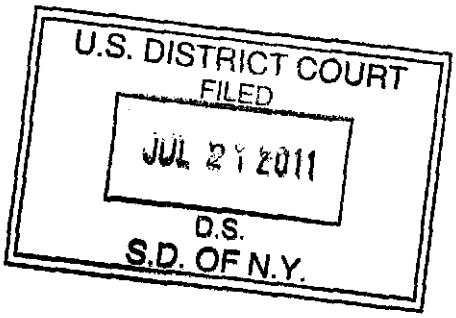
UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

LIQUIDNET HOLDINGS, INC.,	:	No. 07-cv-6886(SAS)
Plaintiff - Counterclaim Defendant,	:	**NOTICE OF APPEAL IN A CIVIL CASE**
vs.	:	
PULSE TRADING, INC.,	:	
Defendant - Counterclaim Plaintiff.	:	



Notice is hereby given that Plaintiff – Counterclaim Defendant Liquidnet Holdings, Inc., hereby appeals to the United States Court of Appeals for the Federal Circuit from the Judgment entered in this action on the 24th day of June, 2011, this court's memorandum of summary judgment of December 21, 2010, the court's claim construction ruling of January 19, 2010, and all other orders of the court relating thereto.

Dated: July 21, 2011

SIDLEY AUSTIN LLP

By: _____

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the foregoing **NOTICE OF APPEAL IN A CIVIL CASE** was filed by hand with the Court and was served electronically and by Federal Express to the following registered participants as identified on the Notice of Electronic Filing (NEF) on July 21, 2011:

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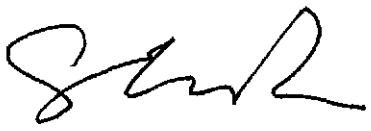

Scott M. Border

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

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LIQUIDNET HOLDINGS, INC.,

Plaintiff/
Counterclaim-Defendant,

-against-

PULSE TRADING, INC.,

Defendant/
Counterclaim-Plaintiff.

----------X

07 **CIVIL** 6886 (SAS)

JUDGMENT

Liquidnet having moved the Court to (1) dismiss without prejudice Pulse's pending claims and enter final judgment of non-infringement; or, alternatively, to (2) stay Pulse's pending claims and enter final judgment under Fed. R. Civ. P. 54(b), and the matter having come before the Honorable Shira A. Scheindlin, United States District Judge, and the Court, on June 22, 2011, having rendered its Memorandum Opinion and Order dismissing Pulse's remaining claims without prejudice, and entering final judgment of non-infringement, it is,

ORDERED, ADJUDGED AND DECREED: That for the reasons stated in the Court's Memorandum Opinion and Order dated June 22, 2011, Pulse's remaining claims are dismissed without prejudice, and final judgment of non-infringement is hereby entered.

Dated: New York, New York
June 24, 2011

RUBY J. KRAJICK

Clerk of Court

BY: _____

Deputy Clerk

THIS DOCUMENT WAS ENTERED
ON THE DOCKET ON _____

United States District Court
Southern District of New York
Office of the Clerk
U.S. Courthouse
500 Pearl Street, New York, N.Y. 10007-1213

Date:

In Re:

-v-

Case #: ( )

Dear Litigant,

Enclosed is a copy of the judgment entered in your case.

Your attention is directed to Rule 4(a)(1) of the Federal Rules of Appellate Procedure, which requires that if you wish to appeal the judgment in your case, you must file a notice of appeal within 30 days of the date of entry of the judgment (60 days if the United States or an officer or agency of the United States is a party).

If you wish to appeal the judgment but for any reason you are unable to file your notice of appeal within the required time, you may make a motion for an extension of time in accordance with the provision of Fed. R. App. P. 4(a)(5). That rule requires you to show "excusable neglect" or "good cause" for your failure to file your notice of appeal within the time allowed. Any such motion must first be served upon the other parties and then filed with the Pro Se Office no later than 60 days from the date of entry of the judgment (90 days if the United States or an officer or agency of the United States is a party).

The enclosed Forms 1, 2 and 3 cover some common situations, and you may choose to use one of them if appropriate to your circumstances.

The Filing fee for a notice of appeal is $5.00 and the appellate docketing fee is $450.00 payable to the "Clerk of the Court, USDC, SDNY" by certified check, money order or cash. **No personal checks are accepted.**

Ruby J. Krajick, Clerk of Court

by: _____

, Deputy Clerk

United States District Court
Southern District of New York
Office of the Clerk
U.S. Courthouse
500 Pearl Street, New York, N.Y. 10007-1213

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-V-

NOTICE OF APPEAL

civ. ( )

----------X

Notice is hereby given that _____ (party) hereby appeals to the United States Court of Appeals for the Second Circuit from the Judgment [describe it]

entered in this action on the _____ (day) day of _____ (month), _____ (year).

_____
(Signature)

_____
(Address)

_____
(City, State and Zip Code)

Date: _____

( ) _____ - _____
(Telephone Number)

Note: You may use this form to take an appeal provided that it is received by the office of the Clerk of the District Court within 30 days of the date on which the judgment was entered (60 days if the United States or an officer or agency of the United States is a party).

FORM 1

United States District Court
Southern District of New York
Office of the Clerk
U.S. Courthouse
500 Pearl Street, New York, N.Y. 10007-1213

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-V-

MOTION FOR EXTENSION OF TIME TO FILE A NOTICE OF APPEAL

civ. ( )

----------X

Pursuant to Fed. R. App. P. 4(a)(5), _____ respectfully
(party)
requests leave to file the within notice of appeal out of time. _____
(party)
desires to appeal the judgment in this action entered on _____ but failed to file a
(day)
notice of appeal within the required number of days because:

[Explain here the "excusable neglect" or "good cause" which led to your failure to file a notice of appeal within the required number of days.]

_____
(Signature)

_____
(Address)

_____
(City, State and Zip Code)

Date: _____ ( )_____-_____
(Telephone Number)

Note: You may use this form, together with a copy of Form 1, if you are seeking to appeal a judgment and did not file a copy of Form 1 within the required time. If you follow this procedure, these forms must be received in the office of the Clerk of the District Court no later than 60 days of the date which the judgment was entered (90 days if the United States or an officer or agency of the United States is a party).

FORM 2

United States District Court
Southern District of New York
Office of the Clerk
U.S. Courthouse
500 Pearl Street, New York, N.Y. 10007-1213

----------X

-V-

NOTICE OF APPEAL
AND
MOTION FOR EXTENSION OF TIME

civ. ( )

----------X

1. Notice is hereby given that _____ hereby appeals to
(party)
the United States Court of Appeals for the Second Circuit from the judgment entered on _____.
[Give a description of the judgment]

2. In the event that this form was not received in the Clerk's office within the required time

_____ respectfully requests the court to grant an extension of time in
(party)
accordance with Fed. R. App. P. 4(a)(5).

a. In support of this request, _____ states that
(party)
this Court's judgment was received on _____ and that this form was mailed to the
(date)
court on _____ .
(date)

_____
(Signature)

_____
(Address)

_____
(City, State and Zip Code)

Date: _____ ( ) _____ - _____
(Telephone Number)

Note: You may use this form if you are mailing your notice of appeal and are not sure the Clerk of the District Court will receive it within the 30 days of the date on which the judgment was entered (60 days if the United States or an officer or agency of the United States is a party).

FORM 3

United States District Court
Southern District of New York
Office of the Clerk
U.S. Courthouse
500 Pearl Street, New York, N.Y. 10007-1213

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-V-

----------X

AFFIRMATION OF SERVICE

civ. ( )

I, _____, declare under penalty of perjury that I have served a copy of the attached _____

_____

upon _____

_____

whose address is: _____

_____

Date: _____
New York, New York

_____
(Signature)

_____
(Address)

_____
(City, State and Zip Code)

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

INVESTMENT TECHNOLOGY GROUP, INC., ITG INC., ITG SOLUTIONS NETWORK, INC., AND THE MACGREGOR GROUP, INC.,

Plaintiffs/Counterclaim-Defendants,

- against -

LIQUIDNET HOLDINGS, INC.,

Defendant/Counterclaim-Plaintiff.

LIQUIDNET HOLDINGS, INC.,

Plaintiff/Counterclaim-Defendant,

- against -

PULSE TRADING, INC.,

Defendant/Counterclaim-Plaintiff.

OPINION & ORDER

07 Civ. 510 (SAS)

07 Civ. 6886 (SAS)

SHIRA A. SCHEINDLIN, U.S.D.J.

I. INTRODUCTION

This opinion resolves four motions for summary judgment involving

claim one of a method patent[1] owned by Liquidnet Holdings, Inc. ("Liquidnet"). In brief, Liquidnet has alleged that certain electronic methods for integrating buy-side firms' order management systems with electronic securities marketplaces, developed and marketed by Investment Technology Group ("ITG")[2] and Pulse Trading, Inc. ("Pulse"), literally infringe claim one of Patent '834, and that ITG willfully infringed the Patent. ITG and Pulse allege that Patent '834 is invalid, unenforceable, and not infringed by ITG's and Pulse's products.

On January 19, 2010, following a Markman hearing, I issued an opinion adopting certain constructions of claim one.[3] ITG and Liquidnet, and Pulse and Liquidnet, now cross-move for summary judgment on literal infringement; ITG moves for summary judgment on Liquidnet's willful infringement claim; and Liquidnet moves for partial summary judgment on ITG's inequitable conduct claim (part of its claim that Patent '834 is unenforceable).

For the following reasons, I grant ITG's and Pulse's motions for

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[1] 11/14/06 U.S. Patent 7,136,834 ("Patent '834"), Ex. 1 to Affidavit of Jenny Workman, counsel to ITG.

[2] "ITG" refers collectively to Investment Technology Group, Inc., ITG Inc., ITG Solutions Network, Inc., and The MacGregor Group, Inc.

[3] *See Investment Tech. Group, Inc. v. Liquidnet Holdings, Inc.*, Nos. 07 Civ. 510, 07 Civ. 6886, 2010 WL 199912 (S.D.N.Y. Jan. 19 2010) ("*Claim Construction*"). This decision assumes familiarity with my construction of claim one, as well as the law applicable to claim construction, as stated in that opinion.

summary judgment of no literal infringement and deny Liquidnet's motions on that claim. I also grant ITG's motion for summary judgment on Liquidnet's willful infringement claim and deny Liquidnet's motion for partial summary judgment on ITG's inequitable conduct claim.

II. BACKGROUND[4]

On November 14, 2006, the Patent and Trademark Office ("PTO") issued Patent '834 – entitled "Electronic Securities Marketplace Having Integration with Order Management Systems" – to Liquidnet.[5] In basic terms, the patented invention allows institutional investment management firms to connect with an electronic marketplace and trade securities (or other financial instruments) with one another.[6]

A. Claim One of Patent '834

Claim one of the Patent – the only claim at issue in this case – describes a method for integrating an order management system ("OMS") with an

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[4] For ease of understanding, I outline the factual background and applicable law relevant to each of the three claims on which summary judgment in this case is sought – literal infringement, willful infringement, and inequitable conduct – in the separate sections of this opinion in which I discuss each set of briefs relating to those claims.

