

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTERNATIONAL SECURITIES EXCHANGE, LLC
Petitioner

v.

CHICAGO BOARD OPTIONS EXCHANGE, INC.
Patent Owner

Case CBM2013-00050
Patent 7,980,457 B2

Before JUSTIN T. ARBES, RAMA G. ELLURU and
JAMES B. ARPIN, *Administrative Patent Judges*.

ELLURU, *Administrative Patent Judge*.

DECISION
Institution of Covered Business Method Review
37 C.F.R. § 42.208

Petitioner, International Securities Exchange, LLC, filed a second corrected Petition (Paper 8, “Pet.”) to institute a covered business method review of claims 1-7 of U.S. Patent No. 7,980,457 B2 (the “’457 patent”) pursuant to 35 U.S.C. §§ 321-29. Patent Owner, Chicago Board Options Exchange, Inc., filed a preliminary response (Paper 15, “Prelim. Resp.”).

We have jurisdiction under 35 U.S.C. § 324. For the reasons that follow, we determine to institute a covered business method review.

I. BACKGROUND

The standard for instituting a covered business method review is set forth in 35 U.S.C. § 324(a):

THRESHOLD—The Director may not authorize a post-grant review to be instituted unless the Director determines that the information presented in the petition filed under section 321, if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.

Upon consideration of the petition and preliminary response, we determine that it is more likely than not that Petitioner would prevail with respect to claims 1-7 of the ’457 patent based on certain grounds of unpatentability, as discussed below. Accordingly, we grant the petition as to claims 1-7 for the reasons discussed below.

A. The ’457 Patent (Ex. 1001)

The ’457 patent, titled “Automated Trading Exchange System Having Integrated Quote Risk Monitoring and Integrated Quote Modification Services,” issued on July 19, 2011, based on application 12/035,996 (“the ’966 application”), filed February 22, 2008. The ’996 application is a continuation of application 09/475,534, filed on December 30, 1999, which

issued as U.S. Patent No. 7,356,498 B2.

The '457 patent relates to automated trading systems for option contracts (“options”). Ex. 1001, 1:15-19; Abstract. Specifically, the claimed invention is directed to a methods for managing the risk of a maker of an options market in an automated trading system. *Id.* at 1:15-19.

Options are traded publicly on exchanges. *Id.* at 1:24. Each option covers certain rights to buy or sell an underlying security at a fixed price for a specified period of time. *Id.* at 1:25-28. The potential loss to the buyer of an option is no greater than the initial premium paid for the option, regardless of the performance of the underlying security. *Id.* at 1:34-36. On the contrary, in exchange for the premium, the seller of the option (“the market-maker”) assumes the risk of being assigned the obligation to buy or sell the underlying security, according to the option terms, if the contract is exercised. *Id.* at 1:37-41. Thus, writing options may entail large risks to the market-maker. *Id.* at 1:41-42.

Many option trading systems utilize an “open outcry” method. *Id.* at 1:50-51. In such systems, market-makers are required to make a two-sided market by providing an order and offer quote. *Id.* at 1:51-53. In a non-automated, open outcry system, a market-maker communicates verbally with traders indicating their willingness to buy and sell various quantities of securities. *Id.* at 1:53-56. Because a market-maker in such systems has personal control over the types and number of options traded, the market-maker can manage risk associated with his or her options portfolio. *Id.* at 1:56-58. A market-maker manages risk by modifying quotes for options to favor trades that tend to hedge against unwanted risk. *Id.* at 1:58-62.

