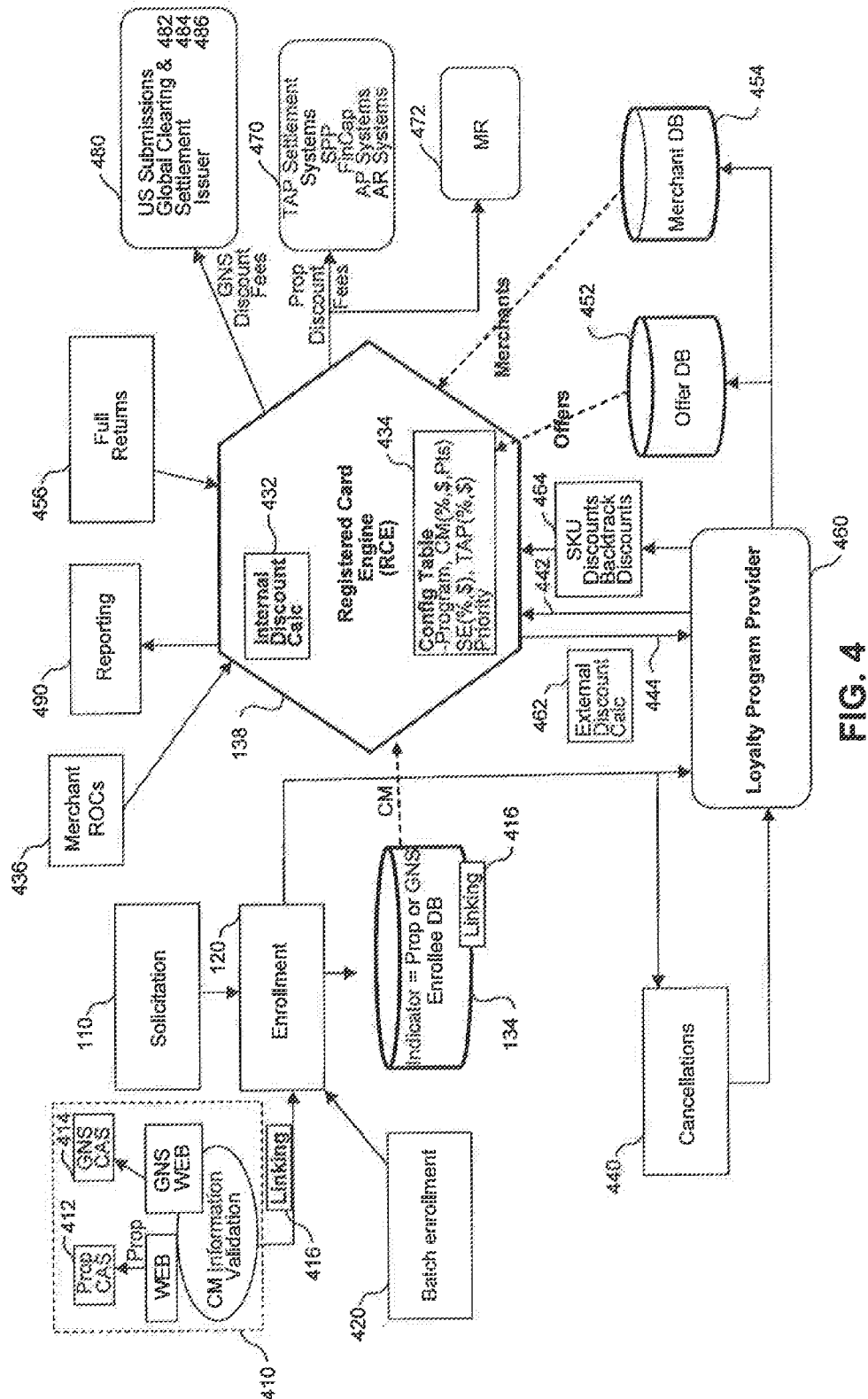


FIG. 3

