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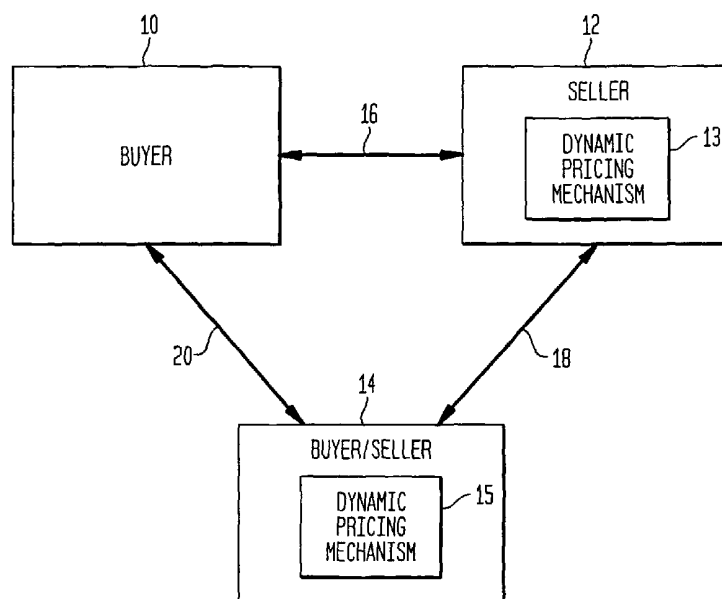
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(54) Title: A COMPUTER SYSTEM AND METHOD FOR PROVIDING A SELLER/BUYER ENVIRONMENT OVER A NETWORK



(57) Abstract: A computer system and method for providing a seller/buyer environment over a network is disclosed (see Fig. 1). The buyer/seller environment includes a buyer computer (10) and a seller computer (12). The buyer/seller environment further includes buyer/seller environment code. The buyer/seller environment code, when executed, allows a seller to directly offer an asset for transfer. The seller then determines the seller constraints for the asset transfer. The seller constraints include a dynamic pricing mechanism to determine the price of the chance to purchase the asset. A description of the asset is provided to the buyer. The buyer then is allowed to purchase a chance to receive the asset conditioned upon the seller constraints.



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5                   **A COMPUTER SYSTEM AND METHOD FOR PROVIDING A  
                          SELLER/BUYER ENVIRONMENT OVER A NETWORK**

**TECHNICAL FIELD OF THE INVENTION**

10           The present invention relates generally to  
          electronic commerce and more particularly to conducting,  
          over an electronic network such as the Internet, the  
          sale of a chance for the purchase of assets and  
          allocation of the assets among eligible buyers.

15

**BACKGROUND OF THE INVENTION**

          Assets are commonly sold to buyers via direct sale  
          in which a buyer and a seller agree upon a price for the  
20       asset and transfer the asset for the purchase price.

          Perhaps the most common method of sales offline and  
          over the Word Wide Web (www) is fixed-price sales.  
          Under this method, sellers post descriptions of their  
          merchandise and offer the merchandise for sale at a set  
25       price. The sellers may use systems that are automated  
          and capable of accepting orders from customers by having  
          the customers fill out online order forms. This order  
          information is taken by the system and placed into an  
          order database or accounting system-which then processes  
30       the order. However, such systems sell merchandise only  
          at a fixed price and do not allow merchandise to be sold  
          at prices that are below the market price without  
          causing a financial cost for the seller.

          A variation on the fixed-price method are methods  
35       of aggregating consumers to offer sellers a price that  
          reflects the aggregated purchasing power of the group.

For example, the service company Accompany  
(<http://www.accompany.com>) provides this service over  
the Internet. However, even under this method, the  
price for the good is typically the price that would  
5 have been obtained by a buyer acquiring assets in the  
quantity the group is buying.

An alternative method is a sale via an auction,  
which usually takes the form of a gathering of bidders  
assembled together within an auction house, or through  
10 an electronic network such as the Internet. Inventions  
such as the one described in U.S. Patent No. 5,835,896  
provide methods and systems for conducting auctions and  
mark down sales of merchandise over a computer network  
without the aid of a human auctioneer. U.S. Pat. No.  
15 5,285,383 entitled Method For Carrying Out Transactions  
Using Electronic Title, U.S. Pat. No. 5,297,031 entitled  
Method And Apparatus For Order Management By Market  
Brokers, and U.S. Pat. No. 5,835,896 entitled Method And  
System For Processing And Transmitting Electronic  
20 Auction Information, describe various means for  
conducting transactions over electronic communications  
networks. These patents also describe various means for  
displaying merchandise for sale to a plurality of  
customers connected to a central computer of a computer  
25 network and various means for conducting simple sale  
transactions where a buyer purchases an item at the  
stated price.

However, these patents do not disclose the means  
for conducting any sales format other than a simple or  
30 "final price" sale, or auctions.

However, the method of auctions provides buyers a  
method for purchasing an asset at an offered price only  
if it is higher than that offered by other bidders. When  
a large numbers of bidders participate in the auction,

the winning price is usually close to, or higher than, the market price; that is, the price that would have prevailed at a direct fixed price sale between the buyer and the seller. In many situations, the prevailing price  
5 is even higher than the price that the seller would have set on a fixed-price sale, as being uncertain about the sale, the seller would have set the price lower than its perceived value. Inherently, an auction operates to maximize the purchase price compared to another system  
10 that may operate to lower the purchase price. As a result, buyers are in need of a mechanism that will allow them to purchase assets at a price that is lower than the prevailing price in direct sales and in auctions, while not causing the seller a financial  
15 burden.

An alternative selling method is suggested by U.S. Pat. No. 5,794,207 entitled Method and Apparatus For a Cryptographically Assisted Commercial Network System Designed to Facilitate Buyer-Driven Conditional Purchase  
20 Offers, which suggests a method for effectuating bilateral buyer-driven commerce. Specifically, the patent discloses prospective buyers of goods and services communicating binding purchases to potential sellers, and for sellers to search for relevant buyer  
25 purchase offers, and bind a buyer to a contract based on the buyer's purchase offer.

However, while this method offers a means for sellers to sell assets at prices below the advertised sale price of the asset, the seller will not agree to a  
30 price that causes a financial loss. That is, the price agreed upon by the seller is at least the price that would have agreed in a directly negotiated sale.

Other methods of sales of assets are versions of asset exchanges. Automated transactions systems for

matching sell and buy orders of securities have been used for years by brokerage houses. One example is the SOES (Small Order Execution System) of NASDAQ. However, these systems match buy orders with sell orders when the pricing criteria of both sides of the trade are met, and do not offer buyers a means for obtaining assets below the market price.

Various patents have been issued for these methods of commerce, including U.S. Pat. No. 4,412,287 entitled Automated Stock Exchange, and U.S. Pat. No. 5,077,665 entitled Distributed Matching System, and disclose means for prospective buyers to post offers to buy a given security at a specific price and for prospective sellers to post offers to sell a given security at a specific price. These automated systems maintain lists of buy and sell orders. If an offer to buy a security is placed at a price greater than or equal to an existing offer to sell that security at a given price, these systems will automatically consummate the trade by matching the buyer with the seller. These patents are referring to the process of matching a set of buyers' bids with a set of sellers' prices. However, there is no means of selling an asset at a fixed price to one or more of purchasers of chances to buy the asset, or to decide who the asset should be sold to in case of more buyers than assets to be sold.

An alternative method of selling assets is to conduct a lottery or offer for a sale a chance to purchase an asset at a greatly reduced rate. This type of purchase allows a buyer to buy a chance at a predetermined rate to obtain the asset. However, the price of the chances are fixed (such as in a State Lottery) or the asset to be purchased varies in price dependent upon the number of chances purchased in the

current system. For example, pari-mutuel betting (typically in horse or dog racing) is a betting system in which the winners receive, in proportion to their wagers, the total amount wagered (after deducting the fees to the betting operators). Therefore, any advancement in the ability to dynamically price the cost of the chance or chance to purchase an asset would be advantageous.

A call option contract (hereafter "option") provides their buyers the right, but not the obligation, to purchase an asset or assets at a particular price. Options are used in many fields of the economy and the assets specified in them are diverse, including stocks and commodities. See for example, U.S. Patent Nos. 5083782; 4823265; 5884286; 5797127; 4766539, for illustrations of options and similar financial contracts that have been patented in the U.S.