[5] Patent '834.

[6] I incorporate here by reference my discussion of "The Invention," as stated in *Claim Construction*, 2010 WL 199912, at *1.

electronic marketplace ("ETM") for the purpose of sending non-binding indications to that marketplace:

> 1. A computer-implemented method for generating non-binding indications for at least one security comprising:
>
> i) *accessing, by at least one computer, all records of open orders* from a database of an order management system wherein the order management database is associated with a trading firm and wherein the order management system is coupled to at least one workstation utilized by the trading firm wherein the order management system database comprises at least the following fields.
>
> (a) security name, symbol or identifier,
> (b) transaction type,
> (c) total order size,
> (d) quantity of the security placed elsewhere, and
> (e) quantity of the security executed;
>
> ii) *generating, by at least one computer, all non-binding indications* from the accessed records of orders that are *suitable for transmission* to at least one *electronic marketplace*, each *non-binding indication* comprising security name, symbol or identifier, the transaction type, and an available quantity, such available quantity being determined by the accessed records;
>
> iii) *sending* the suitable *non-binding indications* to the at least [*sic*] one *electronic marketplace*.
>
> iv) *periodically determining* if at least one accessed record of order of the order management system database has changed, then *subsequently generating*, for the changed record of order, at least one updated *non-binding indication*; and
>
> v) if updated, *subsequently sending* the updated *non-binding*

indication to the at least [*sic*] one *electronic marketplace*.[7]

B. Claim Construction

In an Opinion and Order dated January 19, 2010, I construed the disputed terms (italicized above) as follows:

> "Accessing" means "gaining entry to."
> "All" means "each and every."
> "Open orders" means "instructions to buy or sell a quantity of a security not yet placed elsewhere (*i.e.*, where the total order size exceeds the quantity, if any, committed to another broker or other execution venue)."
> "Generating" means "producing non-binding indications in a format understood by the electronic marketplace."
> "Non-binding indications" means "non-binding purchase or sale offers that allow traders to enter into negotiation to trade securities, which cannot be executed without a further, affirmative action by a trader."
> "Suitable for transmission" means "appropriate for transmission."
> "Electronic marketplace" means "an electronic destination that (1) receives and processes non-binding indications, (2) allows for the matching of non-binding indications with their contra interests and for the negotiation and execution of trades, and (3) has the capacity to record trades if and when they are executed."
> "Sending" means "transmitting."
> "Periodically determining" means "determining from time to time."
> "Subsequently generating" means "subsequently producing."
> "Subsequently sending" means "subsequently transmitting."[8]

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[7] Patent '834 col.12 l.50-col.13 l.15 (emphasis added to terms disputed during Claim Construction).

[8] *Claim Construction*, 2010 WL 199912, at *13-14.

III. LEGAL STANDARD

Summary judgment is appropriate "if the pleadings, the discovery and disclosure materials on file, and any affidavits show that there is no genuine issue as to any material fact and that the movant is entitled to judgment as a matter of law."[9] "'An issue of fact is genuine if the evidence is such that a reasonable jury could return a verdict for the nonmoving party. A fact is material if it might affect the outcome of the suit under the governing law.'"[10] "[T]he burden of demonstrating that no material fact exists lies with the moving party . . . ."[11]

In determining whether a genuine issue of material fact exists, the court must "construe[] the evidence in the light most favorable to the non-moving party and draw all reasonable inferences" in that party's favor.[12] However, "[w]hen the burden of proof at trial would fall on the nonmoving party, it ordinarily is sufficient for the movant to point to a lack of evidence to go to the trier of fact on an essential element of the non[-]movant's claim."[13]

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[9] Fed. R. Civ. P. 56(c).

[10] *SCR Joint Venture L.P. v. Warshawsky*, 559 F.3d 133, 137 (2d Cir. 2009) (quoting *Roe v. City of Waterbury*, 542 F.3d 31, 34 (2d Cir. 2008)).

[11] *Miner v. Clinton County, N.Y.*, 541 F.3d 464, 471 (2d Cir. 2008).

[12] *Sledge v. Kooi*, 564 F.3d 105, 108 (2d Cir. 2009).

[13] *Jaramillo v. Weyerhaeuser Co.*, 536 F.3d 140, 145 (2d Cir. 2008).

IV. DISCUSSION

A. ITG and Pulse Are Entitled to Summary Judgment of Non-Infringement

ITG and Liquidnet, and Pulse and Liquidnet, now cross-move for summary judgment of literal infringement. ITG and Pulse argue they are entitled to summary judgment of no literal infringement, while Liquidnet argues that ITG and Pulse literally infringe Patent '834 as a matter of law. Upon a finding that either ITG or Pulse fails to perform even one of the claim's five steps, it is entitled to summary judgment.

ITG's and Pulse's primary arguments for non-infringement are as follows: (1) ITG and Pulse do not perform step (i) because they do not "access" "all" records of open orders from a database of an OMS; (2) ITG and Pulse do not perform step (ii) because they do not generate "non-binding indications"; (3) ITG does not perform step (iii) because it does not send "non-binding indications" to an "electronic marketplace"; and (4) ITG and Pulse do not enable traders to enter into negotiations to trade securities (relevant to steps (ii)-(v) in light of my construction of "non-binding indications" and "electronic marketplace"). I agree with ITG and Pulse that, with the exception of one integration employed by ITG ("MacGregor XIP integrations"), ITG and Pulse do not "access" "all" records of open orders from databases of OMSs. I also agree with ITG that, because its accused products

do not constitute an "electronic marketplace" as this Court has construed that term, it cannot perform steps (iii) and (v) of claim one, which require "sending" "non-binding indications" to at least one "electronic marketplace." Accordingly, I deny Liquidnet's motions for summary judgment of literal infringement and grant summary judgment to both ITG and Pulse with respect to literal infringement. I need not (and do not) address ITG's and Pulse's other arguments for non-infringement.

1. Facts Relating to Literal Infringement Claim

The accused products in this case – ITG's "Channel" and "POSIT Alert" and Pulse's "BlockCross" – are used by hedge funds and asset management firms to facilitate the electronic execution of U.S. equity (stock) trades.[14] These firms, which include mutual fund managers, pension funds, and private equity funds, are often referred to as "buy-side firms."[15]

Portfolio managers at buy-side firms direct the investment of the firms' funds; they decide which securities will comprise the "portfolio" of assets in which

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[14] *See* ITG's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("ITG 56.1") ¶¶ 1-2; Liquidnet's Statement of Undisputed Facts Pursuant to Local Rule 56.1 in Support of Motion for Partial Summary Judgment Against Pulse ("Liquidnet v. Pulse 56.1") ¶ 3; Pulse's Memorandum of Law in Support of Motion for Summary Judgment ("Pulse Mem.") at 2.

[15] ITG 56.1 ¶ 1.

their funds are invested.[16] These investments can span U.S. and foreign stocks, bonds, options, futures, currencies, and derivatives.[17]

When a portfolio manager decides to purchase or sell a particular security, she enters that instruction, or "order," into an OMS.[18] OMSs are software-based systems used by buy-side firms to manage their investment strategies.[19] All records of orders for an entire firm are maintained in the firm's central "OMS database."[20]

Buy-side firms also employ traders who manage, or "work," the actual buying and selling of assets for the firm – as opposed to deciding *which* assets to buy and sell (the portfolio managers' job).[21] Traders are given permission to call up (or see) only certain orders in a firm's portfolio.[22] They view those orders on their trader desktop computers, or "workstations," using OMS graphical user interfaces

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16 *See id.* ¶¶ 13-14.

17 *See id.* ¶ 13.

18 *See id.* ¶ 14.

19 *See id.* ¶ 12.

20 *Id.* ¶ 15. For example, according to Patent '834's specification, "each OMS database holds data representative of open, contemplated, or completed orders to buy and/or sell securities . . . ." Col.5 ll.42-44.

21 ITG 56.1 ¶ 16.

22 *See id.* ¶ 17.

("GUIs").[23] The GUIs include electronic "blotters" that display certain information from the records in the OMS database that the trader is responsible for working.[24]

Traditionally, buy-side traders traded securities by picking up the phone and calling sell-side brokers to fill orders.[25] Since the mid-1990s, however, traders have been able to place orders electronically directly from their OMS blotters, or from other electronic trading platforms, such as execution management systems (EMSs).[26] Using an OMS or EMS, a trader can electronically place, change, cancel, and update his orders, and receive execution information electronically, without using the phone.[27]

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[23] *Id.* ¶ 18.

[24] *See id.* ¶ 19. Traders call this GUI the "blotter" because traders once managed the same order information by hand on paper "blotters." *See id.* ¶ 20. A trader blotter typically displays, for each order: (1) an identification of the asset to be bought or sold; (2) the total number of shares to buy or sell (*i.e.*, the total order size); (3) details regarding shares the trader already bought or sold (*i.e.*, executed or completed orders); (4) details regarding any "firm" buy/sell orders that the trader already placed, but that have not been executed (*i.e.*, "firm orders" or "placed orders"); and (5) the number of shares the trader has not yet placed anywhere ("unplaced" or "open" orders"). *Id.* ¶ 22. "Firm" orders are orders that, once submitted to an electronic marketplace, are "binding" on traders; in other words, once they are "matched" with a "contra-indication," they are automatically executed, with no further, affirmative action required by the trader. *See id.* ¶¶ 65, 69-70, 74-75.

[25] *See id.* ¶ 24.

[26] *See id.* ¶ 25.

[27] *See id.* ¶ 27.

a. ITG's Accused Products: Channel and POSIT Alert

Liquidnet accuses two ITG products, "ITG Channel"[28] ("Channel") and "POSIT Alert," of infringing the Patent. Channel is an EMS and "desktop trading tool" that ITG developed to help buy-side traders electronically route (or channel) firm orders "strictly to ITG trading destinations."[29] Through some integration with buy-side firms' OMS databases,[30] Channel obtains only those records of open orders for U.S. equities.[31] Channel then displays the unplaced share data for which a particular trader is responsible for "working" on that trader's Channel "blotter," a GUI located on her workstation.[32]

From her Channel blotter, a trader has two, non-mutually exclusive options. *First*, the trader can convert the unplaced share data into a "firm order" by sending it directly to one of ITG's trading destinations for execution.[33] *Second* – or

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[28] The MacGregor XIP, an order management system manufactured by The MacGregor Group, Inc. (owned by ITG), integrates with Channel. *See id.* ¶ 1.

[29] *Id.* ¶¶ 32-33.

[30] A more detailed description of the manner in which the accused products integrate with client-side OMS databases is included in Section IV.A.1.c below.

[31] *See* ITG 56.1 ¶¶ 42, 45.

[32] *See id.* ¶¶ 33-34, 36, 38, 58.

