UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IBG LLC, INTERACTIVE BROKERS LLC, TRADESTATION GROUP, INC.,
and TRADESTATION SECURITIES, INC.,
Petitioner,

v.

TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Patent Owner.

Case CBM2016-00090
U.S. Patent 7,725,382

PATENT OWNER'S NOTICE OF APPEAL

via PTAB E2E
Patent Trial and Appeal Board

via Hand Delivery
Director of the United States Patent and Trademark Office
c/o Office of the General Counsel, 10B20
Madison Building East
600 Dulany Street
Alexandria, VA 22313

via CM/ECF
United States Court of Appeals for the Federal Circuit

Pursuant to 35 U.S.C. §§ 141 and 142, and 37 C.F.R. §§ 90.2 and 90.3, Patent Owner, Trading Technologies International, Inc. ("TT"), hereby provides notice that it appeals to the United States Court of Appeals for the Federal Circuit from the Final Written Decision (Paper 56) entered on December 7, 2017, and from all underlying orders, decisions, rulings, institutions, and opinions regarding U.S. Patent No. 7,725,382 ("the '382 patent") at issue in Covered Business Method No. CBM2016-00090. This notice of appeal is timely filed.

In accordance with 37 C.F.R. § 90.2(a)(3)(ii), the issues on appeal include, but may not be limited to:

(1) the Board's determination that it had jurisdiction to issue the Final Written Decision based on the Board's view that the '382 patent is a covered business method patent under § 18 of the American Invents Act;

(2) the Board's determination that claims 1-32 are ineligible under 35 U.S.C. § 101;

(3) the Board's claim constructions, failure to construe terms, determination of the level of ordinary skill in the art at the time of the invention, and/or; failure to determine the level of ordinary skill in the art at the time of the invention;

(4) the Board's dismissal of Patent Owner's motion to exclude as moot;

(5) the unconstitutionality of the Transitional Program for Covered Business Method Patents and Covered Business Method Review (AIA § 18) under Article

III, the Seventh Amendment, and the Fifth Amendment of the United States Constitution; and

(6) any other findings or determinations supporting or related to the aforementioned issues, as well as all other issues decided adversely to Patent Owner in any order, decision, ruling, or opinion.

The remedy sought on appeal is vacatur, or in the alternative, reversal of the issues decided adversely to Patent Owner in the Final Written Decision, including, but not limited to, the Board's conclusion that the '382 patent is a CBM patent. *See Secure Axcess, LLC v. PNC Bank Nat'l Ass'n*, 848 F.3d 1370, 1382 (Fed. Cir. 2017).

Pursuant to 35 U.S.C. § 142 and 37 C.F.R. § 90.2(a), this Notice is being filed with the Director of the United States Patent and Trademark Office, and a copy of this Notice is being concurrently filed with the Patent Trial and Appeal Board. In addition, a copy of this Notice along with the required docketing fees is being filed with the Clerk's Office for the United States Court of Appeals for the Federal Circuit via CM/ECF.

Respectfully submitted,

Dated: January 30, 2018

By: /*Jennifer M. Kurcz*/

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CERTIFICATE OF SERVICE

I hereby certify that on this 30th day of January, 2018, a true and correct copy of the foregoing "PATENT OWNER'S NOTICE OF APPEAL" was Hand Delivered to:

Director of the United States Patent and Trademark Office
c/o Office of the General Counsel, 10B20
Madison Building East, 600 Dulany Street
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I also herby certify that on this 30th day of January, 2018, a true and correct copy of the foregoing "PATENT OWNER'S NOTICE OF APPEAL," and the filing fee, were filed with the Clerk's Office of the United States Court of Appeals for the Federal Circuit, via CM/ECF.

I also hereby certify that a true and correct copy of the foregoing "PATENT OWNER'S NOTICE OF APPEAL," was served by electronic mail on this 30th day of January, 2018, on counsel of record for the Petitioners as follows:

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Paper 56
Entered: December 7, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

IBG LLC,
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TRADING TECHNOLOGIES INTERNATIONAL, INC.,
Patent Owner.

Case CBM2016-00090
Patent 7,725,382 B2

Before SALLY C. MEDLEY, MEREDITH C. PETRAVICK, and JEREMY M. PLENZLER, *Administrative Patent Judges*.

PETRAVICK, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Covered Business Method Patent Review
35 U.S.C. § 382(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Background

IBG LLC, Interactive Brokers, LLC, TradeStation Group, Inc., and TradeStation Securities, Inc. (collectively, "Petitioner"), filed a Petition requesting covered business method patent review of claims 1–32 of U.S. Patent No. 7,725,382 B2 (Ex. 1001, "the '382 patent"). Paper 5 ("Pet."). Trading Technologies International, Inc. ("Patent Owner") did not file a Preliminary Response.

On December 9, 2016, pursuant to 35 U.S.C. § 324, we instituted a covered business method patent review on the following grounds:

Ground	Prior Art	Challenged Claims
§ 101	n/a	1–32
§ 103	TSE[1] and Belden[2]	1–32

Paper 11 ("Institution Decision" or "Inst. Dec.").

Thereafter, Trading Technologies International, Inc. ("Patent Owner") filed a Patent Owner's Response on February 27, 2017 (Paper 19, "PO. Resp.") and Petitioner filed a Reply (Paper 38, "Pet. Reply") to Patent Owner's Response.

Petitioner filed a Motion to Exclude (Paper 43) and Patent Owner filed an Opposition (Paper 49) to Patent Owner's Motion. Petitioner filed a Reply (Paper 51) in support of its Motion.

[1] TOKYO STOCK EXCHANGE OPERATION SYSTEM DIVISION, FUTURES/OPTION PURCHASING SYSTEM TRADING TERMINAL OPERATION GUIDE (1998) (Ex. 1004).Citations to this reference refer to its English translation (Ex. 1005).
[2] PCT Pub. No. WO 90/11571, pub. Oct. 4, 1990 (Ex. 1008).

Patent Owner filed a Motion to Exclude (Paper 46) and Petitioner filed an Opposition (Paper 48) to Patent Owner's Motion. Patent Owner filed a Reply (Paper 52) in support of its Motion.

We held a hearing of this case on August 10, 2017. Paper 55 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 328(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 1–32 are patent ineligible under 35 U.S.C. § 101 and Petitioner has not shown by a preponderance of the evidence that claims 1–32 are unpatentable under 35 U.S.C. § 103 over TSE and Belden.

B. Related Proceedings

The '382 patent is the subject of numerous related U.S. district court proceedings. Pet. 2; Paper 8, 1–5.

The application that issued as the '382 patent ultimately claims, under 35 U.S.C. § 320, the benefit of application 09/590,692, that issued as U.S. Patent No. 6,772,132 ("the '132 patent"). Ex. 1001, (63). The '132 patent was the subject of *Trading Technologies International, Inc., v. CQG, Inc.*, 675 Fed. Appx. 1001 (Fed. Cir. 2017) ("*CQG*"). The Federal Circuit determined that the claims of the '132 patent are patent eligible under 35 U.S.C. § 101. The '132 patent was also the subject of petitions for covered business method patent review in *TD Ameritrade Holding Corp. v. Trading Technologies International, Inc.*, CBM2014-00135 (PTAB), *CQG, Inc. v. Trading Technologies International, Inc.*, CBM2015-00058 (PTAB), and *IBG LLC v. Trading Technologies International, Inc.*, CBM2015-00182

(PTAB). Trial was instituted, but later terminated due to settlement, for CBM2014-00135. Institution was denied for CBM2015-00058. Institution was granted for CBM2015-00182.

Numerous other patents are related to the ’382 patent and the related patents are or were the subject of numerous petitions for covered business method patent review and reexamination proceedings. *See* Pet. 2; Paper 8, 1–7.

C. The ’382 Patent

The ’382 patent is titled “Click Based Trading with Intuitive Grid Display of Market Depth.” Ex. 1001, (54). The ’382 patent describes a display, named the “Mercury” display, and method of using the display to trade a commodity. *Id.* at Abstract, 3:12–16.

Before turning to a discussion of the Mercury display, a discussion of a conventional method of trading using a GUI is helpful. Figure 2 of the ’382 patent is reproduced below.