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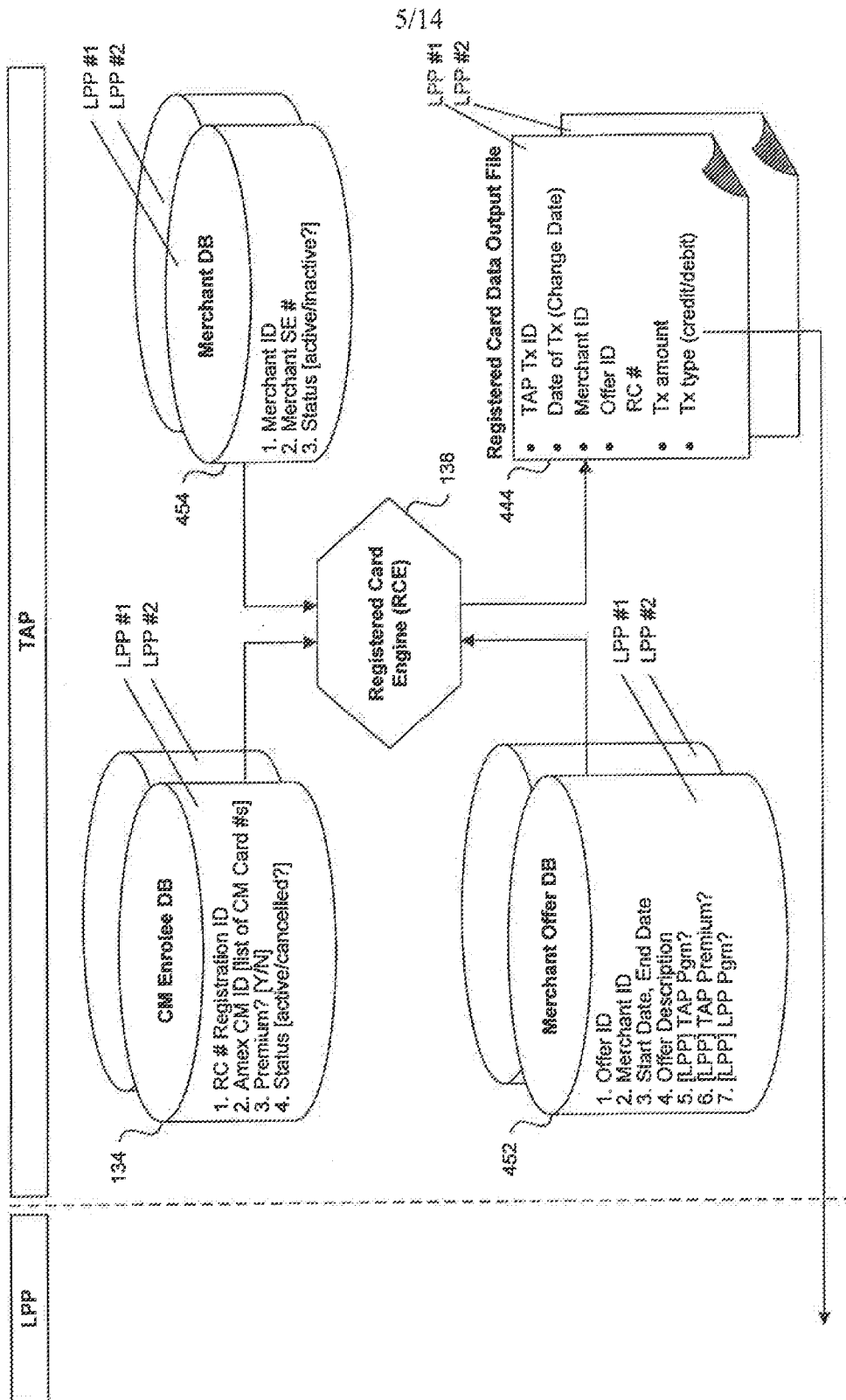