A covered call option to purchase an asset is an option contract backed by the asset underlying the option. The issuer of this option owns an asset and the buyer of this option receives the right to purchase the asset, at a predetermined price, at any time before the option expires. For example, X who owns 10 books with a manufacturer suggested retail price of \$50.00 each can sell for \$4.00 an option to Y that gives Y the right to buy the books for \$49.95 per book before a predetermined expiration date. If the option is exercised, X will receive the purchase price (\$49.95 per book, or \$499.50) in exchange for the books. If Y does not exercise the option, X retains the books and the \$4.00 price of the option. A covered option can be issued for many types of assets. For example, U.S. Patent No. 5797127 illustrates options to purchase airline tickets, issued by the airlines (thereby being covered options) or by

others. While options are typically purchased in order to fix the maximum price required to buy an asset, they may be purchased in order to guarantee the supply of an asset. For example, the supply of a best seller book in preparation for the holiday season.

Therefore, any advancement in the pricing of options to situations where there are more than one option for a given assets and the eligible buyer is determined by a game of chance or by a game of skill would be advantageous.

#### SUMMARY OF THE INVENTION

A computer system and method for providing a seller/buyer environment over a network is disclosed. An embodiment of the invention provides an alternative method of sale, by allowing sellers to sell dynamically priced certificates to participate in a mechanism to determine the eligible buyer(s) of assets at prices below their market price. The method provides a mechanism for buyer to obtain assets at greatly reduced prices, while providing sellers with the ability to obtain higher revenue than alternative selling mechanisms. The buyer/seller environment includes a buyer computer and a seller computer. The buyer/seller environment further includes buyer/seller environment code. The buyer/seller environment code, when executed, allows a seller to directly offer an asset for transfer. The seller then determines the seller constraints for the asset transfer. The seller constraints include a dynamic pricing mechanism to determine the price of the chance to purchase the asset. A description of the asset is provided to the buyer. The buyer then is allowed to purchase a chance to receive the asset conditioned upon the seller constraints.

## BRIEF DESCRIPTION OF THE DRAWINGS

A better understanding of the present invention can be obtained when the following detailed description of one exemplary embodiment is considered in conjunction  
5 with the following drawings, in which:

FIGURE 1 is a system block diagram of the computer system according to an exemplary embodiment of the invention;

FIGURE 2 is a block diagram of the buyer/ seller  
10 computer system;

FIGURE 3 is a block diagram of the seller (or buyer) computer system;

FIGURE 4 is a flow chart of the buyer/seller environment;

FIGURE 5 is a flow chart describing the selection  
15 of a chance to purchase from the buyer computer system;

FIGURE 6 is a flowchart of the process of selling of chances;

FIGURE 7 is a flow diagram of the process of  
20 purchasing an asset after the buyer is selected to purchase the asset;

FIGURE 8 is a flow chart of the process of selecting buyers and distribution of assets; and

FIGURE 9 is a screen of the dynamic pricing  
25 mechanism according to an embodiment of the invention.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

In the description which follows, like parts are marked throughout the specification and drawings with  
30 the same reference numerals, respectively. The drawing figures are not necessarily drawn to scale and certain figures may be showing in exaggerated or generalized form in the interest of clarity and conciseness.



FIGURE 1 illustrates the block diagram of the computer system according to the present invention. A buyer/seller computer system 14 is shown connected with a buyer computer system 10 and a seller computer system 12. The buyer/seller computer system 14 is connected to the buyer computer system 10 via connection line 20. The buyer/seller computer system 14 is connected to the seller computer system 12 through a connection line 18. The buyer computer system 10 is also directly connected to the seller computer system 12 through connection line 16. The connection lines 16, 18 and 20 may be a wide variety of connection lines, including a direct physical connection, a connection via a modem and a copper line, a wireless connection, or other suitable connection line. The buyer/seller computer system 14 includes a dynamic pricing mechanism 15. The dynamic pricing mechanism is implemented to determine the price of a chance at any given instant during the offer for sale process, dependent upon numerous constraints. A dynamic pricing mechanism 13 is also included within the seller computer system 12. The dynamic pricing mechanism 13 may include the entire dynamic pricing mechanism if the buyer/seller environment includes only the buyer computer system 10 and the seller computer system 12. If the buyer/seller environment includes the buyer/seller computer system 14, then the dynamic pricing mechanism 13, included in the seller computer system 12, may include a subset of price controlling constraints.

The system described in FIGURE 1 may be implemented by hardware specifically designated to implement the present invention or by using infrastructure that already connects buyers and sellers, through methods such as Internet connections, closed circuit connections

(including closed circuit connections implemented by state lotteries and casinos), or direct lines. While FIGURE 1 illustrates computer connection between the buyer, seller and a third party, any method by which the  
5 buyers and sellers provide information and receive it from each other can be used. In this embodiment, one buyer computer system 10 and one seller computer system 12 are connected to the single buyer/seller computer system 14. However, numerous buyer computer systems and  
10 numerous seller computer systems may be connected to the buyer/seller computer system 14 and to each other directly without departing from the spirit of the invention.

FIGURE 2 is a block diagram of the buyer/seller  
15 computer system 14. The buyer/seller computer system 14 includes a central processing unit 24 (CPU) for performing processing functions. The buyer/seller computer system 14 also includes a Read Only Memory (ROM) 34 and a Random Access Memory (RAM) 36. The ROM  
20 34 stores at least some of the program instructions that are to be executed by the CPU 24, and the RAM 36 provides for temporary storage of data. Clock 22 provides a clock signal required by the CPU 24.

A communication port 38 facilitates communication  
25 between the CPU 24 and devices external to the buyer/seller computer system 14, such as communication between a modem 40 and the CPU 24. Information between CPU 24 and remote locations such as the buyer computer system 10 and the seller computer system 12 is sent via  
30 modem 40.

This embodiment implements a modem 40 to communicate with devices outside the buyer/seller computer system 14; however, other methods of communicating with external devices may be used without

departing from the spirit of the invention, including, but not limited to, wireless communications and optical communications.

The CPU 24 also stores information to, and reads  
5 information from, the data storage device 26. In one embodiment, the data storage device 26 includes an asset database a 33, chance database 28, a sellers database 31, a buyers database 30, and transaction instructions 32 which enable the CPU 24 to process transactions.  
10 However, multiple data storage configurations may be used without departing from the spirit of the invention including, but not limited to a single multipurpose database. The term CPU, as generally used herein, refers to any logic processing unit, such as one or more  
15 microprocessors, application-specific integrated circuits (ASIC), and the like. While the CPU 24 is shown separated from other components such as the ROM 34, some or all of these components may be monolithically integrated onto a single chip.

20 FIGURE 3 is a block diagram of a buyer computer system 10. Any number of buyer computer systems 10 may be connected to the buyer/seller computer system 14. The buyer computer system 10 includes a CPU 44, ROM 50, RAM 52, and a clock 42. The buyer computer system 10  
25 also includes a communication port 54 which interfaces via a modem 62 with the buyer/seller computer system 14 and the seller computer system 12 using multiple communication methods. A computer, such as an IBM™ PC, running software (installed on the computer or used via  
30 a browser), may be used as the buyer computer system 10.

The buyer computer system 10 also includes a display system 49 for conveying information to its operator. The display system 49 includes a monitor 60 and a video driver 48. The monitor 60 may be a CRT or

other video display devices including an LCD. The video driver 48 interfaces the CPU 44 to the monitor 49.

The buyer computer system 10 includes a data storage device 46 which may include transaction  
5 instructions. These instructions may be read by and executed by the CPU 44, enabling the CPU 44 to process transactions. Alternatively, all or some of the data may be stored on the buyer/seller computer system 14.

The buyer computer system 10 also includes an  
10 input/output (I/O) device 56 to communicate with the buyer or her/his representative. A wide variety of I/O devices 56 can be implemented for this task, including, but not limited to, a keyboard and a mouse. The I/O device 56 may be linked to the CPU 44 directly or via an  
15 intermediate connection, such as an infra-red transmitter and receiver.

A seller computer system 12 (not shown) is typically a computer system similar to the buyer computer system 10. However, the seller computer system  
20 12 may be similar to the buyer/seller computer system 14. As the seller may be the controller of the buyer/seller environment, the seller may offer an asset for purchase via a wide variety of computer systems which are well known.