FIG. 2

	201 Contract	202 Depth	203 BidQty	204 BidPrc	205 AskPrc	AskQty	LastPrc	LastQty	Total
1	CDHO	•	785	7626	7627	21	7627	489	8230
2			626	7625	7629	815			
3			500	7624	7630	600			
4			500	7623	7631	2456			
5			200	7622	7632	800			

Figure 2 of the ’382 patent depicts a common GUI (“the Fig. 2 GUI”) that displays market information and is used to place trade orders for a commodity on an electronic exchange. *Id.* at 5:15–20, Fig. 2; *see also* PO Resp. 2–3 (describing the Fig. 2 GUI as “widely used”); Ex. 1025 ¶ 21 (describing the Fig. 3 GUI as a common dynamic screen); Ex. 2169 ¶¶ 61–62, 67, 69 (describing the Fig. 2 GUI as “ubiquitous by the time of the invention” and “prevalent”). As can be seen from the above, the Fig. 2 GUI’s screen has a grid having columns and rows. Row 1 shows the inside market. Ex. 1001, 5:19–21. The inside market is the highest bid price and the lowest ask price. *Id.* at 4:21–23. Rows 2–5 show the market depth, which are other bids or asks in the market. *Id.* at 4:23–24. The market information updates dynamically as the market updates. *Id.* at 5:31–32. The inside market, however, is always displayed in row 1, a fixed location. Ex. 2169 ¶¶ 54, 56.

In the Fig. 2 GUI, “the user could place an order by clicking on a location (e.g., a cell) in one of the price or quantity columns.” Ex. 2169 ¶¶ 58–59. Patent Owner’s declarant Christopher Thomas testifies that “[s]ome of such dynamic screens permitted single action order entry that consisted of a trader pre-setting a default quantity and then click (e.g., using a single-click or a double-click) on a dynamic screen to cause a trade order to be sent to the exchange at the pre-set quantity.” Ex. 1024 ¶ 7; Ex. 1025 ¶ 20.

Other types of conventional trading GUIs used order entry tickets to send trade orders to an electronic exchange. Ex. 2169 ¶ 50. An order entry ticket is “in the form of a window, with areas in which the trader could fill out parameters for an order, such as the price, quantity, an identification of

the item being traded, buy or sell, etc." *Id.*; *see also* Ex. 1001, 2:23–27, 2:39–43 (describing a trader manually entering trade order parameters).

The Mercury display is depicted in Figure 3 of the '382 patent, which is reproduced below.

FIG. 3

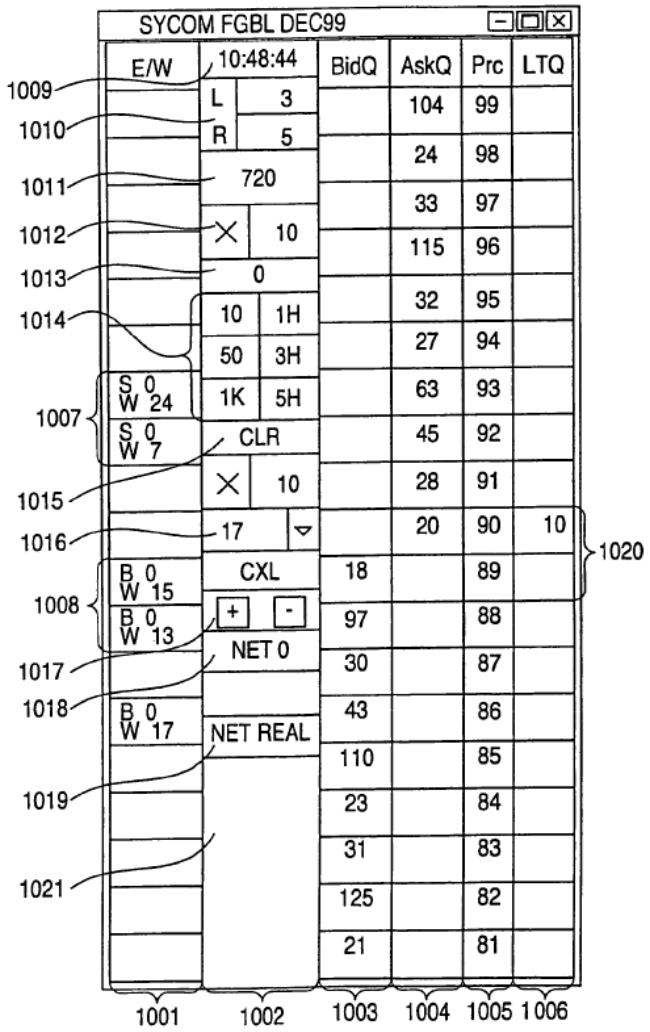


Figure 3 of the '382 patent illustrates an example of the Mercury display with example values for trading a commodity including prices, bid and ask quantities relative to price, and trade quantities. The Mercury display includes a plurality of columns. Column 1005 is a static price axis, which includes a plurality of price values for the commodity. *See id.* at

7:59–61. Columns 1003 and 1004 are aligned with the static price axis and dynamically display bid and ask quantities, respectively, for the corresponding price values of the static price axis. *See id*. at 7:58–59. The '382 patent explains that "[t]he exchange sends the price, order and fill information to each trader on the exchange" and that "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art." *Id.* at 4:66–5:6. Column 1002 contains various parameters and information used to execute trades, such as the default quantity displayed in cell 1016. *See id.* at 8:41–66. A trader executes trades using the Mercury display by first setting the desired commodity and default parameters, such as default quantity. *See id.* at 9:41–44; Fig. 6, step 1302. Then, a trader can send a buy order or sell order to the market with a single action, such as clicking on the appropriate cell in column 1003 or 1004. *See id.* at 9:44–10:20; Fig. 6, steps 1306–1315.

Column 1001 displays the trader's orders and the order status. *Id.* at 8:26–28. For example,

> in cells 1008, the number next to the B indicates the number of the trader's ordered lots that have been bought at the price in the specific row. The number next to the W indicates the number of the trader's ordered lots that are in the market, but have not been filled—i.e., the system is working on filling the order.

Id. at 8:35–40. A trader can cancel an order by clicking on cell 1008. *See id.* at 11:19–32.

D. Illustrative Claim

Claims 1 and 17 are independent. Claim 1 is illustrative of the claimed subject matter and is reproduced below:

1. A method of canceling an order entered for a commodity at an electronic exchange, the method comprising:

receiving data relating to the commodity from the electronic exchange, the data comprising an inside market with a current highest bid price and a current lowest ask price currently available for the commodity;

setting a trade order parameter;

dynamically displaying by a computing device a first indicator at a first area corresponding to a first price level along a static price axis, the first indicator being associated with the current highest bid price for the commodity;

dynamically displaying by the computing device a second indicator at a second area corresponding to a second price level along the static price axis, the second indicator being associated with the current lowest ask price for the commodity;

updating the dynamic display of the first and second indicators such that at least one of the first and second indicators is moved relative to the static price axis to a different area corresponding to a different price level along the static price axis in response to the receipt of new data representing a new inside market;

displaying by the computing device an order entry region comprising a plurality of areas, each area corresponding to a price level along the static price axis and each area being selectable by a user input device so as to receive a command to send an order message based on the trade order parameter and the price level that corresponds with the selected area to the electronic exchange;

displaying by the computing device an entered order indicator at a location corresponding to a particular price level along the static price axis, the entered order indicator being associated with an order entered at the electronic exchange at the particular price level; and

> receiving a single action command that selects the location associated with the entered order indicator so as to cancel the order at the electronic exchange.

Ex. 1001, 12:20–58.

II. ANALYSIS

A. Claim Construction

In a covered business method patent review, claim terms are given their broadest reasonable interpretation in light of the specification in which they appear and the understanding of others skilled in the relevant art. *See* 37 C.F.R. § 42.300(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation standard). Applying that standard, we interpret the claim terms of the '382 patent according to their ordinary and customary meaning in the context of the patent's written description. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

"single action"

Claims 1 and 17 both recite "receiving a single action command that selects the location associated with the entered order indicator." Ex. 1001, 12:56–58, 14:55–57.

Petitioner contends that "single action" should be construed to be "any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device" as defined in the specification of the '382 patent. Pet. 17–18 (quoting Ex. 1001, 4:21–25).

Patent Owner states that Petitioner's proposed construction "is sufficient for these proceedings so long as the construction is limited to 'an action by a user . . .' or 'one action by a user . . .' because the claim itself specifically identifies that the action be a 'single' action." PO Resp. 8 (emphasis omitted). Patent Owner argues that any other construction would not be reasonable because it would be contrary to the specification and the plain and ordinary meaning. *Id.*

A patentee may rebut the presumption that claim terms have ordinary and customary meaning by providing a definition of the term in the specification with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994). As Petitioner points out, the '382 patent provides such a definition. Pet. 17–18. The specification of the '382 patent states:

> the specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While thus describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. *Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.*

Ex. 1001, 4:15–25 (emphasis added). As can be seen from the above, the '382 patent defines "single action," with reasonable clarity, deliberateness, and precision, as "any action by a user within a short period of time, whether comprising one or more click of a mouse button or other input device." *Id.* We, thus, construe "single action" according to its definition in the '382 patent. *In re Paulsen*, 30 F.3d at 1480.

Patent Owner's proposed construction is inconsistent with the definition in the '382 patent. The definition explicitly states that more than one click of a mouse button by a user is considered a "single action" for the purposes of the present invention. Ex. 1001, 4:15–21.