FIG. 5

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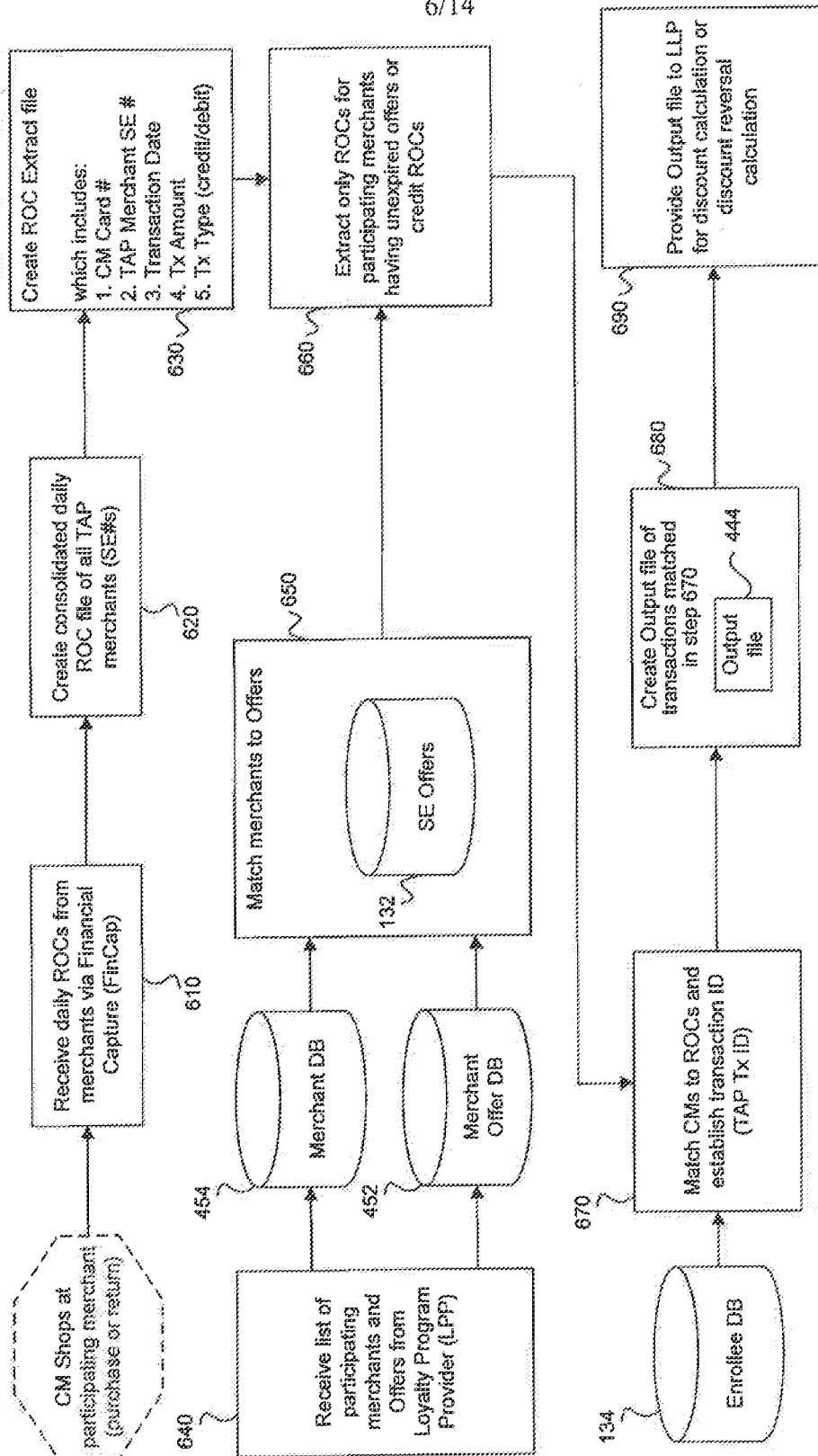


