

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ASKELOADDEN L.L.C.,
Petitioner,

v.

INTERCURRENCY SOFTWARE LLC,
Patent Owner.

Case IPR2023-_____
Patent No. 10,062,107 B1

**PETITION FOR *INTER PARTES* REVIEW OF
CLAIMS 19-36 OF U.S. PATENT NO. 10,062,107**

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EXHIBIT LIST

Exhibit No.	Document Description
1001	The '107 Patent – U.S. Patent No. 10,062,107
1002	Declaration of Marc Reid
1003	C.V. of Marc Reid
1004	The File History of the '107 Patent
1005	U.S. Patent Application Publication 2002/0087454 to Calo et al. (“Calo”)
1006	U.S. Patent Application Publication 2006/0095361 to Rude (“Rude”)
1007	U.S. Patent Application Publication 2002/0023053 to Szoc et al. (“Szoc”)
1008	U.S. Patent No. 4,251,867 to Uchida et al. (“Uchida”)
1009	U.S. Patent Application Publication 2002/0010673 to Muller et al. (“Muller”)
1010	U.S. Patent Application Publication 2006/0124729 to Martin (“Martin”)

Exhibit No.	Document Description
1011	U.S. Patent Application Publication 2006/0294004 to Burge (“Burge”)
1012	U.S. Patent Application Publication 2007/0055590 to Kretzschmar et al. (“Kretzschmar”)
1013	U.S. Patent Application Publication 2006/0015437 to Kulasooriya et al. (“Kulasooriya”)
1014	U.S. Patent No. 5,897,621 to Brian Paul Boesch (“Boesch”)
1015	U.S. Patent No. 6,829,590 to Greener et al. (“Greener”)
1016	U.S. Patent Application Publication 2005/0021454 to Karpovich et al. (“Karpovich”)
1017	U.S. Patent Application Publication 2007/0005481 to Kidea et al. (“Kidea”)
1018	U.S. Patent Application Publication 2004/0267655 to Davidowitz et al. (“Davidowitz”)
1019	U.S. Patent Application Publication 2004/0236664 to Sellberg et al. (“Sellberg”)

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1020	U.S. Patent Application Publication 2008/0147569 to Kahan et al. (“Kahan”)
1021	U.S. Patent Application Publication 2001/0049651 to Selleck (“Selleck”)
1022	U.S. Patent Application Publication 2002/0128958 to Slone (“Slone”)
1023	U.S. Patent Application Publication 2002/0184134 to Olsen et al. (“Olsen”)
1024	U.S. Patent Application Publication 2004/0177024 to Bok et al. (“Bok”)
1025	U.S. Patent No. 7,778,919 to Waelbroeck et al. (“Waelbroeck”)
1026	U.S. Patent No. 5,077,665 to Silverman et al. (“Silverman”)
1027	Peter Rosenstreich, FOREX Revolution, An Insider’s Guide to the Real World of Foreign Exchange Trading (1995). Library of Cong. Cat. No. 2005921697.
1028	Cornelius Luca, Trading in the Global Currency Markets, An Insider’s Guide to the Real World of Foreign Exchange Trading (2005). Library of Cong.: ISBN 0-13-293424-8, HG3851.L83 1995.
1029	Rime, Dagfinn, “New Electronic Trading Systems in Foreign Exchange Markets,” New Economy Handbook, pp. 469-504 (2003)

Exhibit No.	Document Description
1030	Traders Magazine, “OMS Solutions: The Buysides Key to the Trading Highway,” Editorial Staff, July 5, 2006.
1031	Declaration of the Glenn J. Perry
1032	Support Document

Pursuant to 35 U.S.C. §§311-319 and 37 C.F.R. §42, Askeladden L.L.C. (“Petitioner”) respectfully petitions for *Inter Partes* Review (“IPR”) of Claims 19-36 of U.S. Patent No. 10,062,107 (“the ’107 Patent,” Ex. 1001), which is assigned to Intercurrency Software, LLC (“Patent Owner”). Petitioner submits the Expert Declaration of Mr. Marc Reid (EX1002) in support of this Petition. As demonstrated herein with reference to prior art not previously before the Office and with the support of testimonial evidence, there is a reasonable likelihood that Petitioner will prevail in establishing that at least one of the challenged claims is unpatentable. Accordingly, institution of an IPR under 37 C.F.R. §42.108 is earnestly requested.

I. INTRODUCTION

The claims of the ’107 Patent recite executing trades using a well-known three-tier architecture wherein a trader interface displays trading data, including settlement details in a “preferred currency” (e.g., a domestic currency) different than the currency in which the underlying asset is traded (i.e., the “market currency”). It does this by doing a simple currency conversion using data from a currency exchange. For example, a trader in Paris having a domestic currency of Euros could be trading U.S. assets, such as securities on the NASDAQ, which trade in U.S. Dollars (“USD”). In this example, the system of the ’107 Patent will perform a currency conversion from USD to Euros and display U.S. security pricing in Euros.

Currency conversion is old, indeed ancient. Currency markets are centuries old. EX1002 ¶78. Electronic currency exchanges pre-existed the '107 patent by decades. The concept of displaying real-time quotes in multiple different currencies was well known by the time of the '107 patent. EX1002 ¶¶79-93, 101. The claims of the '107 Patent recite further limitations relating to conventional and well-known aspects of the electronic trading process, such as processing limit orders, updating the display as the market moves, and direct crossing of trades. EX1002 ¶¶209-211. Because all of the limitations of the claims can be found in the prior art, as demonstrated herein, and the skilled person in the art would have had been motivated to, and would have had no problem combining the same, there is a reasonable likelihood that Petitioner will prevail in establishing that at least one of Claims 19-36 is unpatentable over the prior art.

II. MANDATORY NOTICES UNDER 37 C.F.R. §42.8(a)(1)

As set forth below and pursuant to 37 C.F.R. §42.8(a)(1), the following mandatory notices are provided as part of this Petition.

A. Real Party-In-Interest Under 37 C.F.R. §42.8(b)(1)

Pursuant to 37 C.F.R. §42.8(b)(1), Petitioner Askeladden LLC. certifies that it is the real party-in-interest in this proceeding. In this regard, Petitioner submits the Declaration of Glenn J. Perry (EX1031) and supporting exhibit (EX1032). As

demonstrated in the Declaration and supporting exhibit, no other party exercised control or could exercise control over Petitioner's participation in this proceeding, the filing of this Petition, or the conduct of any ensuing trial. See EX1031 ¶¶25-28; EX1032.

B. Related Matters Under 37 C.F.R. §42.8(b)(2)

To date, Patent Owner has filed 11 patent infringement lawsuits in the United States District Court for the Eastern District of Texas. The following lawsuits are currently pending:

- *Intercurrency Software LLC v. Binance Holdings, Ltd.*, 2:2023cv00370 (E.D. Tx. 08/16/2023);
- *Intercurrency Software LLC v. Blockchain (Gb) Ltd.*, 2:2023cv00369 (E.D. Tx. 08/16/2023);
- *Intercurrency Software LLC v. Charles Schwab & Co., Inc. et al.*, 2:2023cv00128 (E.D. Tx. 03/27/2023);
- *Intercurrency Software LLC v. Fidelity Brokerage Services LLC et al.*, 2:2023cv00080 (E.D. Tx. 02/28/2023);
- *Intercurrency Software LLC v. Foris DAX Asia Pte. Ltd.*, 2:2023cv00361 (E.D. Tx. 08/04/2023);
- *Intercurrency Software LLC v. GBM Foundation Company Ltd.*, 2:2023cv00395 (E.D. Tx. 08/31/2023);

- *Intercurrency Software LLC v. IG Group*, 2:2023cv00234 (E.D. Tx. 05/26/2023);
- *Intercurrency Software LLC v. MEK Global Limited et al.*, 2:2023cv00394 (E.D. Tx. 08/31/2023);
- *Intercurrency Software LLC v. Morgan Stanley & Co. LLC et al.*, 2:2023cv00130 (E.D. Tx. 03/28/2023);
- *Intercurrency Software LLC v. Robinhood Crypto, LLC*, 2:2023cv00360 (E.D. Tx. 08/04/2023);
- *Intercurrency Software LLC v. TD AMERITRADE, Inc. et al.*, 2:2023cv00196 (E.D. Tx. 05/02/2023).

None of the defendants in the above cases is a real party in interest or a privy of Petitioner in this proceeding.

C. Lead and Back-Up Counsel Under 37 C.F.R. §42.8(b)(3)

Pursuant to 37 C.F.R. §§42.8(b)(3) and 42.10(a), Petitioner provides the following designation of lead and back-up counsel and related service information.

Pursuant to 37 C.F.R. §42.10(b), a Power of Attorney accompanies this Petition.

Lead Counsel	Back-Up Counsel
Brian A. Tollefson (Reg. No. 46,338) Tollefson IP 326 First Street Suite 202 Annapolis, MD 21403 brian@tollefsonip.com 443-699-2450	Alton L. Absher III (Reg. No. 60,687) Kilpatrick Townsend & Stockton LLP 1001 West Fourth Street Winston-Salem, NC 27101 aabsher@ktslaw.com 336-607-7307

D. Service Information Under 37 C.F.R. §42.8(b)(4)

Service information (by e-mail, postal mailing, or hand-delivery) for lead and back-up counsel is provided in the above designation of lead and back-up counsel. Petitioner also consents to electronic service by e-mail at brian@tollefsonip.com, with a copy to info@tollefsonip.com and aabsher@ktslaw.com.

III. PAYMENT OF FEES UNDER 37 C.F.R. §42.103

The undersigned hereby provides authorization to charge Deposit Account No. 603855 to cover the \$41,500 fee for this Petition. 37 C.F.R. §42.15(a). If this amount is insufficient or excessive, the Commissioner is authorized to deduct any underpayment from, or credit any overpayment to, Account No. 603855.

IV. GROUNDS FOR STANDING UNDER 37 C.F.R. §42.104(a)

Petitioner certifies that: (1) the '107 Patent is available for IPR; and (2) the provisions of 35 U.S.C. §§315(a), 315(b), and 315(e)(1) do not bar or estop Petitioner from requesting IPR of Claims 19-36 of the '107 Patent on the grounds raised herein.

V. IDENTIFICATION OF CHALLENGE UNDER 37 C.F.R. §42.104(b) AND RELIEF REQUESTED

A. Claims for Which IPR Is Requested Under 37 C.F.R. §42.104(b)(1)

Petitioner requests IPR of Claims 19-36 of the '107 Patent.

B. The Specific Art and Statutory Grounds on Which the Challenge Is Based Under 37 C.F.R. §42.104(b)(2)

This Petition for IPR is based on the following prior art:

(1) U.S. Patent Application Publication 2002/0087454 to Calo et al. (“Calo,” Ex1005), which was published on July 4, 2002, and is prior art under 35 U.S.C. §102(b).

(2) U.S. Patent Application Publication 2006/0095361 to Rude (“Rude,” EX1006), which was published on May 4, 2006, and is prior art under 35 U.S.C. §§102(a) and (e).

(3) U.S. Patent Application Publication 2002/0023053 to Szoc et al. (“Szoc,” Ex1007), which was filed on February 21, 2002, and is prior art under 35 U.S.C. §102(b).

(4) U.S. Patent Application Publication 2004/0267655 to Davidowitz et al. (“Davidowitz,” EX1018), which was filed on December 30, 2004, and is prior art under 35 U.S.C. §102(b).

(5) U.S. Patent Application Publication 2007/0005481 to Kidea et al. (“Kidea,” EX1017), which was filed on June 29, 2005, and was published on January 4, 2007. Therefore, Kidea is prior art under 35 U.S.C. §§ 102(a) and (e).

(6) U.S. Patent Application Publication 2004/0236664 to Sellberg et al. (“Selberg,” EX1019), which was published on November 25, 2004, and is prior art under 35 U.S.C. § 102(b).

This Petition requests cancellation of Claims 19-36 of the ’107 Patent based on the following specific grounds:

Ground 1: Claims 19-25, 27-31, and 34-36 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo in view of Rude and in further view of Sellberg;

Ground 2: Claims 19-25, 27-31, and 34-36 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo in view of Rude and in further view of Szoc;

Ground 3: Claims 32 and 33 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo, Rude, and Sellberg or Szoc, in further view of Davidowitz;

Ground 4: Claims 26 is unpatentable under 35 U.S.C. §103(a) as obvious over Calo, Rude, and Sellberg or Szoc in further view of Kidea.