25 FIGURE 4 is a flow chart of the buyer/seller environment. The process begins with start 100. Next in Step 102, the seller directly offers an asset for transfer over the buyer/seller environment. The seller is instantly involved in this transaction. Unlike a  
30 typical covered option issuance, the seller may be risking his own profit by providing an asset into the buyer/seller environment. The asset may be transferred to a buyer without the seller earning a profit or the asset may be transferred with the seller sustaining a

loss. For example, the seller may sustain a loss if the total revenue from the selling of chances and the revenue generated from selling of the asset (if applicable) are below the price of the asset. This may occur if the number of chances sold is too low or if the price of the chance was set at a value below the breakeven point. In such a case, the seller is taking a direct risk by placing an asset in the buyer/seller environment. The seller may include a single individual, a group of individuals, or may be a legally recognized entity. Further, the asset provided in the buyer/seller environment may be a single asset, multiple assets of the same type combined together, or multiple assets of different types combined together and provided as a single asset in the buyer/seller environment. Further, the seller may be the overseer of the buyer/seller environment or the seller may be only participating in the buyer/seller environment. If the seller who controls the buyer/seller environment owns the asset and provides the asset in his own buyer/seller environment, then the seller is directly providing the asset without a third party. The chance need not be issued by the owner(s) of an asset (or their agents) themselves, which are capable of delivering the appropriate assets when a chance is exercised. A third-party can issue the chances, provided that the third-party can obtain the assets if and when eligible chance holders exercise them.

Next in Step 104 the seller constraints are determined. The seller may choose the constraints necessary for the program in which he wishes to offer his asset. Among the constraints is the dynamic pricing mechanism. When inputting the parameters of the dynamic pricing mechanism, a graph indicating the impact of

changing the parameters values may be shown to the seller, on results such as the expected revenue from the sale. Various assumptions may be changed including assuming all chances are sold the first day of the sale; 5 sold evenly along the time period of the sale and so on. The seller can change the parameter values and assumptions observe the impact in an output provided in the form of numbers and/or graphs.

In Step 106, a description of the asset is 10 provided. A description of the asset may include providing a written description, a still picture or video of the asset, or other suitable data. A wide variety of descriptive tools may be used to communicate the description of the asset to prospective buyers 15 without departing from the spirit of the invention. Further, the description of the asset may include just the monetary value of the asset or the price a chance buyer who is selected needs to pay to obtain the asset. One example would be if the asset is cash, the total 20 description may be the equivalent monetary value not the description of the asset. Thus, if a cash price is being awarded, then only a currency amount may be provided. Next, in Step 108, the buyer purchases a chance to be awarded the asset. The total cost to the 25 buyer of the chance is determined by the seller through the implementation of the dynamic pricing mechanism. Thus a buyer has the opportunity to purchase a chance to receive the asset (or to receive the right to purchase the asset at a greatly reduced rate.)

30 Depending upon the seller constraints, the buyer may select one of a limited number of chances from which the asset will be awarded to one of the chance purchasers. An example is selling 10 chances to receive a television set, with a \$1,000 value, where one of the

buyers is guaranteed to receive the television set for a price of \$200. However, the seller may select a mechanism where the buyer selects an entry from a given set of numbers or symbols. If the seller selects the same series of numbers or symbols as the buyer's entry, then the buyer will receive the asset. If no buyer entry matches the seller entry's selection, then the asset may not be awarded to any buyer or another drawing may be held to award the asset.

Next, in Step 110, if a finite number of chances are allotted then the buyer will be selected from that finite group. The buyer may be selected using a random drawing, or the buyer may be selected by using games of skill. Games of skill may include allowing the buyers to participate in a game and awarding the asset to the winner or the buyer who scores the highest score. Multiple games can be implemented without departing from the spirit of the invention, including games of trivia in which the buyer who is awarded the highest number of correct entries is awarded the asset, to games of speed in which the asset is awarded to the buyer who conducted the game in the shortest amount of time, or in games where buyers compete against each other with the winner advancing until one buyer has defeated all other buyers. After the eligible buyer(s) are selected, a notification may be sent to these buyers. The process ends at Step 112.

FIGURE 5 is a flow chart describing the selection of a chance to purchase from the buyer computer system. The process begins with Start 150. The process may be implemented in a computer program that may be installed on the buyer/seller computer system 14 and accessed by buyers through the internet or any other suitable means of communication. Alternatively, the computer program

may installed on the buyer computer system 10 which is then stored in a memory, in this case the data storage device 46 (shown in FIGURE 3).

The process continues with step 152 when a buyer  
5 logs-in from the buyer computer system 10 to the  
buyer/seller computer system 14. Next in step 154, the  
buyer reviews the current and future assets and current  
and future programs (or contests). The buyer may review  
information concerning the asset or program. The  
10 information including, but not limited to pictures of  
the asset, information pertaining to its measures and  
manufacturer's suggested retail price (MSRP) and/or  
information pertaining to the price it is sold at  
merchants over the Internet or in traditional stores.  
15 Information regarding the seller may be provided as  
well, including, but not limited to information  
regarding its past sales over the system and information  
pertaining to the reliability of delivery and/or quality  
of the assets sold. Other information presented to the  
20 buyer may include a comparison of the prices of similar  
products in various shopping arenas, including what is  
claimed to be the least expensive prices on the Internet  
for that asset or similar asset. Additional information  
provided includes the price of the chance associated  
25 with the asset or program. The buyer selects the  
program in step 156. By selecting the program, the  
buyer is agreeing to pay the fee to obtain the chance to  
obtain the asset associated with this program. The  
buyer is also agreeing to the constraints of the program  
30 by making this selection. The buyer, or his  
representative, enters this information from the buyer  
computer system 10. Next, in step 158, the buyer's  
selection is recorded at the buyer/seller computer  
system 14.



The current and future program constraints viewable by the buyer may include, but are not limited to, the timeframe of the program (the time within which a buyer may enter the program or when a buyer may purchase a chance), the time an eligible buyer is selected, the price which the buyer is required to pay for purchasing the asset if the buyer is selected, the minimum number of chances required before the program is valid (below that number, the program may be cancelled with the payments received refunded to the buyers), the total number of chances for the asset to be sold, and the number of chances for that asset that have been sold already. Additional information such as the impact of affinity relationship with the chance issuers or the buyer/seller environment operator may also be considered. Buyer data such as the buyer's name, account number, credit card information, address, and telephone number, may also be entered into the buyer computer system 10 in step 152 or step 156. The transmission of the buyer's selection that is recorded in step 158 could be conducted in steps, as questions transmitted from the buyer/seller computer system 14 are answered and then transmitted from the buyer computer system 10 back to the buyer/seller computer system 14. The process ends with step 160. Buyers who conducted transactions on the buyer/seller environment in the past may be registered users, whose personal information, including credit card information may be recorded. These users may be only required to input their login and password information.

FIGURE 6 is a flowchart of the operation of selling of chances. The process begins with Start in step 200. The process may be implemented in a computer program that may be installed at the buyer/seller computer

system 14. The buyer/seller computer system calculates the price of a chance in step 202 based upon the constraint information selected by the seller. Next in step 204, the price and the description of the asset are displayed for view by prospective buyers. The price and asset description may be placed on a web page or on a common page of a closed network. Further the price and the asset description may be transmitted to prospective buyers. A wide variety of display methods exist without departing from the spirit of the invention. The transmission of the price and asset description may be conducted in steps or at a single time. Additional information regarding the pricing of the chance may be provided, such as the price as a function of the various parameters affecting it. An example of such a graph, reflecting the price of the chance as a function of the number of tickets already sold and number of tickets remaining is provided in numerical example 1.

Commonly used methods for the pricing of options may not be applicable due to various reasons, including, but not limited to, the fact that the supply of the assets on any given program is limited. For example, a common method used for valuing call options, the Black and Sholes model, assumes, among other things, that short selling of the underlying asset is allowed, and that the price of the underlying asset follows a random walk with a variance rate proportioned to the square root of the asset price. Both of these assumptions are not applicable for assets for which more than one option is sold, and/or the value is determined by the buyers homogeneous or heterogeneous game skill and/or when the number of sold options to the asset is unknown at the time of the option acquisition.