FIG. 6

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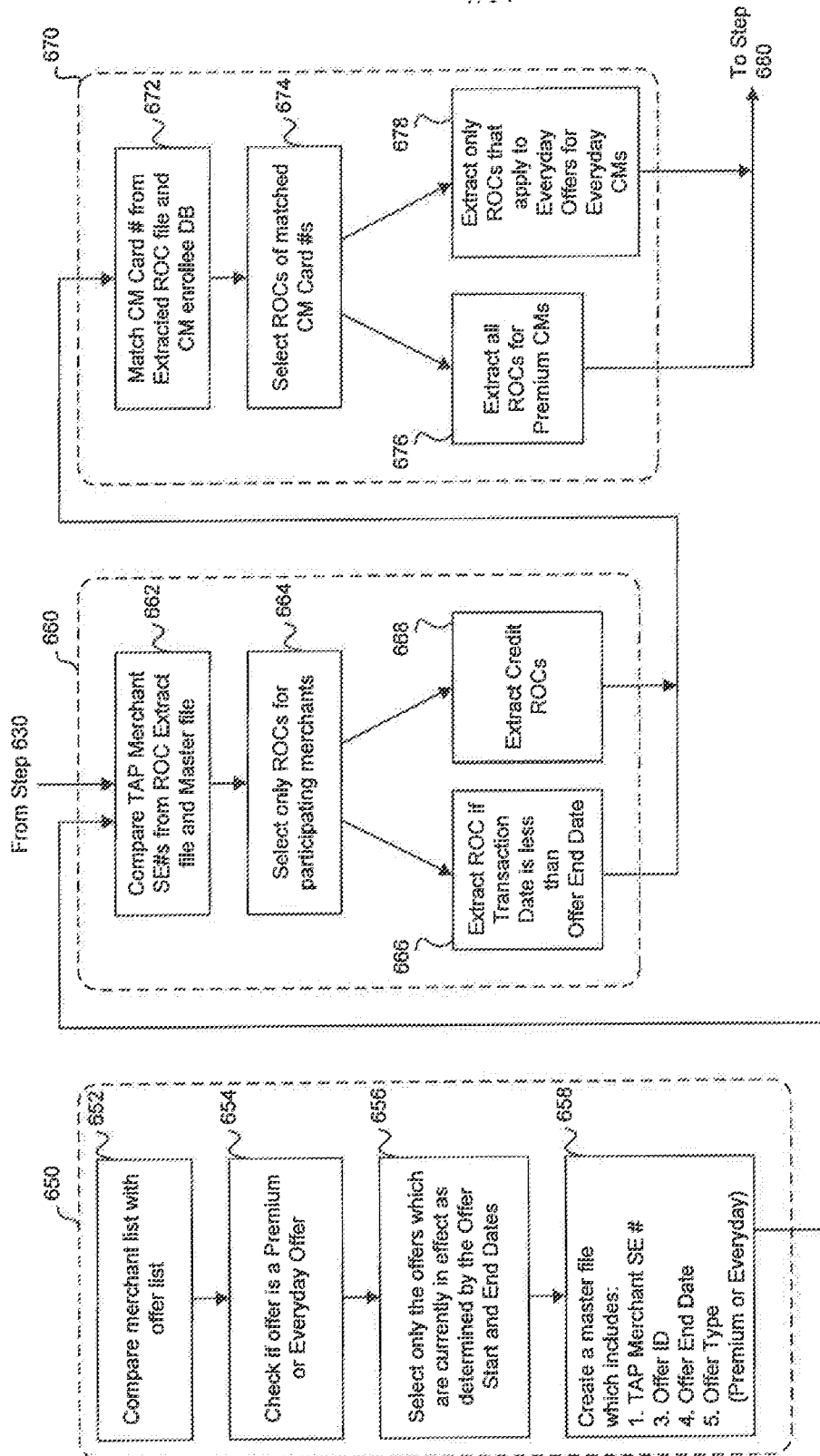