For the reasons given above, we construe "single action" to mean "any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device" (Ex. 1001, 4:21–25).

Other Terms

We do not need to construe explicitly any other claim terms in order to resolve the issue before us. *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed.Cir.1999) (Only terms which are in controversy need to be construed, and then only to the extent necessary to resolve the controversy.)

B. Covered Business Method Patent

Section 18 of the AIA[3] provides for the creation of a transitional program for reviewing covered business method patents. Section 18 limits review to persons or their privies who have been sued or charged with infringement of a "covered business method patent," which does not include patents for "technological inventions." AIA §§ 18(a)(1)(B), 18(d)(1); *see* 37 C.F.R. § 42.302.

[3] Leahy-Smith America Invents Act, Pub. L. No. 112–29, 125 Stat. 284, 329 (2011) ("AIA").

In compliance with 37 C.F.R. § 42.302(a), Petitioner certifies that it has been sued for infringement of the ’382 patent. Pet. 3. Patent Owner does not dispute this. *See generally* PO Resp.

Whether the ’382 Patent is a CBM Patent

Under § 18(a)(1)(E) of the AIA, we may institute a transitional review proceeding only for a CBM patent. A CBM 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 also* 37 C.F.R. § 42.301 (defining “[c]overed business method patent” and “[t]echnological invention”). To determine whether a patent is eligible for a covered business method patent review, the focus is on the claims. *Secure Axcess, LLC v. PNC Bank N.A.*, 848 F.3d 1370, 1379 (Fed. Cir. 2017) (“It is the claims, in the traditional patent law sense, properly understood in light of the written description, that identifies a CBM patent.”). One claim directed to a CBM is sufficient to render the patent eligible for CBM patent review. *See id.* at 1381 (“[T]he statutory definition of a CBM patent requires that the patent have a claim that contains, however phrased, a financial activity element.”).

In our Institution Decision, we determined that the Petitioner had shown that the ’382 patent is a CBM patent. Inst. Dec. 9–12. Patent Owner urges us to reconsider our determination and find that the ’382 patent is not eligible for CBM review. *See* PO Resp. 88–89. We, however, are not apprised of any sufficient reason to change our original determination.

Method or Corresponding Apparatus for Performing Data Processing or Other Operations Used in the Practice, Administration or Management of a Financial Product or Service"

The statute defines a "covered business method patent" as "[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." AIA § 18(d)(1); *see* 37 C.F.R. § 42.301(a). A covered business method patent can be broadly interpreted to encompass patents claiming activities that are financial in nature. Transitional Program for Covered Business Method Patents—Definitions of Covered Business Method Patent and Technological Invention, 77 Fed. Reg. 48734, 48735 (Aug. 14, 2012); *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1338–41 (Fed. Cir. 2016) (determining that a patent was a covered business method patent because it claimed activities that are financial in nature); *Unwired Planet, LLC v. Google, Inc.*, 841 F.3d 1376, n. 5 (Fed. Cir. 2016) (stating that "we endorsed the 'financial in nature' portion of the standard as consistent with the statutory definition of 'covered business method patent' in *Blue Calypso*"), *Versata Development Group, Inc. v. SAP America, Inc.*, 793 F.3d 1306, 1324–25 (Fed. Cir. 2015) ("[The statute] on its face covers a wide range of finance-related activities.").

A patent need have only one claim directed to a covered business method to be eligible for review. 77 Fed. Reg. at 48,736 (Response to Comment 8). We take claim 1 as representative.

Petitioner asserts that claim 1 is directed to a covered business method because it recites "a method of canceling an order entered for a commodity at an electronic exchange," which is financial in nature. Pet. 4–5. As

Petitioner points out, claim 1 recites steps displaying market information, including indicators of bids and asks in the market and sending a cancellation order to an electronic trading exchange. Pet. 4–5; Ex. 1001, 12:20–58.

Displaying market information and cancelling a trade order to an electronic exchange are activities that are financial in nature. A method for cancelling an order for a commodity on an electronic exchange is a method for performing data processing or other operations used in the practice, administration, or management of a financial product or service.

Patent Owner does not dispute that the '382 patent claims a method used for a financial product or service, but does dispute that the '382 patent claims data processing. *See* PO Resp. 88–89. Patent Owner's argument is based upon the assumption that "data processing" in the statute is interpreted according to the definition of "data processing" found in the glossary for class 705 of the United States Patent Classification System. *See id*. at 88. Patent Owner, however, does not sufficiently explain why this definition is controlling, as opposed to the plain meaning of "data processing." *See* Pet. 10–11 (quoting definitions of "data processing"). We, thus, are not persuaded that "data processing" as recited by the statute precludes data processing for the purpose of displaying the data. The '382 patent discloses processing market information for display on a client terminal and for sending an order to an exchange. *See e.g.*, Ex. 1001, 4:66–5:5 ("The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program . . .). We, thus, are not persuaded that the '382 patent does not claim "performing data

processing . . . used in the practice, administration, or management of a financial product or service" (AIA § 18(d)(1)).

In any event, the statute does not limit CBM patents to only those that claim methods for performing data processing used in the practice, administration, or management of a financial product or service. It includes methods for performing "other operations" used in the practice, administration, or management of a financial product or service. The statute states that the "other operations" are those that are "used in the practice, administration, or management of a financial product or financial service." AIA § 18(d)(1). There appears to be no disagreement that the claimed method steps are operations used in the practice, administration, or management of a commodity or trading a commodity on an electronic exchange, e.g., a financial service. *See generally* PO Resp. 88–89. The '382 patent, therefore, at least claims "other operations used in the practice, administration, or management of a financial product or financial service" (AIA § 18(d)(1)).

Patent Owner contends that the Legislative History confirms that the claimed invention is not a covered business method because "it [] states that GUI tools for trading are not the types of inventions that fall within CBM jurisdiction." PO Resp. 90 (citing Ex. 2126, S5428, S5433).

Although the legislative history includes statements that certain novel software tools and graphical user interfaces that are used by the electronic trading industry worker are not the target of § 18 of the AIA (*see* Ex. 2126, S5428, S5433), the language of the AIA, as passed, does not include an exemption for user interfaces for commodities trading from covered business method patent review. Indeed, "the legislative debate concerning the scope

of a CBM review includes statements from more than a single senator. It includes inconsistent views . . . ." *Unwired Planet*, 841 F.3d at 1381. For example, in contrast to the statements cited by Patent Owner, the legislative history also indicates that "selling and trading financial instruments and other securities" is intended to be within the scope of covered business method patent review. *See* Ex. 2126, S5432 (statements of Sen. Schumer); *see also id.* at S54636–37 (statements of Sen. Schumer expressing concern about patents claiming "double click"), 157 Cong. Rec. S1360 at S1364 (Mar. 8, 2011) (statements of Sen. Schumer explain that "method or corresponding apparatus" encompasses "graphical user interface claims" and "sets of instructions on storage media claims.") "[T]he legislative history cannot supplant the statutory definition actually adopted. . . . The authoritative statement of the Board's authority to conduct a CBM review is the text of the statute." *Unwired Planet*, 841 F.3d at 1381. Each claimed invention has to be evaluated individually to determine if it is eligible for a CBM patent review. A determination of whether a patent is eligible for a CBM patent review under the statute is made on a case-by-case basis. 37 C.F.R. § 42.301(b).

For the reasons stated above, we are persuaded by Petitioner that the '382 patent "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" and meets that requirement of § 18(d)(1) of the AIA.

Exclusion for Technological Inventions

Even if a patent includes claims that would otherwise be eligible for treatment as a covered business method, review of the patent is precluded if the claims cover only "technological invention[s]," as defined by 37 C.F.R. § 42.301(b). The definition of "covered business method patent" in § 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 the following: "whether the claimed subject matter as a whole [(1)] recites a technological feature that is novel and unobvious over the prior art; and [(2)] solves a technical problem using a technical solution." 37 C.F.R. § 42.301(b). Both prongs must be satisfied in order for the patent to be excluded as a technological invention. *See Versata*, 793 F.3d at 1326–27; *Apple Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1240 (Fed. Cir. 2016). 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. 48,756, 48,763–64 (Aug. 14, 2012). The Federal Circuit has held that a claim does not include a "technological feature" if its "elements are nothing more than general computer system components used to carry out the claimed process." *Blue*

Calypso, 815 F.3d at 1341; *see also Versata*, 793 F.3d at 1327 ("the presence of a general purpose computer to facilitate operations through uninventive steps does not change the fundamental character of an invention").

With respect to the first prong, Petitioner contends that rather than reciting a technical feature that is novel or unobvious over the prior art, the claims of the '382 patent generally recite trading software that is implemented on a conventional computer. Pet. 6–8. When addressing "whether the claimed subject matter as a whole recites a technological feature that is novel and unobvious over the prior art," Patent Owner alleges that Petitioners fail to address whether the claims recite a technical feature that is novel and unobvious. PO Resp. 89. That is incorrect. *See* Pet.6–8; Inst. Dec. 11 (discussing Petitioner's contention).

