

PETITION FOR INTER PARTES REVIEW OF U.S. PATENT NO.

10,445,833

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Inter Partes Review of U.S. Patent No. 10,445,833

Trial No.: Not Yet Assigned

Issued: October 15, 2019

Filed: March 2, 2018

Inventors: Aaron J. Shapiro

Assignee: Carver Edison, Inc.

Title: Methods and systems for maximizing share purchase under an employee stock purchase plan with limited payroll deductions

Patent Trial and Appeal Board

United States Patent & Trademark Office

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PETITION FOR INTER PARTES REVIEW UNDER 37 C.F.R. § 42.100

On behalf of Thomas Hecht (“Hecht” or “Petitioner”) and in accordance with 35 U.S.C. § 311 and 37 C.F.R. § 42.100, institution of inter partes review is respectfully requested for Claims 1-18 of U.S. Patent No. 10,445,833 (“the 833’ patent”).

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I. Grounds for Standing Pursuant to 37 C.F.R. § 42.104(a)

Petitioner certifies that the '833 patent is available for inter partes review and that Petitioner is not barred or estopped from requesting inter partes review challenging the patent claims on the grounds identified herein.

II. Introduction

In or about 2015, Petitioner Thomas Hecht devised an innovative method and system of supplying loaned funds to employees for increased participation in Employee Stock Option Plans. Hecht filed a patent application, 14/613,535, on February 4, 2015. On August 4, 2016, Hecht's application published as U.S. Pat. App. Publication 20160225081A1.

Hecht's application as published claimed a method of supplying and repaying funds provided to an employee participating in an employer subsidizing stock plan, the method comprising: performing an employee contribution transaction into an Employee Stock Purchase plan; performing an employer stock-subsidizing transaction into the ESPP, wherein at least a portion of an amount deposited into the employee stock purchase plan has an unrealized stock discount subsidy from; performing an employee contingent fee/interest loan origination(s) from a loaning

entity to the employee; and performing a loaning entity reimbursement transaction from the Employee Stock Purchase plan to the loaning entity.

Hecht's application has not been able to thus far overcome a Section 101 rejection (a continuation thereof is currently on appeal).

Meanwhile, the Patentee of U.S. Patent No. 10,445,833 (the '833 patent) filed application number 15/910,639 on March 2, 2018, claiming priority from U.S. Provisional Application No. 62/466,118, filed 03/02/2017.

The U.S. Patent and Trademark Office patent examiner assigned initially rejected the application based on Hecht's prior disclosure of the same substantive subject matter and, like Hecht's application, under Section 101.

Inter partes review does not allow for a Petitioner to challenge a patent under Section 101, and Hecht does not in any event believe that Section 101 ought be interpreted in such a way as to affect the '833 (or Hecht's application, suitably limited to a computer-implemented method).

But inter partes review is perfectly suited for the situation in which Hecht now finds himself. After the initial rejection of the '833 patent, the Patentee of the '833 patent responded by adding to the independent claims computer technology which was known in the prior art though not disclosed in Hecht's application. The assigned examiner then held the prior art rejections and Section 101 rejections were overcome.

Again putting to the side the issue of whether the computer technology added to the claims is generic as relevant to Section 101, the computer technology added to the claims to overcome the initial rejection had been disclosed in the prior art prior to the priority date of the '833 patent and there was ample motivation to combine this prior art as shall be analyzed more fully herein with the prior art applied in the initial rejection (i.e., Hecht's published patent application). The instant position shall set forth in detail the prior art references and motivation to combine them.

In a state court lawsuit, Hecht alleges that the Patentee of the '833 patent committed common law torts related to the handling of information disclosed by Hecht to affiliates of the Patentee. Here though Hecht merely seeks to invalidate the '833 patent so as not to be foreclosed from practicing his own invention merely by the addition of known computer technology to the substantive method and system of supplying loaned funds to employees for increased participation in Employee Stock Option Plans.

III. Background and Prosecution History Information for the '833 patent

Like Hecht's application, the '833 patent is directed to a method for maximizing the number of shares purchased under an employee stock purchase plan (ESPP) using limited employee capital contributions.

The prosecution of the '833 patent started with a non-final rejection dated May 8, 2018.

The examiner rejected Claims 1-14 under 35 U.S.C. 101 because the examiner found that the claimed invention was directed to non-statutory subject matter; the examiner held the claimed invention was directed to a judicial exception (i.e., a law of nature, a natural phenomenon, or an abstract idea) without significantly more.

The examiner found that the claims as a whole are directed toward the concept of “maximizing a number of shares purchased under an employee stock purchase plan with limited employee capital contributions” as recited in the preamble of the independent claims, and in at least paragraphs [0001] and [0009]-[0012] of Applicant’s Specification. As noted in the recitation of representative claim 1 above (claim 8 has similar limitations), the abstract idea is accomplished by: selecting a monetary contribution amount or an amount to be deducted from an employee’s monetary compensation for contribution to the plan, wherein the selected contribution amount is less than a maximum allowable contribution under allowable limits of the plan; selecting a rebalancing price at which the employee is willing to sell some portion of shares of employer stock purchased under the plan at the end of an offering period; taking simultaneous short and long positions in derivative or other financial instrument that would allow for the disposition of

shares acquired in the plan at an employee-designated strike price, the short and long positions having different strike prices; providing by a third party or broker-dealer, a supplemental monetary contribution having a principal equal to a difference between the employee's selected contribution amount and the maximum allowable contribution under the plan over the course of the offering period on behalf of the employee to the employer, the supplemental monetary contribution received by a financial account used to purchase the shares via the plan at the end of the offering period; and purchasing a maximum number of shares via the plan at the end of the offering period using an aggregate of the employee and broker-dealer monetary contributions which is simply a fundamental economic practice and the organization and comparison of data which can be performed mentally or by hand and is an "an idea 'of itself'".