The calculation of the price may be determined by adjusting a base price, BP, to the impact of additional parameters that will affect the value of the chance. The base price may be a function of the difference between  
5 the asset MSRP and the Price an eligible chance buyer is required to add in order to obtain the asset. The variables used to calculate the price from the base price may be discrete or continuous functions. While the description below assumes the price is changing  
10 based on various parameters, a seller can choose to decide a price that is fixed, or otherwise arbitrary. The following exemplary variables are provided, however, a wide variety of variables could be implemented without departing from the spirit of the invention:

15

TN, a function related to the total number of chances for the assets that are to be issued. Typically, TN decreases as the total number of chances to be sold increases;

20

AS, a function related to the number of chances that have already been purchased for the asset. The number of chances already sold for a particular asset may be used by the system as a factor in determining the future  
25 price. More specifically, when the number of sold chances for a given asset gets closer to the limit of the chances available for sale for that asset, the price for subsequent purchase of similar chances may be raised, to reflect the reduced availability of these  
30 chances;

AR, a function related to the affinity relationship of the buyer with the seller;

- IR, a function related to the prevailing interest rate at the time of the chance issuance. Typically, IR decreases when the prevailing interest rate increases.
- 5 TR, a function related to the time remaining to expiration of the chances selling period. Typically, TR decreases when the time remaining to expiration of the chances selling period decreases.
- 10 SD, a function related to the historic volatility of similar assets being offered. Typically, SD increases as the historic volatility of the asset price increases.
- AQ, a function related to the quantity of assets represented by the program. Typically, AQ increases as the quantity of assets being represented by the program increases.
- 15

Using these exemplary variables, one possible  
20 mechanism for calculating a chance price is as follows:

$$\text{Price} = \text{BP} * \text{TN} * \text{AS} * \text{AR} * \text{IR} * \text{TR} * \text{SD} * \text{AQ}$$

While the above adjustment to the base price is a  
25 simple product of all of the described variables, a wide variety of formulas (including other variables or additional variables) may be implemented to derive a suitable price. For example, some of the variables may affect the chance price independently of the other  
30 variables, or some weights might be on the impact of the variables. One exemplary formula is:  $\text{Price} = r_1 * \text{BP} * \text{TN} * \text{AR} * \text{IR} + r_2 * \text{BP} * \text{TR} * \text{SD} + r_3 * \text{BP} * \text{AQ}$ , where  $r_1 + r_2 + r_3 = 1$ .

Below are three examples for exemplary formulas implementing the simple product formula.

**Example 1:**

5

EXERCISE is the price an eligible chance holder is required to add in order to obtain the asset. MSRP is the prevailing market price (at the time of the chance issuance) of the asset the eligible chance holder can acquire.

10

$BP = MSRP - EXERCISE.$

NUMBER= maximum number of chances to be issued

$TN = 1 / (NUMBER)$

15

In this example, the price is positively correlated with the number of chances already sold, specifically:  
 $AS = (1 + \text{the number of chances already issued} / \text{maximum number of chances to be issued})^{1.5}.$

20

The price is inversely correlated with the level of desirability of the chance buyer to the chance seller, specifically:

$AR = 1 / DESIRE.$

25 Where: DESIRE= level of desirability of the chance buyer to the chance seller.

The price is inversely correlated with the prevailing interest rate. Specifically:

30  $IR = 1 / (1 + \text{prevailing annual interest rate}).$

The price is positively correlated with the time to expiration of the chance sale period, specifically:

35  $TR = \text{the number of months to the end of the chances sale period}.$

The price is positively correlated with the volatility of the asset price. Specifically:  
 $SD = 10 * \text{annual price variance of MSRP.}$

- 5 AQ = the number of assets an eligible chance holder can acquire.

We also define REVENUE as the sum (in monetary amount) of the chance prices, assuming the maximum  
10 number of chances are sold. The calculation and drawings could be determined using a wide variety of computer programs, including, but not limited to, Wolfram Research Mathematica. In this example, we assume all chances are sold at the same time period (or  
15 alternatively, that the chance prices are not affected by the time to sale expiration), hence  $TR=1$ . Also, assume,  $MSRP = \$100$ ;  $EXERCISE = \$20$ ;  $NUMBER = 30$ ;

Further, we assume all buyers have the same desirability,  $DESIRE = 1$  (alternatively, in this example,  
20 there is no impact of desirability on the chance price).

The prevailing interest rate is  $INTEREST = 10\%$  and the annual volatility of the sold asset is  $15\%$ ; that is:  $VOLATILITY = .15$ .

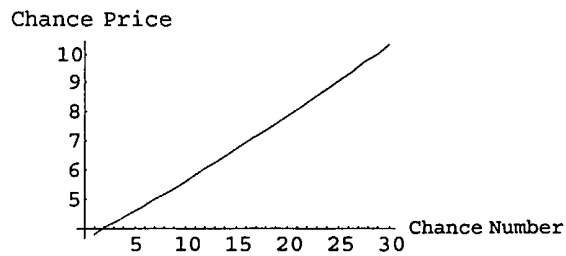
Finally, each chance is for one asset, that is  $AQ=1$ .

25

Using the above parameters, the price the first chance buyer will pay is:  $\$3.63636$ . However, the price the 30<sup>th</sup> chance buyer will pay is:  $\$10.0291$ .

Assuming all chances will be sold and that all  
30 revenue is transferred to the seller, REVENUE will be:  $\$206.539$ ; compared with a net cost to the seller of  $MSRP - EXERCISE = \$80$ .

The following graph illustrates the chance price as a function of the number of chances already sold:



5           FIGURE 9 illustrates an exemplary screen, and is based on Example 1. The graph on the screen and the gross revenue expectation are interactive, meaning they change based on the parameters inputted, and the assumption made by the seller. A pricing of chances graph 500 is shown. The graph 500 illustrates the pricing of various chances expected to be sold based upon pricing constraints 504 and sales assumptions 506. A gross revenue value 502 is also shown. The gross revenue value 502 varies dependant upon changes in the pricing constraints 504 and the sales assumptions 506. The gross revenue value 502 changes upon changes to the pricing constraints 504 and the sales assumptions 506 thus giving the seller an immediate feedback.

20   **Example 2:**

25           The parameters remain the same as in Example 1, with the exception of parameters AS and NUMBER. In this example we assume that the seller wishes to reduce the slope of the chance prices as a function of the chances being sold, by setting  $D = (1 + \frac{\text{the number of chances already issued}}{\text{maximum number of chances to be issued}})^{1.1}$ . However, s/he increases the maximum number

of chances to be issued to 45. The price of the first chance is now, \$2.42424, and the price of the 30<sup>th</sup> chance is: \$4.18984. Assuming all chances are sold,

5 REVENUE=\$172.145.

**Example 3:**

The parameters remain the same as in Example 1,  
10 with the exception of the parameter EXERCISE. The seller decides to increase the price by reducing the exercise price to zero. This is similar to a situation with a lottery where the price has a value of MSRP. Under these assumptions, the price of the first chance  
15 sold is \$4.54545, and the price of the 30<sup>th</sup> chance is \$12.5364. REVENUE is \$258.174.

After the chance price information is transmitted to the buyer in step 204, whether the buyer decides to  
20 purchase the chance is determined in step 206. If the buyer decides to purchase the chance, the buyer's account is billed the displayed price in step 208. Alternate methods of payment may be used, including payment by cash, check, credit card or a debit account.  
25 After the buyer is billed in step 208, the purchase of the chance is recorded and any recalculation of the price is determined in step 210.

If the buyer decides not to purchase a chance in step 206, the buyer reviews the current and future  
30 assets and current and future programs (or contest) in step 212 before ending with step 214. An alternative, but similar mechanism is one by which prices are derived continuously even without a buyer request, and are



posted with other information pertaining to the program's constraints. The process ends in step 214.

Following the purchase completion, the chance database 28 (FIGURE 2) is updated to reflect the fact that a particular chance has been sold. The buyer database 30 (FIGURE 2) may also be updated to indicate that a particular buyer has purchased a given chance.

FIGURE 7 is a flow diagram of the process of purchasing an asset after the buyer is selected and the buyers chance becomes eligible. The eligible chance buyer may be notified via electronic mail or other means of communication (not shown) to purchase the asset. The process may be implemented and stored on a computer readable medium. The process begins with Start in step 250. Next, in step 252, the selected buyer contacts the buyer/seller computer system 14 and indicates that the buyer wishes to exercise a previously purchased and selected chance. Previously the buyer purchased a chance to obtain an asset. The program provided the buyer the opportunity to purchase an asset at a reduced rate, if selected. After the buyer (or his/her representative) has contacted the buyer/seller computer system 14 in step 252, the buyer elects to purchase the asset at the reduced rate in step 254. The buyer/seller computer system 14 verifies that the chance contract is valid for exercise in step 256. If the chance is not valid, "Not Valid" is displayed in step 258 and the process ends in step 262. A buyer whose chance is valid (that is acquired a chance who was selected) becomes eligible and decides to exercise the chance is charged with the offering price, multiplied by the number of assets the chance contract specified by the chance being exercised and the asset is sent to the buyer in step 260. The process ends with step 262. Rights associated with

eligible chances that are not exercised are then re-  
routed to the process of making chances eligible. That  
is, if an eligible chance holder decides not to exercise  
the eligible chance within a specified time-period, the  
5 rights associated with the eligible chance are nullified  
and other chances are chosen to be eligible. The  
buyer/seller computer system 14 confirms each buyer's  
purchase via telephone, electronic mail or any other  
acceptable means of communication. The chances,  
10 transactions seller and buyer databases are updated to  
reflect the asset sale.