VI. SUMMARY OF THE ‘107 PATENT

The ’107 Patent, entitled “*Consolidated Trading Platform*,” was filed on April 18, 2007, and issued on August 28, 2018. EX1001. Thus, for the purpose of this Petition, the priority date is April 18, 2007.

A. Specification of the '107 Patent

The Background describes a problem in the prior art relating to cross-border, electronic trading. EX1001, 1:37-38. Namely, there was a purported problem relating to currency conversion:

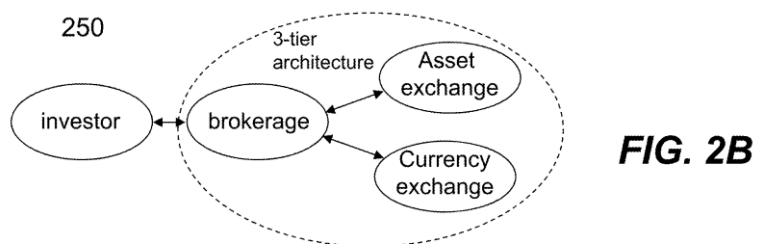
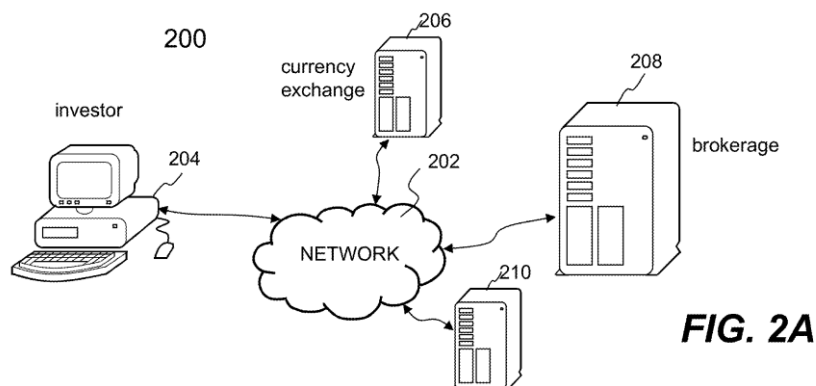
[A]ll accounts at Charles Schwab must be in US dollars and all transactions must be conducted in US dollars. FIG. 1 illustrates a process how an investor in China would trade securities listed on a US exchange (e.g., NASDAQ). Because all securities listed on a US exchange are traded in US dollars the investor must first pre-allocate a bulk amount in his/her local currency (e.g., RMB¥) and look for a source to convert the amount into US dollars that are then deposited into a brokerage (e.g., Charles Schwab) by wire or check.... At the time of buying or selling the stocks, as well as during the whole period the investor held the stocks, the investor had no certain knowledge of what profit or loss he was going to get because the currency exchange rate must be obtained for a bulk amount at another time, which may fluctuate significantly enough to affect the ultimate profit or loss. *Id.*, 1:39-60 (underlining added).

The '107 patent further states: “One of the problems in the current trading system is that the currency conversion is not at a transactional level. There is a great need for an improved system which performs currency conversion on a transactional level so that a trader or investor knows exactly what profit or loss may occur with a transaction.” *Id.*, 1:61-66. The patent goes on to state that “[i]t is desirable for a

trading system to be able to show prices as well as conduct all transactions in a currency preferred by an investor regardless of whatever currency being used in the primary market for the security/asset.” Id. 1:66-2:3.

Uncertainty occurs because the prior art purportedly failed to display quotes in a preferred currency and traded using a currency exchange rate at a time different than the time of the transaction. EX1002 ¶22.

The '107 Patent provides a three-tier architecture which includes a brokerage computer called a “consolidated trading platform,” a market exchange where securities/assets are traded, and a currency exchange where amounts in one currency can be converted to corresponding amounts in another currency. Figs. 2A and 2B are high-level block diagrams showing a three-tiered architecture of the patent:



Through this consolidated trading platform, the brokerage 208 presents all prices, market data, P&L estimates, and transaction results or settlements in a preferred currency, in conjunction with the market exchange 210 and the currency exchange 206. As a result, a trader always knows exactly what he/she may end up with in the preferred currency for a transaction of an asset. When the transaction of the asset is actually performed, the consolidated trading platform can also perform a currency conversion (e.g., of trade proceeds) automatically based on specified conditions. EX1001, 2:29-38.

Figs. 3-5 are basic flow diagrams that show a high-level process for trading according to embodiments of the present invention. Fig. 3 is directed to a basic process for making a trade in a currency that is different than the markets currency.

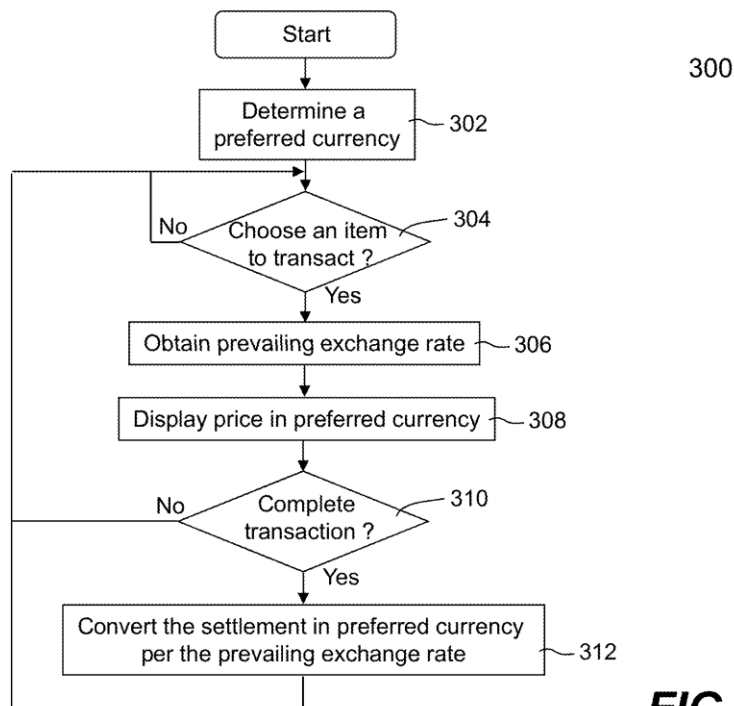


FIG. 3

As shown, the patented process is fairly simple. Once an asset (e.g., stock ID) is selected by the trader¹, the price of the asset is obtained by performing a currency conversion, and after a transaction is complete, the settlement details, i.e., the record of the transaction, are converted with a currency conversion using the same rate that was displayed. “In one embodiment, to complete the transaction in the preferred

¹ The ‘107 Patent defines a trader to be virtually anyone or anything (e.g., algorithmic trading server, order management system) initiating a securities transaction. 2:39-44; EX1002 ¶32.

currency, the currency exchange converts all settlements to the preferred currency per the prevailing exchange rate, as if the item has changed hands in the preferred currency. In other words, as shown in FIG. 2A, the server 208 communicates with the server 210 to complete the currency conversion. Depending on implementation, the server 210 may be part of the brokerage or an independent agent, and the currency conversion may actually happen (actually money exchanged) or credits may be used in the account.” EX1001, 6:4-14. In other words, a currency trade could be made, but need not be, after the transaction in order to obtain currency in the preferred currency to deposit into the investor’s account. EX1002 ¶32. This process was well known by the 2007. EX1002 ¶¶32, 247-248.

According to the patent, a “forward” rate (i.e., a currency conversion rate agreed to for a later date, e.g., a future settlement date) or a “spot” rate (an instant currency conversion rate if immediately executed) can be used for currency conversion. EX1001, 6:15-35; EX1002 ¶34. For example, a 30-day oil contract transaction would use a forward rate for 30 days, while a U.S. equity (e.g., stock) transaction would use the spot next rate (i.e., the currency conversion rate available immediately after the security is traded). *Id.*, 6:33-35; EX1002 ¶34.

The currency conversion itself is described in the specification as follows:

Price of Asset in Home Currency = (Price of Asset in USD)/(Rate of EUR/USD) (*Id.*, 6:27-28.)

The currency conversion formula could not be more basic, and the Specification discloses no novel manner of calculating the preferred currency. Rate refers to the “prevailing exchange rate,” which the patent states is obtained from a currency agent, exchange server, or financial institution. *Id.*, 5:40-53; EX1002 ¶35. The currency exchange server, which is not inventive, is responsible for providing this real-time exchange rate. *Id.* While it doesn't provide explicit technical details of a rate calculation process, the Specification states:

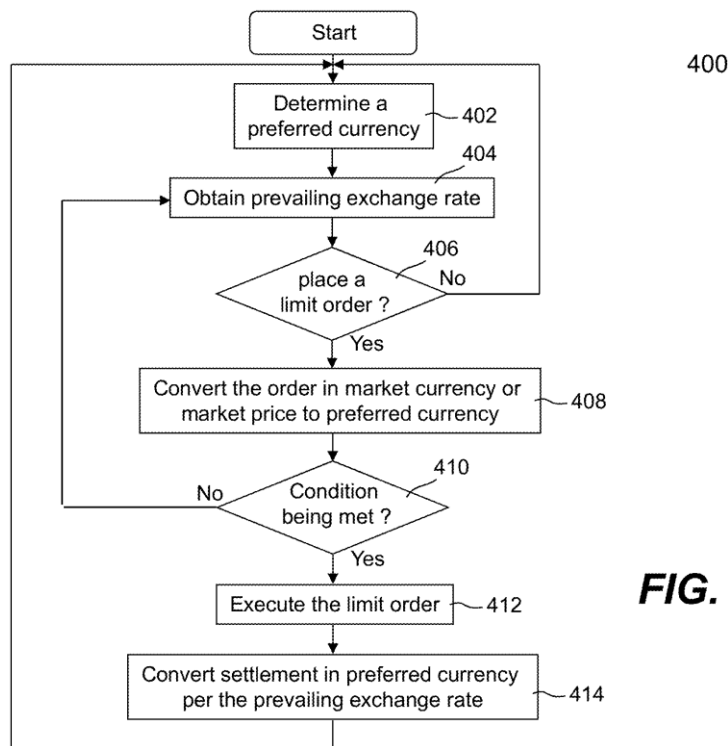
Based on the preferred currency, a prevailing exchange rate is obtained at 306 from a currency exchange. In one embodiment, the prevailing exchange rate is provided by a participating financial agency that is willing to buy the Japanese yen and sell US dollars at the published exchange rate. (*Id.*, 5:48-53.)

The prevailing exchange rate may be determined by obtaining exchange rate information from any financial agency willing to facilitate currency conversion at the published exchange rate. EX1002 ¶37. The patent provides no further details about how the data is obtained, the calculation is executed, or whether or how the exchange rates from more than one source could be aggregated to determine the prevailing exchange rate. *Id.*

Once the prevailing exchange rate is obtained, the consolidated trading platform uses this rate to convert costs and fees associated with the asset after

settlement. EX1002 ¶38. These costs can include market costs, transaction fees, and other charges related to trading the asset but are not described in detail. EX1001, 5:55-59; EX1002 ¶¶38. The patent states that the settlement details can be displayed to the trader in their preferred currency, providing a clear understanding of the financial implications of the transaction. *Id.* 8:10-13. No display is described in detail nor shown in the patent, but at the time of the invention, it was well known to display trade execution details in a blotter screen. EX1002 ¶39.

Fig. 4 adds a limit order feature (406) to the process of Fig. 3.



The '107 Patent processes a limit order using the currency conversion. Of course, processing limit orders was well known by 2007. EX1002 ¶42. The limit price is

converted to the trader's preferred currency using an exchange rate, which allows for a comparison between the limit price in the trader's preferred currency and the converted current market price in the trader's preferred currency. *Id.* A limit order placed in the market exchange, however, will still be priced in the market currency. *Id.* EX1002 ¶42.

Fig. 5 includes in the process where both ends of a trade are in the same currency, and therefore, no conversion is necessary to transact.