The examiner found that steps of selecting, selecting, taking, providing, and purchasing are merely tasks which could be done by a human by hand or by thinking (See *Benson*, 409 U.S. at 65-67; *Bancorp*, 687 F.3d at 1275; *CyberSource*, 654 F.3d at 1375; *Alice Corp.*, 134 S. Ct. at 2360). The additional elements alone and in combination perform well-understood, routine, and conventional activity. Therefore, claims 1 and 8 were thereby considered to be ineligible under 35 U.S.C. § 101.

The examiner found that dependent claims added no additional elements that make the claimed invention patent-eligible and only serve to further narrow the abstract idea. Dependent claims 2-7 and 9-14 did not remedy the deficiencies of claims 1 and 8 and are thereby considered to be ineligible. All claims were reviewed and are found to be substantially similar and linked to the same abstract idea (*Content Extraction and Transmission v. Wells Fargo*, 776 F.3d 1343, 113 U.S.P.Q.2d 1354 (Fed. Cir. 2014)). Therefore, claims 1-14 were rejected under 35 U.S.C. § 101.

Claims 1-14 were rejected under 35 U.S.C. 103 as being unpatentable over Hecht (U.S. Patent Application Publication No. 2016/0225081 A1, filed 02/04/2015) in view of Sullivan et al. (U.S. Patent Application Publication No. 2002/0194136 A1, filed 04/19/2002). The examiner found as follows.

Regarding claim 1, Hecht teaches a method of maximizing a number of shares purchased under an employee stock purchase plan with limited employee capital contributions, comprising the steps of: selecting a monetary contribution amount or an amount to be deducted from an employee's monetary compensation for contribution to the plan (see e.g. paragraph [0018], "the Employee contribution transaction 1 includes a deposit of Employee funds E into the Employee Stock Purchase Plan of a Defined Contribution Benefit Plan. In a preferred embodiment

the Employee funds E represent after-tax dollars deducted from the periodic paycheck paid to the Employee from the Employer...The size of the deduction may vary according to the particular Employee Stock Purchase Plan and applicable regulatory law. In one preferred embodiment, the Employee contribution transaction 1 would be recognized by one of ordinary skill in the art to include a post-tax employee deposit into an Employee Stock Purchase savings plan, with a remainder of the paycheck being dispersed to the Employee or elsewhere.”; paragraphs [0024]-[0025], “With the example of FIG. 3, 3% Periods 1-4, 3.5% Period 4, and 25% Periods 5-12 ,totaling \$7,500 is deducted from the employee's paycheck each month as the employee contribution transaction...an employee having a 1-25% post-tax/post-tax ESPP matching plan where the employer matches 15% of the employee contribution with an unrealized gain on the discounted stock price. In a related embodiment, the employee is paid on a monthly basis and the employee chooses a post-tax ESPP plan. The loan transaction can include the employee signing up for the ESPP discounting program at a 25% match with the 25% (post-tax) funds withdrawn from the monthly paycheck of the employee and put into a ESPP account”), wherein the selected contribution amount is less than a maximum allowable contribution under allowable limits of the plan (HECHT see e.g. paragraph [0011], “allow employees to secure the maximum discount off the purchase price available to them without

the increased financial burden associated with providing a maximum contribution to these "risk free funds".; see also paragraph [0034]);

providing, by a third party or broker-dealer, a supplemental monetary contribution having a principal equal to a difference between the employee's selected contribution amount and the maximum allowable contribution under the plan over the course of the offering period on behalf of the employee to the employer, the supplemental monetary contribution received by a financial account used to purchase shares via the plan at the end of the offering period (see e.g. paragraph [0021], "The Employee contingent fee/interest loan origination transaction 3 from the Loaning Entity to the Employee includes the Loaning Entity transferring supplemental funds up to a percentage X of the Employee contributed funds E to the Employee. In a preferred embodiment, the supplement percentage X is 100% of the Employee contributed funds E, with the Employee contingent fee/interest loan origination transaction 3 occurring at a frequency at the discretion of the Employee."; see also paragraphs [0028]-[0034], "Loaning entity loans back the employee \$7,500 per year through loans contingent fee/interest loans originated at the discretion of the employee

$(\$500 + \$1,000 + \$1,000 + \$1,000 + \$2,000 + \$1,000 + \$1,000 = \$7,500)$... This method allows employees to secure the maximum discounted stock available to them without the increased financial burden associated with providing a maximum

contribution.”); and purchasing a maximum number of shares via the plan at the end of the offering period using an aggregate of the employee and broker-dealer monetary contributions (see e.g. paragraph [0021], “The Employee contingent fee/interest loan origination transaction 3 from the Loaning Entity to the Employee includes the Loaning Entity transferring supplemental funds up to a percentage X of the Employee contributed funds E to the Employee. In a preferred embodiment, the supplement percentage X is 100% of the Employee contributed funds E, with the Employee contingent fee/interest loan origination transaction 3 occurring at a frequency at the discretion of the Employee.”; see also paragraphs [0028]-[0034], “Loaning entity loans back the employee \$7,500 per year through loans contingent fee/interest loans originated at the discretion of the employee (\$500+\$1,000+\$1,000+\$1,000+\$2,000+\$1,000+\$1,000=\$7,500)...This method allows employees to secure the maximum discounted stock available to them without the increased financial burden associated with providing a maximum contribution.”).