We are persuaded by Petitioner's contentions that at least claim 1 of the '382 patent does not recite a novel and non-obvious technological feature. Pet. 6–8. The specification of the '382 patent treats as well-known all potentially technological aspects of the claims. For example, the '382 patent discloses that its system can be implemented "on any existing or future terminal or device" (Ex. 1001, 4:11–14), each of which is known to include a display, and discloses that the input device can be a mouse (*id.* at 4:18–21), which is a known input device. The '382 patent further discloses that "[t]he scope of the present invention is not limited by the type of terminal or device used." *Id.* at 4:14–15. The '382 patent also describes the programming associated with the GUI as insignificant. *See, e.g.*, *id.* at 4:67–5:7 (explaining that the "present invention processes [price, order, and fill] information and maps it through simple algorithms and mapping tables to

positions in a theoretical grid program" and "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art"). That at least claim 1 of the '382 patent does not recite a novel and non-obvious technological feature is further illustrated by our discussion of the prior art and Fig. 2 GUI above. Accordingly, we are persuaded that at least claim 1 does not recite a technological feature that is novel and unobvious over the prior art.

With respect to the second prong, Petitioner asserts that the claims of the '382 patent do not fall within § 18(d)(1)'s exclusion for "technological inventions" because the '382 patent does not solve a technical problem using a technical solution. Pet. 8–9. Petitioner notes that "[a]ccording to the '382 patent, the 'problem' with prior art trading GUIs was that the market price could change before a trader entered a desired order, causing the trader to 'miss his price.'" *Id.* at 8 (citing Ex. 1001, 2:61–3:2). Petitioner contends that the '382 patent's solution is not technical because Patent Owner "merely [] rearrange[d] the way that the market date is displayed" and "did not design a more accurate mouse or a computer that responded faster." *Id.* at 8–9. Patent Owner disagrees and asserts that the '382 patent solves the technical problems of "a user missing their intended price, along with the problems of visualizing information in multiple windows, and managing entered orders." PO Resp. 89–90. Patent Owner points to *CQG* for support. *Id*.

We are persuaded that the '382 patent does not solve a technical problem with a technical solution. Pet. 8–9. The '382 patent purports to solve the problem of a user missing an intended price because a price changed as the user tried to enter a desired order. *See* Ex. 1001, 2:2–62. As

written, claim 1 requires the use of only known technology. Given this, we determine that at least claim 1 does not solve a technical problem using a technical solution and at least claim 1 does not satisfy the second prong of 37 C.F.R. § 42.301(b).

The '382 patent describes the problem it solves as follows:

> [A]pproximately 80% [of the total time it takes to place an order] is attributable to the time required for the trader to read the prices displayed and to enter a trade order. The present invention provides a significant advantage during the slowest portion of the trading cycle—while the trader ***manually enters his order.*** . . .
>
> In existing systems, multiple elements of an order must be entered prior to an order being sent to market, which is time consuming for the trader. Such elements include the commodity symbol, the desired price, the quantity and whether a buy or sell order is desired. The more time a trader takes entering an order, the more likely the price on which he wanted to bid or offer will change or not be available in the market. . . . In such liquid markets, the prices of the commodities fluctuate rapidly. On a trading screen, this results in rapid changes in the price and quantity fields within the market grid. If a trader intend to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars. The faster a trader can trade, the less likely it will be that he will miss his price and the more likely he will make money.

Ex. 1001, 2:40–3:2 (emphasis added). "The inventors have developed the present invention which overcomes the drawbacks of the existing trading systems and dramatically reduces the time it takes for a trader to place a trade when electronically trading on an exchange." *Id.* at 3:6–9.

As can be seen from the above, a problem disclosed in the '382 patent is the time it takes for a trader to *manually* enter trader orders on a market or exchange that is rapidly changing, so as to make a profit. This is a financial

issue or a business problem, not a technical problem. *See* Pet. 5–7. If the market or exchange did not rapidly change, then there would be no need for a trader to enter orders rapidly.

The '382 patent also describes that "the present invention ensure[s] fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuate." Ex. 1001, 7:21–24. Claim 1, however, does not require displaying the market depth. *See id.* at 12:26–12:36. Claim 1 only requires displaying a first indicator that represents a quantity associated with the highest bid price and a second indicator that represents a quantity associated with the lowest ask price. *Id.* In other words, claim 1 only requires displaying indicators that correspond to the inside market. *See also id.* at 5:8–14 (disclosing displaying on the inside market and not the market depth). The subject matter of claim 1, thus, does not require the alleged technical solution to the problem of ensuring fast and accurate trades.

The '382 patent also describes that the Mercury display "provides an order entry system, market grid, and fill window and summary of market orders in one simple window" and that "such a condensed display materially simplifies the trading system by entering and tracking trades in an extremely efficiently manner." *Id.* at 7:42–46. Claim 1 only requires displaying the inside market and an entered order indicator, and does not require displaying the inside market or entered order indicator in "one simple window." *See id.* at 12:26–12:36. Displaying market information is not a technical problem and, for the same reasons as discussed above, claim 1 does not recite a technical solution.

We are persuaded by Petitioner that at least claim 1 does not recite a technological feature that is novel and unobvious over the prior art and does not solve a technical problem using a technical solution. Accordingly, we determine that the '382 patent is not for a technological invention.

Conclusion

In view of the foregoing, we conclude that the '382 patent is a covered business method patent under AIA § 18(d)(1) and is eligible for review using the transitional covered business method patent program.

C. Section 101 Patent-Eligible Subject Matter

Petitioner challenges claims 1–32 as directed to patent-ineligible subject matter under 35 U.S.C. § 101. Pet. 19–36.

Under 35 U.S.C. § 101, we must first identify whether an invention fits within one of the four statutorily provided categories of patent-eligibility: "processes, machines, manufactures, and compositions of matter." *Ultramercial, Inc. v. Hulu, LLC*, 772 F.3d 709, 713–14 (Fed. Cir. 2014).

Initially, we note that Petitioner asserts that claims 17–32 are "broad enough to encompass a transitory, propagating signal that is encoded, which is not eligible for patenting." Pet. 36 (citing *In re Nuijten*, 550 F.3d 1346, 1357 (Fed. Cir. 2007)). For example, claim 17 recites "[a] computer readable medium having program code recorded thereon." Ex. 1001, 13:45–46. Petitioner contends that "[u]nder the broadest reasonable interpretation ('BRI'), the scope of this term is broad enough to encompass a transitory, propagating signal that is encoded." Pet. 18–19 (citing *Ex Parte Mewherter*,

107 USPQ2d 1857, 1859–60 (PTAB 2013) (Precedential)). Petitioner explains that the specification neither defines this term nor provides examples. *Id.* In our Institution Decision, we made an initial determination that the broadest reasonable interpretation of "computer readable medium having program code recorded thereon" is "any medium that participates in providing instruction to a processor for execution and having program code recorded thereon." Inst. Dec. 9. Patent Owner responds that there is no evidence to support Petitioner's contention that one skilled in the art would have understood "computer readable medium having program code recorded thereon" to encompass a signal at the time of the invention. PO Resp. 87. Petitioner responds to Patent Owner's contentions by asserting that claims 17–32, "which recite a term of art in patent law, encompass transitory signals and are thus non-statutory." Pet. Reply 11.

Petitioner's response is unhelpful. For example, in its Reply, Petitioner cites no evidence to sufficiently rebut Patent Owner's contentions regarding how one skilled in the art would have understood "computer readable medium having program code recorded thereon," at the time of the invention.

Accordingly, on this record, which is absent any further evidence or meaningful argument from Petitioner, we are not persuaded that at the time of the invention one skilled in the art would have understood "computer readable medium having program code *recorded* thereon" as encompassing transitory, propagating signals.

There is no dispute that the remaining claims fit within one of the four statutorily provided categories of patent-eligibility. Even if claims 17–32 were to fit within one of the categories of patent-eligibility, we are

persuaded that they do not recite patent-eligible subject matter for the reasons that follow.

D. Eligibility

Patent-eligible subject matter is defined in § 101 of the Patent Act, which recites:

> Whoever 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.

There are, however, three judicially created exceptions to the broad categories of patent-eligible subject matter in § 101: laws of nature, natural phenomena, and abstract ideas. *Alice Corp. Pty. Ltd. v. CLS Bank Int'l.*, 134 S. Ct. 2354 (2014); *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012). Although an abstract idea, itself, is patent-ineligible, an application of the abstract idea may be patent-eligible. *Alice*, 134 S. Ct. at 2355. Thus, we must consider "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id*. (citing *Mayo*, 132 S. Ct. at 1297–98). The claim must contain elements or a combination of elements that are "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [abstract idea] itself." *Id*. (citing Mayo, 132 S. Ct. at 1294).