[33] *See id.* ¶ 67. ITG's "trading destinations" include (1) "POSIT," (2) ITG's suite of trading algorithms ("ITG Algorithms"), and (3) the ITG trading desk. *Id.* ¶¶ 65-76. POSIT is an electronic "crossing" system that matches firm

in addition[34] – she can expose the unplaced share data in POSIT Alert.[35]

POSIT Alert is not a trading destination, but rather an alerting mechanism – it "alerts" traders when it finds matching (1) *binding* indications in POSIT and other ITG trading destinations or (2) *non-binding* indications in POSIT Alert.[36] When POSIT Alert finds a potential match, it notifies all the traders having relevant exposed unplaced shares in POSIT Alert that a potential match exists.[37] Upon such notification, each trader has a limited number of seconds to decide whether she wishes to act on that alert by sending a firm order to POSIT – *i.e.*, converting the non-binding indication into a binding indication for potential execution in POSIT.[38] POSIT Alert does not identify the number of traders matched, the identity of those traders, the quantity of securities on either side of the

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orders received from traders across ITG's entire client base and executes them at the midpoint of the National Best Bid and Offer (NBBO) price. *Id.* ¶¶ 65, 68.

[34] *See id.* ¶¶ 78, 82-83.

[35] *See id.* ¶ 78.

[36] *Id.* ¶ 79. *Accord* Liquidnet's Statement of Undisputed Facts Pursuant to Local Rule 56.1 in Support of Motion for Partial Summary Judgment Against ITG ("Liquidnet v. ITG 56.1") ¶¶ 58-59.

[37] *See* ITG 56.1 ¶ 84; Liquidnet v. ITG 56.1 ¶ 63. The parties refer to the binding or non-binding indication with which the trader's exposed unplaced share information is matched as a "contra-indication."

[38] *See* ITG 56.1 ¶ 88; Liquidnet v. ITG 56.1 ¶¶ 64-65.

trade, or the price at which any trader may wish to execute a trade.[39] The trader only knows that (1) there are one or more traders on the opposite side of the desired trade (2) with unknown quantities of shares available, (3) with whom she might match in POSIT (4) if both sides send firm orders to POSIT and those firm orders have compatible terms.[40]

b. Pulse's Accused Product: BlockCross

Like Channel, BlockCross receives only U.S. equity order information from buy-side firms' datacenters by integrating in some way with those firms' OMS databases[41] and displaying only those orders for which individual traders are responsible on those traders' BlockCross "blotters."[42] As with Channel, a trader using BlockCross can designate a trade in one of two modes – "Confirm" mode or "Auto-Ex" mode – or both.[43] For trades designated for Confirm mode, BlockCross (like POSIT Alert) alerts traders of crossing opportunities.[44] Like POSIT,

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[39] *See* ITG 56.1 ¶¶ 86-87. All a trader knows with respect to the other side's quantity in POSIT Alert is that it is more than the minimum order size set for the system. *See id.* ¶ 87.

[40] *See id.* ¶ 87.

[41] *See* Pulse's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("Pulse 56.1") ¶¶ 15-16.

[42] *See id.* ¶¶ 28-29.

[43] Liquidnet v. Pulse 56.1 ¶ 55.

[44] *See id.* ¶ 57.

BlockCross automatically executes "Auto-Ex" trades at the NBBO price upon finding a matching contra-Auto-Ex indication.[45] All BlockCross trades execute at the NBBO or "mid-point" price.[46]

c. Obtaining Order Information Located in OMS Databases

As noted above, Channel and BlockCross obtain information about open orders for U.S. equities from their clients' OMS databases by "interfacing" or setting up "integrations" with OMS vendors – integrations that vary depending on the vendor.[47]

Pulse has integrations set up with ten different OMS vendors.[48] Of the ten, eight involve "stored procedure" integrations and two involve "web service" integrations.[49] In the stored procedure integrations, BlockCross issues a "call" to

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[45] *See* Pulse 56.1 ¶ 31. When designating an order for Auto-Ex mode, a trader may also select a "Follow-on" option that enables her to complete additional trading (after her initial order has been executed in BlockCross), but only if the contra-trader with whom her initial order was executed *also* pre-set her order to "Follow-on." *See id.* ¶¶ 37-38. If both parties have pre-set their orders to Follow-on, and an AutoEx trade is executed, the parties will have an opportunity to do another trade in Confirm mode. *See id.* ¶ 39.

[46] Liquidnet v. Pulse 56.1 ¶ 56.

[47] *See* Pulse 56.1 ¶¶ 7, 9; ITG 56.1 ¶¶ 40, 48-49; Liquidnet v. ITG 56.1 ¶¶ 40-41.

[48] *See* Pulse 56.1 ¶ 7.

[49] *Id.*

the OMS through an application programming interface ("API") written by the OMS vendor or its client.[50] The call requests information about U.S. equity orders from the OMS by asking the API to execute a "stored procedure" in the OMS database.[51] After issuing the call to the API, BlockCross has no further involvement with the OMS database until the API returns the U.S. equity order information to BlockCross.[52] In the web server integrations, BlockCross retrieves U.S. equity order information from a web server, which is separate from the OMS.[53]

Unlike Pulse, ITG owns an OMS – the MacGregor XIP – that integrates with Channel.[54] For ITG clients who use Channel with the MacGregor XIP, Channel prompts or "calls" a specific stored procedure in MacGregor XIP,[55] as in the Pulse "stored procedure" implementations described above. This stored

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50 *Id.* ¶ 14.

51 *See id.* ¶¶ 15-16.

52 *See id.* ¶ 18.

53 *See id.* ¶ 10. Pulse asserts that in web services integrations, BlockCross software ("BCX") communicates with a web services server and does not integrate with an OMS. *See* Pulse's Response to Liquidnet's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("Pulse Response to Liquidnet 56.1") ¶ 35.

54 *See* ITG 56.1 ¶¶ 1, 41-42.

55 *Id.* ¶ 41.

procedure, written by MacGregor,[56] locates U.S. equity orders in the database, "reads in memory only those records, retrieves the read data, and sends it to Channel."[57]

For non-MacGregor OMS clients, the technology used by Channel to obtain unplaced share information varies depending on the client and the OMS it uses.[58] Like BlockCross, Channel utilizes both stored procedure and non-stored procedure implementations.[59] Channel's stored procedure implementations work similarly to its MacGregor XIP implementations: a "call" prompts a customer-provided program that is either written by the OMS vendor or buy-side firm to send order information to Channel.[60] Channel then stores the unplaced share data in a Channel database.[61] Channel's non-stored procedure interfaces include "socket connections, web services, COM API's and flat files (i.e., 'file drops')."[62] As with

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56 *See id.* ¶ 42.

57 *Id.* ¶ 45.

58 *See id.* ¶ 48.

59 *See* Liquidnet v. ITG 56.1 ¶¶ 40-41.

60 *See* ITG's Response to Liquidnet's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("ITG Response to Liquidnet 56.1") ¶¶ 41, 43 (disputed by ITG only to the extent the "call" is not a communication with the database, but rather "some sort of prompt to that program to send information").

61 *See* ITG 56.1 ¶ 45.

62 Liquidnet 56.1 ¶ 40.

the stored procedure integrations, in all of these non-stored procedure integrations, the buy-side firm "decides what orders it wants to be able to trade at ITG through Channel and it works directly with its OMS vendor to gather the pertinent information. Some form of vendor-written computer program obtains order data by methods known only to the vendor-author, and provides the data to Channel, either by transmitting the order data to Channel or by storing the order data in an agreed upon network location, such as in a flat file or a port."[63] The OMS vendors maintain, create, and own the software code that they write and do not give ITG access to it.[64]

2. Applicable Law

Patent infringement refers to "the unauthorized making, using, selling, offering to sell, or importing into the United States of any patented invention during the term of the patent."[65] Determination of infringement involves two steps: (1) a construction of the terms of the asserted claims ("Claim Construction") and (2) a determination of whether the accused method infringes the claims as construed.[66]

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[63] ITG 56.1 ¶ 49. *Accord* ITG Response to Liquidnet 56.1 ¶ 40.

[64] *See* ITG 56.1 ¶ 54.

[65] 35 U.S.C. § 271(a).

[66] *See Metabolite Labs., Inc. v. Laboratory Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004).

Claim construction is a question of law, the purpose of which is to determine what is covered by the claims of a patent.[67] In cases where "the parties do not dispute any relevant facts regarding the accused product but disagree over [claim interpretation], the question of literal infringement collapses to one of claim construction and is thus amenable to summary judgment."[68]

A plaintiff may establish infringement either by proving literal infringement or by using the doctrine of equivalents.[69] To prove literal infringement, the patentee must show by a preponderance of the evidence that the

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[67] *See, e.g., Boss Control, Inc. v. Bombardier Inc.*, 410 F.3d 1372, 1376 (Fed. Cir. 2005) (citing *Cybor Corp. v. FAS Techs., Inc* ., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc)). As a general principle, Federal Circuit precedent governs issues of patent law, while the law of the regional circuit applies to nonpatent issues. *See, e.g., Dana v. E.S. Originals, Inc.*, 342 F.3d 1320, 1323 (Fed. Cir. 2003).

[68] *Athletic Alternatives, Inc. v. Prince Mfg., Inc.*, 73 F.3d 1573, 1578 (Fed. Cir. 1996). *Accord Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 988 (Fed. Cir. 1999) ("Because the relevant aspects of the accused device's structure and operation are undisputed in this case, the question of whether Zebco's AutoGuide product infringes the claims of Johnson's '835 patent turns on the interpretation of those claims.").

[69] *See Windbrella Products v. Taylor Made Golf Co.*, 414 F. Supp. 2d 305, 311 (S.D.N.Y. 2006). The parties' motions, and this opinion, address only whether ITG's and Pulse's accused products literally infringe claim one of Patent '834. *See* ITG 56.1 ¶ 11. Moreover, Liquidnet has repeatedly stated that it is not relying on the doctrine of equivalents. *See* Transcript of Oral Argument on ITG's, Pulse's, and Liquidnet's Motions for Summary Judgment on November 22, 2010 at 6-7.

device accused of infringement contains every limitation in the asserted claims.[70] "For process patent or method patent claims, infringement occurs when a party performs all of the steps of the process."[71] "An infringement issue is properly decided upon summary judgment when no reasonable jury could find that every limitation recited in the properly construed claim either is or is not found in the accused device."[72]

"[W]here the actions of multiple parties combine to perform every step of a claimed method, the claim is directly infringed only if one party exercises 'control or direction' over the entire process such that every step is attributable to the controlling party, *i.e.*, the 'mastermind.' At the other end of this multi-party spectrum, mere 'arms-length cooperation' will not give rise to direct infringement by any party."[73] "[T]he control or direction standard is satisfied in situations where the law would traditionally hold the accused direct infringer vicariously liable for

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[70] *See, e.g., PC Connector Solutions LLC v. SmartDisk Corp.*, 406 F.3d 1359, 1364 (Fed. Cir. 2005); *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995) ("To establish literal infringement, every limitation set forth in a claim must be found in an accused product, *exactly*.") (emphasis added).