While Hecht teaches the above, Hecht does not explicitly teach, but Sullivan teaches:

selecting a rebalancing price at which the employee is willing to sell some portion of shares of employer stock purchased under the plan at the end of an offering period (see e.g. paragraph [0054], “the broker-dealer obtains a properly executed

exercise notice from the customer”; and paragraphs [0057]-[0059], “For example, in September 2000, Employee holds 10,000 fully vested employee stock options with an exercise price of \$50 per share and the Issuer/Employer's stock is currently trading at \$100 per share...For example, in September, Employee, utilizing only 1000 of his or her fully vested employee stock options, sells (writes) 10 November calls with a strike price of \$120 for \$5 each, thereby allowing Employee to collect \$5000 in premium from the sale of the 10 listed call options...If the stock is trading above \$120 on the listed option expiration on the third Friday in November, the 10 listed call options are assigned and 1000 of Employee's employee stock options are exercised at a price of \$120 on a "cashless exercise" basis pursuant to the documents. Similar to a traditional "cashless exercise"); taking simultaneous short and long positions in derivative or other financial instrument that would allow for the disposition of shares acquired in the plan at an employee-designated strike price, the short and long positions having different strike prices (see e.g. paragraph [0052], “no margin is required for a call option written on an equity security when the account holds a "long" position in a vested employee stock option that can be immediately exercised without restriction (not including the payment of money) to purchase an equal or greater quantity of the security underlying the listed call option provided that the vested employee stock option does not expire before the short listed call option, and provided that the

amount (if any) by which the exercise price of the vested employee stock option exceeds the exercise price of the short listed call option is held in or deposited to the account.”; see also paragraphs [0041]-[0042] and [0057]-[0060]);

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to modify the method as taught by Hecht with the method as taught by Sullivan. One of ordinary skill in the art would have been motivated to modify the method of Hecht in order to enable employees to contribute the funds necessary to realize the optimal amount of employer-contributed discount off an employee stock purchase program and extend financial assistance to employees to ensure the maximum discount off the purchase price available to them without the increased financial burden associated with providing a maximum contribution to “risk free funds” (see Hecht, paragraphs [0010]-[0011]).

Independent claims 6 and 11 describe a computer-readable medium for performing the method of claim 1 and a system for performing the method of claim 1 respectively and the analysis is similar for each of them. Each of the dependent claims was also rejected as discussed more fully below.

Following the May 8, 2018 non-final rejection, the applicant amended the claims.

The key features of the independent claims, as amended during prosecution, which the examiner found allowable include:

- 1) A "volatility calculation module" that processes employee contribution amounts and rebalancing prices in relation to historical and implied stock volatility to determine a leverage value, and determines whether leverage should be used to acquire shares.
- 2) A "transaction module" that aggregates employees into virtual containers based on their contribution amounts and rebalancing prices, and sequences trade orders based on the aggregated containers.
- 3) A "share distribution module" that executes the transactions and distributions to employees.

The following is an examiner's statement of reasons for allowance. The applicant has invented a practical application related to stock purchase plans. The examiner had already indicated that the art of record was overcome in the final rejection of 10/22/18. However, 35 USC 101 remained. The applicant has made clarifying amendments to highlight the interface and technical elements. The instant invention also contains a virtual container element that is technical in nature. The examiner has determined that the instant independent claims 1, 8, 15 are not abstract ideas but, even if they were, they are directed to a practical application. The most relevant references cited were US Patent Publication to Hecht 2016/0225081 (Petitioner here) and US Patent Publication to Sullivan 2002/0194136. An NPL "Red Hat to offer employees stock purchase plan as an

incentive” is attached but, not anticipatory. On interference search the examiner has cited a number of relevant references that are on point but, do not anticipate applicant invention which is clearly more narrow in scope such that no reasonable combination can anticipate the independent claims.

However, the references Petitioner relies on demonstrate that even with these features added during prosecution in response to rejections over the prior art and under Section 101, the claims remain unpatentable as obvious over the prior art.

IV. Identification of Challenge Pursuant to 37 C.F.R. § 42.104(b)

A. 37 C.F.R. § 42.104(b)(1): Claims for Which Inter Partes Review Is Requested

Inter partes review is requested for Claims 1-18 of the ‘833 patent.

B. 37 C.F.R. § 42.104(b)(2): The Prior Art and Specific Grounds on Which the Challenge to the Claims Is Based

Inter partes review is requested in view of the following prior art references:

Exhibit 1001: Adam H. Grimes, October 21, 2011, “How do you calculate volatility in excel?”

Exhibit 1002: The Information Content of Option-Implied Volatility for Credit Default Swap Valuation, Charles Cao, Fan Yu, and Zhaodong Zhong, March 10, 2006

Exhibit 1003: Gustav’s Blog, June 2, 2013

Exhibit 1004: Container Virtualization: What Makes It Work So Well?, October 27, 2015, by the Cloud Academy Team

Exhibit 1005: A Beginner-Friendly Introduction to Containers, VMs and Docker, March 4, 2016, by Preethi Kasireddy

Exhibit 1006: What’s the Difference Between Containers and Virtual Machines?, July 15, 2016, William G. Wong

Exhibit 1007: Electronic Trading in Stock Markets, Journal of Economic Perspectives—Volume 20, Number 1—Winter 2006—Pages 153–17, Hans R. Stoll

Exhibit 1008: Capital markets integration: a sociotechnical study of the development of a cross-border securities settlement system, Technological Forecasting and Social Change

Volume 99, October 2015, Pages 317-338, by Nikiforos S. Panourgias

Exhibit 1009: Approaches to Equity Grants During Periods of Stock Price

Volatility, June 28, 2016, by Margaret Engel and Eric Hosken

Exhibit 1010: Electronic human resource management : enhancing or entrancing?,

Feb 23, 2017, by Paul Poisat and Michelle R. Mey

Exhibit 1011: Securities Transactions Settlement, SEC Issue Date March 11, 2004,

Federal Register Publish Date March 18, 2004, Document Citation 69 FR 12921

Exhibit 1012: U.S. Pat. App. Pub. No. 20050010516A1 ('516)

Exhibit 1013: U.S. Pat. No. 7577601B1 ('601)

Exhibit 1014: U.S. Pat. No. 8332305B1 ('305)

Exhibit 1017: U.S. Patent Application Publication No. 2016/0225081 (Hecht)

Exhibit 1018: U.S. Patent Application Publication No. 2002/0194136 (Sullivan)

The specific statutory grounds on which the challenge to the claims is based and the prior art relied upon for each ground are as follows:

Claim 1 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), '516 (Exhibit 1012), '601 (Exhibit 1013), and '305 (Exhibit 1014).