Claims 1 and 17 are independent and recite similar limitations. We take claim 1 as representative.

Abstract Idea

"The 'abstract idea' step of the inquiry calls upon us to look at the 'focus of the claimed advance over the prior art' to determine if the claim's 'character as a whole' is directed to excluded subject matter.'" *Affinity Labs of Texas v. DirectTV, LLC*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (quoting *Elec. Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350, 1353 (Fed. Cir. 2016); *see also Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016).

According to Petitioner, the claims are directed to the abstract idea of "placing an order based on observed (plotted) market information, as well as updating market information." Pet. 21. Petitioner argues, "[a] POSA would understand canceling an order is a type of order (or command) sent to the electronic exchange." *Id.* at 19 (citing Ex. 1003 ¶ 92). Petitioner contends, "claim 1 could be performed in the human mind or with the aid of pen-and-paper with little difficulty because the claim requires plotting only a few data points" (*id.* at 22–24 (citing Ex. 1010)) and that the claims are directed to commodity trading which is 'a fundamental economic practice long prevalent in our system of commerce.'" Pet. Reply 4 (citing *Alice*, 134 S. Ct. at 2356). Patent Owner disagrees. *See* PO Resp. 77–85.

Claim 1 of the '382 patent recites "a method of canceling an order entered for a commodity at an electronic exchange." Ex. 1001, 12:21–22. Claim 1 recites steps of displaying market information, bid and ask quantities, and an entered order indicator in regions along a static price axis. *Id.* at 12:23–43, 12:51–55. The market information is an indicator of an order to buy at the highest bid price and an indicator of an order to sell at the lowest ask price. *Id.* In other words, the displayed market information is the

inside market. *Id.* at 4:63–65, 12:24–26. Claim 1 does not require displaying the market depth. *See id.* at 5:8–14 (disclosing that only the inside market may be displayed). Claim 1 also recites a step of updating the market information such that it moves relative to the price axis as the market changes. *Id.* at12:37–43. Claim 1 further recites a step of displaying an order entry region with areas selectable so as to receive a command to send a message to the electronic exchange, a step of setting a parameter for a trade order, and a step of receiving a single action command so as to cancel the order. *Id.* at 12:26, 12:43–57.

As can be seen from its steps, the focus of claim 1 is placing trade orders (i.e., cancelation orders) based on displayed market information, as well as updating the displayed market information. This focus is consistent with the '382 patent's statement that "[t]he present invention is directed to the electronic trading of commodities. . . . It facilitates the display of and the rapid placement of trade orders. . . ." *Id.* at 1:18–24. The focus of claim 1 is also consistent with the problem disclosed by the '382 patent of a trader missing an intended price because the market changed during the time required for a trader to read the prices displayed and to manually enter an order. *Id.* at 2:17–3:2.

Claim 1 does not recite any limitation that specifies how the computer implements the steps or functions. For example, claim 1 recites displaying an arrangement of the market information. A first indicator, associated with the current highest bid price, is displayed at a first area corresponding to a first price level. *Id.* at 12:28–32. Claim 1 does not specify how the computer maps the indicators or price levels to the display. The '382 patent does not disclose an unconventional or improved method of mapping the

first indicators, second indicators, and price axis to the display. It states that "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art" and that "[t]he present invention is not limited by the method used to map the data to the screen." *Id.* at 5:4–7.

The '382 patent discloses that at least 60 exchanges throughout the world utilize electronic trading and discloses that it is known that electronic trading includes analyzing displayed market information and updated market information to send trade orders to an exchange. *See id.* at 1:28–2:28. Similarly, Mr. Thomas indicates that traders in prior trading systems, including pre-electronic open outcry systems, which have been used for over one hundred years, send trade orders to an exchange based on price, such as the inside market prices or other prices. Ex. 2169 ¶¶ 36, 62, and 63. Mr. Thomas testifies that:

> [i]n the trading pit, traders utilize shouting and hand signals to transfer information about buy and sell orders to other traders. To avoid confusion, the inside market prices were the focus, and traders could only shout and signal regarding their interest at the best bid/offer or at prices that improves the best bid/offer.

Id. ¶ 36. The '382 patent discloses that electronic exchanges are known to provide the market depth for display that is the inside market and a few orders away from the inside market. Ex. 1001, 5:11–12. Further, Exhibit 1010 discloses that long before the '382 patent traders maintained books that plotted bids and asks (e.g., the market depth) along a price axis. *See* Ex. 1010, 44–46. Exhibit 1010 states "[s]pecialists enter public orders, that are away from the market, in their books by price and in the order they are received." *Id.* at 44. Figure 4-2 of Exhibit 1010 is reproduced below.

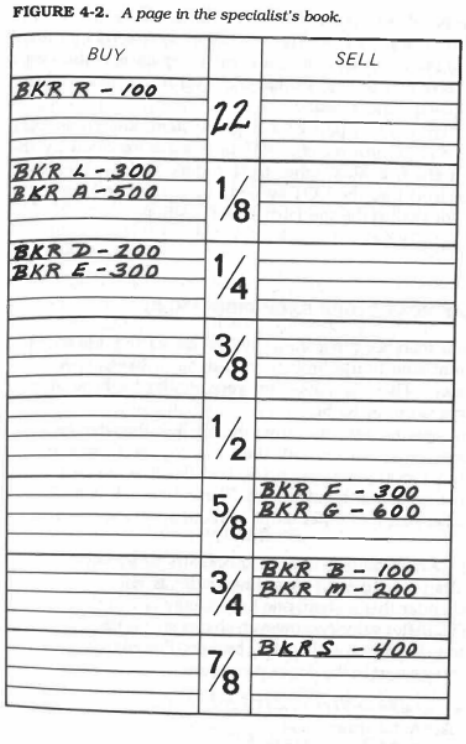


Figure 4-2 depicts a page of a book of a trader. *Id.* at 44–45. Orders to buy or sell a commodity are plotted along a prices axis. For example, Figure 4–2 shows the best bid at 22¼ and the best ask at 22⅝. *Id.* at 44. Exhibit 1010 states: "The NYSE specialist's book is maintained on a CRT and referred to as a *display book*. This electronic book sorts all orders coming to the specialist in time and price sequence . . . ." *Id.* at 46.

Given this, we determine that placing an order based on displayed market information, such as the inside market and a few other orders, as well as updating the market information, is a fundamental economic and conventional business practice. We are persuaded by Petitioner that the method of claim 1 could be performed in the human mind or with the aid of pen-and-paper with little difficulty because the claim requires plotting only a few data points (i.e., the inside market). *See* Pet. 22–24 (citing Ex. 1010, 44–46; Ex. 1003 ¶¶ 73–75).

Patent Owner argues that the claims of the '382 patent are not directed to a fundamental economic practice, longstanding commercial practice, or business method. *See* PO Resp. 76–85. Patent Owner contends the "claims did not have a pre-electronic equivalent as electronic trading operates in fundamentally different ways from open outcry. . . . In open outcry, trader could not publish orders away from the inside market, and could pick and choose with whom they wanted to trade." *Id.* at 83 (citations omitted). Patent Owner's arguments are unpersuasive because they are not commensurate with the scope of the claims. Claim 1 does not recite any steps as to how the electronic exchange matches or fills the order. Claim 1 requires publishing the inside market and does not require publishing the market depth. *See* Ex. 1001, 12:22–25; *see also id.* at 5:8–14. Claim 1 does not specify how the order is filled at the electronic exchange or preclude a trader from picking and choosing with whom they want to trade.

The claims at issue here are like the claims at issue in *Affinity Labs.* In *Affinity Labs*, the claim at issue recited an application that enabled a cellular telephone to present a GUI displaying a list of media sources that included selectable items for selecting a regional broadcasting channel. *Affinity Labs*, 838 F.3d at 1255–56. The claim also recited that the cellular telephone was enabled to transmit a request for the selected regional broadcasting channel. *Id.* at 1256. The claims at issue here are also like the claims at issue in *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229 (Fed. Cir. 2016). *See* Pet. Reply 7–8. In *Ameranth*, the claim at issue recited a GUI that displayed menu items in a specific arrangement, a hierarchical tree format. Menu items were selected to generate a second menu from a first menu. *Ameranth*, 842 F.3d at 1234. In both *Affinity Labs* and *Ameranth*, the

court determined that the claims were not directed to a particular way of programming or designing the software, but instead merely claim the resulting systems. The court thus determined that the claims were not directed to a specific improvement in the way computers operate. *Affinity Labs*, 838 F.3d at 1260–61; *Ameranth*, 842 F.3d at 1241. Here, the claims also recite the resulting GUI and are not directed to specific improvements in the way the computers operate. "Though lengthy and numerous, the claims [that] do not go beyond requiring the collection, analysis, and display of available information in a particular field, stating those functions in general terms, without limiting them to technical means for performing the functions that are arguably an advance over conventional computer and network technology" are patent ineligible. *Elec. Power Grp.*, 830 F.3d at 1351. "Generally, a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished' is not directed to patent-eligible subject matter." *Ameranth*, 842 F.3d at 1244 (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir. 2015)).