The '457 patent Specification states that the automated trading environment already was known in the art. *Id.* at 1:63-65, 2:1-2. An automated computer-based trading system typically records quotes and automatically matches them with orders that enter the system. *Id.* at 1:65-2:1. One disadvantage of known automated trading systems was that the systems executed trades so rapidly that a market-maker was unable to withdraw or modify his quotes in a timely manner. *Id.* at 2:7-12. Software tools that assessed trading option portfolio risk and recommended quote modifications also were known. *Id.* at 2:13-18. An automated trading system, however, processes transactions in the order received. *Id.* at 2:23-25. Thus, even if a market-maker utilized such software tools to modify quotes, those tools may have been unable to act in time, given the speed at which the automated trading exchange system executes orders. *Id.* at 2:18-23. For example, an automated trading exchange may have a message queue containing additional orders that must be processed before the automated exchange receives and processes the market-maker's quote modification request. *Id.* at 2:25-30. These known automated trading exchange systems, therefore, limit a market-maker's ability to manage risk. *Id.* at 2:31-39. The '457 patent Specification recognizes the need for a method that automatically modifies quotes under certain trading conditions in an automated trading exchange system. *Id.* at 2:40-42.

The invention of the '457 patent is directed to methods or an automated trading exchange having integrated quote risk monitoring and quote modification services. *Id.* at 2:46-48. Thus, one aspect of the invention is an apparatus that is implemented using a computer, having memory, a processor, and a communication port. *Id.* at 2:48-51.

The computer receives orders and quotes, wherein a quote has associated trading parameters, such as a risk threshold. *Id.* at 2:51-54. The computer then may generate a trade by matching the received orders and quotes to previously received orders and quotes. *Id.* at 2:61-63. If a trade is not generated, the computer stores each of the received orders and quotes. *Id.* at 2:63-64. The computer determines whether a market-maker's quote has been filled as a result of the generated trade, and, if so, determines a risk level and aggregate risk level associated with the trade. *Id.* at 2:64-3:1. The computer then compares the aggregate risk level with the market-maker's risk threshold for a quote; and, if the threshold is exceeded, the computer automatically modifies at least one of the market-maker's remaining quotes. *Id.* at 3:1-4.

B. Related Matters

Petitioner has been sued for infringement of the '457 patent in litigation titled *Chicago Bd. Options Exch., LLC v. Int'l Sec. Exch. LLC*, No. 1:13-cv-01339-JMF (S.D.N.Y.). Pet. 8. The '457 patent also is the subject of an *inter partes* review petition in *International Securities Exchange, LLC, v. Chicago Board Options Exchange Inc.*, IPR2014-00098.

Patents related to the '457 patent, U.S. Patent Nos. 7,356,498 B2 and 8,266,044 B2, are the subject of co-pending, covered business method review petitions in CBM2013-00049 and CBM2013-00051, respectively. Paper 11, 2. Petitioner also filed petitions requesting *inter partes* review of those two patents in IPR2014-00097 and IPR2014-00099.

C. Representative Claim

Of the challenged claims, only claim 1 is an independent claim. Claim 1 of the '457 patent, reproduced below, is representative of the challenged claims:

1. A system for processing trades of securitized instruments based on security orders and quotes received from client computers, comprising:
 - at least one server computer comprising a memory, and a processor, said server computer configured to perform the steps of:
 - receiving orders and quotes, wherein specified ones of said quotes belong to a quote group, and wherein said specified ones of said quotes have associated trading parameters comprising a risk threshold;
 - generating a trade by matching said received orders and quotes to previously received orders and quotes;
 - storing each of said orders and quotes when a trade is not generated;
 - determining whether a quote having associated trading parameters has been filled as a result of the generated trade, and if so, determining a risk level and an aggregate risk level associated with said trade;
 - comparing said aggregate risk level with said risk threshold; and,
 - automatically modifying at least one of the remaining specified ones of said quotes in the quote group if said threshold is exceeded.

D. The Applied References

Petitioner relies on the following references. Pet. 10.

Patent/Publication No.	Date of Issuance or Publication	Exhibit No.
“State of the Art as described in the ’457 patent” (“Admitted Prior Art”)	Prior to conception of subject matter disclosed in the ’457 patent	Ex. 1001
US Patent No. 6,405,180 B2 (“Tilfors/Katz”)	June 11, 2002	Ex. 1002
Allen Jan Baird, <i>Option Market Making, Trading and Risk Analysis for the Financial and Commodity Options Markets</i> , (1993) (“Baird”)	1993	Ex. 1003

Petitioner further relies on the Declaration of Dr. Maureen O’Hara (“Dr. O’Hara”). Ex. 1004.