FIGURE 8 is a flow chart of the process of  
selecting buyers and distribution of assets. The  
process begins with Start in step 300. Buyers in this  
15 process do not elect to purchase an asset at a reduced  
rate, but are awarded the asset being selected. An  
example is a lottery type program. Next in step 302,  
the program is evaluated to determine if the number of  
buyers requirement, if it is a constraint of this  
20 program, has been met. If the minimum number of buyers  
have not purchased chances, or other constraints have  
not been met "Program Not Executed" is displayed in step  
304 and the purchase price is returned to the buyers in  
step 306. If the minimum number of buyers purchased  
25 chances, then a non-discriminatory selection procedure  
selects eligible buyer(s) from the buyers in step 308.  
The buyer(s) may be selected using a random drawing of  
buyers or the buyer may be selected based upon the  
outcome of a contest or game.

30 Next in step 310, a notification is sent to the  
selected buyer. The appropriate databases are updated  
in step 312 to account for the selection of the buyer  
and to record the conclusion of the program. The  
process ends in step 314.

It should be understood the processes described are only exemplary and any suitable permutation of the processes may be used. For example, the process of making a chance eligible may be conducted after chance holders indicate their interest in exercising their chances if it became eligible.

While the disclosed embodiments describe allocation of assets as if these assets are represented by electronic ownership certificates, the allocation could be by alternative methods, such as a notification to the appropriate buyer and physical delivery of the asset.

The foregoing disclosure and description of the invention are illustrative and explanatory thereof and various changes to the size, shape, materials, components, and order may be made without departing from the spirit of the invention.

While the present invention has been described with reference to the disclosed embodiments, it is to be readily apparent to those of ordinary skill in the art that changes and modifications to the form in details may be made without departing from the spirit and scope of the invention.

## WHAT IS CLAIMED IS:

1. A method of providing a seller/buyer environment over a network, the method comprising the steps of:
  - allowing a seller to directly offer an asset for transfer;
  - determining seller constraints for asset transfer wherein the seller constraints include a dynamic pricing mechanism;
  - providing description of the asset; and
  - allowing a buyer to purchase a chance to receive the asset, wherein the purchase is made conditioned upon the seller constraints.
2. The method of Claim 1 further comprising selecting a buyer to receive asset.
3. The method of Claim 2 wherein the number of buyers exceeds the number of assets.
4. The method of Claim 3 wherein selecting a buyer to receive assets includes selecting a buyer at random.
5. The method of Claim 3 wherein selecting a buyer to receive assets includes using a game of skill.
6. The method of Claim 5 wherein using a game of skill includes selecting a buyer who surpassed a preset point level.

7. The method of Claim 5 wherein using a game of skill to select a buyer, a seller selects a buyer who defeated other buyers during the game of skill.

8. The method of Claim 1 wherein the seller is at least two entities.

9. The method of Claim 1 wherein the seller oversees the buyer/seller environment.

10. The method of Claim 1 wherein the seller is an independent entity from an entity that oversees the buyer/seller environment.

11. The method of Claim 1 wherein the asset is at least two assets.

12. The method of Claim 1 wherein providing a description of the asset includes providing a picture of the asset.

13. The method of Claim 1 wherein providing a description of the asset includes providing a written description of the asset.

14. The method of Claim 1 wherein the asset is cash.

15. The method of Claim 1 wherein the asset is a service.

16. The method of Claim 1 wherein the asset is a tangible item.

17. The method of Claim 1 wherein allowing a buyer to purchase a chance includes allowing a buyer to select the buyer's entry.

18. The method of Claim 17 wherein the buyer  
5 selects a series of numbers from a predetermined set.

19. The method of Claim 17 further comprising selecting a random entry.

20. The method of Claim 19 wherein the asset is awarded only if the buyers entry matches the random  
10 entry.

21. The method of claim 19 wherein the asset is awarded to at least one of the buyer's entries.

22. The method of Claim 1 wherein the dynamic pricing mechanism includes a function to vary the  
15 purchase price of the asset dependent upon the number of chances purchased.

23. The method of Claim 1 wherein the dynamic pricing mechanism further comprises:

20 a function related to the total number of chances for the assets that are to be issued;

a function related to the number of chances that have already been purchased for the asset;

a function related to the affinity relationship with the seller to the buyer;

a function related to the prevailing interest rate at the time of the chance issuance;

a function related to the time remaining to expiration of the chances selling;

5 a function relating to historic price volatility of similar assets being offered; and

a function relating to the quantity of assets represented by the program.

24. A computer system for providing a  
10 seller/buyer environment over a network, the computer system comprising:

a buyer computer, the buyer computer further comprising:

a processor;

15 a communication device coupled to the processor; and

an I/O device coupled to the processor;

a seller computer, the seller computer further comprising:

20 a processor,

a communication device coupled to the processor;

an I/O device coupled to the processor; and

a memory, the memory including a dynamic pricing mechanism;  
buyer/seller environment code, the buyer/seller environment code when executed performing  
5 the steps of:

allowing a seller to directly offer an asset for transfer;

determining seller constraints for asset transfer wherein the seller constraints include a  
10 dynamic pricing mechanism;

providing description of the asset; and

allowing a buyer to purchase a chance to receive the asset, wherein the purchase is made conditioned upon the seller constraints.

15 25. The computer system of claim 24 further comprising a buyer/seller computer system, the buyer/seller computer system further comprising:

a processor,

a memory coupled to said processor, the memory  
20 including a dynamic pricing mechanism;

a communication device coupled to the processor;

and

an I/O device coupled to the processor.



26. A method of presenting on a display various aspects of a price of a chance to acquire an asset, the method comprising the steps of:

receiving seller constraints from a seller, the  
5 seller constraints including the dynamic pricing mechanism;

displaying an indication of the price of a chance;  
and

displaying the expected revenue for the seller from  
10 the selling of the chances.

27. A method of providing a seller/buyer environment over a network, the method comprising:

offering an asset for transfer;

determining one or more constraints associated with  
15 the transfer of the asset;

computing dynamically a price of a chance to receive the asset;

providing description of the asset;

receiving a purchase order for the chance to  
20 receive the asset.

28. The method as claimed in claim 27, further including:

selling the chance at the price.

29. The method as claimed in claim 27, further including:

awarding the asset to a selected buyer of the chance.

5 30. The method as claimed in claim 27, wherein the computing includes:

computing the price based on a total number of chances to be issued for the asset.

10 31. The method as claimed in claim 27, wherein the computing includes:

computing dynamically a price of the asset based on the one or more constraints.

15 32. The method as claimed in claim 31, wherein the computing dynamically a price of the asset includes varying the price of the asset dependent upon a number of chances purchased.

33. The method as claimed in claim 27, wherein the computing includes:

20 computing the price based on a number chances that have already been purchased for the asset.

34. The method as claimed in claim 27, wherein the computing includes:

computing the price based on an affinity relationship with a seller to a buyer.

35. A method of providing a seller/buyer environment over a network, the method comprising:

- offering an asset for transfer;
- determining one or more constraints associated with

5 the transfer of the asset;

- presenting a dynamically computed price of a chance to receive the asset, the price having been computed based on the one or more constraints;
- providing description of the asset; and

10 receiving a purchase order for the chance to receive the asset.

36. A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps of providing a

15 seller/buyer environment over a network, the method steps comprising:

- offering an asset of transfer;
- determining one or more constraints associated with

the transfer of the asset;

20 computing dynamically a price of a chance to receive the asset based on the one or more constraints;

- providing description of the asset; and

receiving a purchase order for the chance to receive the asset.