The claims of the '382 patent are unlike the claims at issue in *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014) and *Enfish*. *See* Pet. 31–35; Pet. Reply 5–6. In *DDR Holdings*, the court determined that the claims did not embody a fundamental economic principle or a longstanding commercial practice. The claims at issue in *DDR Holdings* were directed to retaining website visitors, which the court determined was a problem "particular to the Internet." *DDR Holdings*, 773 F.3d at 1257. The court also determined that the invention was "necessarily rooted in computer technology in order to overcome a problem specifically

arising in the realm of computer networks" and that the claimed invention did not simply use computers to serve a conventional business purpose. *Id.* In *Enfish*, the claim at issue was directed to a data storage and retrieval system for a computer memory. *Enfish*, 822 F.3d at 1336–37. The court determined that the claims were directed to an improvement in the functioning of a computer and were not simply adding conventional computer components to well-known business practices. *Id.* at 1338. Here, in contrast, claim 1 is directed to a fundamental economic principle or a longstanding commercial practice and not directed to an improvement in the computer, but simply to the use of the GUI in a method of placing an order based on displayed market information, as well as updating market information.

Patent Owner argues that the claims of the '382 patent solve the problems of "(1) unpredictable changes in the market could cause the user to miss their intended price and (2) trading information was presented in separate windows, creating challenges with visualization and order management." *See* PO Resp. 80–81. Patent Owner contends that the '382 patent solves this problem "with a specific way via the claimed new GUI construction . . . that condenses three windows into one." *Id.* at 80. In the Patent Owner Response, Patent Owner does not specify which elements of claim 1 solve these problems. *See id.* at 80–81. Claim 1 does not recite any limitation that specifies how the computer implements the steps or functions. "Generally, a claim that merely describes an 'effect or result dissociated from any method by which [it] is accomplished' is not directed to patent-eligible subject matter." *Ameranth*, 842 F.3d at 1244 (quoting *Internet Patents Corp. v. Active Network, Inc.*, 790 F.3d 1343, 1348 (Fed. Cir.

2015)). Rearranging the display of data is not enough to confer patent eligibility. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011) (holding "[t]he mere collection and organization of data" patent-ineligible).

Further, claim 1 of the '382 patent is unlike the claims at issue in *McRO, Inc. v. Bandai Namco Games America Inc.*, 837 F.3d. 1299 (Fed. Cir. 2016). In *McRO*, the court held that claims that recited "a specific asserted improvement in computer animation" were not directed to an unpatentable abstract idea because they go "beyond merely organizing existing information into a new form or carrying out a fundamental economic practice." *McRO*, 837 F.3d at 1314–15. Here, the claims merely organize existing market information so that it is displayed or plotted along a price axis. Plotting bids and asks along a price axis is not a specific improvement to the functioning of a computer. *See* Ex. 1010, 44–46.

Patent Owner argues that the claims of the '382 patent are patent eligible under *CQG* because the '382 patent is a continuation of the patents at issue in *CQG*. PO Resp. 76–77. The claims of the '382 patent, however, are broader in some aspects than the claims of the '132 patent. For example, claim 1 of the '382 patent does not recite the single action order entry feature in combination with a single price axis of the '132 patent. *See* Tr. 74:3–78:54 (indicating that "[o]rder entry is different than cancellation" from the standpoint of having the same concerns with quantities changing and prices changing when entering a new order"). In *CQG*, the Federal Circuit referred to even those narrower claims as presenting a "close question[] of eligibility." *CQG* at 1006. Thus, comparing the claims of the

patents involved in *Trading Technologies* is not particularly helpful here. *See also* Pet. Reply 8–10.

Inventive Concept

Next we turn to "the elements of each claim both individually and as an ordered combination" to determine whether the additional elements "transform the nature of the claim" into a "patent-eligible application." *Mayo*, 768 S. Ct. at 1297–98. The additional elements must be more than "well-understood, routine, conventional activity." *Id.* at 1298.

Petitioner contends that claim 1 does not recite an inventive concept. Pet. 20–25; Pet. Reply 7–8. Patent Owner disagrees. PO Resp. 85–87.

As noted above, the specification of the '382 patent treats as well-known all potentially technical aspects of the claims. For example, the '382 patent discloses that its system can be implemented "on any existing or future terminal or device" (Ex. 1001, 4:11–14), each of which is known to include a display, and discloses that the input device can be a mouse (*id.* at 4:18–21), which is a known input device. The '382 patent further discloses that "[t]he scope of the present invention is not limited by the type of terminal or device used." *Id.* at 4:14–15. The '382 patent also describes the programming associated with the GUI as insignificant. *See, e.g.*, *id.* at 4:67–5:7. A mere requirement of a GUI does not make the claim patent eligible. *See Affinity Labs*, 838 F.3d at 1257–58; *Ameranth*, 842 F.3d at 1236–1242; *Internet Patent Corp.*, 790 F.3d at 1348–1349. A recitation of a generic GUI merely limits the use of the abstract idea to a particular technological environment. "Limiting the field of use of the abstract idea to a particular existing technological environment does not render any claims less

abstract." *Affinity Labs*, 838 F.3d at 1258 (citing *Alice*, 134 St. Ct. at 2358; *Mayo*, 132 S. Ct. at 1294).

Claim 1 recites steps of displaying indicators representing a quantity associated with a highest order to buy the commodity or lowest order to sell the commodity in a bid display region or ask display region, respectively, and moving the indicators upon receipt of market information. Ex. 1001, 12:23–43. Locations in the bid or ask display region correspond to a price level along a static price axis. *Id.* Essentially, these limitations require plotting the inside market along a price axis. Plotting information along an axis is a well-understood, routine, conventional, activity. *See* Ex. 1010, 44–46. The Fig. 2 GUI includes regions for displaying indicators of bid and ask quantities and regions for displaying corresponding prices. For example, the Fig. 2 GUI displays the bid quantity in BidQty column 202 at locations that correspond to the bid prices in BidPrc column 203. Ex. 1001, 5:15–32. This is akin to plotting information BidQty and AskQty along a price axis. Further, Mr. Thomas testifies that prior GUIs, which are similar to the Fig. 2 GUI, "displayed the locations for the best bid and ask prices such that the prices were displayed vertically (e.g., with the location for the best ask price being displayed above the location for the best bid price)." Ex. 2169 ¶ 62; *see also* Ex. 1010, 42–44. Displaying the best ask price above a best bid price would be displaying a common column of price levels. The '382 patent, states "[t]he physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art" and that "[t]he present invention is not limited by the method used to map the data to the screen." *Id.* at 5:4–7. These steps of claim 1 require merely a rearrangement of market information that was known to be displayed in

corresponding columns on a GUI. *CyberSource Corp.*, 654 F.3d at 1370 (holding "[t]he mere collection and organization of data" patent-ineligible).

Claim 1 further recites a step of displaying an order entry region with areas selectable so as to receive a command to send a message to the electronic exchange, a step of setting a parameter for a trade order, and a step of receiving a single action command so as to cancel the order. *Id*. at 12:26, 12:46–56. Methods that permit single action entry of an order, which has preset default parameters, by clicking on a cell in a display of a GUI are known technology. Ex. 1024 ¶ 7; Ex. 1025 ¶ 20; Ex. 2169 ¶¶ 58–59. The additional elements must be more that "well-understood, routine, conventional, activity." *Mayo*, 132 S. Ct. at 1298.

The individual elements of the claim do not transform the nature of the claim into a patent-eligible application. They do not add significantly more to the abstract idea or fundamental economic practice. Contrary to Patent Owner's argument, the claim simply requires the use of a generic GUI with routine and conventional functions. Even considering all of the elements as an ordered combination, the combined elements also do not transform the nature of the claim into a patent-eligible application. Indeed, as discussed above, the Fig. 2 GUI disclosed in the '382 patent includes a similar combination of elements.

For the reasons discussed above, the claims 1 and 17 of the '382 patent are not directed to patent eligible subject matter under 35 U.S.C. § 101.

Dependent Claims

Petitioner contends that the additional elements recited by dependent claims 2–16 and 18–32 do not add significantly more to the abstract idea so as to render the claims patent-eligible. Pet. 29–31. Patent Owner makes no arguments directed to the eligibility of the dependent claims. *See generally* PO Resp. We are persuaded by Petitioner that dependent claims 2–16 and 18–32 are patent ineligible under 35 U.S.C. § 101. *See* Pet. 19–31.