[71] *BMC Res., Inc. v. Paymentech, L.P.*, 498 F.3d 1373, 1379 (Fed. Cir. 2007).

[72] *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1339 (Fed. Cir. 2001).

[73] *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1329 (Fed. Cir. 2008), *cert. denied*, 129 S.Ct. 1585 (2009).

the acts committed by another party that are required to complete performance of a claimed method."[74] Although

> the standard requiring control or direction for a finding of joint infringement may in some circumstances allow parties to enter into arms-length agreements to avoid infringement . . . [t]he concerns over a party avoiding infringement by arms-length cooperation can usually be offset by proper claim drafting. A patentee can usually structure a claim to capture infringement by a single party. . . . [A] court will not unilaterally restructure the claim or the standards for joint infringement to remedy [] ill-conceived claims.[75]

3. Neither Pulse nor ITG (Other than MacGregor XIP Implementations) Literally Infringes Step (i) of Claim One of the '834 Patent

Pulse and ITG argue that their products do not, as a matter of law, "access[] . . . all records of open orders from a database of an order management system,"[76] as required by step (i) of claim one. With the exception of Channel's MacGregor XIP integrations, I agree. As I explain below, the parties do not dispute any relevant facts regarding the accused methods, but instead disagree over the

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[74] *Id.* at 1330 (alleged infringer that merely "controls access to its system and instructs bidders on its use is not sufficient to incur liability for direct infringement"). *Id.* at 1331.

[75] *BMC Res.*, 498 F.3d at 1381. *Accord Sage Prods. Inc. v. Devon Indus. Inc.*, 126 F.3d 1420, 1425 (Fed. Cir. 1997) ("[A]s between the patentee who had a clear opportunity to negotiate broader claims but did not do so, and the public at large, it is the patentee who must bear the cost of its failure to seek protection for this foreseeable alteration of its claimed structure.").

[76] Patent '834 col.12 ll.52-54.

meaning of the word "accessing" in step (i). Thus "the question of literal infringement collapses to one of claim construction and is . . . amenable to summary judgment."[77] The relevant, undisputed facts make clear that the only orders Pulse and ITG (in non-MacGregor OMS integrations) could possibly "access" – if they access any orders at all – are U.S. equity orders. However, because ITG controls or directs the stored procedures responsible for locating U.S. equity orders in MacGregor XIP databases, I cannot find as a matter of law that ITG does not perform step (i) for those implementations.

a. Claim Construction

Step (i) of claim one requires "accessing, by at least one computer, all records of open orders from a database of an order management system . . . ."[78] During Claim Construction, I defined "accessing" to mean "gaining entry to" and "all" to mean "each and every."[79] Thus, to infringe claim one, Pulse's and ITG's products must (1) gain access to (2) each and every record of open orders from a database of an OMS.

In defining "accessing" as "gaining entry to," I explained that "when the patent applicants used the term 'accessing,' they contemplated a process in

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77 *Athletic Alternatives*, 73 F.3d at 1578.

78 Patent '834 col.12 ll.52-54.

79 *Claim Construction*, 2010 WL 199912, at *13-14.

which [an OMS interfacing module ("OIM")][80] would be able to *gain entry to* the records and read them while they remained within the database."[81] I pointed to language in the specification describing a process by which an "OMS database integration module [ODIM] in the OIM reads data records stored in the OMS database"[82] to support my conclusion that "accessing" refers to "a mode of 'communication' between the OIM and the OMS database *wherein the OIM reads and monitors records within the OMS database*."[83] I found this definition supported by extrinsic evidence – a computer dictionary published by Microsoft in 2002 that defines "access" as "[t]o gain entry to memory in order to read or write data."[84] Thus, records of open orders located in an OMS database are "accessed" when an OIM gains access to those records by reading them in OMS databases' memory. And, according to the plain language of step (i), *all* records of open orders must be accessed in order for claim one to be infringed. In other words,

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[80] Under the terms of the specification, a "module" is "machine-executable code and/or data, but may also include associated circuitry, such as processing circuitry, as well as data storage areas, and/or other software or hardware." Patent '834 col.5 ll.42-46.

[81] *Claim Construction*, 2010 WL 199912, at *7.

[82] Patent '834 col.3 ll.44-46.

[83] *Claim Construction*, 2010 WL 199912, at *8 (emphasis added).

[84] *Id.*

Liquidnet must show that Pulse and ITG utilize OIMs that read data about – or gain entry to – "each and every" record of open orders contained within the OMS databases with which they are integrated.

As I explained in *Claim Construction*, the process of gaining entry to each and every record of open orders in the OMS database is different from the process of "retrieving" some or all of those records – a step that occurs *after* a trader logs on to the OMS and *after* the records have been accessed, or read in memory, and determined to be "suitable for transmission"[85]:

> Once a determination is made that a trader has logged on to the OMS the OIM retrieves data records about orders suitable for transmission to the ETM from the OMS database. In one embodiment of the present invention, all open orders are suitable for transmission to the ETM. In other embodiments of the present invention, the OIM, through the filtering module, makes the determination of suitable orders based on other criteria, such as the security type (e.g., stock or bond), security name (e.g., IBM or T), order type (e.g., market or limit order), order quantity, and/or price.[86]

In other words, after an OIM reads in the OMS database's memory data about *each and every* record of open orders in the OMS database, it determines which of the "accessed records" are suitable for transmission to the ETM. If only some records are suitable for transmission to the ETM, an OIM will filter the accessed records

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85 *Id.* at *7.

86 Patent '834 col.11 ll.17-27.

and then retrieve only those suitable for transmission to the ETM.[87] As I made clear in *Claim Construction*, these retrieving and filtering steps are not part of the "accessing" that takes place in step (i); they are unclaimed steps that take place before an OIM "generat[es] . . . *from*" the "accessed records" "non-binding indications" in step (ii).[88] But the disclosure of these "filtering," "retrieving," and "generating" steps – claimed or unclaimed – only reinforces that the patented method requires *all* records of open orders to be read from the OMS database's memory.[89]

Notwithstanding my claim construction, Liquidnet argues that "the act of 'accessing' is the act of communicating with an OMS database that contains all records of open orders . . . ."[90] But the syntax of step (i) makes clear that it is the

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[87] The fact that only some orders are suitable for transmission in some embodiments of Patent '834 does not change the fact that a necessary step of the patented method is accessing each and every one of those records.

[88] Patent '834 col.12 l.65-col.13 l.1.

[89] Pulse argues that "this is not a trivial distinction. As explained by Liquidnet's founder and inventor of the '834 patent, the order information on an OMS database '. . . is the most sensitive information on Wall Street.' For Liquidnet, convincing their customers to allow this 'blotter sweeping' was '[t]he biggest obstacle that [Liquidnet] had to overcome.' And it has had real-life impact; Liquidnet averages nearly four times more shares executed on a daily basis than Pulse." Pulse Mem. at 4.

[90] Liquidnet's Memorandum in Opposition to Pulse's Motion for Summary Judgment ("Liquidnet Opp. Mem. to Pulse Mem.") at 5.

"records of open orders" that the patented method must access, not the database. Liquidnet's proposed construction of step (i) essentially reads out of the claim the words "all records of open orders from." That the records – rather than the database – are the object of the verb "accessing" is only confirmed by the language of steps (ii) and (iv), which require the performance of additional steps on the "accessed records of orders" – such as "generating . . . non-binding indications from"[91] them and "determining if at least one" of them "has changed."[92]

However, it is true that the database itself must be accessed in order for the records *within* that database to be accessed. So if step (i) merely required accessing a database of an OMS, then Liquidnet would only need to show that ITG and Pulse communicate with OMS databases. After all, the specification discloses

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[91] Patent '834 col.12 ll.65-66.

[92] *Id.* col.13 ll.7-9. I also note that, if Liquidnet's construction of step (i) were correct, much of claim one, and the vast majority of the patent's specification, would be superfluous. In other words, if merely communicating with the database and receiving some order information were sufficient to constitute "accessing" all records of open orders, the specification would not need to disclose any "reading," "filtering," or "retrieving" steps. But the method of *integration* with OMS databases that Patent '834 discloses is one of its crucial components: Its title is "Electronic Securities Marketplace *Having Integration with* Order Management Systems," and the first line of its Abstract discloses "interfacing modules *interfacing directly with order management systems* (OMS's) at trading institutions." Patent '834 Abstract. Under Liquidnet's theory, all Liquidnet must show to win a motion for summary judgment is that accused infringers periodically *receive some* records of open orders from OMS databases. Given the plain language of claim one, the specification, and the prosecution history, Liquidnet's construction is simply not reasonable.

that "[t]he OIM is in communication with the OMS database and the ETM. . . ."[93] But this language in the *specification* – upon which Liquidnet bases its entire argument – does not describe step (i) of the *claim*, which requires "accessing . . . *all records of open orders from* a database of an order management system."[94] Rather, it describes the ancillary step of accessing the database itself – a step that is necessary but not sufficient to prove literal infringement of step (i).

b. ITG and Pulse Do Not "Access[] . . . All Records of Open Orders From" Databases of Non-MacGregor OMSs

Liquidnet has adduced no evidence – and does not argue – that ITG and Pulse employ OMS integration modules that read in memory *all* records of open orders from the OMS databases with which they interface. Rather, it argues that mere "communicat[ion] with an OMS database that *contains* all records of open orders" suffices to constitute infringement of step (i).[95] But the undisputed facts make clear that in all "stored procedure" integrations, *the OMSs* with which Pulse and ITG integrate filter the records of open orders for U.S. equity orders *before* they are obtained – let alone "read in memory" or accessed – by any sort of OIM. Thus, only records of open *U.S. equity* orders – a subset of "all" records of open orders –

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93 Patent '834 col.3 ll.43-44.

94 *Id.* col.12 ll.52-54.

95 Liquidnet Opp. Mem. to Pulse Mem. at 5 (emphasis added).

could possibly be accessed by Pulse and ITG in non-MacGregor XIP[96] stored procedure integrations. For non-stored procedure integrations, Liquidnet has not even adduced evidence sufficient to support *its* argument that ITG and Pulse "communicate with" OMS databases, let alone access all records of open orders within those databases. Therefore, ITG and Pulse are entitled to summary judgment of non-infringement for all non-MacGregor OMS integrations.

First, Liquidnet does not even articulate a theory of infringement for ITG's and Pulse's non-stored procedure integrations. In addition to stored procedures, Channel utilizes "socket connections, web services, COM API's and flat files (i.e., 'file drops');"[97] two of BlockCross's ten integration types involve "web server" implementations.[98] But Liquidnet fails to explain in any of its submissions or arguments what any of these things is, let alone how they involve accessing *all* records of open orders in an OMS database.[99] Instead, Liquidnet

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[96] I address MacGregor XIP integrations at the end of this discussion.

[97] Liquidnet 56.1 ¶ 40.

[98] Pulse 56.1 ¶ 9.