E. The Asserted Grounds

Petitioner challenges claims 1-7 on the following grounds. Pet. 11.

Prior Art	Basis	Claims Challenged
Not applicable	§ 101	1-7
Tilfors/Katz	§ 102(e)	1-7
Admitted prior art, Tilfors/Katz, and Baird	§ 103(a)	1-7

F. Claim Interpretation

Consistent with the statute and legislative history of the America Invents Act (AIA), the Board interprets claims of an unexpired patent using the “broadest reasonable construction in light of the specification of the

patent in which [they] appear[.]” 37 C.F.R. § 42.300(b); *see also* Office Patent Trial Practice Guide, 77 Fed. Reg. 48,756, 48,766 (Aug. 14, 2012).

There is a “heavy presumption” that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

For purposes of this decision, we construe terms in claims 1-7 according to their ordinary and customary meaning, consistent with the Specification, and determine that no term needs express interpretation at this time.

II. ANALYSIS

A. Whether the '457 Patent is a Covered Business Method Patent

Section 18 of the AIA provides for the creation of a transitional program for reviewing covered business method patents. Section 18 limits reviews to persons, or their privies, that have been sued or charged with infringement of a “covered business method patent.” AIA §§ 18(a)(1)(B), 18(d)(1); *see* 37 C.F.R. § 42.302(a). As noted in Section I.B. above, Petitioner has been sued for infringement of the '457 patent. Pet. 8-9. Thus, a threshold question is whether the '457 patent is a “covered business method patent,” as defined by the AIA. For the reasons explained below, we conclude that the '457 patent is a “covered business method patent.”

(1) Financial Product or Service

A “covered business method patent” is a patent that “claims a method or corresponding apparatus for performing data processing or other operations used in the practice, administration, or management of a financial

product or service, except that the term does not include patents for technological inventions.” AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). For purposes of determining whether a patent is eligible for a covered business method patent review, the focus is on the claims. *See* Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention; Final Rule, 77 Fed. Reg. 48,734, 48,736 (Aug. 14, 2012). A patent need have only one claim directed to a covered business method to be eligible for review. *Id.*

In promulgating rules for covered business method reviews, the Office considered the legislative intent and history behind the AIA’s definition of “covered business method patent.” *Id.* at 48,735-36. The “legislative history explains that the definition of covered business method patent was drafted to encompass patents ‘claiming activities that are financial in nature, incidental to a financial activity or complementary to a financial activity.’” *Id.* (citing 157 Cong. Rec. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer)). The legislative history indicates that “financial product or service” should be interpreted broadly. *Id.*

Petitioner contends that the ’457 patent is a covered business method patent because: (1) it is in a classification that the Office presumes to contain covered business method patents; and (2) it claims subject matter that is “financial in nature.” Pet. 5-6.

As Petitioner notes, the Office anticipates that patents subject to covered business method patent review typically will be classifiable in class 705. *Id.* (citing 77 Fed. Reg. at 48,739). The ’457 patent is classified in class 705, subclasses 36R and 38 for subject matter drawn to a “computerized arrangement for *planning the selection or evaluation of*

securities or other investments for a single entity”, and subject matter drawn to a “computerized arrangement for *evaluation of the risk factors in a loan determination*,” respectively *Id.* at 5 (citation omitted; emphasis added).

We agree with Petitioner that the ’457 patent claims subject matter that is “financial in nature, incidental to a financial activity or complementary to a financial activity.” *See* Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,735. Claim 1 is directed to the operations of an automated exchange trading system, which is a financial activity. Specifically, claim 1 is directed to “[a] system for processing trades of securitized instruments based on security orders and quotes received from client computers.” The system comprises a server computer configured to perform various steps, such as “receiving orders and quotes” and “generating a trade.” The limitations are direct references to the activity of trading securities in a market, which is a financial activity. *See* 157 Cong. Rec. S5432 (daily ed. Sept. 8, 2011) (statement of Sen. Schumer). The Specification of the ’457 patent further confirms the claimed system’s connection to financial activities. The Specification discloses that the invention performs a series of data processing steps in the administration of a financial activity, in particular, options trading on an electronic trading exchange. *See, e.g.*, Ex. 1001, fig. 4.