FIG. 7

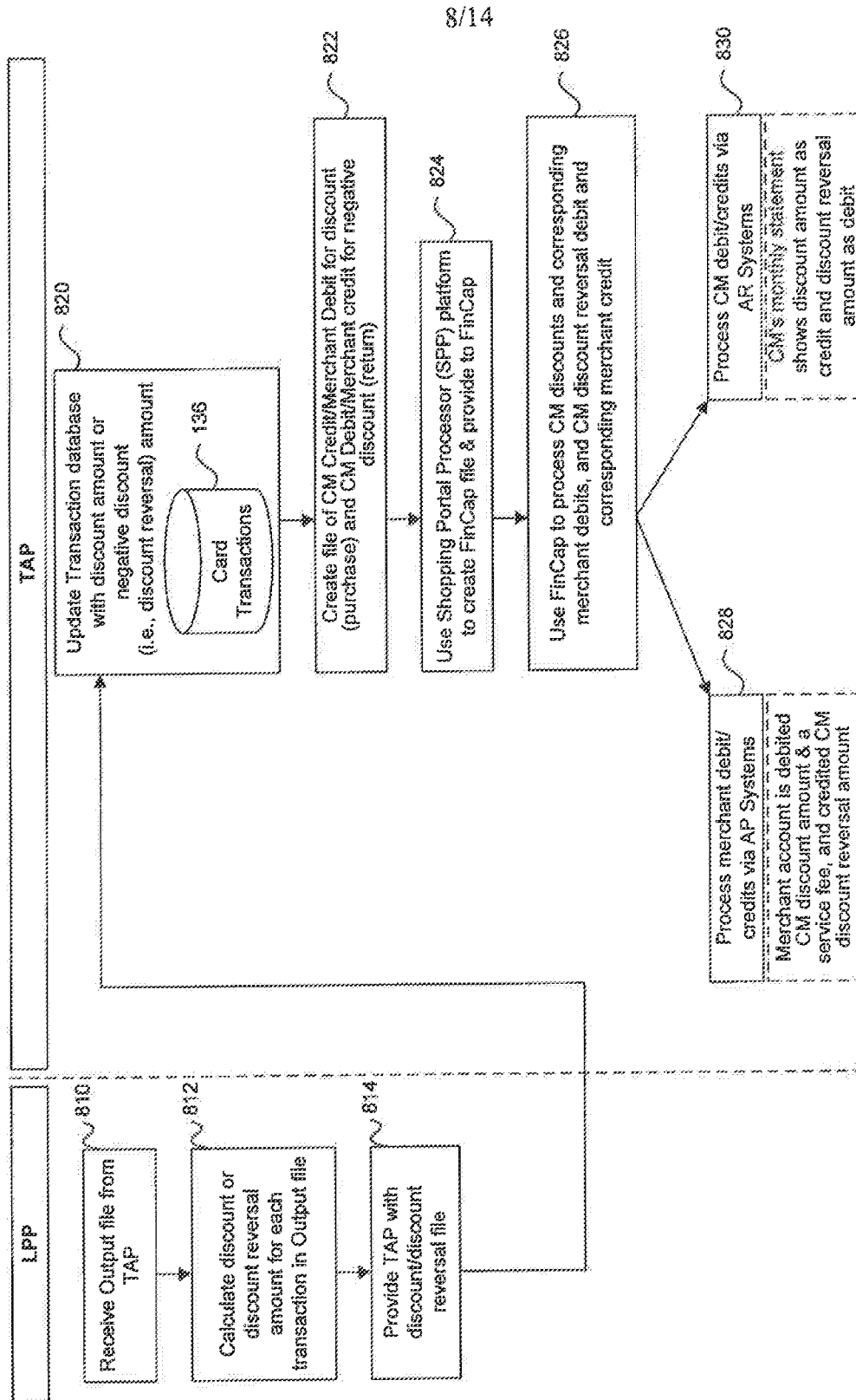


FIG. 8

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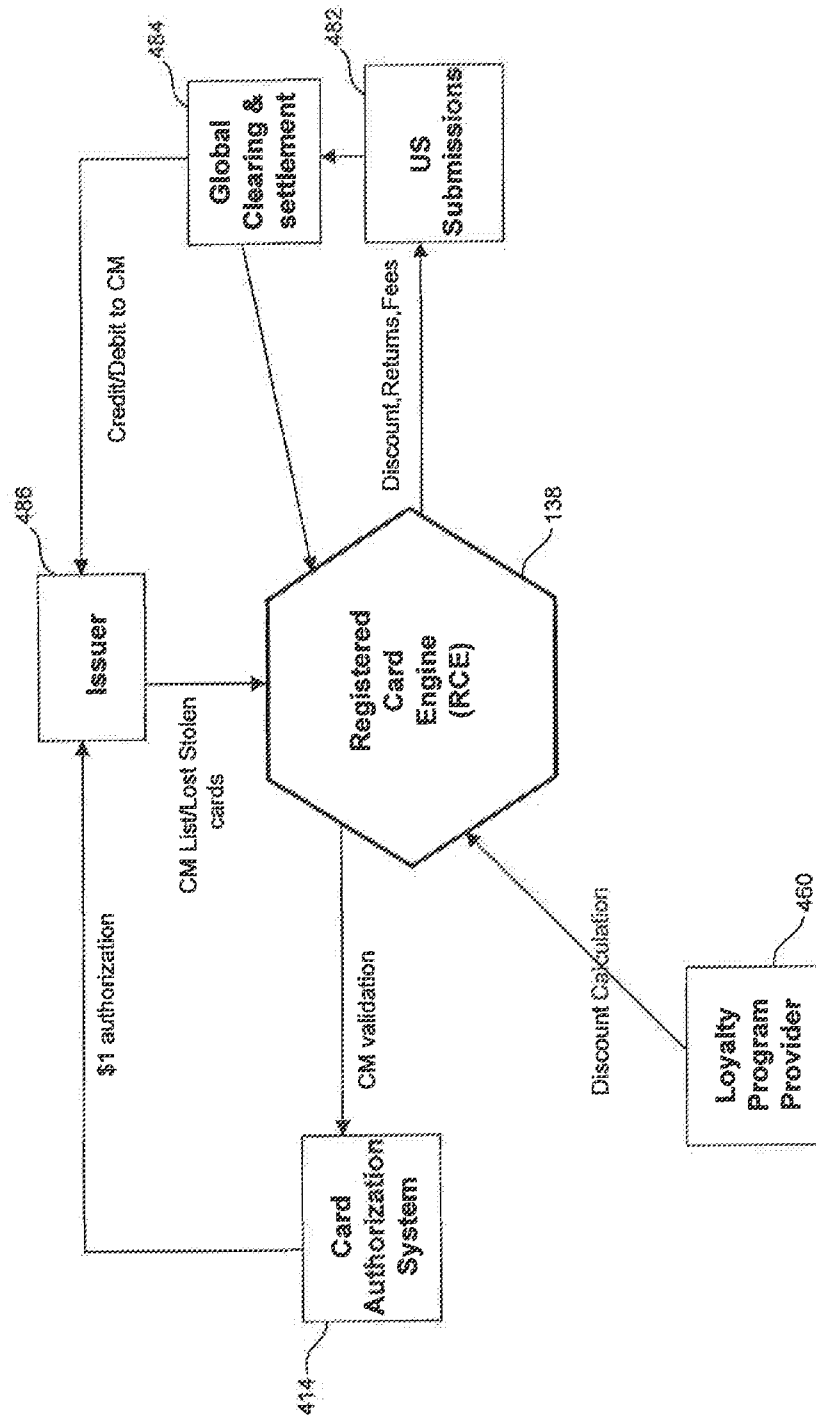