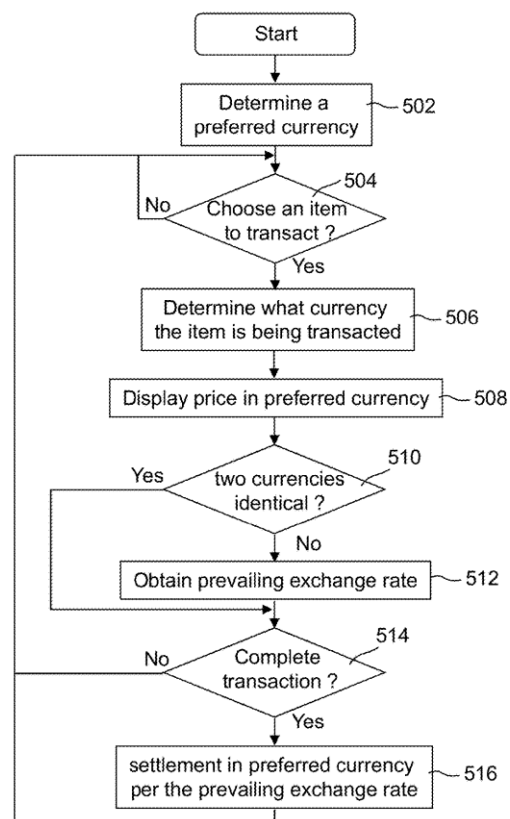


FIG. 5

The process recites matching traders who trade in the same preferred currency for a specific asset, which could be the market currency, thereby eliminating the

costs and risks associated with currency conversion. For example, if Trader A wants to sell barrels of oil and Trader B wants to buy the barrels of oil, and both are trading in the same currency, e.g., Euros, the patent states that the system causes the trade to occur without involving currency conversion. EX1002 ¶¶45-48. The patent does not provide specific technical details on how a trade is executed or the shares are transferred directly between traders in the scenario where both traders are using the same preferred currency. *Id.* It discloses only the *concept* of currency-neutral trading. *Id.* Thus, the consolidated trading platform does not execute exchange trades, but a broker might directly cross both sides of a trade of an asset when both sides are the broker's clients. *Id.* At the time of the invention, over-the-counter trades could be directly crossed by a broker without sending orders to the market exchange. EX1001, 7:42-52; EX1002 ¶¶45-48.

B. Claims of the '107 Patent

The '107 Patent has 36 claims, of which 19-36 are challenged in this Petition. Claim 19 is representative of the independent claims:

19. A non-transitory computer-readable storage medium with an executable software product providing a consolidated trading platform, a trading server configured to execute the software product to perform operations comprising:

[A]coupling the trading server to at least one currency exchange server and one market exchange server;

[B]receiving in the trading server an indicator of a preferred currency from a trader;

[C]determining whether an asset is being chosen for trading, wherein the asset is being traded in a market currency but displayed in the preferred currency in accordance with a prevailing exchange rate derived from all exchange rates obtained from the currency exchange server, a value of the asset being displayed changes as the exchange rate changes, even when a value of the asset on the market exchange server remains unchanged, wherein the trader has certain knowledge of what to pay for the asset, or profit or loss when acting on the asset;

[D]conducting a transaction of the asset by transmitting a transaction request from the trading server to a market exchange server when the trader decides to proceed with trading the asset;

[E]receiving a settlement notification that the transaction of the asset is performed by the market exchange server in accordance with conditions set by the user, wherein the conditions include a price at which the asset is traded in the preferred currency, the trading server determines first a prevailing exchange rate from the currency exchange server right in favor of the user when the asset is not priced in the preferred currency and then executes the transaction with the prevailing exchange rate to prevent uncertainty in currency exchanges; and

[F]performing a currency conversion of some portion or all of the transaction from the market currency to the preferred currency when the preferred currency is not identical to the market currency, the conversion being performed with the prevailing exchange rate.
(EX1001, 11:57-12:28.)

Claim 19 can be paraphrased as a computer implemented method executed with a trading server that accepts parameters, determines market rates (e.g., using a market data feed), generates an order, receives settlement (i.e., execution) data, and converts the data to the selected currency. EX1002 ¶50. All of these features were conventional in trading systems by 2007. *Id.*

Each of claims 19-36 are directed to non-transitory computer medium claims. EX1002 ¶51. Claims 19 and 27 are independent and of similar scope. The dependent claims do not add anything other than conventional trading functions. See EX1002 ¶¶52. Claims 19-26 are representative of the dependent claims.

Claim 20 adds basic features to claim 19 that one would expect to be found in an electronic trading system by 2007, such as monitoring market conditions and currency prices, and performing basic limit order functions, i.e., executing the trade when conditions of the order are met. EX1002 ¶52.

Claim 21 adds features to claim 20 that appear to define how conditions are monitored. Claim 21 requires periodic checking of the market price and currency price (when the preferred currency is different than the market currency). *Id.*

Claim 22 adds the limitation to claim 19 that no currency conversion is done if the preferred currency is the same as the market currency. *Id.* This is a currency neutral transaction.

Claim 23 adds the feature to claim 22, which has no currency conversion because it is currency neutral, that the trade is made across two countries (i.e., cross-boarder). This covers the trader that is outside of the U.S. trading U.S. securities in U.S. Dollars. *Id.*

Claim 24 adds basic features to claim 19 that one would expect to be found in an electronic trading system by 2007, such as receiving conditions, which could be limit order parameters, and monitoring market conditions and currency prices, and performing basic limit order functions, i.e., executing the trade when conditions of the order are met. *Id.*

Claim 25 adds basic features to claim 24, and one would expect these features to be found in an electronic trading system by 2007. Claim 25 requires determining how much has been transacted and determining when a price exceeds a threshold value. Systems routinely determined how many shares were left in a limit order and monitored conditions in connection with the open part of the order. *Id.*

Claim 26 also adds basic features one would expect to be found in an electronic trading system by 2007, such settling a transaction and doing currency conversion on a portion of the transaction. *Id.*

Claims 27-36 mirror substantially claims 19-26. EX1002 ¶53.

C. Prosecution History of the ‘107 Patent

A description of the highlights of prosecution history can be found at EX1002 ¶¶54-70. This Petition does not rely on the prosecution history except when expressly stated.

VII. CLAIM CONSTRUCTION UNDER 37 C.F.R. §42.104(b)(3)

Except as set forth below, Petitioner submits that, for purposes of this Petition only, the terms of Claims 19-36 should be given their ordinary and customary meaning of such claim as understood by one of ordinary skill in the art in the field of electronic trading in the 2007 time frame. 37 C.F.R. §42.100(b).

A. “prevailing currency exchange rate”

Claims 19-21² recite a “prevailing exchange rate.” (Ex1001, ‘). The term prevailing commonly means “current,” which is consistent with the usage in the specification. EX1002 ¶¶54-70.

² Claim 28 also recites this term but the claim term lacks antecedent basis.

EX1001, 14:9.

During prosecution, the Patent owner argued that the “prevailing” exchange rate is not an average rate. EX1002 ¶63. The “prevailing exchange rate” should not be an FOREX average rate, but a current rate. EX1002 ¶70.

The only rates the Specification describes using are a “forward” rate or a “spot” rate – in other words, a selected current exchange rate. EX1002 ¶34. Therefore, Petitioner proposes that “prevailing exchange rate” means “a selected current rate that is not an FOREX average exchange rate.” EX1002 ¶70.

VIII. APPLICATION OF CITED PRIOR ART TO EVERY CLAIM FOR WHICH IPR IS REQUESTED UNDER 37 C.F.R. §42.104(b)(4)-(5) .

A. Level Of Ordinary Skill In The Art

For purposes of the obviousness analyses presented below, Petitioner submits that the level of ordinary skill in the art is reflected by the prior art of record. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001).

To the extent necessary to define further, Petitioner asserts that a POSITA for the '107 Patent in the relevant field in 2007 would have a bachelor's degree in computer science or a related study and two years of experience with financial trading systems or an equivalent combination of education and experience. Ex1002 ¶¶71-74.

B. Ground 1: Claims 19-25, 27-31, and 34-36 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo in view of Rude, in further view of Sellberg.

As discussed below, Calo in view of Rude discloses each and every element of Claims 19-25, 27-31, and 34-36, either expressly or inherently.

1. U.S. Patent Application Publication 2002/0087454 to Calo et al. (“Calo”)(EX1005)

Calo was originally filed by the E*TRADE Group Inc. and discloses features of the E*TRADE Global network. EX1002 ¶95; EX1005 at 1. Calo was not cited or considered during the prosecution of the ’107 Patent. EX1002 ¶97.

Calo discloses systems and methods for placing a securities trading order on a securities exchange. Calo ¶0030. The method includes a step of determining a net settlement amount for the securities trading order in a local currency (i.e., market currency) of the securities exchange and in response to the determined net settlement amount, automatically placing a foreign exchange trading order to convert the determined net settlement amount from the local currency to an operating currency (e.g., a preferred or domestic currency) of a party for whom the securities trading order was placed. Calo ¶¶0030, 0057; EX1002 ¶98.

Calo discloses a three-tier architecture like that of the ’107 patent. EX1002 ¶107.

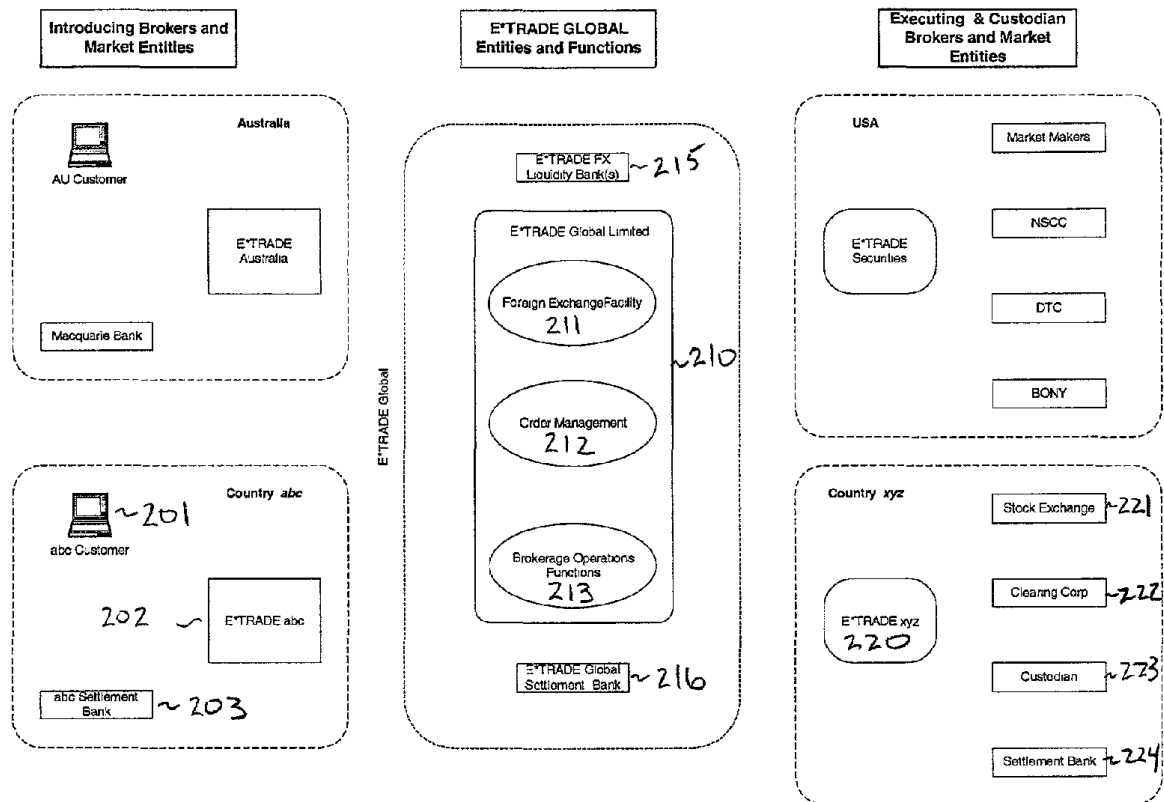


FIGURE 2

Calo discloses performing a cross-border trade of a security or commodity, including (i) accepting an electronic transaction order from a first customer in a first country to purchase a stock for a first amount (e.g., quote price), the stock being available on a first financial exchange; (ii) checking an account balance in a customer account for said first customer to determine if the customer account balance is at least equal to said first amount; (iii) electronically transmitting the

transaction order to a global hub being electronically connected to at least a second financial exchange and the first financial exchange; (iv) purchasing the stock on the first financial exchange; (v) deleting a second amount from the customer account (e.g., execution price). See Calo claim 14. The first financial exchange is in a second country different from said first country. See Calo claim 15. The second amount correlates to the first amount. The customer account is in a first currency (e.g., AUD) and a second currency (e.g., USD) is used to purchase the stock on the first financial exchange. See Calo claim 18. And the global hub converts the first currency to the second currency. See Calo claim 19.