Claim 2 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 3 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 4 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 5 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002),

Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 6 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 7 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 8 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel

(Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 9 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 10 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 11 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 12 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), and Poisat (Exhibit 1010).

Claim 13 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), and Poisat (Exhibit 1010).

Claim 14 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), and Poisat (Exhibit 1010).

Claim 15 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008),

Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 16 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 17 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

Claim 18 is unpatentable under 35 U.S.C. § 103(a) over Hecht (Exhibit 1017) in view of Sullivan (Exhibit 1018), Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Cloud Academy (Exhibit 1004), Kasireddy (Exhibit 1005), Wong (Exhibit 1006), Stoll (Exhibit 1007), Panourgias (Exhibit 1008), Engel (Exhibit 1009), SEC (Exhibit 1010), ‘516 (Exhibit 1012), ‘601 (Exhibit 1013), and ‘305 (Exhibit 1014).

C. 37 C.F.R. § 42.104(b)(3): Claim Construction

Claims are to be given their “broadest reasonable construction in light of the specification.” 37 C.F.R. § 42.100(b). The constructions proposed below are intended only for this proceeding. Petitioner does not waive, and expressly reserves, its claim scope arguments, constructions, and evidence that it may raise in other proceedings.

1. “leverage value” – Claim 1, 6, 11

The term “leverage value” should be interpreted to mean a ratio of debt and equity.

2. “plurality of virtual containers” – Claim 1, 6, 11

The term “plurality of virtual containers” should be interpreted to mean multiple own isolated user space to allow multiple containers to run on a single host machine

D. 37 C.F.R. § 42.104(b)(4): How the Construed Claims are Unpatentable

An explanation of how claims 1-18 are unpatentable, including identification of how each claim feature is found in the prior art and the motivation to combine the prior art, is set forth below in Section V.

E. 37 C.F.R. § 42.104(b)(5): Supporting Evidence

An Appendix of Exhibits supporting this Petition is attached.

V. There Is a Reasonable Likelihood That Claims 1-18 of the '833 Patent Are Unpatentable

In summary, the amendments made during prosecution of the '833 patent fail to patentably distinguish the claims from the prior art. The added features are obvious over the prior art references discussed below. As such, there is a substantial likelihood that the challenged claims are unpatentable as obvious. Institution of inter partes review is respectfully requested.

A. The "volatility calculation module" feature is obvious over each of a number of prior art references

The limitation added during prosecution in claims 1, 6 and 11 of the '833 patent of:

"processing, via a volatility calculation module executable by a processor residing on a remote server operated by a third party, the selected monetary contribution amount and selected rebalancing price of each of the plurality of employees in relation to historical and implied volatility of a stock price of employer stock to define a leverage value"

would have been obvious to a person of ordinary skill in the art at the time of the invention in view of Grimes (Exhibit 1001), Cao (Exhibit 1002) and Gustav (Exhibit 1003).

Exhibit 1001: Adam H. Grimes, October 21, 2011, "How do you calculate volatility in excel?" describes the basic process of calculating historical and implied volatility: "there are many ways to calculate volatility. Two of the most common measures are implied and historical (also called realized or statistical)

volatility. It is fairly simple to calculate historical volatility in excel, and I will show you how in this post. Calculating implied is quite a bit more complicated. You technically can do it in excel, but you have to impute it from an option price.” Pp. 2.

Exhibit 1002: The Information Content of Option-Implied Volatility for Credit Default Swap Valuation, Charles Cao, Fan Yu, and Zhaodong Zhong, March 10, 2006 discloses “calculating the firm-level implied volatility...the leverage ratio and the Baa yield”. Pp. 13.

Exhibit 1003: Gustav’s Blog, June 2, 2013, discloses a Python module for volatility calculations:

```
import numpy as np

stock_prices = <Apple's historical stock price>

normalized_prices = np.asarray(stock_prices) / stock_prices[0]

daily_ret = [0.0]

for i in xrange(1, len(normalized_prices)):

    daily_ret.append(normalized_prices[i] / normalized_prices[i-1] - 1)

volatility = np.std(daily_ret)
```

A skilled artisan implementing an employee stock purchase plan system as disclosed in the '833 patent would have been motivated to define a leverage value in relation to historical and implied volatility.

A skilled artisan would recognize that in some cases, the rebalanced allocation may require additional capital beyond what the employee has contributed. In such scenarios, it would have been obvious to utilize the leverage management techniques of, including determining a value for collateral dedicated to offset the exposure, to acquire the necessary shares on the market if the expected returns justify the risk.

The Wagter declaration (Exhibit 1016) additionally describes how Exhibit 1012: U.S. Pat. App. Pub. No. 20050010516A1 ('516), Exhibit 1013: U.S. Pat. No. 7577601B1 ('601), and Exhibit 1014: U.S. Pat. No. 8332305B1 render all of the independent claims 1, 6 and 11 of the '833 patent obvious.

Furthermore, the field of endeavor of each and every one of Grimes (Exhibit 1001), Cao (Exhibit 1002), Gustav (Exhibit 1003), Exhibit 1012: U.S. Pat. App. Pub. No. 20050010516A1 ('516), Exhibit 1013: U.S. Pat. No. 7577601B1 ('601), and Exhibit 1014: U.S. Pat. No. 8332305B1 is unquestionably the same as the challenged '833 patent, that is, calculation of volatility and leverage values including by computer-implemented methods.