Patent Eligibility Conclusion

Having considered the information provided in the Petition, we are persuaded that Petitioner has demonstrated that claims 1–32 of the '382 patent are unpatentable under 35 U.S.C. § 101.

E. Obviousness

Section 103 forbids issuance of a claim when "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103. The ultimate determination of obviousness under § 103 is a question of law based on underlying factual findings. *In re Baxter Int'l, Inc.*, 678 F.3d 1357, 1362 (Fed. Cir. 2012) (citing *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1996)). These underlying factual considerations consist of: (1) the "level of ordinary skill in the pertinent art," (2) the "scope and content of the prior art," (3) the "differences between the prior art and the claims at issue," and (4) "secondary considerations" of non-obviousness such as "commercial success, long-felt but unsolved needs, failure of others,

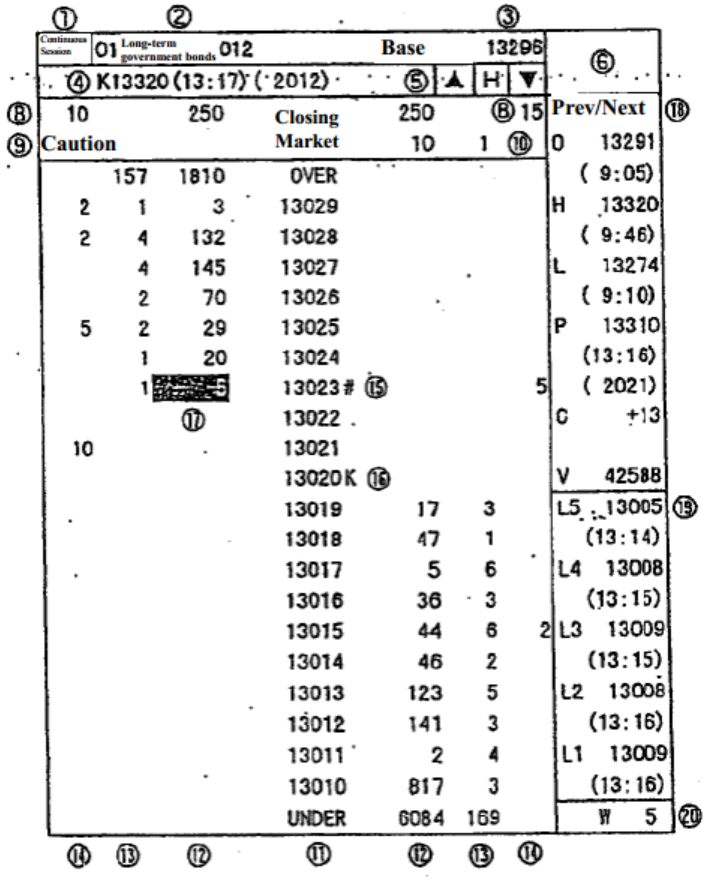
etc." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (quoting *Graham*, 338 U.S. at 17–18).

Petitioner challenges claims 1–32 as obvious over TSE and Belden. Pet. 36–70; Pet. Reply 14–19.

Overview of TSE

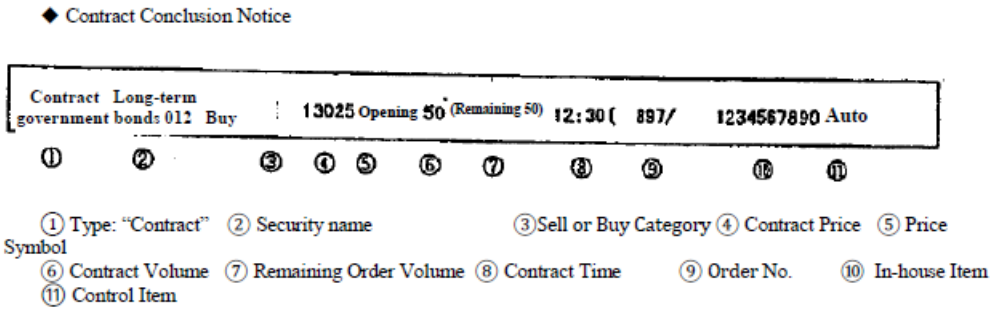
TSE is a guide for operating a trading terminal of the Tokyo Stock Exchange. Ex. 1005, 1[4]. The trading terminal displays a GUI for depicting market information on a Board/Quotation Screen (*see id*. at 107). The Figure on page 107 of TSE is reproduced below.

[4] We refer to the pagination inserted into Exhibit 1005 and not the original pagination.



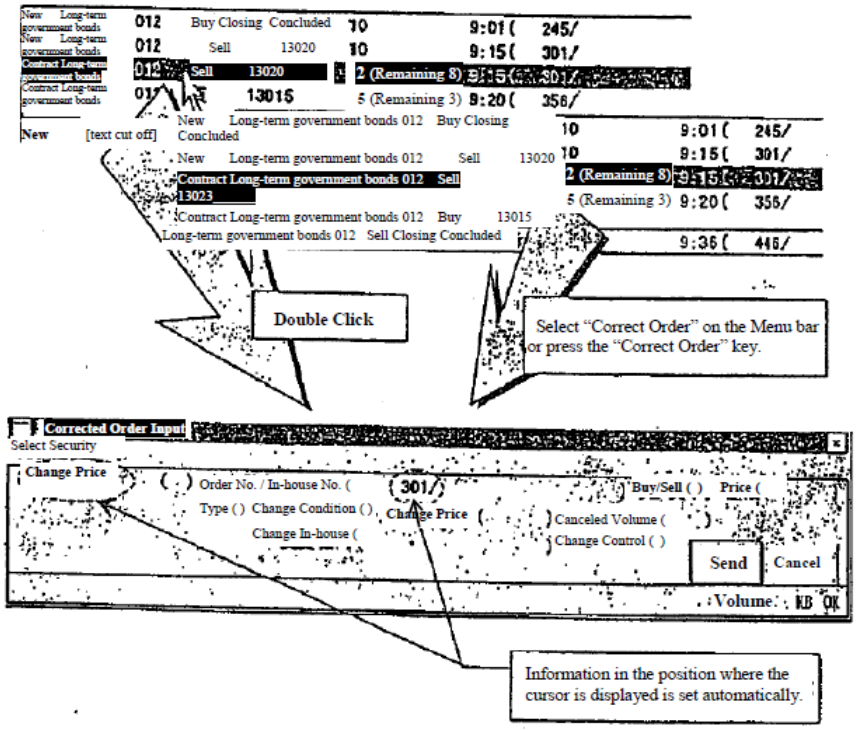
The Figure depicts the Board/Quotation Screen including a central order price at column 11. *Id.* at 111. To the left and right of order price column 11, are ask and bid orders in respective columns 12 and 13. *Id.*

TSE discloses that a Notice Display Area is displayed at the bottom of the screen. *Id.* at 121. The Notice Display Area displays displayed different types of notices, such as Order Received Notices and Contract Concluded Notices. *Id.* at 122, 126. A Figure appearing on page 132 of TSE is reproduced below.



The Figure depicts an example of a Contract Conclude Notice, which indicates an order entered by a trader and the status of the order. *Id.* at 126.

A Figure appearing on page 126 of TSE is reproduced below.



The Figure depicts a Corrected Order Input Window. A trader can modify or cancel an order by double-clicking on a notice in the Notice Display Area, which opens the Corrected Order Input Window. *See id.* at 132, 137–138, 155–159, 162. Information, such as the name of the security and order number is automatically set and cancellation is indicated by setting the

revision type to "1." *Id.* at 132, 158, 163. The cancellation is sent to the exchange by clicking on the "send" button. *Id.* at 164.

Overview of Belden

Belden is titled "Simulated Live Market Trading System" and published on October 4, 1990. Ex. 1008, (54), (43). Belden discloses an electronic trading system for trading commodities, which has a display with icons representing active trades. *Id.* at 26–27.[5] Belden discloses that "[t]rading is done by using the mouse to move a cursor onto the icon of a trader and pushing a button, i.e., 'clicking' on the icon." *Id.* at 12. Belden discloses that a trader "benefits from the speed with which he can take or liquidate positions." *Id.* at 4. Belden also teaches canceling a trade by "point[ing] and click[ing] your bid icon . . . with a mouse." *Id.* at 37–38.