We, thus, conclude that claim 1 covers a method for performing operations used in the practice, administration, or management of a “financial product or service” within the meaning of AIA § 18(d)(1) and equally within the legislative history associated with the statute.

(2) *Technological Invention*

The definition of “covered business method patent” in Section 18(d)(1) of the AIA does not include patents for “technological inventions.” To determine whether a patent is for a technological invention, we consider “whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art; and solves a technical problem using a technical solution.” 37 C.F.R. § 42.301(b). The following claim drafting techniques, for example, typically do not render a patent a “technological invention”:

(a) Mere recitation of known technologies, such as computer hardware, communication or computer networks, software, memory, computer-readable storage medium, scanners, display devices or databases, or specialized machines, such as an ATM or point of sale device.

(b) Reciting the use of known prior art technology to accomplish a process or method, even if that process or method is novel and non-obvious.

(c) Combining prior art structures to achieve the normal, expected, or predictable result of that combination.

Office Patent Trial Practice Guide, 77 Fed. Reg. at 48,763-64.

Patent Owner contends that “the ’457 patent is directed to a novel and non-obvious technical solution to a technical problem” and is, thus, ineligible for covered business method patent review. Prelim. Resp. 63. Patent Owner’s argument is not persuasive.

Specifically, Patent Owner contends that each of the claims of the ’457 patent is directed to solving technical problems associated with the “efficient operation of large-scale automated options exchange systems,” namely latency and queuing limits in an automated exchange, using a technical solution. *Id.* at 64. Patent Owner argues that, instead of receiving

and processing transactions in the order received, the '457 patent covers an electronic exchange trading system that automatically modifies a market-maker's quotes based on a risk threshold. *Id.* at 65. Patent Owner contends that the addition of the risk threshold parameter and the related processing by the electronic exchange system to modify a market-maker's quotes automatically based on that risk threshold is novel and unobvious. *Id.* at 64-67.

Nevertheless, Patent Owner has not shown sufficiently that the '457 patent's requirement, "automatically" modifying a market-maker's quotes based on a risk threshold parameter, requires anything more than technologies that already were known in the art. Indeed, the '457 patent states that:

It should be understood that the programs, processes, methods and apparatus described herein are not related or limited to any particular type of computer or network apparatus (hardware or software), unless indicated otherwise. Various types of general purpose or specialized computer apparatus or computing device may be used with or perform operations in accordance with the teachings described herein.

Ex. 1001 at 17:25-31. Accordingly, Patent Owner has not shown persuasively that any specific, unconventional software, computer equipment, tools, or processing capabilities are required for the "automation" required by the '457 patent. Further, Patent Owner does not point to anything in the claims requiring specific computer hardware alleged to be novel and unobvious over the prior art.

Patent Owner also argues that the claims recite a number of processes involving the risk parameter that previously were unknown, effectively creating a "new" type of exchange trading system. Prelim. Resp. 65-66

(citing *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994)). According to Patent Owner, the new exchange system is one that is able to modify a market-maker's quotes automatically based on the comparison of the risk threshold to a determined aggregate risk. *Id.* at 66. Patent Owner has not persuaded us that the concept of a risk threshold, or how it allegedly is utilized in the claimed systems, amounts to a technological invention. In any event, on the record before us, Patent Owner has not persuaded us that the application of a risk threshold parameter, a broad concept, to determine a market-maker's exposure to risk and modify one of his or her remaining quotes is novel and unobvious. Petitioner has put forth evidence to the contrary. *See* Ex. 1001 at 1:56-62; Ex. 1004 at ¶ 44 (“this is exactly the same method of managing risk that market makers have been performing manually for years prior to the December 1999 priority date of the ’457 patent on ‘open outcry’ exchanges to limit accumulated risk”). The claimed systems pertain to an automated exchange trading system, already known in the art, and that mitigate the risk of a maker of an options market, also already known in the art. *See* Ex. 1001 at 1:50-2:18.