FIG. 9

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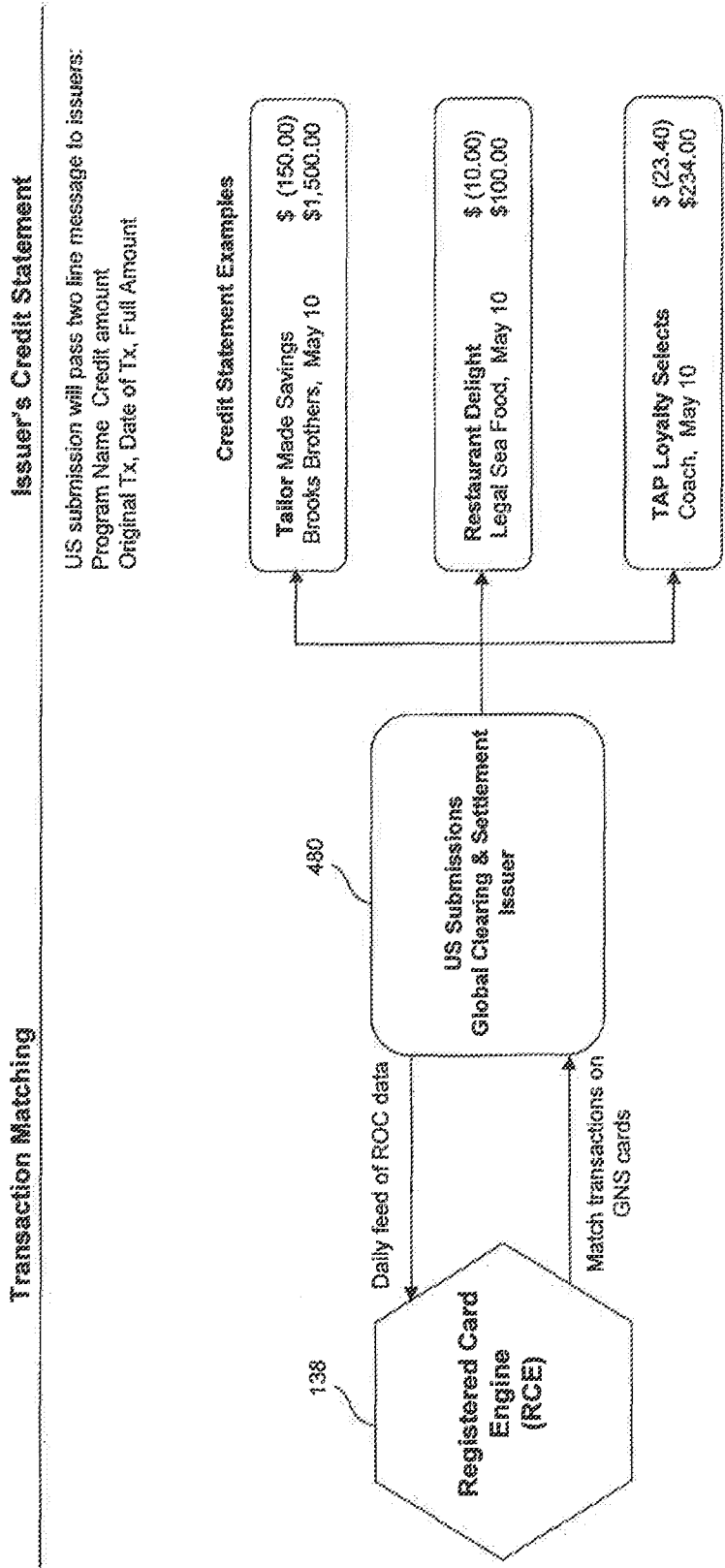