Analysis

Petitioner proposes two alternative combinations of TSE and Belden to teach the limitations of claims 1 and 17. Pet. 36–61; Tr. 16:1–8. In both combinations, Petitioner argues that TSE teaches most of the limitation of claim 1 and 17. *Id.*

With respect to Petitioner's first combination, Petitioner relies upon the bids and asks displayed in columns 12 and 13 of TSE's Board Screen as teaching the step of displaying an entered order indicator at a location corresponding to a particular price level along the static price axis. *Id.* at 54–55. Petitioner acknowledges that TSE does teach the step of receiving a

[5] We refer to the pagination inserted into Exhibit 1012 and not the original pagination.

single action command that selects the location associated with the entered order indicator to cancel the order. *See id.* at 57–58. Petitioner relies upon Belden to teach a single-action order technique and argues, "a POSA would have been motivated to incorporated Belden's single-action order techniques in TSE's electronic trading system to achieve the predictable and desirable results of reducing the time needed to cancel an order and reduce operator error." *Id.* at 60–61 (citing Ex. 1003 ¶ 133); *see also* Pet. 42–43, Pet. Reply 15–16,

Patent Owner disagrees. *See* PO Resp. 23–32. Patent Owner argues "TSE does not teach cancelling of entered orders at areas corresponding to price levels along the static price axis" because in TSE cancels orders by double clicking in the Notice Display Area to pull up a Corrected Order Input Window. *Id.* at 27.

In a covered business method patent review, Petitioner has the burden of proving by a proposition of unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 326(e); *see also In re Magnum Oil Tools Int'l, Ltd.*, 892 F.3d 1364, 1375 (Fed. Cir. 2016) (holding that because "petitioner ... bears the burden of proof," the Board is not "free to adopt arguments on behalf of petitioners that ... were not[ ] raised" and "must base its decision on arguments that were advanced by [petitioner], and to which [patent owner] was given a chance to respond"). "To satisfy it burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness." *Magnum Oil Tools*, 892 F.3d at1380 (citing *KSR*, 550 U.S. at 418).

Upon review of Petitioner's evidence and analysis, we determine that Petitioner has not shown by a preponderance of the evidence that it would have been obvious to one of ordinary skill in the art to modify TSE, given the teachings of Belden, to cancel a user's entered order at an exchange by selecting one of the bids or asks in columns 12 or 13 of TSE's Board Screen with a single action. The bids and asks displayed on TSE's Board Screen represent the aggregate bids and asks in the market. Ex. 1005, 137 (showing order count in column 13 of the figure depicting the Board Screen). TSE does not disclose canceling an order by selecting the bids or asks displayed on the Board Screen. TSE discloses canceling an order by selecting a notice in the Notice Display Area. *See id.* at 132, 137–138, 155–159, 162. Petitioner does not sufficiently explain why one of ordinary skill in the art would modify TSE to cancel an order by selecting a bid or ask on the Board Screen instead of selecting a notice in the Notice Display Area.

Petitioner argues that Belden discloses canceling a user's order by clicking an icon representing a user's order, which is allegedly at a location corresponding to a particular price level. Pet. 58–59. Petitioner argues that one of ordinary skill in the art "would have found it obvious to add Belden's single-action order technique to TSE's electronic trading system" in order to reduce the time needed to cancel an order and reduce operator error. *Id.* at 59–61 (citing Ex. 1003 ¶¶ 131–133); *see also* Pet. 42–43 (citing Ex. 1003 ¶¶ 96–98); Pet. Reply 15–16. Reducing the time needed to cancel an order and reducing operator error may explain why it would have been obvious to replace TSE's Corrected Order Input Window with single-action order entry. It, however, does not explain sufficiently why one of ordinary skill in the art would cancel an order by selecting a bid or ask on the Board Screen instead

of selecting a notice in the Notice Display Area. The cited paragraphs of Mr. Román's testimony substantially repeat the arguments in the Petition and do not provide a sufficient explanation. *See* Ex. 1003 ¶¶ 96–98, 131–133.

For this reason, we determine that Petitioner has not shown by a preponderance of the evidence that it would have been obvious to one of ordinary skill in the art to modify TSE, given the teachings of Belden, to cancel a user's entered order at an exchange by selecting one of the bids or asks in columns 12 or 13 of TSE's Board Screen with a single action.

With respect to Petitioner's second combination, Petitioner relies upon the Contract Conclusion Notices in TSE's Notice Display Area as teaching entered order indicators. Pet. 55–57. Petitioner contends:

> However, TSE does not teach displaying the Notice Display Area's entered order indicator "*at a location corresponding to a particular price level along the static price axis.*" But locating the entered order indicator along the static price axis is a mere design choice well within the skills of a POSA. ([Ex. 1003] ¶ 121.) It would have been obvious to a POSA to display the Notice Display Area's entered order indicators "*along the static price axis*" (TSE's price column 11) so that the trader using the workstation could easily recognize and track his/her orders at various price levels. (*Id.*; *see also id.* at ¶ 123 (discussing other evidence demonstrating that it was known to display a trader's orders along a price axis); *see also* Weiss, pp. 44–46.) And, merely displaying well-known data at different locations on a graphical user interface is not enough to confer patentability. *See e.g.*, *CyberSource*, 654 F.3d at 137 ("the mere manipulation or reorganization of data" is not a transformation).

Id. at 56–57.

Patent Owner disagrees.[6] *See* PO Resp. 23–32. Patent Owner argues that

> a POSA would not have been motivated to display entered order indicators along a static price axis because in certain situations the entered order indicators could actually move off the screen and thus not be viewable to the user when, for example a re-centering event causes the static price axis to shift.

PO Resp. 26 (citing Ex. 2169 ¶¶ 162, 171). Patent Owner's declarant Mr. Thomas testifies, "for example, if a price level with an associated entered order indicator was near the bottom of the screen and a shift occurred, that price level and associated entered order would no longer be viewable on the screen, which would have been deemed a downside to traders." Ex. 2169 ¶ 171; *see also* Ex. 2540, 83:16–84:2 (testimony of Mr. Román). Petitioner does not respond to Patent Owner's argument in its Reply. *See* Pet. Reply 14–18.

Petitioner has the burden of proving a proposition of unpatentability by a preponderance of the evidence. 35 U.S.C. § 326(e); *see Magnum Oil Tools*, 892 F.3d at 1375. Upon review of the evidence and analysis in the Petition, we determine that Petitioner has not shown by a preponderance of the evidence that it would have been obvious to one of ordinary skill in the art to modify TSE to display the Contract Conclusion Notices in TSE's

[6] A Petitioner notes, we rejected similar arguments made by Patent Owner in CBM2015-00181. *See* Pet Reply 15 (citing Ex. 1058, 48–54). In CBM2015-00181, Petitioner proposed to modify TSE to include Belden's icons representing a trader's working orders. Here, Petitioner proposes to modify TSE's Board Screen to include the Contract Conclusion Notices in TSE's Notice Display Area. Further, the record in CBM2015-00181 does not include Patent Owner's evidence contrary to Petitioner's proposed modification (Ex. 2169 ¶ 171; Ex. 2540, 83:16–84:2).

Notice Display Area along TSE's price column 11. Neither Petitioner nor Mr. Román, however, sufficiently address Patent Owner's evidence to the contrary (Ex. 2169 ¶ 171). *See* Pet. Reply 14–18; Ex. 1003 ¶¶ 121–123; Ex. 2540, 83:16–84:2. Petitioner has not shown sufficiently that such a modification is "a mere design choice" or that one of ordinary skill in the art would be motivated to make the proposed modification because a "trader using the workstation could easily recognize and track his/her orders at various price levels." *See* Pet. 57; *see also Magnum Oil Tools,* 892 F.3d at 1380 ("The petitioner must . . . articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.").

For this reason, we determine that Petitioner has not shown by a preponderance of the evidence that it would have been obvious to one of ordinary skill in the art to modify TSE to display the Contract Conclusion Notices in TSE's Notice Display Area along TSE's price column 11.

Petitioner has not met its burden to show by a preponderance of the evidence that claims 1 and 17 are unpatentable under 35 U.S.C. § 103(a) over TSE and Belden.

Dependent Claims

Claims 2–16 and 18–32 depend from claim 1 and 17. For the reasons as discussed above, Petitioner has not met its burden to show by a preponderance of the evidence that claims 2–16 and 18–32 are unpatentable under 35 U.S.C. § 103(a) over TSE and Belden. *See In re Fritch,* 972 F.2d 1260, 1266 (Fed. Cir. 1992) ("[D]ependent claims are nonobvious if the independent claims from which they depend are nonobvious.").

III. MOTIONS TO EXCLUDE

Petitioner moves to exclude various ones of Patent Owner's Exhibits. Paper 43. Patent Owner moves to exclude Petitioner's Exhibits 1004, 1005, and 1007. Paper 46. Because the outcome of this trial does not change based on whether or not we exclude those exhibits, we *dismiss* the Motions to Exclude as moot.

IV. CONCLUSION

For the foregoing reasons, we determine that Petitioner shows that claims 1–32 of the '382 patent are patent-ineligible under 35 U.S.C. § 101. Petitioner fails to show, by a preponderance of the evidence, that claims 1–32 of the '382 patent are unpatentable under 35 U.S.C. § 103.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–32 of the '382 patent are unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Exclude Evidence is *dismissed*;

FURTHER ORDERED that Petitioner's Motion to Exclude Evidence is *dismissed*; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

CBM2016-00090
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