Calo discloses, among other things, “a customer in Australia receives from E*TRADE Global a preview price on a real-time basis for a U.S. equity (such as an individual stock or mutual fund share). A customer normally is expected to place orders based on the currency of the target market in which the security trades. A price in the native currency may also be provided, with this price being based on both the real-time quote for price on the U.S. equity, as well as a real-time conversion from the foreign exchange rates. In any case, the estimated prices are computed automatically through, by, or with information obtained through E*TRADE Global.” Calo ¶0030 (emphasis added).

Accordingly, automatically displaying to a trader real-time quote in a foreign currency of a U.S. equity, with a real-time conversion using real-time foreign

exchange rates (i.e., a prevailing exchange rate), was disclosed by Calo. EX1002 ¶101.

Calo further discloses that “immediately after the equity order is executed and reported to E*TRADE Global, E*TRADE Global transacts a foreign exchange order prior to confirming the trade back to E*TRADE Australia in step 310. At step 308, E*TRADE Global transmits an order to the foreign exchange facility to sell Australian dollars. At step 309, the foreign exchange facility confirms the FX deal to E*TRADE Global. Because of the timing of step 307, it is assumed that the foreign exchange facility can match the value date of the currency transaction to the settlement date of the security transaction. At step 310, the trade is confirmed to E*TRADE Australia with the USD execution price and principal amount as well as the *locked-in AUD value* of the trade. At step 311, E*TRADE Australia gives confirmation to the customer of the purchase. This confirmation includes E*TRADE Australia's commissions and fees. Calo ¶0030 (underlining added).

Accordingly, executing a trade using real-time foreign exchange rates (i.e., a prevailing rate) before the settlement is returned to the trader (i.e., at the time of the transaction), was disclosed by Calo. EX1002 ¶103.

Calo further discloses that “E*TRADE Global includes the local affiliates which interface to E*TRADE Global via a global affiliate interface, which also interfaces to the E*TRADE Global FX facility and its brokerage services systems.

The E*TRADE Global FX facility is responsible for the foreign exchange procedures and therefore receives global foreign exchange rates from E*TRADE Market Data Services (which in turn receives foreign exchange quotes from a provider)....The E*TRADE Global FX facility communicates retail foreign exchange rates to each local affiliate through E*TRADE global affiliate interface.” Calo ¶0050 (underlining added).

Calo also discloses “generating a corresponding foreign exchange order on a real-time basis after an equity order executes by differentiating between payment and settlement currencies on an order record.” Calo ¶0057. Accordingly, calculating or determining the prevailing currency exchange rate from one or more input rates was disclosed by Calo. EX1002 ¶¶230-233.

Calo describes its order management system performs all of the same trading features as the ’107 patent claims:

The Order Management System, referred to in FIG. 2 as E*TRADE Global Trading, handles the routing and execution reporting of cross-border transactions (securities and currency) to, as needed, the appropriate affiliate and foreign exchange facility. It therefore is responsible for: 1) routing all non-domestic customer securities orders from the introducing broker/dealer to the executing broker/dealer; 2) routing order status (executions and expirations) from the executing broker to the introducing broker/dealer including local currency value of executions; 3) defining which instruments can be traded in the

network (for example, only over-the-counter equities might be traded through the system); 4) identifying and defining the destinations for certain types of instruments if it is not one of the affiliate broker/dealers. Currency transactions, for example will be routed to the foreign exchange facility; 5) managing the routing (and re-routing) parameters by instrument including currencies; 6) monitoring order and execution activity, including accompanying foreign exchange transactions; 7) reconciling orders and trades, including foreign exchange; 8) generating a corresponding foreign exchange order on a real-time basis after an equity order executes by differentiating between payment and settlement currencies on an order record; 9) defining and developing the procedures for managing exceptions which occur in the order and execution process; adjusting open orders for corporate actions, expirations, and exercises; 10) monitoring open orders against currency fluctuations and notifying the introducing brokers when this exposure occurs; 11) validating cross-border orders against affiliates' positions and trading limits; 12) routing orders based on parameters per security traded in the Global network; 13) automatically placing any foreign exchange deal after execution of an equity trade; 14) placing speculative foreign exchange transactions for cash management purposes; 15) reconciling trades; 16) managing open orders such as expirations and adjustments for corporate actions; and 17) ordering and filling adjustments. (Calo ¶0057 (emphasis added).)

Calo also discloses that “[l]imit orders on an equity guarantees that an equity will be bought or sold only at a specific price. This removes the price risk that

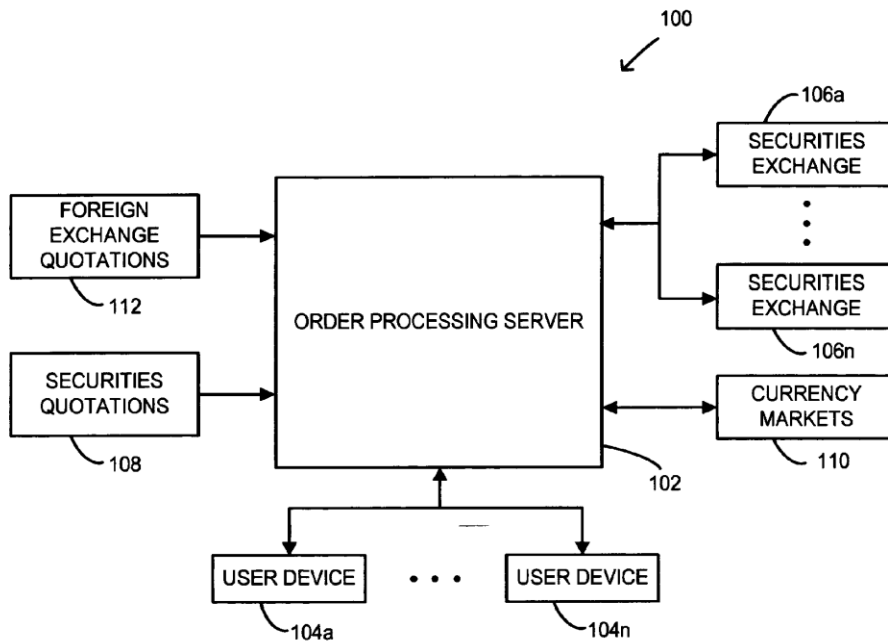
accompanies market orders. With cross-border trades, however, the currency exchange risks remain and may, in fact, be greater. A limit order can potentially be left open for 60 days in the US market, for example, and currency rates can move substantially within that time frame.” *Id.* ¶0070 (underlining added). Calo teaches to reduce the risk by “marking-to-the market all open limit orders” on a regular basis. *Id.* “Mark-to-market” is a well-known practice of valuing assets or liabilities based on their current market value or exchange rates. EX1002 ¶ 111.

Accordingly, Calo discloses updating a limit order price based upon exchange rates and OTC orders can be directly matched in Calo’s trading system. EX1002 ¶112.

2. U.S. Patent Application Publication 2006/0095361 to Rude (“Rude”)(EX1006)

Rude is entitled “Methods and apparatus for automatic settlement of foreign securities trades in trader's operating currency.”

Rude discloses systems and methods for handling foreign securities trading transactions. EX1002 ¶115. Rude discloses the tiered system of the ‘107 Patent including a market exchange and a currency exchange.



Rude, Fig. 1; EX1002 ¶115. Rude discloses automatically converting price quotations from foreign securities exchanges into the trader's operating currency and displays them accordingly. Rude ¶0020; EX1002 ¶117. When a trader places an order for a foreign security, the system executes the order in the local currency of the foreign exchange. *Id.* It then determines a net settlement amount based on the execution price and expenses. *Id.* Therefore, it discloses calculating costs and fees for a trade.

The net settlement amount is automatically converted to the trader's operating currency through a forward foreign exchange transaction, effectively mitigating foreign exchange risk. Rude ¶0020; EX1002 ¶118. The system offers options for traders to customize their preferences regarding currency display and automatic

foreign exchange conversion. *Id.* ¶0024; EX1002 ¶118. Overall, Rude teaches to provide a seamless and transparent foreign securities trading experience by simplifying currency conversion and managing foreign exchange transactions automatically. Rude ¶0060.

Accordingly, Rude discloses the basic process claimed in the '107 Patent. EX1002 ¶119.

Rude discloses a system in which a securities trading order for a foreign security is received. EX1002 ¶120. “Each order may include details of the order, including: an identification of the customer, an identification of the security to be purchased or sold, and the size of the order. Other terms may also be provided (e.g., Such as an identification of whether the order is a market or limit order or the like). In the case of a limit order, additional information may be provided, such as the limit price.” Rude ¶0051 (underlining added). Rude discloses that the order processing server places a trading order for the foreign security in question with the securities exchange on which the security trades. EX1002 ¶120. “In the event that the order is a limit order, the limit price indicated in the user's operating currency may be translated to the local currency of the Securities exchange in accordance with the foreign exchange rate information received.” Rude ¶0052

Although Rude was considered during prosecution of the '107 patent, the Examiner misapprehended some of its disclosure. Rude was found by the Examiner

to teach all the features of the '107 patent. EX1004 at 282. The Applicant argued that Rude did not disclose the prevailing rate because it used only an “average FOREX rate.” EX1004 at 267. This was apparently the reason that the rejections over Rude were overcome. EX1002 ¶0070. Rude discloses, however, the foreign exchange transaction may be a forward rate or a spot rate:

In response to the determination of the net settlement amount, the process 400 advances to 410, where the order processing server 102 automatically, and without further input from the user beyond the original placement of the securities order at 404, places a foreign exchange order with a currency market 110 to convert the net settlement amount to the user's operating currency. For example, where the underlying securities trading order was for the purchase of a security, the automatically placed foreign exchange trading order may be to buy forward the local currency as of the date of settlement (typically three days after execution) for the securities trading order. Alternatively, the foreign exchange trading order may be a purchase of the local currency on the spot market. In some embodiments, the foreign exchange order may be placed by the server 102 *immediately* after the net settlement amount is determined. Rude ¶0054 (emphasis added).

In another example, if the underlying securities trading order was for the sale of a security, the automatically placed foreign exchange trading order may be to sell forward the local currency as of the settlement date for the securities trading order, or alternatively the foreign exchange

trading order may be a sale of the local currency on the spot market.

Rude ¶0055 (underlining added).

Thus, the Examiner misunderstood that Rude only disclosed using an average FOREX rate and Rude in fact disclosed using a “prevailing exchange rate.” EX1002 ¶¶ 122-124.

3. U.S. Patent Application Publication 2004/0236664 to Sellberg et al. (“Sellberg”)(EX1019)

Sellberg is entitled “Automatic Generation of an Order in an Instrument in a Specified Currency.” Sellberg at 1. Sellberg was not discussed during the prosecution of the ’107 patent. EX1002 ¶178.

Sellberg, like the ’107 patent, is directed to computerized trading systems and methods. EX1002 ¶179. Sellberg addresses problems similar to that of the ’107 problem: “Sometimes a trader may want to sell or buy a ... financial instrument in another currency than the one used for that instrument in the [market]...[but] the trader does not have knowledge in advance of the exchange rate....” Sellberg ¶0003-0004; EX1002 ¶179. Sellberg explains that one solution to this problem is to modify the trading system to be capable of receiving orders in a plurality of currencies. *Id.* 0005; EX1002 ¶179. Sellberg provides a system that allows a trader to give an order in an instrument in a currency that is different from the currency used for that

instrument. *Id.* ¶0007; EX1002 ¶180. Sellberg describes the benefit of adding currency exchange features to a trading system. *Id.* ¶0012; EX1002 ¶182.

When an order is received in a currency other than the market currency, Sellberg teaches to use an updated exchange rate, preferably the last exchange rate just prior to the submitting the order, for performing the transaction. *Id.* ¶¶0023-0025; EX1002 ¶181.