FIG. 1

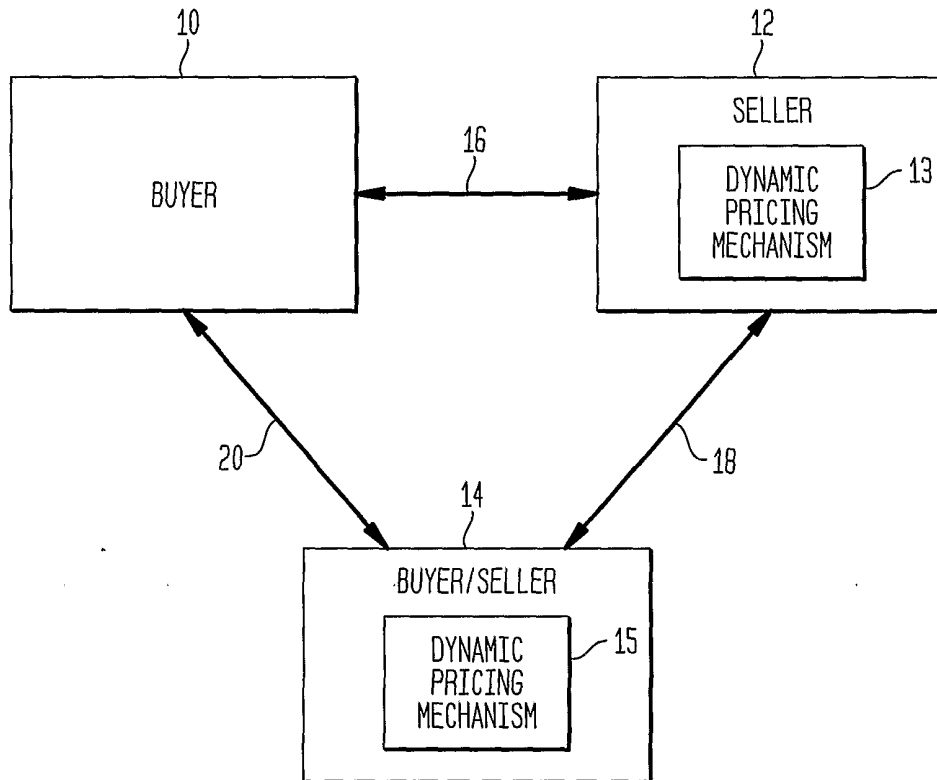


FIG. 2

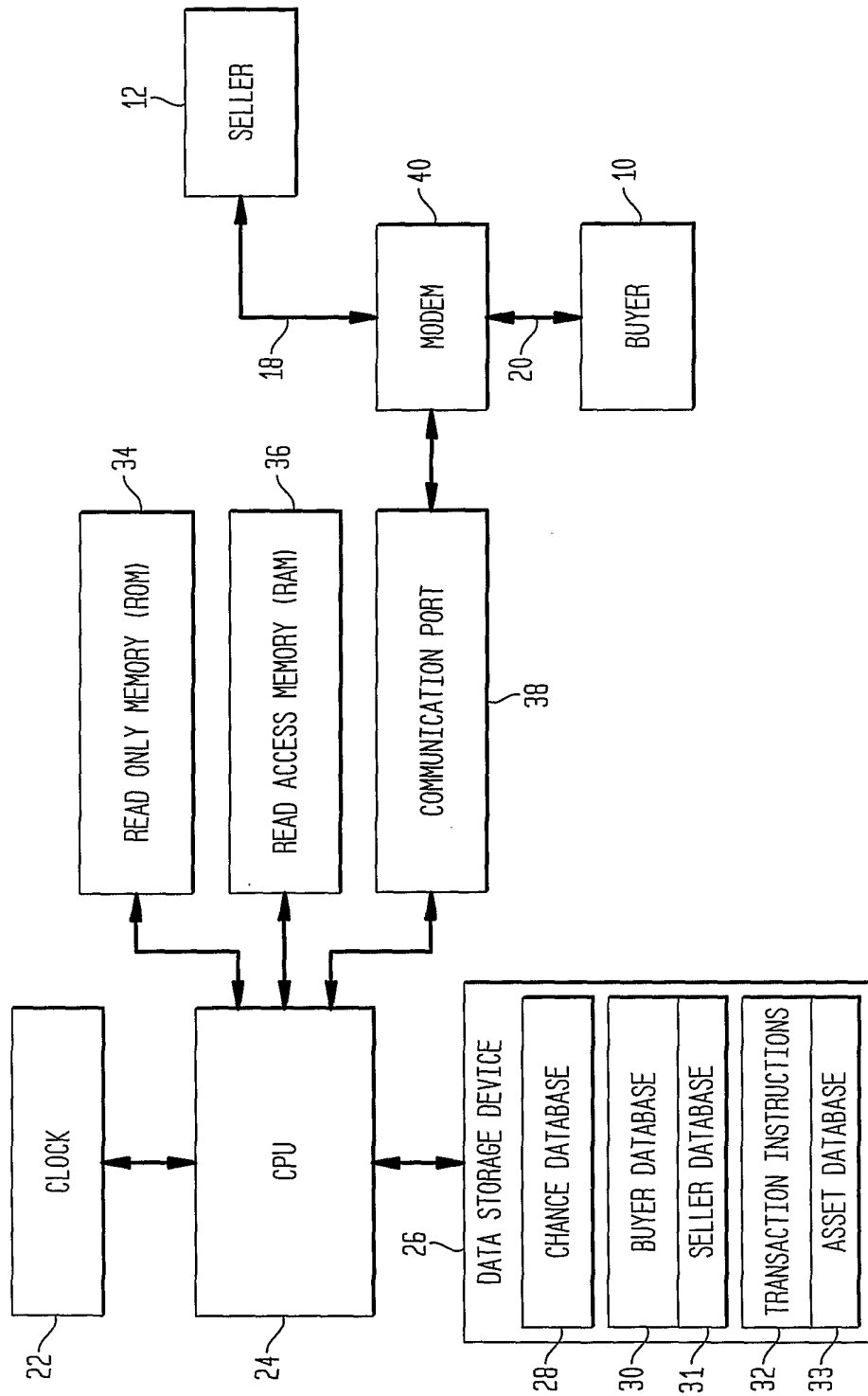


FIG. 3

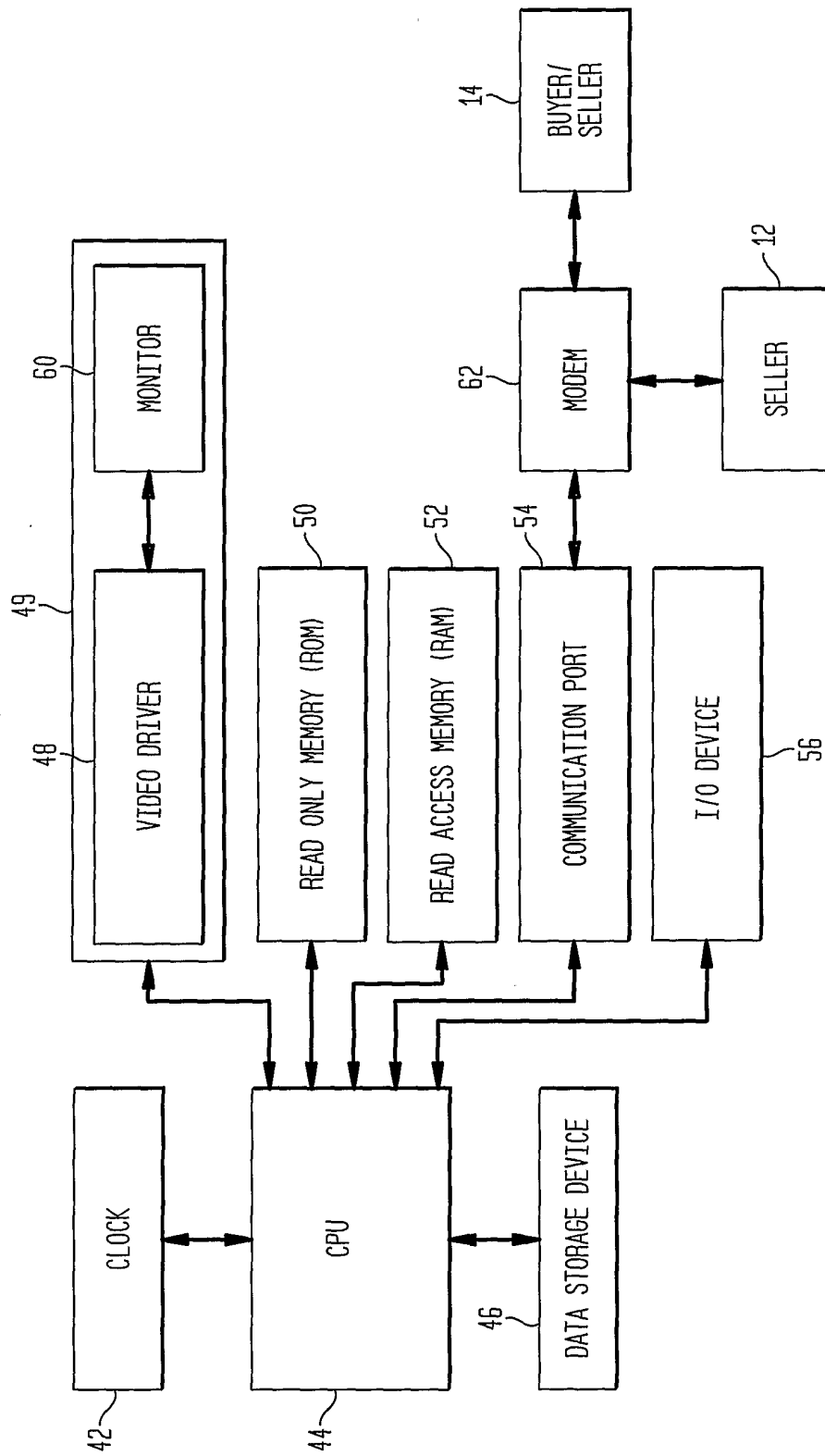


FIG. 4

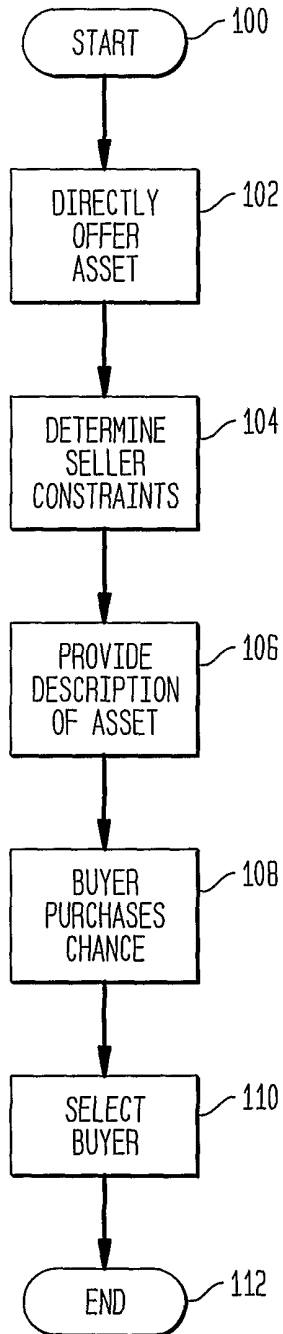


FIG. 5

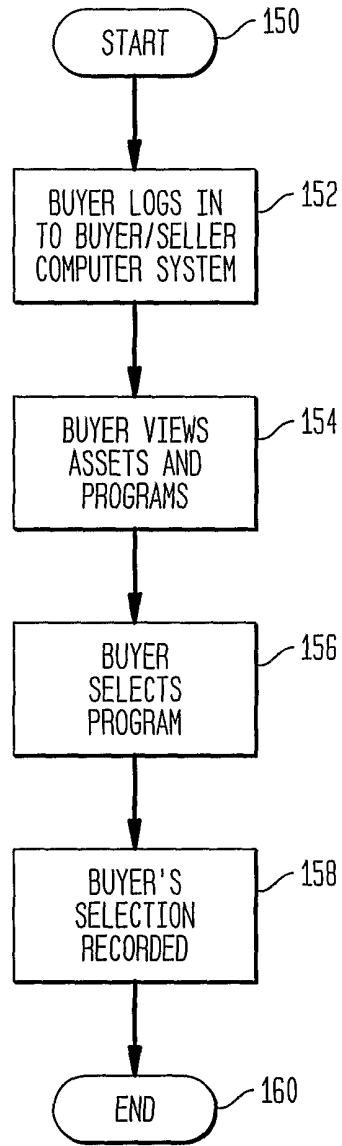


FIG. 6

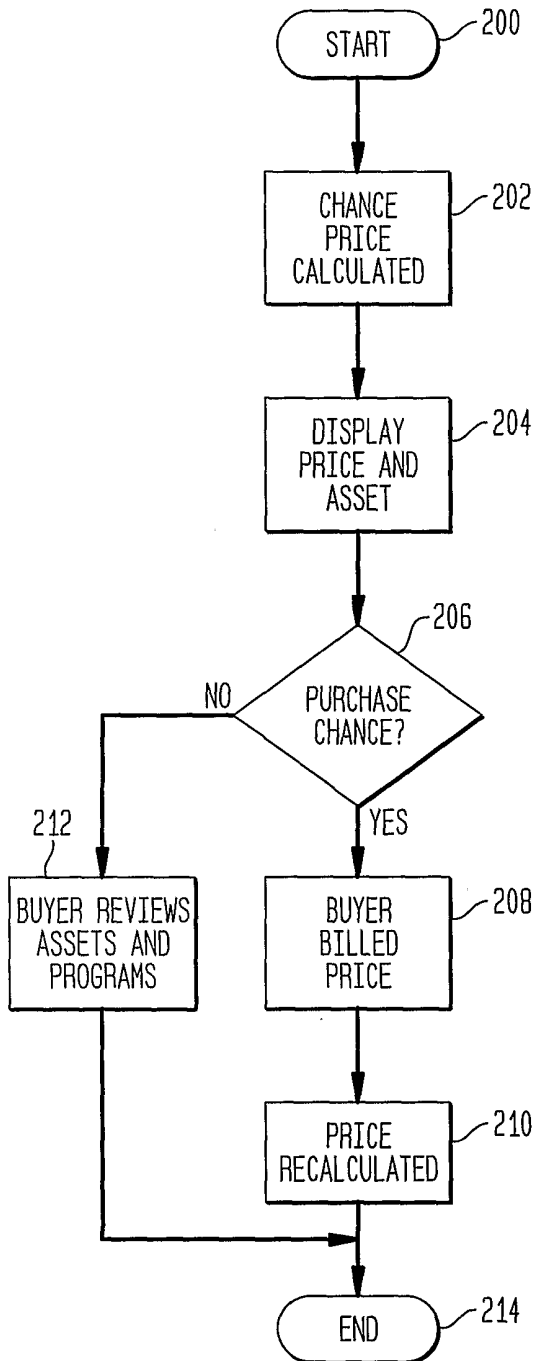


FIG. 7

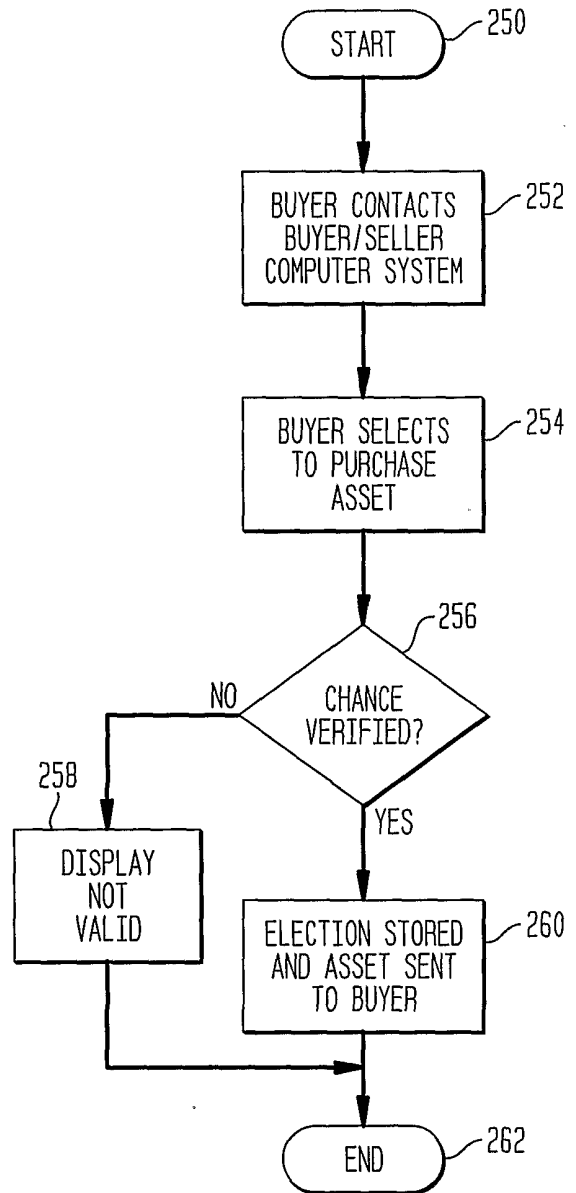
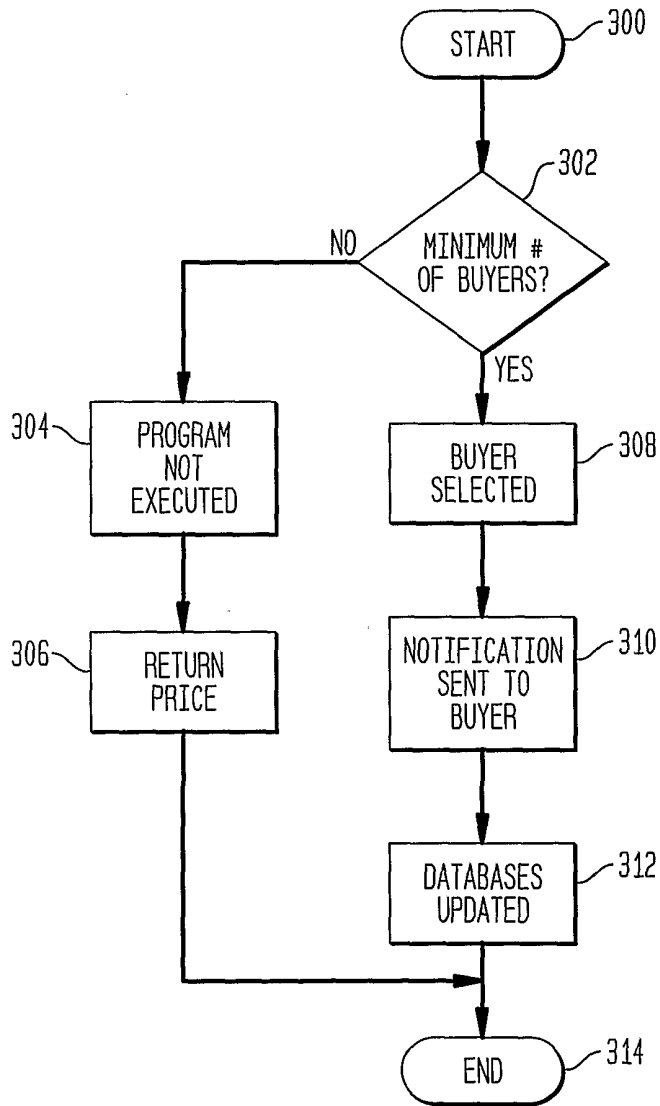
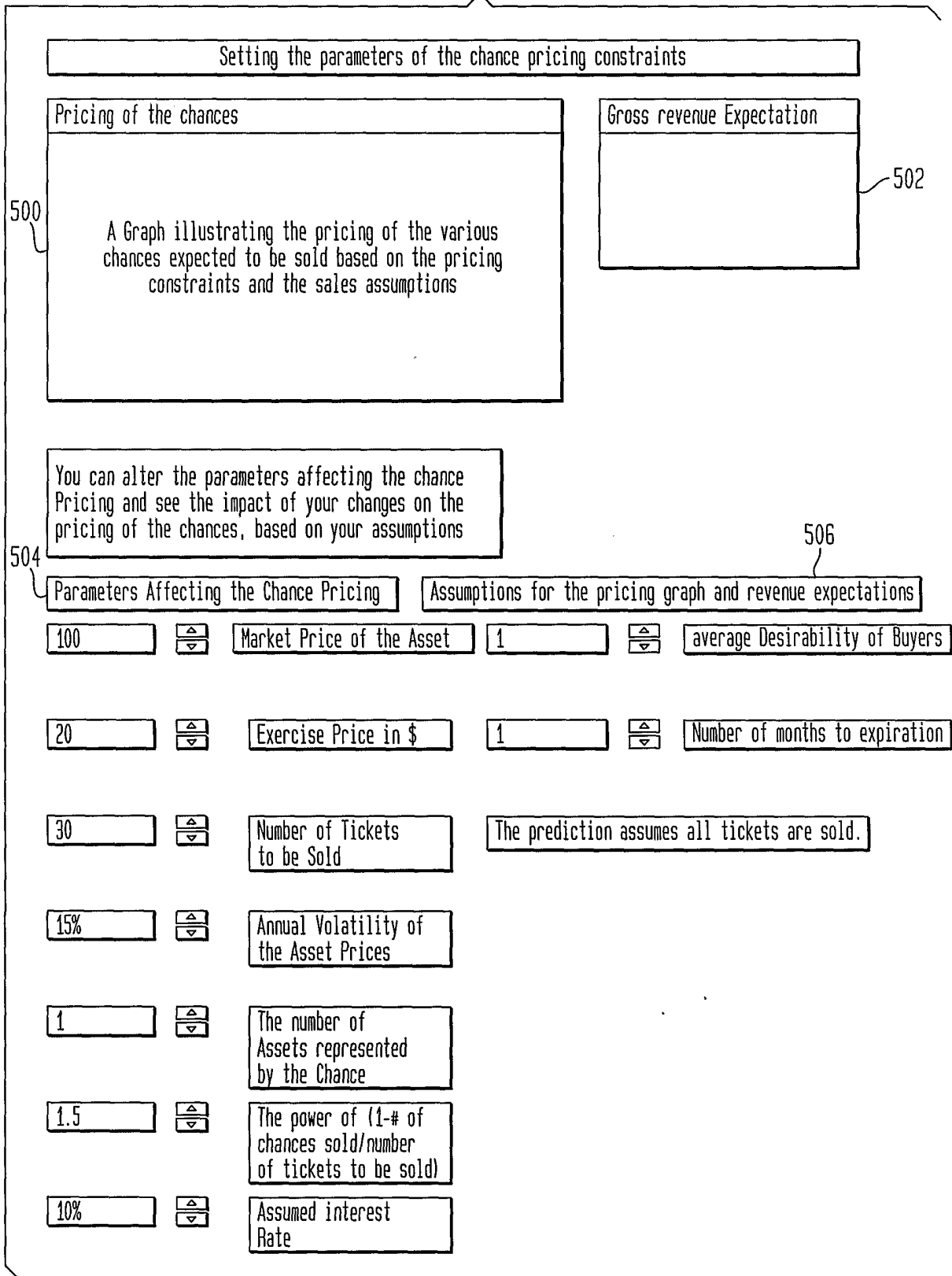




FIG. 8



717  
FIG. 9



INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US01/07412

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC(7) :G06F 17/30  
 US CL : 705/37  
 According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**  
 Minimum documentation searched (classification system followed by classification symbols)  