Therefore, the newly added "volatility calculation module" feature would have been obvious in view of the combined and individual teachings. Its inclusion is not sufficient to make the claim patentable over Petitioner's published patent application and the other prior art of record in the May 8, 2018 office action.

B. The "transaction module" feature is obvious obvious over each of a number of prior art references

Claim 1, 6, 11 of the '833 patent, as amended to overcome Petitioner's reference during prosecution and Section 101, recite the additional features of:

"aggregating, via a transaction module executable by the processor residing on the remote server operated by the third party, each of the plurality of employees into one of a plurality of virtual containers based on the selected monetary contribution amount and selected rebalancing price of each of the plurality of employees".

However, these features fail to patentably distinguish claim 1 from the prior art, including Exhibit 1004: Cloud Academy, Exhibit 1005: Kasireddy, and Exhibit 1006: Wong.

Exhibit 1004: Container Virtualization: What Makes It Work So Well?, October 27, 2015, by the Cloud Academy Team, describes “Rather than virtualizing the hardware (which requires full virtualized operating system images for each guest), containers virtualize the OS itself, sharing the host OS kernel and its resources with both the host and other containers... Container virtualization helps by simply bypassing the emulation layer. As you can see in the above image, containers use the same server hardware and an operating system on top of it.” Pp. 1. It was known to persons skilled in the art that container virtualization works well for the type of computer-implemented method claimed in the ‘833 patent, and therefore there was motivation to combine.

Exhibit 1005: A Beginner-Friendly Introduction to Containers, VMs and Docker, March 4, 2016, by Preethi Kasireddy, discloses “Containers and VMs are similar in their goals: to isolate an application and its dependencies into a self-contained unit that can run anywhere. Moreover, containers and VMs remove the need for physical hardware, allowing for more efficient use of computing resources, both in terms of energy consumption and cost effectiveness... a container provides operating-system-level virtualization by abstracting the ‘user space’... containers package up just the user space, and not the kernel or virtual hardware

like a VM does. Each container gets its own isolated user space to allow multiple containers to run on a single host machine.” Pp. 2-6. Again, while this improvement in computer resource allocation may have been sufficient to overcome the Section 101 rejection, this technology was disclosed in the prior art prior to the priority date of the ‘833 patent.

Exhibit 1006: What’s the Difference Between Containers and Virtual Machines?, July 15, 2016, William G. Wong, discloses “Container systems usually provide service isolation between containers. As a result, container services such as file systems or network support can have limited resource access... Applications running in a container environment share an underlying operating system” pp. 4-5.

All of these are directly analogous to the claimed steps of the '833 patent of aggregating employees into virtual containers. The “virtual container element that is technical in nature” according to the Notice of Allowance is also disclosed in the above reference. Again, this is not a challenge to whether the virtual container element is sufficiently non-abstract for purposes of Section 101; the point here is that the virtual container element was disclosed in the prior art and there was

motivation to combine this prior art with Petitioner's reference along with the other cited references in the prosecution and in this Petition.

The Wagter declaration (Exhibit 1016) additionally describes how Exhibit 1012: U.S. Pat. App. Pub. No. 20050010516A1 ('516), Exhibit 1013: U.S. Pat. No. 7577601B1 ('601), and Exhibit 1014: U.S. Pat. No. 8332305B1 render the transaction module obvious.

Finally, the '833 patent's step of using a "transaction module executable by the processor residing on the remote server operated by the third party" to perform the aggregation amounts to nothing more than performing the method on a remote third-party server, an obvious and trivial design choice.

C. The "share disbursement module" is also obvious over each of a number of prior art references

The final set of limitations added to Claims 1, 6, and 11 of the '833 patent have to do with a share disbursement module:

disbursing, via a share disbursement module executable by the processor residing on the remote server, to an unrelated third party transfer agent from the employer, instructions to issue a number of shares of employer stock required to be sold or

delivered to a counterparty on the financial exchange market to comply with the selected monetary contribution amount and selected rebalancing price of each of the plurality of employees and to reimburse a supplemental monetary contribution by a third party;

disbursing, via the share disbursement module, to the third party from the employer, the number of shares of employer stock required to be sold or delivered to the counterparty on the financial exchange market to comply with the selected monetary contribution amount and selected rebalancing price of each of the plurality of employees and to reimburse the supplemental monetary contribution by the third party;

disbursing, via the share disbursement module, to each of the plurality of employees from the employer, a number of shares of employer stock equal to a difference between a maximum number of shares of employer stock acquired using an aggregate of the selected monetary contribution and the supplemental monetary contribution, and the number of shares of employer stock disbursed to the third party from the employer; and

responsive to a share price of the acquired employer stock on the financial exchange market being equal to or greater than the employee-designated strike price at the end of the offering period, delivering, via the transaction module, by the third party to the counterparty on the financial exchange market, the acquired shares of employer stock pursuant to a contract with the counterparty for the derivative or other financial instrument, and

returning, by the third party to the financial or ledger account of each of the plurality of employees, proceeds from the sale of the shares of employer stock to the counterparty, wherein the proceeds are equivalent to the proceeds from the employee stock purchase plan if the employee had initially contributed the maximum allowable contribution under the allowable limits of the employee stock purchase plan minus the principal of the supplemental monetary contribution;

responsive to a share price of employer stock on the financial exchange market being less than the employee-designated strike price at the end of the offering period, selling, via the transaction module, by the third party via an open market sale on the financial exchange market, at least a portion of the acquired shares of employer stock, the sale of at least a portion of the shares of employer stock

comprising a sale transaction and allowing for a return of sale proceeds to the financial or ledger account of the employee, deducting the principal of the supplemental monetary contribution from the sale proceeds to reimburse the third party, and

returning, by the third party to the financial or ledger account of each of the plurality of employees, any remaining sale proceeds or remaining shares from the sale transaction.