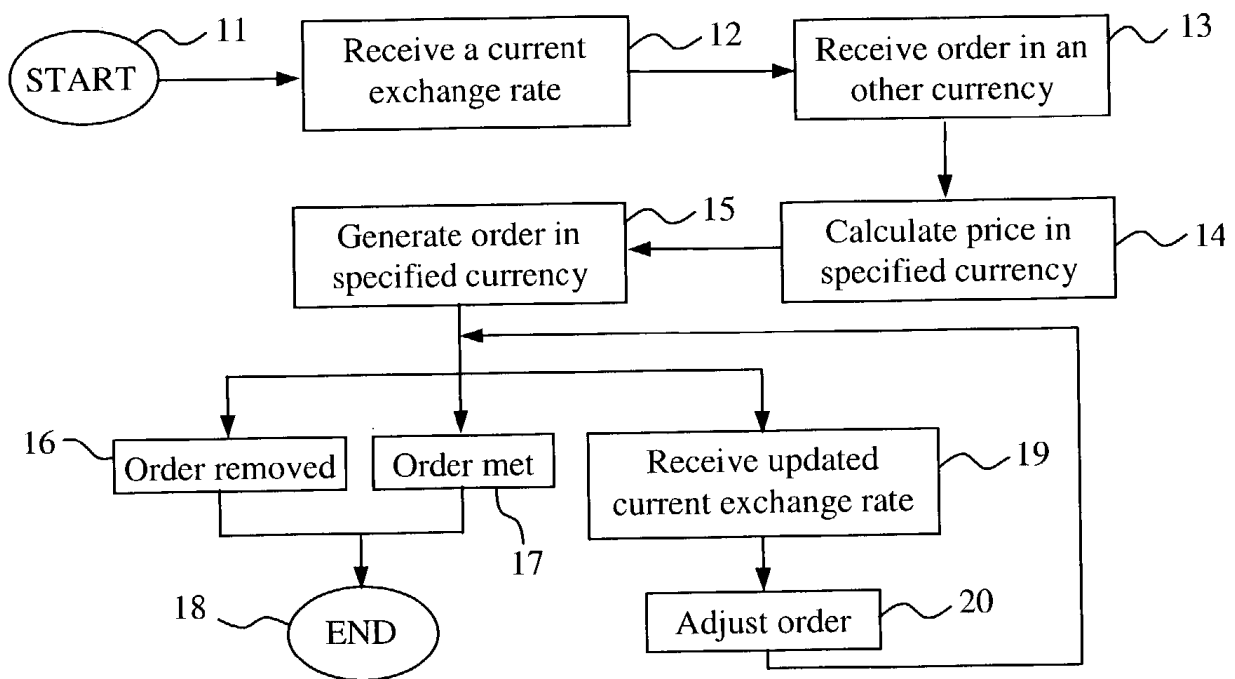


Fig. 1

Sellberg therefore teaches using exactly the same prevailing exchange rate as the '107 patent. EX1002 ¶181. The rates are received repeatedly and automatically from a currency market or market maker. Sellberg ¶¶0024, 0055; EX1002 ¶181.

Sellberg also teaches using the exchange rate to execute limit orders. That is, if the market price does not change, but the exchange rate does, a trade can still be executed when a favorable exchange rate is detected. *Id.* ¶0028; EX1002 ¶182. Sellberg specifically teaches processing portions of limit orders based on exchange rates received. Sellberg ¶¶0035, 0037; EX1002 ¶¶182-184.

4. Claims 19-25, 27-31, and 34-36 are obvious over Calo and Rude and in view of Sellberg

During prosecution, the Applicant argued that the prior art did not teach the claimed prevailing rate. Rude was, however, misunderstood by the Examiner, as it did disclose both the spot rate and the forward rate. EX1002 ¶214. Regardless, using a prevailing exchange rate was disclosed by both Calo and Sellberg. EX1002 ¶¶101, 181.

As Mr. Reid confirms, it would have been obvious to a POSITA to combine teachings of Calo, Rude and Sellberg. EX1002 ¶¶95-124, 178-185, 257-260, 578, 583-584. Calo and Rude each discloses the basic features of the claims of the '107 patent. To the extent that the Calo-Rude combination fails to disclose using the prevailing rate “right before the transaction takes place,” this is clearly disclosed by Sellberg. Sellberg ¶¶ 0023-25; EX1002 ¶181. Adding the currency exchange features from Sellberg to the Calo-Rude combination would have been a simple task

for a POSITA. EX1002 ¶¶185, 234. As such, Claims 19-25, 27-31, and 34-36 are invalid as obvious. EX1002 Section VII.19-25, 27-31, and 34-36; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-16 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

Claim 19 recites “non-transitory computer-readable storage medium with an executable software product providing a consolidated trading platform, a trading server configured to execute the software product to perform operations” – basically the operations are method steps stored on a computer to be executed by the trading service. EX1002 ¶400. There are 6 operations or steps [A]-[F].

As described above, by 2007, consolidated trading platforms were well known, and therefore, methods of providing them were well known. Calo and Rude both describe consolidated trading platforms of the same kind as the one disclosed and claims in the ’107 patent. EX1002 ¶¶213-219, 401-404. Both Calo and Rude disclose step [A] of coupling a trading server with at least one currency exchange server and at least one market exchange server. EX1002 ¶¶220-223, 405-406. Both Calo and Rude disclose step [B] of receiving an indicator of a preferred currency. EX1002 ¶¶224-227, 407-409. Calo, Rude in view of Sellberg disclose step [C] determining the prevailing exchange rate and displaying a value of the asset in the preferred currency. EX1002 ¶¶181, 410-420. Calo and Rude both disclose

conducting the transaction when the trader decides to proceed, Step [D]. EX1002 ¶¶241-242, 421. Calo and Rude in view of Sellberg, disclose receiving the claimed settlement notification, Step [E]. EX1002 ¶¶243-248, 422-426. Calo and Rude in view of Sellberg, disclose performing the currency conversion, Step [F]. EX1002 ¶¶249-258, 427-437. The skilled person would have found it obvious to combine the teachings of Calo, Rude and Sellberg to arrive at claim 19. EX1002 ¶¶259-261, 399, 578.

Further details are shown in the Invalidity Claims Charts in Section VIII.E below including each of the dependent claims. As shown in the Claim Charts in Section VIII.E below, Calo, Rude and Sellberg combine to teach all of the elements of Claims 19-25, 27-31, and 34-36.

C. Ground 2: Claims 19-25, 27-31, and 34-36 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo and Rude in further view of Szoc

1. U.S. Patent Application Publication 2002/0023053 to Szoc et al. (“Szoc,” Ex1007)

Szoc was not considered during the prosecution of any of the ’107 patent. EX1002 ¶125.

Szoc discloses a system and method for providing real-time foreign exchange information, cross-border payments, and other financial information and services to clients over the Internet. Szoc, Abstract; EX1002 ¶126.

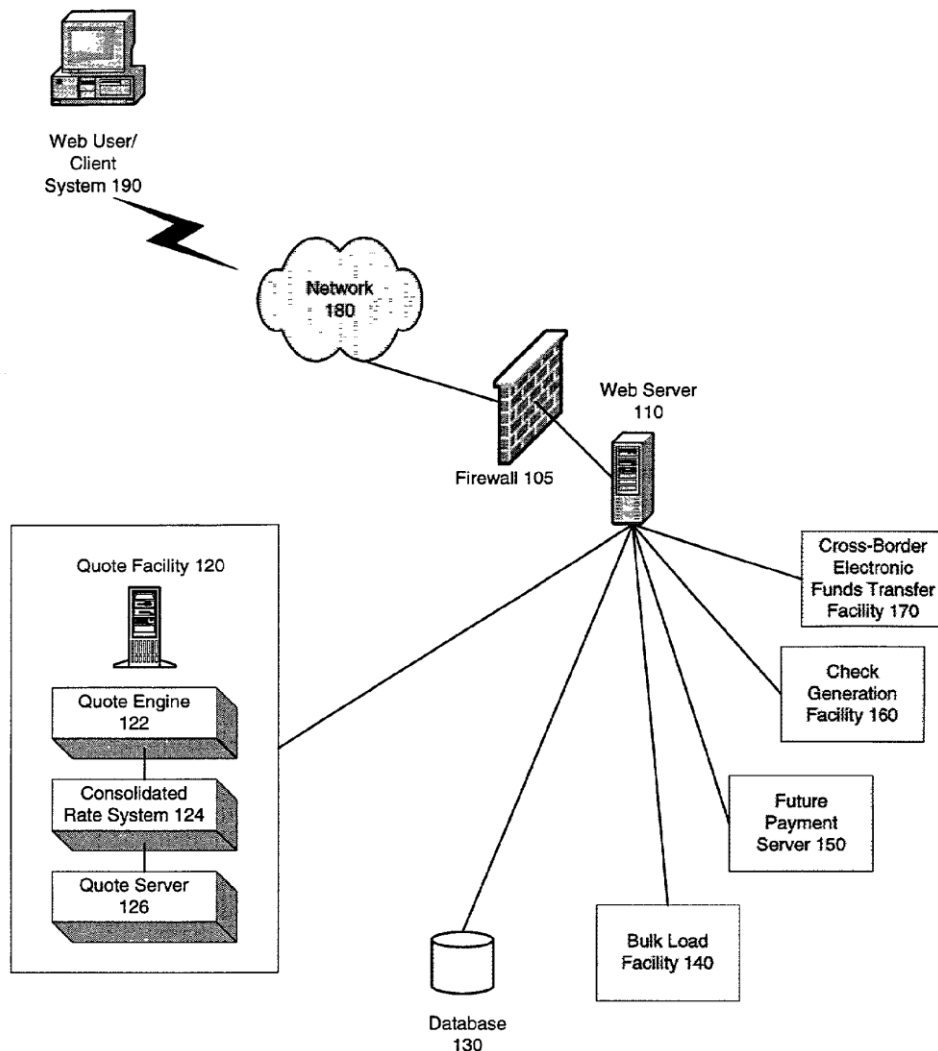


Figure 1

Szoc Fig. 1. Real-time foreign exchange rate quotes are provided that may be relied on in timing international transactions. Single or multiple transactions are automatically converted from a consumer's native currency to any of a plurality of foreign currencies and vice versa, thereby simplifying and facilitating these

international transactions. Szoc, Abstract; EX1002 ¶126. Szoc displays settlement in the preferred currency. Szoc ¶0084.

Szoc discloses the volatile nature of exchange rates impedes what could otherwise be straightforward international transactions by introducing financial risk and uncertainty, especially for cross-border or international transaction. The element of risk makes international transactions fundamentally different from other types of transactions. Szoc ¶0009; EX1002 ¶127. Szoc discloses that real-time foreign exchange rate quotes may be provided, such as spot rates, that are locked in. Szoc ¶0018; EX1002 ¶¶127-128. Szoc discloses an interface that includes a list of the foreign exchange rates from a quote server. EX1002 ¶129. Rates are displayed for various currencies with respect to the selected client's native currency. *Id.* The scrolling quote bar is customizable at a discretion of the client, whereby the client may change the number of rates displayed, the manner in which they are displayed, the client's native currency, etc. The scrolling quote bar may display real-time, constantly-changing rates. See Szoc, FIGS. 4A and 4B and ¶0083; EX1002 ¶ 129.

Szoc also discloses that it is desirable to allow a client to choose whether or not to enter into a transaction based on the exchange rate. “[T]he client may choose to execute a transaction following receipt of a favorable exchange rate quote with respect to the transaction. As long as an exchange rate quote has not yet expired at a

time of execution of a transaction, the transaction will receive the benefit of that rate quote.” Szoc ¶¶0102; EX1002 ¶¶131.

2. Claims 19-25, 27-31, and 34-36 are obvious over Calo and Rude and in view of Szoc

As Mr. Reid confirms, it would have been obvious to a POSITA to combine teachings of Calo, Rude and Szoc. EX1002 ¶¶95-132, 257-260, 579, 583-584. Calo and Rude each disclose the basic features of the claims of the ’107 patent. To the extent that the Calo-Rude combination fails to disclose using the prevailing rate “right before the transaction takes place,” this is clearly disclosed by Szoc. EX1002 ¶¶128-131, 234. Adding the currency exchange features from Szoc to the Calo-Rude combination would have been a simple task for a POSITA. EX1002 ¶¶132. As such, Claims 19-25, 27-31, and 34-36 are invalid as obvious. *Id.* ¶¶164, 169-172; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 415-16 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

Referring to claim 19, Calo and Rude both describe consolidated trading platforms of the same kind as the one disclosed and claims in the ’107 patent. EX1002 ¶¶213-219, 401-404. Both Calo and Rude disclose step [A] of coupling a trading server with at least one currency exchange server and at least one market exchange server. EX1002 ¶¶220-223, 405-406. Both Calo and Rude disclose step

[B] of receiving an indicator of a preferred currency. EX1002 ¶¶224-227, 407-409. Calo, Rude in view of Szoc disclose step [C] determining the prevailing exchange rate and displaying a value of the asset in the preferred currency. EX1002 ¶¶181, 410-420. Calo and Rude both disclose conducting the transaction when the trader decides to proceed, Step [D]. EX1002 ¶¶241-242, 421. Calo and Rude in view of Szoc, disclose receiving the claimed settlement notification, Step [E]. EX1002 ¶¶243-248, 422-426. Calo and Rude in view of Szoc, disclose performing the currency conversion, Step [F]. EX1002 ¶¶249-258, 427-437. The skilled person would have found it obvious to combine the teachings of Calo, Rude and Szoc to arrive at claim 19. EX1002 ¶¶259-261, 399, 579.