Lastly, Patent Owner argues that Petitioner has failed to consider the “claimed subject matter as a whole,” as required by 37 C.F.R. § 42.301(b). Prelim. Resp. 67. Specifically, Patent Owner contends that Petitioner has not provided an explanation as to why the specific combination of claimed steps as a whole does not recite a technological feature that is novel and unobvious, or how the “full combination of processes that the system is configured to perform could be implemented on prior art systems.” *Id.* Petitioner, however, discusses claim 1 in its petition and explains sufficiently why the combination of steps in claim 1 does not recite a

technological invention. *See, e.g.*, Pet. 6-8 (arguing that the claimed systems use, at most, existing technology to implement the risk management steps).

Claim 1, thus, does not define a technological invention within the meaning of 37 C.F.R. § 42.301(b).

B. Section 101 is a Permissible Ground for Challenging Claims in a Covered Business Method Patent Review

Patent Owner argues that Petitioner has failed to show that 35 U.S.C. § 101 is a “condition for patentability,” and, thus, a proper ground for post-grant review under 35 U.S.C. § 321(b). Prelim. Resp. 55.

Under the AIA, any ground that could be raised under 35 U.S.C. §§ 282(b)(2) or (3) can be raised in a post-grant review or (with exceptions not relevant here) in a covered business method review. The grounds under Sections 282(b)(2) and (3) are:

(2) Invalidity of the patent or any claim in suit on any ground specified in part II as a condition for patentability.

(3) Invalidity of the patent or any claim in suit for failure to comply with—(A) any requirement of section 112, except that the failure to disclose the best mode shall not be a basis on which any claim of a patent may be canceled or held invalid or otherwise unenforceable; or (B) any requirement of section 251.

Patent Owner asserts that the grounds under Section 282(b)(2) are limited to 35 U.S.C. §§ 102 and 103. Prelim. Resp. 56. We disagree.

According to Patent Owner, recent Federal Circuit case law holds that § 101 is not a condition for patentability. *Id.* at 55 (citing *CLS Bank Int’l v. Alice Corp.*, 717 F.3d 1269, 1276 (Fed. Cir. 2013) (plurality opinion), *cert. granted*, 2013 WL 4776518 (U.S. Dec. 6, 2013); *Ultramercial, Inc. v. Hulu*,

LLC, 722 F.3d 1335, 1341 (Fed. Cir. 2013), *cert. filed* (Aug. 23, 2013) (No. 13-255)). Specifically, Patent Owner asserts that ten judges of the Federal Circuit in the *en banc* decision in *CLS Bank* “suggest” that § 101 is not a condition for patentability. Prelim. Resp. 56-57.

The Federal Circuit, however, also has recognized that Section 101 is a condition for patentability that can be raised as an affirmative defense under 35 U.S.C. § 282(b)(2). For example, in *Dealertrack v. Huber*, the majority rejected the dissent’s contention that § 101 is not a “condition for patentability,” stating that “the ‘defenses provided in the statute,’ § 282, include not only the ‘conditions of patentability’ in §§ 102 and 103, but also those in § 101.” 674 F.3d 1315, 1331, n.3 (Fed. Cir. 2012) (citing *Aristocrat Techs. Austl. PTY Ltd. v. Int’l Game Tech.*, 543 F.3d 657, 661 (Fed. Cir. 2008) (“It has long been understood that the Patent Act sets out the *conditions for patentability* in three sections: sections 101, 102, and 103.” (emphasis added))).