These limitations add only a share disbursement module for distribution of shares and proceeds according to the underlying substantive process disclosed by Petitioner's reference. Share disbursement modules as such for the substantive process of Petitioner's reference were disclosed in the prior art prior to the priority date of the '833 patent, as demonstrated by Exhibit 1007: Stoll, Exhibit 1008: Panourgias, and Exhibit 1009: Engel.

Exhibit 1007: Electronic Trading in Stock Markets, Journal of Economic Perspectives—Volume 20, Number 1—Winter 2006—Pages 153–17, Hans R. Stoll, discloses “the entire process is fully automated, then the steps from order entry to order routing, execution and confirmation can be

completed in seconds, perhaps microseconds. The final step in the trading process is to transfer share ownership and make payment. In U.S. stock markets, this last step is completed within three days via computer book entry at the clearing agency, the Depository Trust and Clearing Corporation.” Pp. 3 (155 in original).

Exhibit 1008: Capital markets integration: a sociotechnical study of the development of a cross-border securities settlement system, Technological Forecasting and Social Change

Volume 99, October 2015, Pages 317-338, by Nikiforos S. Panourgias, discloses “The key institutional and technological entities in this transfer of property rights in most securities markets are central securities depositories (CSDs) (see Figure 1), which act as an interface between the market and the legal and fiscal regimes of particular jurisdictions (Donald, 2013). CSDs used to be the venues at which the physical securities certificates were stored and in which they would be physically moved from the account of one counterparty to that of another upon the completion of a transaction and the confirmation of the delivery of the payment by the opposing party in the trade (Donald, 2013; Norman, 2007; Wells, 2000). While the physical transfer of securities between holders has been replaced, first by the

transfer of records on ledgers as ‘book entries’ (immobilisation) (Donald, 2013; Wells, 2000),

and then by the changing of digital electronic entries in databases (dematerialisation)

(Donald, 2013; Norman, 2007), CSDs remain crucial entities in the definition of ownership

over securities and the property rights and obligations that go with that ownership.”

Pp. 6-7.

Exhibit 1009: Approaches to Equity Grants During Periods of Stock Price Volatility, June 28, 2016, by Margaret Engel and Eric Hosken, discloses

“Approach 2. Use an average stock price over a period of time to establish grants

This is a common approach companies use to mitigate the impact of short-term swings in stock price on the number of shares granted. Among companies that do not convert grant values into shares based on the stock price on the date of grant, the most common approach is to use an average stock price over a relatively short time period. We see a 20-trading day average most frequently. This approach avoids significant swings in the number of shares granted (up or down) based on stock price movement on the date of grant away from its near-term average. When companies have significant volatility over a sustained period of time, they may use

a longer term average stock price (e.g., six months or one year) to mitigate the impact of volatility on grant size.”

Exhibit 1010: Securities Transactions Settlement, SEC Issue Date March 11, 2004, Federal Register Publish Date March 18, 2004, Document Citation 69 FR 12921 discloses, according to the Hecht Declaration (Exhibit 1015), all of the substantive features of the share disbursement module claimed in the ‘833 patent.

Thus, it has been disclosed in the prior art to execute transactions responsive to a share price of employer stock on the financial exchange market being less than the employee-designated strike price at the end of the offering period. Each of the delivery to the counterparty on the financial exchange market of the acquired shares of employer stock pursuant to a contract with the counterparty for the derivative or other financial instrument steps had been thoroughly disclosed prior to the priority date of the ‘833 patent.

Furthermore, the field of endeavor of each and every one of Exhibit 1007: Stoll, Exhibit 1008: Panourgias, and Exhibit 1009: Engel is unquestionably the same as the challenged ‘833 patent, that is, calculation of volatility and leverage values including by computer-implemented methods.

D. None of the Dependent Claims Add Any Inventive Material

None of the dependent claims were materially amended during prosecution. All of them were rejected as obvious and it was the amendments to the independent claims analyzed above which rendered the dependent claims allowable.

Regarding claim 2, Hecht and Sullivan teach the method of claim 1. Hecht further teaches wherein subsequent to shares being purchased via the plan, the method comprises:

returning to the third party or broker-dealer proceeds from the sale of shares in an amount equal to the principal of the supplemental monetary contribution (see e.g. paragraph [0027], “Employees can have a number of options available to them concerning loan repayment. In one embodiment, the repayment is a sale option available in most post-tax ESPP plans known to those of ordinary skill in the art. In this manner, employees can use this sale and withdrawal of their ESPP contributions made over the year to repay the loan (with any contingent interest/fees) in one lump sum. The employee simply repays his total ESPP contribution back to the loaning institution and retains the net employer-matched funds.”).

While Hecht teaches the above, Hecht does not explicitly teach, but Sullivan teaches:

immediately selling an amount of shares equivalent to reimburse the principal of the supplemental monetary contribution (see e.g. paragraph [0052], “a vested employee stock option that can be immediately exercised” and paragraphs [0057]-[0059], “the 10 listed call options are assigned and 1000 of Employee's employee stock options are exercised at a price of \$120 on a "cashless exercise" basis pursuant to the documents. Similar to a traditional "cashless exercise," the broker-dealer delivers to the Issuer/Employer the amount of money necessary to fund the employee stock option exercise. Once the broker-dealer has received the proceeds of the sale on settlement date, a portion of the proceeds from the sale of the stock is used to pay back both the monies advanced by the broker-dealer to the Employee to effect the exercise of the employee stock options as well as the brokerage commission due. The remainder of the proceeds will be paid to the Employee.”); and

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to modify the method as taught by Hecht with the method as taught by Sullivan. One of ordinary skill in the art would have been motivated to modify the method of Hecht in order to enable employees to contribute the funds necessary to realize the optimal amount of employer-contributed discount off an

employee stock purchase program and extend financial assistance to employees to ensure the maximum discount off the purchase price available to them without the increased financial burden associated with providing a maximum contribution to “risk free funds” (see Hecht, paragraphs [0010]-[0011]).