 U.S. : 705/37

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

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

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,012,045 A (BARZILAI et. al.) 04 JANUARY 2000, col 3 lines 14-46; Fig 1/11/,12; col 3 line 66-col 4 line 10; col 4 lines 40-57; col 5 lines 32-40; Fig. 2; col 6 lines 1-2; col 6 lines 5-7; col 6 lines 28-37; col 6 lines 58-67; col 7 lines 1-12; col 10 lines 4-7; Fig. 3; col 7 lines 40-60; Fig 4A; Fig 4B; col 9 lines 1-10; col 9 lines 40-52; col 11 lines 39-56; col 12 lines 51-62; col 21 lines 15-30; Fig 5; Fig 9A; Fig. 9B	1-36

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

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

Date of the actual completion of the international search 03 APRIL 2001	Date of mailing of the international search report <b>30 APR 2001</b>
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Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer VINCENT MILNE <i>James R. Matthews</i> Telephone No. (703) 308-1065
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INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US01/07412

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y,P	US 6,199,050 B1 (ALAI A et. al.) 06 MARCH 2001, Fig. 1; Fig 2; Fig 3; Fig. 11; Fig. 13; Fig. 14; col 1 lines 10-14; col 1 lines 16-42; col 1 lines 55-56; col 2 lines 23-25; col 2 lines 28-30; col 3 lines 45-65; col 4 lines 2-11; col 4 lines 13-22; col 11 lines 6-12; col 5 lines 47-63; col 8 lines 58-63	1-36