Furthermore, U.S. Supreme Court precedent establishes that § 101 is a condition for patentability. *See, e.g., Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1305 (2012) (addressing invalidity under § 101 when it was raised as a defense to an infringement claim); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 12 (1966) (stating that the 1952 Patent Act “sets out the *conditions of patentability* in three sections” (emphasis added), citing 35 U.S.C. §§ 101, 102, and 103). The Board’s consideration of Section 101 challenges in covered business method patent reviews also is consistent with the legislative history of the AIA. *See SAP Am. Inc. v. Versata Dev. Grp., Inc.*, CBM2012-00001, Paper 36 at 32-35 (Jan. 9, 2013) (discussing the legislative history of the AIA as it relates to

covered business method patent reviews covering Section 101 challenges).

We have considered Patent Owner’s remaining contentions and supporting citations and do not find them persuasive. *See* Prelim. Resp. 59-61. Indeed, Patent Owner’s citations appear to reaffirm the proposition that Section 101 is a general condition for patent eligibility, whereas Sections 102 and 103 represent more specific conditions of patentability. Moreover, those citations do not speak directly to the challenges that may be considered in a covered business method patent review pursuant to Sections 282(b)(2) or (3).

C. Section 101 Subject Matter Eligibility

Petitioner challenges claims 1-7 as allegedly claiming patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 25-33. Petitioner argues that the ’457 patent fails to satisfy 35 U.S.C. § 101 because it claims the abstract idea of managing trading risk—expressed in the claims as automatically modifying pending quotes so that market makers do not accumulate unacceptable amounts of risk. *Id.* at 27.

Our analysis begins with the statute. Section 101 provides that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” As the Supreme Court has explained, “[i]n choosing such expansive terms . . . modified by the comprehensive ‘any,’ Congress plainly contemplated that the patent laws would be given wide scope.” *Bilski v. Kappos*, 130 S. Ct. 3218, 3225 (2010) (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980)). There are, however, three limited,

judicially-created exceptions to the broad categories of patent-eligible subject matter in Section 101: laws of nature, natural phenomena, and *abstract ideas*. *Mayo*, 132 S. Ct. at 1293.

Patent Owner argues that the challenged '457 patent claims include substantive limitations, which show that the claims are directed to a machine and a specific application of an idea. Prelim. Resp. 32. The “machine-or-transformation test” is a useful tool in determining whether claimed subject matter is patent-eligible, but it is not the sole test in the Section 101 inquiry. *Bilski*, 130 S. Ct. at 3227. Moreover, while an abstract idea by itself is not patentable, a practical application of an abstract idea may be deserving of patent protection. *Mayo*, 132 S. Ct. at 1293-94; *Bilski*, 130 S. Ct. at 3230; *Diamond v. Diehr*, 450 U.S. 175, 187 (1981). To be patent-eligible, however, a claim simply cannot state an abstract idea and add the words “apply it.” *See Mayo*, 132 S. Ct. at 1294. The claim must incorporate enough meaningful limitations to ensure that it claims more than just an abstract idea and is not merely a “drafting effort designed to monopolize the [abstract idea] itself.” *See id.* at 1297. Limiting the claim to “a particular technological environment” or adding insignificant pre- or post-solution activity or well-understood, routine, conventional activity does not constitute meaningful limitations. *See Bilski*, 130 S. Ct. at 3230; *Diehr*, 450 U.S. at 191-92; *Parker v. Flook*, 437 U.S. 584, 595 n.18 (1978).

It is undisputed that each of the challenged claims of the '457 patent recites a “machine,” in the form of a “system” comprising various components, which is by definition statutory subject matter under Section 101. The question remains whether the claims merely recite an abstract idea and, therefore, fall under the *abstract idea* exception. Based on the record

before us, Petitioner has persuaded us that it is more likely than not that they do.