Regarding claim 3, Hecht and Sullivan teach the method of claim 1. While Hecht contemplates fees, instead of or in addition to interest being applied (see e.g. paragraph [0016], “an Employee contingent fee/interest loan origination transaction 3 from the Loaning Entity to the Employee”; paragraph [0021], “The Employee contingent fee/interest loan origination transaction 3 from the Loaning Entity to the Employee includes the Loaning Entity transferring supplemental funds up to a percentage X of the Employee contributed funds E to the Employee...a large financial institution loans employees funds to allow them to secure the additional ESPP discount offered them by the employers in return for a contingent fee/variable interest rate calculated based on the value of the stock with repayment of the loan as a product of any gains being split. Additionally, when actual stock price nears discounted price near term date, the Loaning Entity, L is able to withdraw principal balance and pay employee accumulated interest.”; and paragraphs [0025]-[0031], “the loan transaction (or employee contingent fee/interest loan origination transaction) follows has a contingent gain rule. Thus, a typical contingent X % interest and \$X fee/commission is charged to employees to

gain a 100% loan of funds used to secure the matching funds from their employer...In one example, the employee pays an X % fee to get a 100% match on ESPP Funds if the stock price is greater than the exercise price at the end of the term...employees can use this sale and withdrawal of their ESPP contributions made over the year to repay the loan (with any contingent interest/fees) in one lump sum...the employee pays a contingent fee/interest commission to gain the "free" matched money...if the stock goes below the floor the loaning entity can pay accumulated interest or fees to the employee for their participation”), Sullivan better teaches:

wherein the supplemental monetary contribution is interest-free (see e.g. paragraphs [0055]-[0059], “the customer does not have to render the funds to pay the exercise price, rather the broker-dealer offers a traditional " cashless exercise" of the employee stock options...Similar to a traditional " cashless exercise," the broker-dealer delivers to the Issuer/Employer the amount of money necessary to fund the employee stock option exercise. Once the broker-dealer has received the proceeds of the sale on settlement date, a portion of the proceeds from the sale of the stock is used to pay back both the monies advanced by the broker-dealer to the Employee to effect the exercise of the employee stock options as well as the brokerage commission due. The remainder of the proceeds will be paid to the Employee.”).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to modify the method as taught by Hecht with the method as taught by Sullivan. One of ordinary skill in the art would have been motivated to modify the method of Hecht in order to enable employees to contribute the funds necessary to realize the optimal amount of employer-contributed discount off an employee stock purchase program and extend financial assistance to employees to ensure the maximum discount off the purchase price available to them without the increased financial burden associated with providing a maximum contribution to “risk free funds” (see Hecht, paragraphs [0010]-[0011]).

Regarding claim 4, Hecht and Sullivan teach the method of claim 1. While Hecht teaches the above, Hecht does not explicitly teach, but Sullivan teaches wherein the rebalancing price comprises at least one of a theoretical stock price, an annualized return, or a minimum internal rate of return (see e.g. paragraph [0072], “a computer program that provides an investment advisor or investor with the expected financial outcomes (including tax consequences) of the employee stock option hedge. In this illustrative embodiment, the computer program can receive a proposed transaction request, process the proposed transaction using real or simulated information (i.e., parameters specified by the investment advisor or investor), determine the financial and tax outcome of the transaction given current

market conditions or in view of simulated market conditions, and display the financial results to the investment advisor or investor.”).

It would have been obvious to one of ordinary skill in the art at the time the invention was filed to modify the method as taught by Hecht with the method as taught by Sullivan. One of ordinary skill in the art would have been motivated to modify the method of Hecht in order to enable employees to contribute the funds necessary to realize the optimal amount of employer-contributed discount off an employee stock purchase program and extend financial assistance to employees to ensure the maximum discount off the purchase price available to them without the increased financial burden associated with providing a maximum contribution to “risk free funds” (see Hecht, paragraphs [0010]-[0011]).

Regarding claim 5, Hecht and Sullivan teach the method of claim 4. Hecht further teaches wherein the annualized return is calculated using a forecasted date of each employee contribution, a forecasted number of shares that the employee will be able to purchase at the end of the offering period, and an estimated minimum total profit from the sale (see e.g. paragraph [0018] and [0025], “the Employee funds E represent after-tax dollars deducted from the periodic paycheck paid to the Employee from the Employer...a loan transaction may be described with reference to an employee having a 1-25% post-tax/post-tax ESPP matching plan where the employer matches 15% of the employee contribution with an

unrealized gain on the discounted stock price. In a related embodiment, the employee is paid on a monthly basis and the employee chooses a post-tax ESPP plan. The loan transaction can include the employee signing up for the ESPP discounting program at a 25% match with the 25% (post-tax) funds withdrawn from the monthly paycheck of the employee and put into a ESPP account with the 15% match made by the employer.”; paragraph [0002], “The employee is offered the discount on the close price of day X. The contributions are withheld from the employee payroll and held in escrow (generally interest bearing) over a holding period (generally X+1 year), at which time they are converted to stock if the price is above the discounted price. Generally speaking, such discounting plans offer employees additional "risk-free" and "free" funds from their employer if the employee is able to contribute to the plan, as the principal (plus interest) is reimbursed to the employee if the stock price falls below the discounted price at the end of the holding period.”