Further details are shown in the Invalidity Claims Charts in Section VIII.E below including each of the dependent claims. As shown in the Claim Charts in Section VIII.E below, Calo, Rude and Szoc combine to teach all of the elements of Claims 1-7, 9-13, and 16-18.

D. Ground 3: Claims 32 and 33 are unpatentable under 35 U.S.C. §103(a) as obvious over Calo, Rude, and Sellberg or Szoc, in further view of Davidowitz

1. U.S. Patent Application Publication 2004/0267655 to Davidowitz et al. (“Davidowitz,” EX1018)

Davidowitz is directed to methods and systems for initiating trading across multiple exchanges by allowing a trader to monitor, trade, and hedge related securities that span across various markets. Davidowitz, Abstract; EX1002 ¶175.

Davidowitz teaches that when buying and selling securities in a foreign currency, the entity buying and selling the securities is exposed not only to typical market risks, but also to the additional risk associated with the exposure to the foreign currency. Davidowitz ¶0007; EX1002 ¶176. Davidowitz disclosed the need for an automated system that can continuously monitor the various markets and automatically execute transactions based upon the realization of specific parameters chosen by the investor. Davidowitz ¶0008; EX1002 ¶176. The system should monitor the relationships between securities in various foreign currencies and revalue such securities into a single currency in order to facilitate an investor's trading strategy. *Id.* The concept of continuously monitoring exchange rates and updating trading information for a trader based on changing market conditions was disclosed therefore by Davidowitz. EX1002 ¶177. It would have been obvious to include in the Calo system, continuously monitor the various markets and

automatically execute transactions based upon the realization of specific parameters such as limit price including monitor the relationships between securities in various foreign currencies and revalue such securities into a single currency. EX1002 ¶177.

2. Obviousness of Claims 32 and 33 of the '107 Patent

Claims 32 and 33 add the features to claims 27 plus 31, that the price of the asset and the prevailing currency exchange rate are used, together, to determine whether a trade should be executed. EX1001, 14:27-43. Claim 27, like claim 1, is fully disclosed by Calo, Rude in view of Sellberg or Szoc. *See* Section VIII.B-C above; EX1002 ¶¶95-132, 178-185, 304-358, 370-387, 580.

Calo discloses monitoring the conditions in conjunction with the one or more currency exchange servers and the market exchange server and receives market data at least periodically, which would include an updated market value of the asset being traded from the market exchange server. Calo ¶0057; EX1002 ¶554.

Davidowitz teaches that when buying and selling securities in a foreign currency, the entity buying and selling the securities is exposed not only to typical market risks, but also to the additional risk associated with the exposure to the foreign currency. Davidowitz ¶0007. Davidowitz disclosed the need for an automated system that can continuously monitor the various markets and automatically execute transactions based upon the realization of specific parameters chosen by the investor. ¶0008. The system should monitor the relationships between

securities in various foreign currencies and revalue such securities into a single currency in order to facilitate an investor's trading strategy. Id; EX1002 ¶¶174-177, 556.

Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers at a minimum cost to the user right before the transaction takes place. Namely, this claim involves the embodiment of Fig. 4 of the '107 patent, which is the placement of a limit order. Calo states that “[l]imit orders on an equity guarantees that an equity will be bought or sold only at a specific price. This removes the price risk that accompanies market orders.... Another means to reduce risk from limit orders is marking-to-the market all open limit orders on a regular basis...” Calo ¶0070. This means adjusting the price of the limit order based on an updated prevailing currency exchange rate. EX1002 ¶560.

Szoc discloses an embodiment where a client is able to enter transactions that will execute only when and if a specific foreign exchange rate is available. These limit transactions, or standing orders, are entered in the same manner as the present and future orders discussed, with the exception that a client must also enter a desired exchange rate. If the desired rate is achieved, the transaction will execute. Otherwise, the transaction may be set to expire after any passage of any chosen period of time.

Szoc ¶0101. The skilled person would have been motivated to combine the teachings of the prior art to reduce risk. EX1002 ¶558.

Sellberg also teaches monitoring the currency exchange rate to execute limit orders. That is, if the market price of the asset does not change in the market exchange, but the currency exchange rate does, a trade can still be executed when a favorable currency exchange rate is detected. Sellberg ¶0028; EX1002 ¶181.

As shown in the Claim Charts in Section VIII.E below, Calo, Rude, Sellberg or Szoc, and Davidowitz combine to teach all of the elements of Claims 32-33. EX1002 ¶¶ 545-561. As discussed, there was a clear motivation to combine the references and a POSITA would have had a reasonable expectation of success when making this combination. *Id.* ¶580.

D. Ground 4: Claim 26 is unpatentable under 35 U.S.C. §103(a) as obvious over Calo and Rude, in further view of Kidea

1. U.S. Patent Application Publication 2007/0005481 to Kidea et al. (“Kidea,” EX1017)

Kidea discloses systems and methods for displaying on a graphical user interface at least one of stock and other equity type information for trade related actions by a user with an electronic exchange, said displaying being configurable by the user. Kidea, Abstract. Kideo discloses graphically displaying and updating in substantially real-time, in a first portion of the GUI, historical filled order data; in a second portion of the GUI, current unfilled order data; and displaying trade related

actions made by the user and modifications thereto. EX1002 ¶172. Kidea therefore teaches breaking orders into portions and displaying both filled portions and unfilled portions, and discloses updating the data for unfilled order data. EX1002 ¶¶172-173.

2. Obviousness of Claim 26

Claim 26 adds to claim 19 the feature that when a portion of an order is filled by a trade using the same preferred currency, currency conversion is performed only on the remaining portion. EX1002 ¶52.

It has long been well known that market orders and limit orders can be partially filled, resulting in an executed portion and an unexecuted portion. EX1002 ¶296. When that occurs, execution information is sent from the exchange to the broker. Calo naturally, would perform the currency conversion only on a second portion of the transaction that was bought or sold from another trader with a different preferred currency. *Id.* For example, each partial fill would be treated as an execution. *Id.* As already described above, both Calo and Rude disclose making a currency trade at the time of execution of the transaction to convert from the market currency to the preferred currency when the preferred currency is not identical to the market currency, the conversion being performed with the calculated prevailing exchange rate. Of course, if the trade was made in the same currency as the preferred currency, no conversion would be done. *Id.*

Kidea expressly discloses updating the display for both executed and unexecuted shares in real-time with real-time pricing. EX1002 ¶297. Therefore, it would have been obvious to modify the display in the Calo-Rude system to determine a first portion of the transaction that was bought or sold from another trader with the same preferred currency as the trader was performing the transaction and to update the currency conversion only on a second portion of the transaction that was bought or sold from another trader with a different preferred currency. *Id.*

As shown in the Claim Charts in Section VIII.E below, Calo, Rude, Sellberg or Szoc, and Kidea combine to teach all of the elements of Claim 26. *See also* EX1002 ¶¶294-303, 483-488. As discussed, there was a clear motivation to combine the references and a POSITA would have had a reasonable expectation of success when making this combination. *Id.* ¶581.

E. Claim Charts

As shown in the Claim Charts below, Calo and Rude in view of Sellberg or Szoc teach all the elements of Claims 19-25, 27-31, and 34-36 and thus renders these claims unpatentable (Grounds 1 and 2); Calo, Rude and Sellberg or Szoc, in view of Davidowitz teach all the elements of Claims 32-33 (Ground 3); and Calo, Rude and Sellberg or Szoc, in view of Kidea teach all the elements of Claim 26 (Ground 4). EX1002 ¶¶387-569.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
19. A non-transitory computer-readable storage medium with an executable software product providing a consolidated trading platform, a trading server configured to execute the software product to perform operations comprising:	Calo and Rude both describe a consolidated trading platforms of the same kind as the one disclosed and claimed in the '107 patent. For example, Calo discloses a trading platform with a three-tier network, including a trading server, in Fig. 2. Calo ¶¶0027; See also, Rude ¶¶0021, Fig. 1. EX1002 ¶¶213-219, 401-404.
coupling the trading server to at least one currency exchange server and one market exchange server;	Calo discloses an extensive trading platform including Foreign Exchange servers and trading servers. Calo ¶¶0027. Rude's system is connected to a foreign exchange quotation computer, a currency quotation computer, and a currency market computer. Rude's system is also connected to security exchanges. Rude ¶¶0021, Fig. 1. EX1002 ¶¶220-223, 405-406.
receiving in the trading server an indicator of a preferred currency from a trader;	Calo discloses that its system may provide price of a security in the "native," or preferred currency. Calo ¶¶0030. See also, Calo ¶¶0058. Rude also discloses that a trading system may provide quotes in an "operating" currency rather than the currency local to the market where an asset is traded. E.g., Rude ¶¶0019. EX1002 ¶¶224-227, 407-409.
determining whether an asset is being chosen for trading, wherein the asset is being traded in a market currency but displayed in the preferred currency in	See above. Calo ¶¶0030, 0058; Rude ¶¶0019, 0029, 0047-49, 0060. Calo discloses "[a]" price in the native currency may also be provided, with this price being based on both the real-time quote for price on the U.S.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
accordance with a prevailing exchange rate derived from all exchange rates obtained from the currency exchange server, a value of the asset being displayed changes as the exchange rate changes, even when a value of the asset on the market exchange server remains unchanged, wherein the trader has certain knowledge of what to pay for the asset, or profit or loss when acting on the asset;	equity as well as a real-time conversion from the foreign exchange rates.” Calo ¶0030. Both Calo and Rude disclose making a currency trade at the time of execution of the transaction to convert from the market currency to the preferred currency when the preferred currency is not identical to the market currency, the conversion being performed with the calculated prevailing exchange rate. Calo discloses that when an Australian customer sells a U.S. equity, “after the equity order is executed, E*TRADE Global transacts a foreign exchange deal prior to confirming the sale of the equity back to E*TRADE Australia. Step 611 includes sending an order to the Global FX facility to sell U.S. dollars for Australian dollars. At step 612, the foreign exchange bank confirms the foreign exchange deal with the Australian dollar counter amount to E*TRADE Global. At step 613, the trade is confirmed to E*TRADE Australia with the USD execution price and principal amount as well as the locked-in AUD value of the trade.” Calo ¶0036. Likewise, Rude discloses as similar process: In response to the determination of the net settlement amount, the process 400 advances to 410, where the order processing server 102 automatically, and without further input from the user beyond the original placement of the securities order at 404, places a foreign exchange order with a currency market 110 to convert the net settlement amount to the user's operating currency. For example, where the underlying securities

Claims Elements of the '107 Patent	Disclosure of the Prior Art
	trading order was for the purchase of a security, the automatically placed foreign exchange trading order may be to buy forward the local currency as of the date of settlement (typically three days after execution) for the securities trading order. Alternatively, the foreign exchange trading order may be a purchase of the local currency on the spot market. In some embodiments, the foreign exchange order may be placed by the server 102 immediately after the net settlement amount is determined. Rude ¶¶0054. Rude also discloses that prevailing rates may include current (spot) and forward rates. Rude ¶¶0020. Rude likewise discloses: Price quotations from a foreign securities exchange may be automatically converted to a trader's operating currency and may be displayed by a trading system to the trader in the operating currency, rather than in the local currency in which the quotations are presented on the foreign securities exchange. Rude ¶¶0019. Rude discloses using real-time, prevailing rates. Rude ¶¶0049. Sellberg teaches to use an updated exchange rate, preferable <u>the last exchange rate just prior to the submitting the order</u>, for performing the transaction. Sellberg ¶¶0023-0025. Szoc provides an interface that includes the scrolling quote bar providing a list of the foreign exchange rates received by the web server from a quote server. <u>Rates are displayed for various currencies with respect to the selected client's native currency.</u> The scrolling quote bar is customizable at a discretion of the client, whereby