FIG. 10

Return Policy Logic				
	60 days		TAP Action Debit CM	Rationale
	7/1/08	8/1/08		
	Purchase	Purchase		
1)		Return \$1,000 Return	No Action	0 tx in past 60 days
2)	\$1,000 Statement credit	\$1,000 Return	Debit \$100	1 tx Return = Tx amount
3)	\$1,000 Statement credit	\$400 Return	Debit \$40	1 tx in pst 60 days Partial Return
4)	\$1,000 Statement credit \$100 (10%) Statement credit \$100 (10%) Statement credit	Return < \$600 Statement credit \$100 Return > \$600 Statement credit \$100	Debit \$60 Debit \$120	2 tx in pst 60 days 2 tx in pst 60 days
5)	\$1,000 Statement credit \$100 Statement credit	Return < 600 Return > 601	No Action Debit \$60	Assume return of 2 nd tx Assume return of 7/1 tx

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FIG. 11

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Return Policy Logic (Returns, Fraud, Disputes, Credit Refund)

60 days				TAP Action Debit CM	Write off Up to \$xx
Purchase	Purchase			Return	
				\$1000	
1 \$500 (15 %)	2 \$500 (15 %)	3 \$700 (15%)	4 \$1,000 (10%)	Look back, assume first exact tx matched is the correct original tx. Debit CM for \$100	CM claims return is part of tx 4 – write off
1 \$400 (30%)	2 \$900 (15 %)	3 \$500	4 \$600	If no exact matched tx, use first tx > to return tx. No action	CM claims return is part of tx 5 & 2 – write off
1 \$150	2 \$100 (15 %)	3 \$300	4 \$200	If sum of return is equal or smaller than sum of tx in past 60 days, then assume that the return refers to TM tx's up to \$1,000. (i.e., debit CM for 15% of \$100 + 25% of \$250 = \$77.5). Else, do nothing.	CM claims return is part of a tx earlier than 60 days, no write off
None TM tx	TM tx				