We primarily address independent claim 1 of the '457 patent, as the parties' arguments are directed mainly to that claim. Petitioner argues that claim 1 of the '457 patent adds nothing more than generic computer references to the abstract idea of managing trading risk. Pet. 25-26. The Specification of the '457 patent supports Petitioner's argument because it indicates that the steps that the claimed server is configured to perform may be performed on a generic computer. Ex. 1001 at 2:48-51 ("In accordance with a first aspect of the invention, an apparatus is implemented using at least one computer, having memory, a processor, and a communication port."); *id.* at 17:29-31 ("Various types of *general purpose* or specialized computer apparatus or computing device may be used with or perform operations in accordance with the teachings described herein." (emphasis added)). While claim 1 recites a "server computer comprising a memory, and a processor," and various steps performed by the server computer, such as "receiving orders and quotes," "generating a trade," "storing," and "automatically modifying . . . quotes," claim 1 does not appear to require a particular computer. Rather, the functions may be performed by a *general purpose* server computer and in a *generic* programming and processing environment.

Patent Owner disagrees that claim 1 requires only a general purpose computer, contending instead that independent claim 1 recites that the claimed system describes "an automated exchange trading system," using parameters and functionality unique to exchange trading systems. Prelim. Resp. 36-39. Patent Owner asserts that it "has not simply claimed an

application of old techniques ‘with a computer.’” *Id.* at 38. Based on the record presented, we are not persuaded by this argument.

As Petitioner argues (Pet. 30), the primary improvement of the ’457 patent is that the abstract idea of assessing option trading portfolio risk and modifying quotes based on that risk is performed in a known, automated exchange trading system. Software tools that assess option portfolio risk and provide recommendations for modifying quotes already were known in the art. Ex. 1001 at 2:13-18. Nevertheless, those software tools were separate from automated exchange trading systems, according to the Specification of the ’457 patent. *Id.* at 2:18-23. Thus, even if a market-maker utilized such software tools, the tools might have been unable to act in time, given the speed at which an automated exchange trading system executes incoming orders. *Id.* Allegedly, the improvement of the ’457 patent was to integrate functionality, specifically risk monitoring and quote modification, into an automated trading exchange system. *Id.* at 2:46-51.

Based on the existing record, we find credible the opinion of Dr. O’Hara that market-makers could, and prior to the ’457 patent did, mentally calculate the risk level of a trade, aggregate those risk levels, and determine if that aggregated risk level exceeds a risk threshold. Ex. 1004, ¶ 44. The ’457 patent likewise states that market risk management previously was performed mentally. Ex. 1001 at 1:56-62. Software application of a mental process that could otherwise be performed without a computer, however, does not qualify as patent-eligible subject matter. *See CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011). Patent Owner’s emphasis on the claimed systems “automatically” modifying quotes without further input from the market-maker is unavailing. *See Prelim.*

Resp. 37. The function of “automatically” modifying quotes is a result of integrating risk assessment and quote modification into the automated trading exchange system. That integration allows the computer to make risk assessments at a faster pace. *See Bancorp Servs.*, 687 F.3d at 1279 (using a computer to accelerate an ineligible mental process does not make that process eligible subject matter).

Referring to *Ultramercial*, Patent Owner further argues that the multiple steps of independent claim 1 set forth a *specific application* of “managing trading risk.” Prelim. Resp. 44-49; *see Ultramercial*, 722 F.3d at 1348 (when assessing computer implemented claims, the inquiry focuses on whether the claims tie the otherwise abstract idea to a specific way of doing something with a computer, or a specific computer for doing something). For example, Patent Owner contends that claim 1 requires that the quotes in the automated trading exchange system have associated trading parameters comprising a “risk threshold.” Prelim. Resp. 46. For the following reasons, based on the existing record, we are not persuaded by Patent Owner’s argument.

The challenged claims of the ’457 patent are distinguishable from the claims in *Ultramercial*, which involved specific electronic interactions between specific computer systems over a communication network. *Ultramercial*, 722 F.3d at 1350. We do not discern analogous interactions in the ’457 patent claims. Indeed, the claims recite various steps performed by the server computer, but no specific interactions between the server computer and any other computer components, as was the case in *Ultramercial*. Further, as the Court recognized in *Ultramercial*, “claims directed to *nothing more than the idea* of doing [something] . . . on a

computer are likely to face larger problems.” 722 F.3d at 1348. As discussed above, we are persuaded by Petitioner’s arguments that the challenged claims are directed to nothing more than the abstract ideas of options trading and managing the risk associated with making a market for options trading performed on a conventional computer system. A conventional computer system—a conventional server—is used to solve the known problem caused by the automated exchange trading system and the method of managing market-maker trading risk (either manually or using software tools) being separate. Specifically, the server computer is used to integrate these processes and perform the processes faster. Based on the record before us, Petitioner has demonstrated that independent claim 1 more likely than not recites patent-ineligible subject matter. We also are persuaded by Petitioner’s arguments as to dependent claims 2-7, which are not argued separately by Patent Owner in its preliminary response. *See* Pet. 32-33.