Claims Elements of the '107 Patent	Disclosure of the Prior Art
	<u>the client may change the number of rates displayed</u>, the manner in which they are displayed, the client's native currency, etc. The scrolling quote bar may display <u>real-time, constantly-changing rates</u>. See Szoc FIGS. 4A and 4B and Szoc ¶0083 (underlining added). EX1002 ¶¶181, 410-420.
conducting in the trading server a transaction of the asset by transmitting a transaction request from the trading server to a market exchange server when the trader decides to proceed with trading the asset;	Calo discloses that E*trade conducts the trade when the customer decides to sell their asset. Calo ¶0040. Rude discloses conducting the trade by submitting it to the order processing server. Rude ¶0050-51. EX1002 ¶¶241-242, 421.
receiving a settlement notification that the transaction of the asset is performed by the market exchange server in accordance with conditions set by the user, wherein the conditions include a price at which the asset is traded in the preferred currency, the trading server determines first a prevailing exchange rate from the currency exchange server in favor of the user when the asset is not priced in the preferred currency and then executes the transaction with the prevailing exchange rate to	Calo discloses E*TRADE Australia with the USD execution price and principal amount <u>as well as the locked-in AUD value of the trade</u>. Calo ¶0030. Rude discloses that by executing a trade at the real-time exchange rate, the resulting clearance has the condition met where the settlement price is the prevailing exchange rate “right before the transaction takes place when the asset is not priced in the preferred currency.” Rude ¶0062. Sellberg ¶¶0023-0025. Szoc discloses an embodiment where a client is able to enter transactions that will execute only when and if a specific foreign exchange rate is available. Szoc ¶0101. EX1002 ¶¶243-248, 422-426.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
prevent uncertainty in currency exchanges; and	
performing a currency conversion of some portion or all of the transaction from the market currency to the preferred currency when the preferred currency is not identical to the market currency, the conversion being performed with the prevailing exchange rate.	Calo discloses that purchased shares “bought by the Australian customer is reflected by a series of book entries” in its system. Calo 0035. The book entries are stored in the E*TRADE Australia in the customer’s account. Calo ¶0042. Calo also discloses “generating a corresponding foreign exchange order on a real-time basis after an equity order executes by differentiating between payment and settlement currencies on an order record.” ¶0057. Rude discloses automatically converting price quotations from foreign securities exchanges into the trader's operating currency and displays them accordingly. Rude ¶0020. When a trader places an order for a foreign security, the system executes the order in the local currency of the foreign exchange. <i>Id.</i> It then determines a net settlement amount based on the execution price and expenses. <i>Id.</i> Therefore, it discloses calculating costs and fees for a trade. Rude discloses that the net settlement amount is automatically converted to the trader's operating currency through a forward foreign exchange transaction. <i>Id.</i>; see also ¶0060. Sellberg teaches to use an updated exchange rate, preferable <u>the last exchange rate just prior to the submitting the order</u>, for performing the transaction. Sellberg ¶¶0023-0025.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
	Szoc provides an interface that includes the scrolling quote bar providing a list of the foreign exchange rates received by the web server from a quote server. <u>Rates are displayed for various currencies with respect to the selected client's native currency.</u> The scrolling quote bar is customizable at a discretion of the client, whereby <u>the client may change the number of rates displayed,</u> the manner in which they are displayed, the client's native currency, etc. The scrolling quote bar may display <u>real-time, constantly-changing rates.</u> See Szoc FIGS. 4A and 4B and Szoc ¶0083. EX1002 ¶¶249-258, 427-437.
20. The non-transitory computer-readable storage medium as recited in claim 19, wherein said conducting a transaction of the asset comprises:	See claim 19 above. EX1002 ¶¶438-439.
receiving a set of conditions for the transaction to take place; and	Both Calo and Rude disclose receiving a limit order. See, e.g., Calo ¶0070; Rude ¶0051. EX1002 ¶263-264, 440.
monitoring a prevailing exchange rate with the currency exchange server and the market exchange server to ensure that the transaction only happens when the conditions are met with the prevailing exchange rate.	Calo discloses monitoring the conditions in conjunction with the one or more currency exchange servers and the market exchange server. Calo ¶0057. Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers. Calo ¶0070. Rude discloses monitoring the conditions in conjunction with the one or more currency

Claims Elements of the '107 Patent	Disclosure of the Prior Art
	exchange servers and the market exchange server. Rude ¶0023. Sellberg discloses monitoring a prevailing exchange rate with the currency exchange server and the market exchange server to ensure that the transaction only happens when the conditions are met with the prevailing exchange rate ¶¶0023-0025, 0028. Szoc also discloses executing a transaction only when the desired currency exchange rate is met. Szoc ¶0101. EX1002 ¶¶263-269, 441-443.
21. The non-transitory computer-readable storage medium as recited in claim 20, wherein said monitoring a prevailing exchange rate with the currency exchange server and the market exchange server further comprises:	See Claim 20 above. EX1002 ¶¶444-445.
receiving periodically an updated price of the asset being traded from the market exchange server;	The prior art discloses receiving periodically an updated price of the asset being traded from the market exchange server. <i>See</i>, Calo ¶0057; Rude ¶0023; Sellberg ¶¶0023-0025, 0028; Szoc ¶0090, 0101. EX1002 ¶¶273-274, 446-448.
receiving periodically an updated currency exchange rate from the currency	The prior art discloses receiving periodically an updated currency exchange rate from the one or more currency exchange servers when the

Claims Elements of the '107 Patent	Disclosure of the Prior Art
exchange servers when the preferred currency is not identical to the market currency; and	preferred currency is not identical to the market currency. See, Calo ¶0057; Rude ¶0023; and Sellberg ¶¶0023-0025, 0028; Szoc ¶0090, 0101. EX1002 ¶¶275-276, 449-451.
determining whether the conditions have been met together with the updated price of the asset and the updated currency exchange rate.	The prior art discloses determining whether conditions have been met based on the price of the asset and the currency rate. See Calo ¶0070; Rude ¶0023; Sellberg ¶¶0023-0025, 0028; Szoc ¶0090, 0101. EX1002 ¶277, 452-453.
22. The non-transitory computer-readable storage medium as recited in claim 19, wherein,	See claim 19. EX1002 ¶¶454-458.
when the preferred currency is identical to the market currency, the transaction is conducted directly between the trader and another trader selling or buying the asset without currency conversion.	Calo describes an order management system that can conduct a trade directly between the trader and another trader selling or buying the asset without currency conversion. “Calo ¶0057. EX1002 ¶280, 454-458.
23. The non-transitory computer-readable storage medium as recited in claim 22, wherein	See claim 22 above. EX1002 ¶459-460.
the transaction is conducted across at least two countries.	Calo, Rude, Sellberg and Szoc each discloses cross-border trades. EX1002 ¶284, 460.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
24. The non-transitory computer-readable storage medium as recited in claim 19, wherein said performing a currency conversion of some portion or all of the transaction amount from the market currency to the preferred currency comprises:	See claim 19. EX1002 ¶¶461-471.
receiving a set of conditions for the transaction to take place;	Both Calo and Rude disclose receiving a limit order. Calo ¶0070; Rude ¶0051; Sellberg and Szoc also teach receiving conditions. Sellberg ¶¶0025-0028; Szoc ¶101. EX1002 ¶¶287, 461-472.
monitoring the conditions for currency conversion in conjunction with the currency exchange server and the market exchange server, and	Calo discloses to update the limit price of a limit order by marking it to market, thereby ensuring monitoring the prevailing exchange rate to ensure that the limit order only happens when the conditions are met with the prevailing exchange rate. Calo ¶0070. Rude discloses monitoring the conditions in conjunction with the one or more currency exchange servers and the market exchange server. Rude ¶0023. Sellberg ¶¶0023-0025, 0028. Szoc ¶0101. EX1002 ¶¶288, 473-475.
performing the currency conversion only when the	Calo discloses to update the limit price of a limit order by marking it to market, thereby ensuring

Claims Elements of the '107 Patent	Disclosure of the Prior Art
conditions for currency conversion have been met.	monitoring the prevailing exchange rate to ensure that the limit order only happens when the conditions are met with the prevailing exchange rate. Calo ¶¶0070. Sellberg ¶¶0023-0025, 0028. Szoc ¶0101. EX1002 ¶¶476-477.
25. The non-transitory computer-readable storage medium as recited in claim 24, wherein said monitoring the conditions for currency conversion comprises:	See claim 24. EX1002 ¶¶478-479.
determining how much of the asset has been transacted on the market exchange server; and	Calo discloses that its system monitors limit orders, which would include how much of the asset has been transacted on a market exchange server. See, e.g., Calo ¶0070. EX1002 ¶¶291-292, 480-481.
determining when a price of the asset exceeds a predetermined or dynamically determined threshold value.	Limit orders by definition involve making this determination. Calo discloses that its consolidated trading platform includes monitoring open orders including limit orders. See, e.g., Calo ¶0070. EX1002 ¶¶293, 482.
26. The non-transitory computer-readable storage medium as recited in claim 19, wherein the transaction includes first and second	See claim 19 above. EX1002 ¶¶483-484.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
portions, and said performing a currency conversion of some portion or all of the transaction comprises:	
analyzing any purchases or sales making up the transaction of the asset in the market currency to determine when the first portion of the transaction was bought or sold from another trader with the same preferred currency as the trader was performing said transaction; and	Calo naturally, would perform the currency conversion only on a second portion of the transaction that was bought or sold from another trader with a different preferred currency. Calo ¶¶0057, 0070. Kidea discloses breaking trading data up into portions. (Kidea, Abstract.) EX1002 ¶¶172, 182, 296-302, 485-486.
performing a currency conversion only on the second portion of the transaction where the second portion was bought or sold from another trader with a different preferred currency.	Calo naturally, would perform the currency conversion only on a second portion of the transaction that was bought or sold from another trader with a different preferred currency. EX1002 ¶¶296, 301. Kidea discloses breaking trading data up into portions. (Kidea, Abstract.) EX1002 ¶302. EX1002 ¶¶487-488.
27. A non-transitory computer-readable storage medium with an executable software product providing a consolidated trading platform, a trading server configured to execute the	Calo and Rude both describe a consolidated trading platforms of the same kind as the one disclosed and claimed in the '107 patent. Calo ¶0027; See also, Rude ¶0021, Fig. 1. EX1002 ¶¶489-493.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
software product to perform operations comprising:	
coupling the trading server to one or more currency exchange servers and a market exchange server;	Calo discloses coupling a trading server to one or more currency exchange servers and one or more market exchange servers. Calo ¶0027. Rude discloses coupling a trading server to one or more currency exchange servers and one or more market exchange servers. Rude ¶0021. EX1002 ¶¶494-495.
receiving an indicator of a preferred currency by a trader;	Calo discloses that its system may provide price of a security in the “native,” or preferred currency. Calo ¶0030. See also, Calo ¶0058. Rude also discloses that a trading system may provide quotes in an “operating” currency rather than the currency local to the market where an asset is traded. E.g., Rude ¶0019. EX1002 ¶¶496-498.
determining whether an asset is being chosen for trading;	Calo and Rude disclose this step. Calo ¶¶0005; 0030; 0040; 0057; Rude ¶¶0050-51. EX1002 ¶498.
determining a market currency of the asset being traded;	Calo and Rude both determine the market currency. EX1002 ¶¶311-314, 500.
receiving a currency exchange rate from the market exchange server when the preferred currency is not identical to the market currency;	See above. Calo ¶¶0030, 0058; Rude ¶¶0019, 0029, 0047-49, 0060. EX1002 ¶¶501-504.
receiving a price of the asset being traded from the market	Calo discloses receiving a price of the asset being traded from the market exchange server, the price

Claims Elements of the '107 Patent	Disclosure of the Prior Art
exchange server, the price shown in the trading server being in the preferred currency converted with the currency exchange rate;	shown in the trading server being in the preferred currency converted with the currency exchange rate. Calo ¶0030. Rude discloses automatically converting price quotations from foreign securities exchanges into the trader's operating currency and displays them accordingly. Rude ¶0020. EX1002 ¶¶505-507.
displaying all costs and fees in the preferred currency to own or sell the asset, wherein the all costs and fees are dynamically changed in accordance with the currency exchange rate constantly updated, a value of the asset being displayed changes as the currency exchange rate changes, even when a market value of the asset remains unchanged, wherein the trader has certain knowledge of what to pay for the asset, or profit or loss when acting on the asset;	Calo discloses that all costs and fees are displayed prior to a trade in the preferred currency and are updated in real time. Calo ¶¶0030, 0038, 0070. Sellberg teaches to use an updated exchange rate, preferable the last exchange rate just prior to the submitting the order, for performing the transaction. Sellberg ¶¶0023-0025. Szoc provides an interface where rates are displayed for various currencies with respect to the selected client's native currency. The scrolling quote bar is customizable at a discretion of the client, whereby the client may change the number of rates displayed, the manner in which they are displayed, the client's native currency, etc. The scrolling quote bar may display real-time, constantly-changing rates. See Szoc FIGS. 4A and 4B and Szoc ¶0083 (underlining added). EX1002 ¶¶508-514.
executing the transaction of the asset with a prevailing exchange rate obtained at an instance of the transaction to prevent uncertainty in currency exchanges late,	Calo discloses that E*trade conducts the trade when the customer decides to sell their asset. Calo ¶0040.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
wherein the prevailing exchange rate is obtained from all exchange rates obtained from the one or more currency exchange servers right before the transaction takes place; and	Rude discloses conducting the trade by submitting it to the order processing server. Rude ¶0050-51. Calo discloses: “E*TRADE Australia with the USD execution price and principal amount <u>as well as the locked-in AUD value of the trade.</u>” Calo ¶0030. Rude disclose that by executing a trade at the real-time exchange rate, the resulting clearance has the condition met where the settlement price is the prevailing exchange rate “right before the transaction takes place when the asset is not priced in the preferred currency.” Rude ¶0062. Sellberg teaches to use an updated exchange rate, preferable the last exchange rate just prior to the submitting the order, for performing the transaction. Sellberg ¶¶0023-0025. Szoc provides an interface where rates are displayed for various currencies with respect to the selected client's native currency. The scrolling quote bar is customizable at a discretion of the client, whereby the client may change the number of rates displayed, the manner in which they are displayed, the client's native currency, etc. The scrolling quote bar may display real-time, constantly-changing rates. See Szoc FIGS. 4A and 4B and Szoc ¶0083. Szoc displays settlement in the preferred currency. Szoc ¶0084. EX1002 ¶¶515-518.
showing a settlement of the transaction of the asset in the preferred currency.	Calo discloses that purchased shares “bought by the Australian customer is reflected by a series of book entries” in its system. Calo ¶0035.