[99] Nor does Liquidnet explain how these integrations involve "communication with" an OMS database – despite the fact that its entire argument is based on the theory that "the act of 'accessing' is the act of communicating with the OMS database." Liquidnet's Memorandum in Opposition to ITG's Motion for Summary Judgment ("Liquidnet Opp. Mem. to ITG Mem.") at 12. What is more, evidence presented by ITG suggests that "for some interfaces, such as a file drop, no call is required," ITG Response to Liquidnet 56.1 ¶ 41, and that the "technology

waffles between (1) failing to incorporate the non-stored procedure integration methods in its analysis[100] and (2) conclusorily asserting that Channel and BlockCross make "queries" to OMS databases via "various communications protocols" into which it lumps all non-stored procedure implementations.[101] It

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used to copy unplaced share information to Channel" can involve "storing the order data in an agreed upon network location, such as in a flat file or a port," ITG 56.1 ¶¶ 48-49 – an integration method that would not appear to involve any communication *with the OMS database*. *See also* ITG Response to Liquidnet 56.1¶ 41 (disputing that "[w]ith each Channel interface, a customer-provided program . . . provides order information in response to a 'call' sent by Channel"); *id.* ¶ 50 ("Channel does not always 'request' [information from the OMS]; in some workflows, the information is just sent to the client.").

[100] *See* Liquidnet's Memorandum of Law in Support of Motion for Partial Summary Judgment Against Pulse ("Liquidnet v. Pulse Mem.") at 8 ("In a '*typical deployment* . . . BCX . . . uses [Open Data Base Connectivity] to connect to the database and to call the stored procedures . . .'") (emphasis added); Liquidnet's Response to ITG's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("Liquidnet Response to ITG 56.1") ¶ 50 ("Channel, ITG-developed software, gains entry to all of the orders in the OMS database through its 'prompts' or 'calls' to the stored procedure"); Liquidnet Opp. Mem. to ITG Mem. at 15 ("without those calls, no order information can be swept into Channel"); *id.* at 14 ("Channel ITG's 'call' to the OMS database, is the equivalent of the visitor either physically entering the library or the user accessing the database search functionality of the library's website.").

[101] Liquidnet Opp. Mem. to ITG Mem. at 12. *See, e.g.*, *id.* (asserting that Channel makes "'queries' to the [OMS databases] via various communications protocols (*e.g.*, stored procedures, API, webservice, and sockets), and a 'TIM' interface running on at least one Channel ITG server"); Liquidnet Opp. Mem. to Pulse Mem. at 5 (asserting that "BlockCross gains entry to the OMS databases . . . by making 'queries' to the database via a communications protocol and a 'BCX' interface running on at least one BlockCross server computer.").

makes no attempt to explain how "open[ing] up a socket"[102] or how integrations involving "web services," "web servers," "COM API's," or "flat files (i.e., 'file drops')" allow ITG or Pulse to gain entry to all records of open orders in the OMS database's memory.

Second, it is undisputed that in stored procedure integrations, Channel and BlockCross issue "calls" to OMS databases, or to APIs *in* the OMS databases – written by OMS vendors or their respective clients – instructing the OMS databases to execute stored procedures.[103] The order information requested by Channel and

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[102] Liquidnet Opp. Mem. to ITG Mem. at 12 ("Channel performs the 'accessing' step by 'open[ing] up a socket' to receive information from the OMS database.").

[103] *See* Pulse 56.1 ¶¶ 14-15 ("In the stored procedure integrations, BlockCross issues a call to the OMS through an application program interface ('API')" that "requests order information from the OMS by asking the API to execute a stored procedure in the OMS database."); ITG 56.1¶ 41 ("For ITG clients who want to use Channel with the MacGregor XIP OMS, Channel prompts or 'calls' a specific stored procedure – a piece of software code – in MacGregor XIP."); ITG Response to Liquidnet 56.1 ¶ 43 ("ITG admits that '[i]n the case of a stored procedure, Channel will call a vendor written procedure . . . .'"); *id.* ¶ 44 ("with respect to stored procedure type OMS interfaces, Channel 'calls' a specific stored procedure in the MacGregor XIP or another OMS database . . .").

Throughout its briefs, Liquidnet describes "Channel" and "BlockCross" both as the destinations for retrieved order data *and* as the entities responsible for "accessing" the OMS databases and the records of open orders therein. Conveniently, this glosses over Patent '834's clear portrayal of (1) an OIM that accesses all records of open orders, which are then transmitted (2) to an ETM. When Liquidnet employs such language, it essentially reads out of the claim the necessary step wherein all records of open orders are read in OMS databases' memories – the essential first step of claim one.

BlockCross via these calls is never more than information about U.S. equity orders,[104] which are a subset of the records of open orders on an OMS database.[105] For example – *as Liquidnet explains in its brief* – "BlockCross "mak[es] 'calls' to stored procedures in the OMS database, which in turn use [an] Index as a roadmap

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[104] *See* Pulse 56.1 ¶ 16.

[105] *See id.* ¶ 26; ITG 56.1 ¶¶ 41-43, 45. Liquidnet disputes that U.S. equity orders are merely a subset of open orders located in OMS databases, asserting that "[t]here is no way for . . . anyone . . . to know whether or not an OMS database at a buy-side institution exists whose records comprise only U.S. equity orders." Liquidnet's Response to Pulse's Statement of Undisputed Facts Pursuant to Local Rule 56.1 ("Liquidnet Response to Pulse 56.1") ¶ 6. However, it is Liquidnet's burden to prove infringement by clear and convincing evidence. And the Patent *specification* discloses that the "securities" that "[e]ach OMS database holds data representative of" can include stocks, bonds, "or any other financial instrument, contract, or transaction, such as a forward, futures, option, put, call, collar, swap, or currency contract." Patent '834 col. 5 ll.21-45. It also discloses that the patented method "makes the determination of suitable orders based on other criteria . . . *such as the security type (e.g., stock or bond).*" *Id.* col.11 ll.26-27 (emphasis added). Moreover, it is undisputed that buy-side firms' investment funds "contain a variety of U.S. and foreign stocks, bonds, options, futures, currency, derivatives, etc." ITG 56.1 ¶ 13. Therefore, in light of the undisputed evidence that ITG and Pulse only obtain information about U.S. equity orders, Liquidnet's response amounts to an admission that its evidence is insufficient as a matter of law. *See also* ITG 56.1 ¶ 55 (citing the deposition of Liquidnet's infringement expert, Joshua Galper, who testified that, during the two-and-a-half to three years that he has been working on this case, he has never communicated with any OMS vendor or underlying customer to ascertain whether they, in fact, give Channel access to all records of open orders and that he was merely speculating when he testified that he thought ITG might be getting all orders) (disputed by Liquidnet only as an "incomplete" characterization of the testimony). Liquidnet Response to ITG 56.1 ¶ 55.

to look for the requested U.S. equity orders."[106] After issuing the call, Pulse and ITG have no further involvement with the OMS database until order information "suitable for transmission" to BlockCross and Channel is returned by a stored procedure in the OMS database.[107] That information never consists of more than open U.S. equity orders.[108] Therefore, in stored procedure implementations, Pulse (BlockCross) and ITG (Channel) do not access *all* records of open orders in OMS databases. The undisputed evidence proves that the only open order information to which they could possibly "gain entry" in these implementations is the U.S. equity order data returned by OMS databases to Channel and BlockCross.

This description is the *only undisputed evidence* that Channel and BlockCross perform any sort of OIM-like functionality. This is because, despite the fact that "ITG [for example] produced to Liquidnet over 86,000 pages of documents, as well as the actual software code for Channel, and despite the fact that Liquidnet deposed ten fact witnesses of Channel, Liquidnet does not rely on any of

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[106] Liquidnet Opp. Mem. to Pulse Mem. at 8-9.

[107] *See* ITG 56.1¶ 49 ("in every case, the client decides what orders it wants to be able to trade at ITG through Channel and it works directly with its OMS vendor to gather the pertinent information. Some form of vendor-written computer program obtains order data by methods known only to the vendor-author, and provides the data to Channel . . . by transmitting the order data to Channel . . . ."); *id.* ¶ 54; Pulse 56.1 ¶ 18.

[108] *See* Pulse 56.1 ¶ 26; ITG 56.1 ¶¶ 41-43.

this testimony, or on the functional specification documents for Channel, or on the software code"[109] to make its argument. Instead, Liquidnet's briefing consists almost entirely of statements from Pulse and ITG documents describing Pulse integration software ("BCX") and "BCGetOrders" stored procedures and an ITG interfacing module ("TIM"),[110] the accuracy and implementation of which ITG and Pulse dispute.[111]

However, even if these documents fully, accurately, and undisputedly described Pulse's and ITG's OIM functionality, they would *support* the undisputed fact that any records of open orders accessed by Pulse and ITG – or read in the OMS databases' memory – have already been filtered to exclude non-U.S. equity orders. For example, the "TIM" document explains that "the OMS Vendor will

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[109] ITG's Reply to Liquidnet's Memorandum in Opposition to ITG's Motion for Summary Judgment ("ITG Reply Mem.") at 1-2.

[110] *See, e.g.*, Liquidnet v. Pulse Mem. at 2-5, 8, 9, 14, 15; Liquidnet's Memorandum of Law in Support of Motion for Partial Summary Judgment Against ITG ("Liquidnet v. ITG Mem.") at 5-8, 15, 22, 23.

[111] For example, ITG disputes that the TIM was ever built or implemented, describing the ITG document on which Liquidnet relies as "conceptual." ITG's Memorandum in Opposition to Liquidnet's Motion for Summary Judgment ("ITG Opp. Mem.") at 2. *Accord* ITG Response to Liquidnet 56.1 ¶ 35 ("TIM was never deployed and plays no role in the Channel interface. TIM was merely a concept that was never built."). Similarly, Pulse asserts that "there is no evidence that any OMS vendor or BlockCross customer has a 'BCGetOrders' stored procedure. . . . Stored procedures on an OMS database are written, maintained and owned by the OMS vendor and BlockCross customer." Pulse Response to Liquidnet 56.1 ¶ 45.

need to supply the following interface: stored procedure to access open orders from the OMS database."[112] And the BCX document explains that the software will periodically query the OMS database to execute a stored procedure, which will request the OMS database to "return all active US equity orders whose available quantity meets a specified minimum number of shares."[113]

Liquidnet admits that it is the stored procedures – located in the OMS database and written by OMS vendors (*not* ITG or Pulse)[114] – that "look for the requested U.S. equity orders" and return only those orders to BlockCross or Channel.[115] Therefore, only U.S. equity orders could possibly be accessed by any Pulse or ITG interfacing module.[116] Nowhere does Liquidnet confront the most

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[112] ITG Reply Mem. at 2 n.1 (quotation marks omitted).

[113] Liquidnet v. Pulse 56.1 ¶ 45 (quotation marks omitted).

[114] Liquidnet Opp. Mem. to ITG Mem. at 8 ("OMS vendors obviously own the right and title to the source code for the OMS software product that they market.").

[115] Liquidnet Opp. Mem. to Pulse Mem. at 8-9.