Regarding claims 7-10, all limitations as recited were analyzed and rejected with respect to claims 2-5. Claims 7-10 pertain to a computer-readable medium corresponding to the method of claims 2-5. Claims 7-10 do not teach or define any new limitations beyond claims 2-5, and therefore, they are obvious under the same rationale.

Regarding claim 12, Exhibit 1010: Electronic human resource management : enhancing or entrancing?, Feb 23, 2017 by Paul Poisat and Michelle R. Mey discloses an electronic enrollment interface acquires employee enrollment data on a basis of unique elections made by each of the plurality of employees within limitations of regulatory and employee stock purchase plan-designed constraints which the electronic enrollment interface is programmed to identify.

Regarding claim 13, Poisat discloses the electronic enrollment interface and a generic electronic signature capture for executing relevant legal documents is well known in the art.

Regarding claim 14, Poisat describes an employee repository of each of the plurality of employees which can be understood by persons skilled in the art to contain basic demographic information of each of the plurality of employees.

Regarding claim 15, Hecht discloses the employee selections are associated based on monetary contribution amount, salary, selected rebalancing price, and conditional values, and Cao describes selections in a repository associated with risk values.

Regarding claim 16, Wong discloses how to assign to one of the plurality of virtual containers based upon the selected rebalancing price.

Regarding claim 17, Cao discloses a plurality of risk values, and it is obvious that values can range from at least 1 to 100, wherein 1 is the lowest value and 100 is the highest value.

Regarding claim 18, Grimes discloses how in Excel a volatility calculation module further comprises a filter for sorting each of the plurality of employees based upon the selected monetary contribution amount and the selected rebalancing price of each of the plurality of employees.

VI. Mandatory Notices Pursuant to 37 C.F.R. § 42.8(a)(1)

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

Thomas Hecht is the real party-in-interest Petitioner.

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

There are no related matters regarding the '833 patent. Though it does not relate to the '833 Patent, the parties are engaged in trade secret litigation in state court in Massachusetts and Petitioner's application number 17/333,363 is on appeal of a Final Rejection.

C. 37 C.F.R. § 42.8(b)(3) and (4): Lead Counsel and Service Information

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Pursuant to 37 C.F.R. § 42.10(b), a Power of Attorney accompanies this Petition. Please address all correspondence to lead counsel at the addresses above. Lead counsel consents to and respectfully requests electronic service by email at the email address indicated above.

VII. Conclusion

In conclusion, the amendments made during prosecution of the '833 patent fail to render the claims patentable over the prior art. The newly added features are all obvious over the cited references discussed above.

For at least these reasons, petitioner respectfully submits that the challenged claims are unpatentable under 35 U.S.C. § 103 as obvious over the cited prior art

references. Accordingly, petitioner requests that inter partes review of the '833 patent be instituted and that the challenged claims be found invalid. The prior art teaches all elements of the claimed invention, and the combination would have been obvious to one of ordinary skill in the art.

Respectfully submitted,

/Samuel Pierce/

Samuel Pierce

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CERTIFICATE OF SERVICE

I hereby certify that this correspondence has been filed in P-TACTS and by email which will effect service on the following parties:

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(Typed or Printed Name of Person Signing Certificate)

____/Samuel Pierce/_____

(Signature)

____08/02/2024_____

(Date)

CERTIFICATE OF WORD COUNT

I, the undersigned, do hereby certify that the attached Petition contains 9,534 words, as measured by the Word Count function of Microsoft Word. This is less than the limit of 14,000 words as specified by 37 C.F.R. § 42.24(a)(i).

By: /Samuel Pierce/_____

Date: July 5, 2024

APPENDIX OF EXHIBITS

Exhibit 1001: Adam H. Grimes, October 21, 2011, “How do you calculate volatility in excel?”

Exhibit 1002: The Information Content of Option-Implied Volatility for Credit Default Swap Valuation, Charles Cao, Fan Yu, and Zhaodong Zhong, March 10, 2006

Exhibit 1003: Gustav’s Blog, June 2, 2013

Exhibit 1004: Container Virtualization: What Makes It Work So Well?, October 27, 2015, by the Cloud Academy Team

Exhibit 1005: A Beginner-Friendly Introduction to Containers, VMs and Docker, March 4, 2016, by Preethi Kasireddy

Exhibit 1006: What’s the Difference Between Containers and Virtual Machines?, July 15, 2016, William G. Wong

Exhibit 1007: Electronic Trading in Stock Markets, Journal of Economic Perspectives—Volume 20, Number 1—Winter 2006—Pages 153–17, Hans R. Stoll

Exhibit 1008: Capital markets integration: a sociotechnical study of the development of a cross-border securities settlement system, Technological Forecasting and Social Change
Volume 99, October 2015, Pages 317-338, by Nikiforos S. Panourgias

Exhibit 1009: Approaches to Equity Grants During Periods of Stock Price Volatility, June 28, 2016, by Margaret Engel and Eric Hosken

Exhibit 1010: Securities Transactions Settlement, SEC Issue Date March 11, 2004, Federal Register Publish Date March 18, 2004, Document Citation 69 FR 12921

Exhibit 1011: Electronic human resource management : enhancing or entrancing?
Paul Poisat and Michelle R. Mey Published Online:23 Feb 2017

<https://hdl.handle.net/10520/EJC-9f66a7aab>

Exhibit 1012: U.S. Pat. App. Pub. No. 20050010516A1 ('516)

Exhibit 1013: U.S. Pat. No. 7577601B1 ('601)

Exhibit 1014: U.S. Pat. No. 8332305B1

Exhibit 1015: Declaration of Thomas Hecht

Exhibit 1016: Declaration of Nicholas Wagter

Exhibit 1017: U.S. Patent Application Publication No. 2016/0225081 (Hecht)

Exhibit 1018: U.S. Patent Application Publication No. 2002/0194136 (Sullivan)