Claims Elements of the '107 Patent	Disclosure of the Prior Art
	Calo also discloses “generating a corresponding foreign exchange order on a real-time basis after an equity order executes by differentiating between payment and settlement currencies on an order record.” ¶0057. Rude discloses that settlement data is also in the preferred currency using the prevailing exchange rates. Rude ¶0020, 0024, 0060. Selberg discloses receiving from a current exchange rate between a currency other than the specified currency and the specified currency; receiving from a trader an order in the instrument in the other currency; calculating a price of the order in the specified currency based on the received order and the current exchange rate; and generating the order in the instrument in the specified currency. Selberg, Abstract. Selberg discloses that an updated exchange rate between the other currency and the specified currency is received repeatedly and automatically, and the last received updated exchange rate between the other currency and the specified currency at the time of calculating the price is defined as the received current exchange rate. Selberg, claim 3. EX1002 ¶¶519-525.

28. The non-transitory computer-readable storage medium as recited in claim 27, wherein said executing the transaction of the asset with the prevailing currency exchange rate comprises:	See claim 28. EX1002 ¶¶526-527.
conducting the transaction of the asset when the trader decided to proceed with trading the asset; and	By definition, the trader initiates and trade, which then must be sent to the market exchange server for execution. See generally, '863 patent, col. 2:15-44. Further, both Calo and Rude provide the trade the opportunity to initiate the trade or not. EX1002 ¶¶528-533.
performing a currency exchange of the settlement in the market currency to the preferred currency with the prevailing currency exchange rate when the preferred currency is not identical to the market currency so that the transaction is no longer subject to currency fluctuation at a later time.	Calo performing a currency exchange of the settlement in the market currency to the preferred currency at the locked in rate so that the transaction is no longer subject to currency fluctuation at a later time. Calo ¶0030. See also, Rude ¶0062. Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers at a minimum cost to the user right before the transaction takes place. Calo ¶0070. Sellberg ¶¶0023-0025, 0028. Szoc ¶0101. EX1002 ¶¶534-540.
29. The non-transitory computer-readable storage	See claim 28. EX1002 ¶¶541-542.

medium as recited in claim 28,	
wherein the currency exchange is conducted in the currency exchange server per the prevailing currency exchange rate.	Calo and Rude perform a currency exchange of the settlement in the market currency to the preferred currency at the locked in rate so that the transaction is no longer subject to currency fluctuation at a later time. Calo ¶0030. See also, Rude ¶0062. Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers at a minimum cost to the user right before the transaction takes place. Calo ¶0070. Sellberg performs the currency conversion just prior to execution. ¶¶0023-0025, 0028. Szoc ¶0101. EX1002 ¶542.
30. The non-transitory computer-readable storage medium as recited in claim 27, further comprising	See claim 27. EX1002 ¶¶543-544.
providing a currency conversion at a transactional level so that a trader knows exactly what ends up with the transaction of the asset.	Calo, Rude, Sellberg and Szoc all teach to perform currency conversions on the transaction itself. Calo performs a currency exchange of the settlement in the market currency to the preferred currency at the locked in rate so that the transaction is no longer subject to currency fluctuation at a later time. Calo ¶0030. See also, Rude ¶0062.

	Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers at a minimum cost to the user right before the transaction takes place. Calo ¶0070. Sellberg performs the currency conversion just prior to execution. ¶¶0023-0025, 0028. Szoc ¶0101. EX1002 ¶ 544.
31. The non-transitory computer-readable storage medium as recited in claim 27, wherein said determining whether an asset is being chosen for trading comprises:	See claim 27. EX1002 ¶¶545-546.
receiving a set of conditions for the transaction of the asset; and	Both Calo and Rude disclose receiving a limit order. See, e.g., Calo ¶0070; Rude ¶0051. See also Szoc ¶101 and Sellberg ¶¶0025-0028. EX1002 ¶547-548.
monitoring the conditions in conjunction with the currency exchange server and the market exchange server.	Calo ¶0070; Szoc ¶101; Sellberg ¶¶0023-0025, 0028. EX1002 ¶¶549-551.
32. The non-transitory computer-readable storage medium as recited in claim 31, wherein said monitoring the conditions in conjunction	See claim 31. EX1002 ¶¶552-553.

with the currency exchange server and the market exchange server further comprises:	
retrieving periodically the price of the asset being traded from the market exchange server;	Calo discloses monitoring the conditions in conjunction with the one or more currency exchange servers and the market exchange server and receives market data at least periodically, which would include an updated market value of the asset being traded from the market exchange server. Calo ¶0057. Davidowitz teaches that when buying and selling securities in a foreign currency, the entity buying and selling the securities is exposed not only to typical market risks, but also to the additional risk associated with the exposure to the foreign currency. Davidowitz ¶0007 (underlining added). Davidowitz disclosed the need for an automated system that can periodically monitor the various markets and automatically execute transactions based upon the realization of specific parameters chosen by the investor. <i>Id.</i> ¶0008. The system should monitor the relationships between securities in various foreign currencies and revalue such securities into a single currency in order to facilitate an investor's trading strategy. <i>Id.</i> EX1002 ¶¶554-556.
prevailing periodically the currency exchange rate from the market exchange server when the preferred currency is not identical to the market currency; and	Calo discloses monitors the conditions in conjunction with the one or more currency exchange servers and the market exchange server and receives an updated prevailing currency exchange rate at least periodically. Calo ¶0057. Davidowitz teaches that when buying and selling securities in a foreign currency, the entity buying and selling the securities is exposed not only to typical market risks, but also to the additional risk

	associated with the exposure to the foreign currency. Davidowitz ¶0007 (underlining added). Davidowitz disclosed the need for an automated system that can monitor the various markets and automatically execute transactions based upon the realization of specific parameters chosen by the investor. <i>Id.</i> ¶0008. The system should monitor the relationships between securities in various foreign currencies and revalue such securities into a single currency in order to facilitate an investor's trading strategy. <i>Id.</i> Sellberg and Szoc both monitor the currency exchange rates as well. Sellberg ¶¶0025-0028; Szoc ¶101. EX1002 ¶¶557-559.
determining whether the conditions have been met together with the retrieved price of the asset and the retrieved currency exchange rate.	Calo disclose performing the transaction only when conditions have been met relating to updated prevailing currency exchange rate from the one or more currency exchange servers at a minimum cost to the user right before the transaction takes place. Namely, this claim involves the embodiment of Fig. 4 of the '107 patent, which is the placement of a limit order. Calo states that “[l]imit orders on an equity guarantees that an equity will be bought or sold only at a specific price. This removes the price risk that accompanies market orders.... Another means to reduce risk from limit orders is marking-to-the market all open limit orders on a regular basis...” Calo ¶0070. This means adjusting the price of the limit order based on an updated prevailing currency exchange rate. Szoc discloses an embodiment where a client is able to enter not only present transactions and transactions set to execute at a specific time, but also transactions that will execute only when and

	if a specific foreign exchange rate is available. These limit transactions, or standing orders, are entered in the same manner as the present and future orders discussed, with the exception that a client must also enter a desired exchange rate. If the desired rate is achieved, the transaction will execute. Otherwise, the transaction may be set to expire after any passage of any chosen period of time. Szoc ¶¶0101. Sellberg also discloses this step. Sellberg ¶¶0025-0028. EX1002 ¶¶560-561.
33. The non-transitory computer-readable storage medium as recited in claim 32, wherein	See claim 32. EX1002 ¶¶562-563.
the transaction of the asset only happens when the conditions have been met together with the retrieved price of the asset and the retrieved currency exchange rate.	Calo discloses to update the limit price of a limit order by marking it to market, thereby ensuring monitoring the prevailing exchange rate to ensure that the limit order only happens when the conditions are met with the prevailing exchange rate. “With cross-border trades, however, the currency exchange risks remain and may, in fact, be greater....Another means to reduce risk from limit orders is marking-to-the market all open limit orders on a regular basis...” Calo ¶¶0070. Szoc discloses an embodiment where a client is able to enter not only present transactions and transactions set to execute at a specific time, but also transactions that will execute only when and if a specific foreign exchange rate is available. These limit transactions, or standing orders, are entered in the same manner as the present and future orders discussed, with the exception that a client must also enter a desired exchange rate. If

	the desired rate is achieved, the transaction will execute. Otherwise, the transaction may be set to expire after any passage of any chosen period of time. Szoc ¶¶0101. EX1002 ¶¶563-564.
34. The non-transitory computer-readable storage medium as recited in claim 27, wherein,	See claim 27. EX1002 ¶¶565-566.
when the preferred currency is identical to the market currency, the transaction is conducted directly between the trader and another trader selling or buying the asset.	This element relates to a currency neutral trade, which is a standard trade when the preferred currency is identical to the market currency. Calo describes an order management system responsible for defining which instruments can be traded in the network (for example, only over-the-counter equities might be traded through the system). Calo ¶¶0057. EX1002 ¶¶566-569.
35. The non-transitory computer-readable storage medium as recited in claim 27, further comprising:	See claim 27 above. EX1002 ¶¶570.
analyzing orders and purchases/sales to determine whether or not the trader and another trader selling or buying the asset are matched without currency conversion, when the preferred currency of the	See claim 26 above; Calo ¶¶0070. EX1002 ¶¶571-574.

trader is identical to a currency of the another trader while the market currency is different from the preferred currency.	
36. The non-transitory computer-readable storage medium as recited in claim 35, wherein	See claim 35. EX1002 ¶¶575-576.
the transaction is conducted across at least two countries.	See claims 22, 23 and 34. EX1002 ¶575-576.

IX. CONCLUSION

For the foregoing reasons, Petitioner has established a reasonable likelihood that it will prevail with respect to at least one of Claims 1-36 of the '107 Patent. Therefore, this Petition should be granted, IPR should be instituted, and Claims 19-36 should be found unpatentable and cancelled by the Board.

Dated: January 2, 2024

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(d), I hereby certify that the foregoing PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 19-36 OF U.S. PATENT NO. 10,062,107 contains 13,898 words, excluding the parts of the petition exempted by 37 C.F.R. §42.24(a), as measured by the word-processing system used to prepare this paper.

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§42.6(e) and 42.105, I hereby certify that on this 6th day of March 2018, a true copy of the foregoing PETITION FOR *INTER PARTES* REVIEW OF CLAIMS 19-36 OF U.S. PATENT NO. 10,062,107, together with Petitioner's Power of Attorney, Petitioner's Exhibit List, Exhibit Nos. 1-32, was served via Federal Express[®] (which is at least as fast and reliable as Priority Mail Express[®]) on the patent owner at the following correspondence address of record for the subject patent:

Joe Zheng
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In addition, service is also made at the following “address known to the petitioner as likely to effect service” pursuant to 37 C.F.R. §42.105(a):

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