[116] Liquidnet's legal theory for step (i) also has implications for step (iv), which requires "periodically determining if at least one accessed record of order of the [OMS] database has changed. . . ." Patent '834 col.13 ll.7-9. "To prove infringement, Liquidnet must present evidence, for each OMS interface, that the OMS interface determines – checks to see – if the accessed records in the database have changed." ITG Opp. Mem. at 23. But to the extent Liquidnet argues that Channel and BlockCross merely *communicate* with OMS databases – databases whose stored procedures determine whether any accessed records have changed – it concedes that ITG and Pulse do not perform the "determining" step. Indeed,

obvious implication of these undisputed facts – that it is these stored procedures, which are not part of ITG's alleged "TIM" interfacing module or BlockCross's BCX software, that access all records of open orders in OMS databases.

Perhaps this is because Patent '834 simply does not encompass integrations with OMSs in which stored procedures filter out non-suitable orders *before* the records are obtained (*or* accessed) by an OIM. The claim's "accessing" step is necessary because *all records of open orders in the OMS databases memory must be read* in order for the OIM to perform the remaining functions outlined in the specification – including filtering the data to determine which orders are suitable for transmission to the ETM. But Liquidnet has adduced no evidence that an ITG or Pulse OIM "reads in memory" *any* records of open orders located in any non-MacGregor OMS database as required by Patent '834.

In its reply briefs, Liquidnet makes (for the first time) a conclusory "in the alternative" argument for joint infringement, asserting that "[e]ven if Claim [one] were somehow construed to require the actions of an entity other than ITG,

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when explaining how ITG performs step (i), Liquidnet asserts that "each time Channel queries the OMS database for order information about a security, Channel will receive . . . the most updated order data, i.e., taking into account trade executions or other changes." Liquidnet v. ITG Mem. at 22. But "receiving" updated order data hardly constitutes "determining" whether that order data has changed – just as "communicating with" the OMS database hardly constitutes "gaining entry to" each and every record of open orders *in* that database.

there is still direct infringement, because [ITG and Pulse] control[] the actions of the OMS database in performing the [Channel and BlockCross] method[s]."[117] According to Liquidnet, this control derives from (1) Channel's and BlockCross's "calls" to the stored procedures[118] and (2) the fact that ITG and Pulse provide OMS vendors with "functional specifications" describing how to interface with Channel and BlockCross.[119] *First*, even if ITG and Pulse did "control" the actions of the OMS vendors, Liquidnet has adduced no evidence of how individual OMS vendors' stored procedures work – *i.e.*, how they might, in the alternative, constitute

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[117] Liquidnet's Reply to ITG's Memorandum in Opposition to Liquidnet's Motion for Summary ("Liquidnet Reply Mem. to ITG Opp. Mem.") at 8; Liquidnet's Reply to Pulse's Memorandum in Opposition to Liquidnet's Motion for Summary Judgment ("Liquidnet Reply Mem. to Pulse Opp. Mem.") at 8.

[118] *See* Liquidnet Reply Mem. to Pulse Opp. Mem. at 8 ("Pulse's BlockCross system dictates the performance of each of the claimed steps, not the OMS vendor."); Liquidnet Reply Mem. to ITG Opp. Mem. at 8 (asserting the same for Channel); Liquidnet Response to ITG 56.1 ¶ 55 (asserting – in response to ITG's statement that it "does not direct or control the accessing and retrieving steps" – that "[a]bsent the call to the stored procedure or other means of integration, no information would be returned to ITG. Channel's TIM interface is used to make those calls.").

[119] *See, e.g.*, Liquidnet Reply Mem. to Pulse Opp. Mem. at 8 ("Pulse's own functional specifications provide that the BlockCross system 'periodically queries the OMS database to determine orders and quantities avilable on a trader's blotter' . . . . Any intermediate . . . steps that may be performed by an OMS vendor and/or the OMS database itself are irrelevant to the infringement analysis . . . .").

"accessing."[120] *Second*, even if Liquidnet had argued and proven that the stored procedures unequivocally "gain entry" to all records of open orders, and even if OMS vendors undisputedly wrote stored procedures pursuant to instructional guides provided by ITG and Pulse,[121] Liquidnet could not prevail on a joint infringement theory because the issuance of calls to OMS databases and the provision of instructions to an arms length business partner do not constitute "'control or direction' over the entire process such that every step is attributable to" ITG or Pulse.[122] In other words, Liquidnet misconstrues "the control or direction standard,"

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[120] The only evidence in this case of how relational databases and stored procedures work (in general) is from Pulse's expert, Jim Knocke. *See* Liquidnet Response to Pulse 56.1 ¶ 8. But Liquidnet does not even use *this* evidence to make an "in the alternative" argument that stored procedures "gain entry to" all records of open orders in OMS databases, instead asserting that it "is of no moment" that "the stored procedures actually initiate the retrieval of the requested data records, and may be 'written' and 'owned' by the OMS vendors . . . ." Liquidnet Opp. Mem. to Pulse Mem. at 8 (citations omitted).

[121] Liquidnet has adduced no evidence that any of the OMS vendors actually follow the "functional specifications" described in Pulse's "Stored Procedure Guide" (for integration with BlockCross) or in ITG's "Channel Functional Specifications" – a document which, according to ITG, "does not contain the functional specifications for Channel." ITG Reply Mem. at 2. *Accord* Pulse Response to Liquidnet 56.1 ¶¶ 44-47.

[122] *Muniauction, 5*32 F.3d at 1329. *See, e.g., id.* at 1331 (alleged infringer that merely "controls access to its system and instructs bidders on its use is not sufficient to incur liability for direct infringement"); *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 614 F. Supp. 2d 90, 121 (D. Mass. 2009) ("*Muniauction* establishes that direction or control requires something more than merely a contractual agreement to pay for a defendant's services and instructions or directions on how to utilize those services."); *Emtel, Inc. v. Lipidlabs, Inc.*, 583 F.

which inquires whether "the law would traditionally hold the accused direct infringer vicariously liable for the acts committed by another party."[123] But Liquidnet does not dispute (and has put forth no evidence refuting) ITG's and Pulse's showing that their relationships with OMS vendors amount to no more than "mere 'arms-length cooperation'" that "will not give rise to direct infringement by any party."[124]

Although Liquidnet makes no legal distinction between the MacGregor XIP and other OMS databases, I cannot ignore the undisputed fact that ITG owns the MacGregor Group, which manufactures the MacGregor XIP – an OMS with which ITG integrates by calling stored procedures written *by* the MacGregor Group. Therefore, a court "would traditionally hold [ITG] vicariously liable for the acts

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Supp. 2d 811, 831 (S.D. Tex. 2008) ("*BMC Resources* and *Muniauction* teach that . . . . [p]roviding data to another party, as in *BMC Resources*, does not support an inference of adequate 'direction or control.' Controlling access to a system and providing instructions on using that system – 'teaching, instructing or facilitating of the other party's participation' in the patented system – as in *Muniauction*, does not show adequate 'direction or control.'") (citations omitted); *Global Patent Holdings, LLC v. Panthers BRHC LLC*, 586 F. Supp. 2d 1331, 1335 (S.D. Fla. 2008) ("[I]t appears that the level of 'direction or control' the Federal Circuit intended was not mere guidance or instruction in how to conduct some of the steps of the method patent. Instead, the court indicates that the third party must perform the steps of the patented process by virtue of a contractual obligation or other relationship that gives rise to vicarious liability in order for a court to find 'direction or control.'"), *aff'd*, 318 Fed. Appx. 908, 909 (Fed. Cir. 2009).

[123] *Muniauction*, 532 F.3d at 1330.

[124] *Id.* at 1329. *See* ITG 56.1 ¶¶ 49, 54; Pulse 56.1 ¶ 18.

committed by [the MacGregor Group] that are required to complete performance of [step (i)]."[125] Put differently, assuming that the MacGregor XIP stored procedures "access" all records of open orders in an OMS database – an argument that, again, Liquidnet does not make – then I would have to find that it "perform[s] the steps of the patented process by virtue of a . . . relationship [with ITG] that gives rise to vicarious liability."[126] In other words, I would have to find that ITG controls or directs the MacGregor XIP such that *it* performs the "accessing" step of claim (i) for MacGregor XIP integrations. However, because I hold in Part IV.A.4. below that Channel is not an electronic marketplace as this Court has defined that term, I need not decide whether the stored procedures themselves "access all records of open orders."

4. ITG Does Not Literally Infringe Steps (iii) and (v) of Claim One of the '834 Patent

Even if the MacGregor XIP's stored procedures "access[] . . . all records of open orders" in its database, ITG's products do not infringe as a matter of law because Channel is not an ETM as this Court has construed that term. Therefore, ITG cannot be found to perform steps (iii) or (v) of claim one, which require "sending" "non-binding indications to the at least one [*sic*] electronic

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125 *Muniauction*, 532 F.3d at 1331.

126 *Global Patent Holdings*, 586 F. Supp. 2d at 1335.

marketplace."[127]

Liquidnet argues that all of claim one is completed when order data is "swept into Channel from the OMS database."[128] But steps (iii) and (v) of claim one both require "sending" non-binding indications to at least one ETM, which this Court has defined as "an electronic destination that (1) receives and processes non-binding indications, (2) allows for the matching of non-binding indications with their contra interests and for the *negotiation and execution* of trades, and (3) has the capacity to record trades if and when they are executed."[129] Channel allows for neither the execution nor the negotiation of trades. Therefore, it cannot be considered an "ETM" to which non-binding indications are sent.

As I explained during Claim Construction, "the term 'electronic marketplace' suggests an electronic destination where trades are executed."[130] But it is undisputed that neither Channel nor POSIT Alert – the two products Liquidnet

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[127] Patent '834 col. 13 ll.5-6, 13-15.

[128] Liquidnet v. ITG Mem. at 23.

[129] *Claim Construction*, 2010 WL 199912, at *12 (emphasis added).

[130] *Id.* When quoting this Court's construction of the term "electronic marketplace" in its motion for summary judgment, Liquidnet has – literally – deleted the requirement that the electronic marketplace allow for the execution of trades. *See* Liquidnet v. ITG Mem. at 16.

accuses of infringing Patent '834 – allow for the execution of trades.[131] Thus, those venues – considered together or separately – cannot be "ETMs" to which non-binding indications are sent. Liquidnet's assertion that "the combination of Channel ITG, POSIT Alert, and ITG execution venues satisfy the Court's definition of 'electronic marketplace'"[132] fails in light of the fact that "the connections between Channel, POSIT Alert, and ITG's trading destinations are not used unless and until the trader chooses to use them."[133]

ITG speculates that "Liquidnet is intent on arguing that all of the steps of claim one are performed by the time unplaced share information arrives in Channel because the revenues associated with the use of POSIT Alert are only about one-third of the total revenues associated with the use of Channel."[134] Thus, ITG suggests that Liquidnet might have had a stronger infringement argument if POSIT Alert were the "ETM" to which Liquidnet argued the non-binding indications were sent. Leaving aside for the moment that trades cannot be executed

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131 *See* ITG 56.1 ¶ 39 ("No trades are matched and/or executed in Channel."); *id.* ¶ 79 ("POSIT Alert is not a trading destination, but rather is an alerting mechanism . . . .").