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FIG. 12

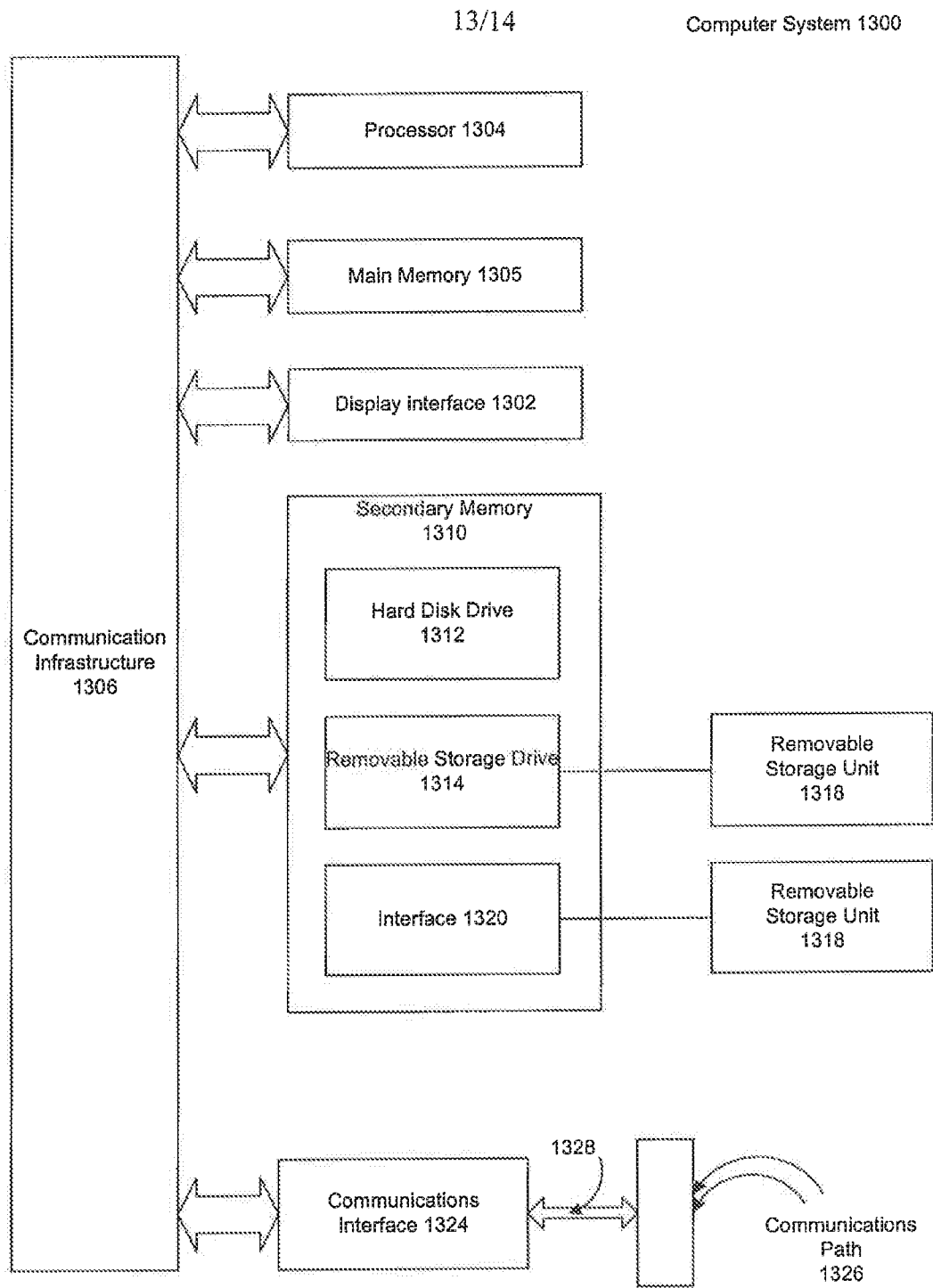


FIG. 13

1400

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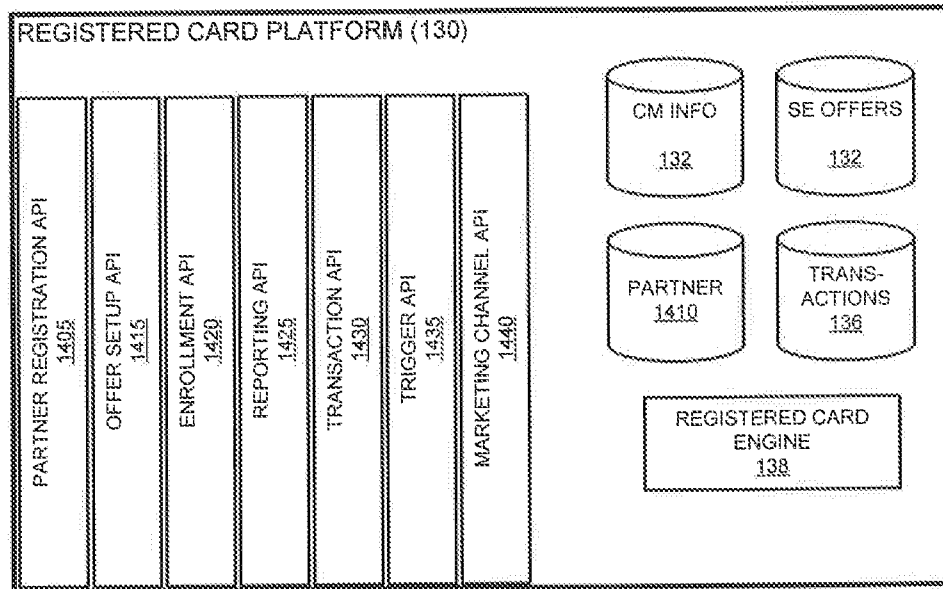


Figure 14