For the foregoing reasons, we conclude that the record before us demonstrates that claims 1-7 are more likely than not unpatentable as claiming patent-ineligible subject matter under Section 101.

D. The Asserted Grounds of Unpatenability Based upon 35 U.S.C. § 102(e) Prior Art References

Petitioner’s grounds asserting anticipation and obviousness of the challenged claims are defective because each ground relies on a reference, Tilfors/Katz, that is asserted to be prior art to the challenged claims only under Section 102(e). Section 102(e) references do not qualify as prior art on which a covered business method patent review may be based. *See* AIA

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§ 18(a)(1)(C); *Liberty Mut. Ins. Co. v. Progressive Cas. Ins. Co.*, CBM2012-00010, Paper 16 at 28 (PTAB Feb. 25, 2013) (recognizing that § 102(e) references do not qualify as prior art under AIA § 18(a)(1)(C)); *Meridianlink, Inc. v. DH Holdings, LLC*, CBM2013-00008, Paper 24 at 2 (PTAB Sept. 12, 2013) (stating that, although a reference may be prior art under Section 102(e), it does not meet the criteria to support a challenge under AIA § 18(a)(1)(C)).

The '457 patent is a continuation of application 09/475,534, filed on December 30, 1999. Ex. 1001. Tilfors/Katz issued in 2002 from an application filed in 1998, and was published on December 27, 2001. Ex. 1002. Thus, Tilfors/Katz is prior art to the '457 patent only under pre-AIA 35 U.S.C. § 102(e), as Petitioner acknowledges. Pet. 10. Accordingly, Tilfors/Katz is not prior art upon which a covered business method patent review may be instituted.

Indeed, after filing the instant and two related CBM petitions, Petitioner filed a petition requesting *inter partes* review of the '457 patent (IPR2014-00098), as well as two other *inter partes* petitions requesting *inter partes* review of the two related patents, identified in Section, I.B. above. In its petition seeking *inter partes* review of the '457 patent, Petitioner states that, "because a recent decision of the PTAB indicates that the PTAB may not consider Section 102(e) references when presented in a CBM petition, the current Petition presents the Section 102(e) issues in the context of an IPR to ensure that these grounds can be addressed by the PTAB." IPR2014-00098, Paper 1, 5-6.

Because each of Petitioner's anticipation and obviousness grounds relies upon Tilfors/Katz, a reference that is prior art pursuant only to pre-AIA Section 102(e), we deny review on each of those grounds.

E. Conclusion

For the foregoing reasons, we conclude that the information presented demonstrates that claims 1-7, more likely than not, are unpatentable.

The Board has *not* made a final determination on the patentability of any claim.

III. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 324(a), a covered business method review is hereby instituted for claims 1-7 of the '457 patent on the following ground:

Claims 1-7 as being drawn to non-statutory subject matter under 35 U.S.C. § 101;

FURTHER ORDERED that all other grounds raised in the petition are *denied*;

FURTHER ORDERED that pursuant to 35 U.S.C. § 324(d) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial on the grounds of unpatentability authorized above; the trial commences on the entry date of this decision; and

FURTHER ORDERED that an initial conference call with the Board is scheduled 3:00 PM Eastern Time on March 25, 2014; the parties are directed to the Office Trial Practice Guide for guidance in preparing for the

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initial conference call, and should come prepared to discuss any proposed changes to the Scheduling Order entered herewith and any motions the parties anticipate filing during the trial.

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