132 Liquidnet v. ITG Mem. at 22.

133 ITG Opp. Mem. to Liquidnet Mem. at 22.

134 *Id.* at 23.

in POSIT Alert, either,[135] even this argument would fail because POSIT Alert does not "allow for" the negotiation of trades – a "necessary feature" of an ETM as this Court has construed that term.[136] Although "negotiation need not be an in-depth process" and "can be as basic as each party assenting to the terms of the other party's non-binding indications,"[137] POSIT Alert does not allow for even this functionality because the steps taken by traders in response to a "match" in POSIT Alert – a match that reveals neither trader's proposed price or quantity – do not

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[135] *See* ITG 56.1 ¶ 79.

[136] *Claim Construction*, 2010 WL 199912, at *13 n.117. During Claim Construction, Liquidnet objected to the incorporation of a "negotiation requirement" in the definition of "electronic marketplace" because the specification "discloses a host of other modules and features that may optionally be incorporated into the electronic marketplace, and the negotiations module is not described as being any more fundamental to the operation of the electronic marketplace than any of these features." *Id.* at *12 (quotation marks omitted). However, I distinguished the negotiation aspect of the patented method based on its description in the specification's "Disclosure of the Invention Section." *See id.* By contrast, the other modules cited by Liquidnet were disclosed in the "Detailed Description of the Preferred Embodiments" section – which expressly states that "the present invention can lack one or more of the modules described herein," Patent '834 col.6 ll.62-63 – or were described merely as preferable aspects of the invention. *See Claim Construction*, 2010 WL 199912, at *12. I also noted that the specification "does not just say that the claimed method includes a negotiation module. It flatly states that '[t]raders can communicate with the ETM to anonymously *negotiate* trades of securities.'" *Id.* at *12 n.115.

[137] *Id.* at *11.

constitute assent to the *terms* of the contra-indication.[138]

It bears noting that traders using POSIT Alert merely "expose" non-binding indications to traders at other institutions. If POSIT Alert identifies a matching contra-indication – *i.e.*, an indication from a trader on the opposite side of the trade in the same security – each party is "alerted." Each is then given the opportunity to enter a firm order – an opportunity she holds at all times, incidentally, regardless of whether her non-binding indication is matched in POSIT Alert. There is no guarantee that Trader One will ultimately execute the trade with Trader Two. In fact, Trader One's firm order may go un-executed; it may be filled by a firm order that was entered three hours earlier by a different trader; or it may be filled partially by Trader Two's (subsequently entered) firm order.

Even if Trader One's decision to enter a firm order, upon the realization that Trader Two *might* have a matching trade, could somehow constitute "assent" to *a* trade with Trader Two – despite the fact that the ultimate execution could easily occur *with an entirely different counterparty* – there is no conceivable

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[138] *See* ITG's Memorandum of Law in Support of Motion for Summary Judgment ("ITG Mem.") at 20 ("Because quantity (the number of shares) is an essential term of any stock trade, one cannot negotiate a stock trade – much less "assent[] to the terms of the other party's non-binding indications" – if one does not know what the quantity is."); *id.* ("The sending of a firm order cannot constitute negotiation of the proposed terms of another party's trade, because an essential term on which the party may agree to trade – i.e., the quantity – is never known, let alone discussed.").

way that such a decision constitutes Trader One's assent to the *terms* of Trader Two's contra-indication. This is because the only information conveyed to a trader "alerted" to a match in POSIT Alert is that one or more traders want to buy the security she wants to sell, or sell the security she wants to buy. Neither trader knows how much of her non-binding indication will be executed even if she converts it to a firm order simultaneous with the trader/s on the other side. And ITG's products do not afford traders the ability even to *expose* a non-binding price indication to a counterparty through POSIT Alert,[139] let alone *negotiate* that price term.

The fact that "the trader has the ability to change the quantity before converting it to a firm order and sending it out for matching"[140] or "put a specific price range on it before requesting execution"[141] does not transform the process into a negotiation; in fact, traders' ability to change their orders' price and quantity terms *after* they are alerted to a match only underscores that neither trader could possibly be assenting to the other's "terms." Nor does it matter that traders know their trades will execute above a "minimum order size set for the system."[142]

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139 *See* ITG 56.1¶ 86.

140 Liquidnet Opp. to ITG Mem. at 5.

141 Liquidnet v. ITG 56.1 ¶ 66 (quotation marks omitted).

142 Liquidnet Opp. to ITG Mem. at 18 (quotation marks omitted).

Furthermore, traders using POSIT Alert are notified when their non-binding indication is matched by *either* (1) a non-binding indication or (2) a firm order already entered in POSIT Now. Surely a trader's decision to convert a non-binding indication to a firm order in the latter situation cannot constitute negotiation. *First*, given my description of the minimum requirement for negotiation – "*each* party assenting to the terms of the other party's *non-binding indications*"[143] – there can be no negotiation if only one of the party's "indications" is non-binding. *Second*, it would make no sense to say that two traders were "negotiating" simply because Trader One decided to enter a firm order that ultimately influenced Trader Two's decision to trade, totally unbeknownst to Trader One.

In conclusion, Channel/POSIT Alert may transmit "non-binding indications" among traders, but they do not "'provide information to allow traders to enter into *negotiations* to ultimately trade the securities.'"[144] A trader does not "negotiate" a trade when he decides to execute an order based on knowledge that a contra-indication exists somewhere in the market. The prosecution history may

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[143] *Claim Construction*, 2010 WL 199912, at *11 (emphasis added).

[144] *Id.* at *10 (quoting an exchange between the patent applicant and a PTO examiner during the prosecution of the patent). *See* Pulse Mem. at 5 ("Since [negotiation] functionality was a business advantage that Liquidnet touted from the start, it is no surprise that Liquidnet included this aspect of its product in the '834 patent.").

suggest that Patent '834 "do[es] not require any particular form of negotiation," but none of the methods by which ITG's products facilitate trading constitutes a form of negotiation. Therefore, because Channel/POSIT Alert do not constitute an ETM as this Court has construed that term, ITG cannot literally infringe steps (iii) and (v) of claim one.

5. Conclusion

For the aforementioned reasons, both ITG and Pulse are entitled to summary judgment of non-infringement with respect to claim one of the '834 Patent.

B. ITG Is Entitled to Summary Judgment of No Willful Infringement

Liquidnet is suing ITG not only for literal infringement, but also for willful infringement – a cause of action that carries the possibility of enhanced damages. ITG now moves for summary judgment that, as a matter of law, it did not willfully infringe the '834 Patent. Liquidnet argues that "at a minimum, there exist genuine issues of material fact for trial that preclude summary judgment on the issue of ITG's willful infringement."[145] In particular, Liquidnet asserts that "ITG copied the Liquidnet System embodiment of the '834 Patent invention" and that, after the '834 Patent was

> brought to its attention by Liquidnet, ITG failed to articulate even

[145] Liquidnet Opp. Mem. to ITG Mem. at 1.

> one non-infringement defense, relying instead on a bogus inequitable conduct defense based on a patent application for the failed 'Harborside' system, while choosing to expand, rather than abate, its infringing activity. ITG also continued its willful conduct throughout this litigation by asserting baseless claims and defenses that contravene this Court's claim construction rulings, ITG's own production documents, and the deposition admission of ITG's own expert witnesses.[146]

Meanwhile, ITG moves for summary judgment on the grounds that, because all of the conduct on which Liquidnet bases its willful infringement claim occurred (1) after ITG learned of Patent '834 and (2) after Liquidnet filed suit against it for willful infringement ("post-filing"), Liquidnet's failure to move for a preliminary injunction precludes it from accruing enhanced damages based solely on ITG's post-filing conduct.

1. Factual Background Relating to Willful Infringement Claim

Liquidnet's patent issued on November 14, 2006.[147] Six days later, on November 20, 2006, ITG learned of the patent.[148] The next day, Liquidnet filed a complaint in Delaware charging ITG with willful infringement.[149] Because Liquidnet sued under the wrong name, however, subject matter jurisdiction in

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146 *Id.*

147 *See* Liquidnet 56.1¶ 1.

148 *See* ITG 56.1 ¶ 94.

149 *See id.* Liquidnet maintained its willful infringement claim against ITG in its first amended complaint, filed on January 8, 2007. *Id.* ¶ 99.

Delaware was improper.[150] ITG alerted Liquidnet to this jurisdictional defect on January 24, 2007 – two months after Liquidnet sued ITG in Delaware – by sending Liquidnet a letter informing it of a declaratory judgment action it had filed in this Court one day earlier naming the proper patentee.[151] Three days after ITG filed that suit, Liquidnet voluntarily dismissed the Delaware action in favor of this action.[152] On February 13, 2007, Liquidnet filed an Answer to ITG's Complaint and Counterclaims which reasserted Liquidnet's infringement and willful infringement allegations.[153] Liquidnet has not sought a preliminary injunction against ITG in the almost four years this litigation has been pending, either in this Court or in the Delaware action.[154]

2. Applicable Law

"To willfully infringe a patent, the patent must exist and [the accused

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[150] *See id.* ¶¶ 101-102. The Delaware complaint named Liquidnet, Inc., instead of Liquidnet Holdings, Inc. – the owner of the '834 patent. *See id.*

[151] *See id.* ITG also indicated in the letter its intention to file a motion to dismiss the Delaware action. *See id.* ¶ 102.

[152] *See id.* ¶ 103.

[153] *See id.* ¶ 104.

[154] *See id.* ¶ 105. On January 24, 2009, ITG raised Liquidnet's failure to seek a preliminary injunction as a basis for dismissing its willful infringement claim in a letter to Judge Lynch. *See id.* To date, Liquidnet has still not sought preliminary injunctive relief.

infringer] must have knowledge of it."[155] Then, "a patentee must show by clear and convincing evidence [1] that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent" and "[2] that this objectively-defined risk (determined by the record developed in the infringement proceeding) was either known or so obvious that it should have been known to the accused infringer."[156] However,

> a willfulness claim asserted in the original complaint must necessarily be grounded exclusively in the accused infringer's *pre-filing* conduct. By contrast, when an accused infringer's *post-filing* conduct is reckless, a patentee can move for a preliminary injunction, which generally provides an adequate remedy for combating post-filing willful infringement. A patentee who does not attempt to stop an accused infringer's activities in this manner should not be allowed to accrue enhanced damages based solely on the infringer's post-filing conduct.[157]

3. ITG Is Entitled to Summary Judgment of No Willful Infringement

ITG argues that it is entitled to summary judgment on Liquidnet's claim that it willfully infringed Patent '834 because (1) ITG had only a single day of pre-litigation ("pre-filing") knowledge of Patent '834 and (2) Liquidnet has never sought a preliminary injunction against ITG, thereby precluding its recovery

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[155] *State Indus., Inc. v. A.O. Smith Corp.*, 751 F.2d 1226, 1236 (Fed. Cir. 1985).

[156] *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007).

[157] *Id.* at 1374 (citations omitted) (emphasis added).

for "post-filing" willful infringement under *Seagate*.[158] It is undisputed that Liquidnet's patent issued on November 14, 2006;[159] six days later, on November 20, 2006, ITG learned of the patent;[160] and the next day, Liquidnet filed a complaint against ITG for willful infringement in Delaware.[161] Aside from November 20, 2006 – the day ITG learned of the patent but one day before Liquidnet's complaint was filed – there is no pre-filing conduct upon which Liquidnet may base a willful infringement claim. Thus, Liquidnet's entire claim is based on post-filing conduct that has allegedly occurred over the span of four years since Liquidnet filed suit against ITG in Delaware. Liquidnet could have moved for a preliminary injunction at any time during the past four years. Because it did not, it "should not be allowed to accrue enhanced damages"[162] for willful infringement.

Liquidnet acknowledges that "the issue of whether the patentee has moved, or should have moved, for a preliminary injunction only arises under *Seagate* where the patentee is relying solely upon post-complaint conduct of the

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158 *See* ITG Mem. at 23.

159 *See* Liquidnet 56.1 ¶ 1.

160 *See* ITG 56.1 ¶ 94.

161 *See id.*

162 *Seagate*, 497 F.3d at 1374.

accused infringer to prove willfulness."[163] However, it argues that the "operative complaint for purposes of determining ITG's willful infringement of Patent '834 is ITG's declaratory judgment complaint filed in this Court [on January 23, 2007], not Liquidnet's dismissed Delaware complaint."[164] Therefore, it argues, because "Liquidnet is relying upon both pre-complaint and post-complaint conduct of ITG to establish willfulness . . . , it is irrelevant . . . whether Liquidnet ever moved for a preliminary injunction in this action, or in the Delaware action."[165]

I reject this argument. Liquidnet offers no logical reason why ITG's complaint, as opposed to its dismissed Delaware complaint, should trigger the start of the post-filing period. Liquidnet filed suit against ITG in Delaware one day after ITG learned of its patent. It alleged willful infringement in both its initial and its first amended complaint.[166] Because it named the wrong plaintiff in the Delaware complaint, however, subject matter jurisdiction was improper.[167] Thus, three days

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[163] Liquidnet Opp. Mem. to ITG Mem. at 23. Thus, Liquidnet essentially concedes that – had subject matter jurisdiction in Delaware been proper, and had the case proceeded there – the issue of whether it moved or should have moved for a preliminary injunction would be relevant to my resolution of this motion.

[164] *Id.*

[165] *Id.* at 23-24.

[166] *See* ITG 56.1 ¶ 99.

[167] *See id.* ¶¶ 101-102.

after ITG filed suit in this Court seeking declaratory relief for non-infringement,[168] Liquidnet voluntarily dismissed the Delaware action in favor of this action.[169] Knowledgeable of the Patent and of Liquidnet's grounds for alleging infringement, ITG was "force[d] to choose between [1] resting on theories of invalidity and non-infringement it believe[d] to be objectively reasonable and [2] engaging in costly and potentially unnecessary redesign of its accused products."[170] Had Liquidnet sought a preliminary injunction, those theories would have been tested at the time ITG was relying on them.[171] The policy rationale underlying *Seagate* compels a finding that Liquidnet should not be permitted, by virtue of the length of this litigation, to obtain enhanced damages for four years' time when it could have sought a preliminary injunction as early as November 22, 2007.[172]

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168 *See id.* ¶ 100.

169 *See id.* ¶ 103.

170 *Webmap Tech., LLC v. Google, Inc.*, No. 2:09-CV-343-DF-CE, 2010 WL 3768097, at *6 (E.D. Tex. Sept. 10, 2010), *adopted in its entirety by Webmap Tech., LLC v. Google, Inc.*, No. 2:09-CV-343-DF-CE, 2010 WL 3835118, at *1 (E.D. Tex. Sept. 28, 2010) (dismissing claim for post-filing willful infringement "until Plaintiff seeks and the court rules upon a preliminary injunction in accord with *Seagate* . . . .").

171 *See Seagate*, 497 F.3d at 1374 ("A substantial question about invalidity or infringement is likely sufficient not only to avoid a preliminary injunction, but also a charge of willfulness based on post-filing conduct.").

172 Liquidnet might have a stronger argument if, upon discovering that Liquidnet had named the wrong plaintiff in its Delaware complaint, ITG had

Liquidnet also argues that the *Seagate* "rule precluding a patentee from pursuing a claim of willful infringement where the patentee did not first move for a preliminary injunction" is not absolute.[173] This is true.[174] However, there are

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remained silent. But ITG should not be punished for essentially correcting Liquidnet's filing error and seeking declaratory relief that the defenses it *asserted* in the Delaware action – and that would have been tested had subject matter jurisdiction been appropriate – were valid.

Even if the two-month period during which Liquidnet's complaint was improperly filed in Delaware could somehow be considered "pre-filing," Liquidnet would still be precluded from seeking enhanced damages after January 23, 2007, when ITG filed suit in this Court. *See Baxter Healthcare Corp. v. Fresenius Med. Care Holdings, Inc.*, No. C 07-1359, 2010 WL 668039, at *18-*19 (N.D. Cal. Feb. 19, 2010) (limiting patentee's enhanced damages claim to "a maximum of treble compensatory damages (if any) from the accused infringer's *pre-suit* conduct" because patentee "did not seek injunctive relief to stop the alleged infringement" and therefore "should not be entitled to seek enhanced damages for any post-filing infringement."); *GSI Group, Inc. v. Sukup Mfg. Co.*, 591 F. Supp. 2d 977, 984-85 (C.D. Ill. 2008) ("the potential enhanced damages are limited to three times the compensatory damages for [the accused infringer's] alleged *pre-filing infringement* of the [] Patent" because the patentee had "an adequate remedy for post-filing willful infringement through the pursuit of preliminary injunctive relief" and "could have stopped such infringement" that way.) (emphasis added).

[173] Liquidnet Opp. Mem. to ITG Mem. at 23.

[174] *See Seagate*, 497 F.3d at 1374 ("*in ordinary circumstances*, willfulness will depend on an infringer's prelitigation conduct") (emphasis added); *see also Webmap Tech.*, 2010 WL 3768097, at *4 ("certain extenuating circumstances may exist to allow a plaintiff to sustain a claim of post-filing willful infringement despite the plaintiff's failure to first seek a preliminary injunction"); *see also Netscape Commc'ns Corp. v. ValueClick, Inc.*, 684 F. Supp. 2d 699, 728 (E.D. Va. 2010) ("While not dispositive, plaintiff's decision not to seek a preliminary injunction has been deemed relevant."); *Krippelz v. Ford Motor Co.*, 670 F. Supp. 2d 806, 812 (N.D. Ill. 2009) ("[T]he proposition that failure to seek a preliminary injunction constitutes a forfeit of a claim for willful infringement is

limited circumstances under which a patentee may sustain a claim of post-filing willful infringement despite the patentee's failure to first seek a preliminary injunction.[175] Such post-filing circumstances might include, *e.g.*, (1) a patent's surviving reexamination proceedings without narrowed claims[176] or (2) a patentee's neither practicing its invention nor directly competing with the accused infringer (rendering its failure to seek a preliminary injunction reasonable).[177] However, Liquidnet makes no argument that such extenuating circumstances are present in this case; it merely urges this Court to ignore the Federal Circuit's clear mandate.

Finally, Liquidnet argues that the *Seagate* rule announced on August 20, 2007 is procedural in nature, and therefore cannot be applied retroactively "to

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neither an absolute nor a general rule applicable to all patent cases."); *Affinity Labs of Tex., LLC v. Alpine Elecs. of Am., Inc.*, No. 9:08-CV-171, slip op. at 2 (E.D. Tex. Sept. 2, 2009) ("there is no *per se* rule that a patentee who relies solely on post-filing conduct for his willfulness claim is foreclosed from receiving enhanced damages if he does not also seek preliminary injunctive relief").

[175] *See Webmap Tech.*, 2010 WL 3768097, at *4; *Affinity Labs*, No. 9:08-CV-171 at 2.

[176] *See St. Clair Intellectual Prop. Consultants, Inc. v. Palm, Inc.*, No. 06-404-JJF-LPS, 2009 WL 1649751, at *1 (D. Del. June 10, 2009).

[177] *See Krippelz*, 670 F. Supp. 2d at 812. Similarly, the *Seagate* court "recognize[d] that in some cases a patentee may be denied a preliminary injunction despite establishing a likelihood of success on the merits, such as when the remaining factors are considered and balanced. In that event, whether a willfulness claim based on conduct occurring solely after litigation began is sustainable will depend on the facts of each case." 497 F.3d at 1374 (citations omitted).

Liquidnet's [November 21, 2006] Delaware action."[178] I note at the outset that the Federal Circuit has held that *Seagate*'s new "objective recklessness" standard applies retroactively.[179] However, it has not specifically addressed the retroactivity of the preliminary injunction "requirement."

First, it is not so clear that *Seagate*'s preliminary injunction requirement is procedural. If "failure to seek a preliminary injunction is not dispositive"[180] – as suggested by the cases on which Liquidnet relies – then it is better-viewed as a factor to be weighed in a totality-of-the-circumstances approach to determining whether there is an objectively high likelihood of infringement of a valid patent – a rule more substantive than procedural in nature. In other words, failure to obtain a preliminary injunction serves as evidence that the accused

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[178] Liquidnet Opp. Mem. to ITG Mem. at 23 (citing *Schriro v. Summerlin*, 542 U.S. 348, 448 (2004), for the proposition that "new rules of procedure generally do not apply retroactively"). When arguing that the *Seagate* rule is procedural, Liquidnet points to its Delaware filing as the operative complaint (presumably to exaggerate the length of time between that filing on November 21, 2006, and issuance of the *Seagate* opinion on August 20, 2007); of course, if the Delaware filing is the operative complaint, then there is no pre-filing period of time that can serve as the basis for Liquidnet's argument that it "is relying upon both pre-complaint and post-complaint conduct." *Id.* at 23-24. Retroactivity aside, *Seagate* has been in effect during the majority of the time this case has been pending and, one could argue, should be applied for that reason alone.

[179] *See Voda v. Cordis Corp.*, 536 F.3d 1311, 1328 n.10 (Fed. Cir. 2008).

[180] *Netscape Commc'ns*, 684 F. Supp. 2d at 728.

infringer's defenses are "substantial, reasonable, and far from the sort of easily-dismissed claims that an objectively reckless infringer would be forced to rely upon."[181]

Second, at least three federal district courts have applied *Seagate*'s preliminary injunction "requirement" retroactively – albeit without discussion of whether the rule is substantive or procedural in nature – under circumstances virtually identical to those presented here.[182] For example, a federal court in the Eastern District of Texas relied on *Seagate* to grant accused infringers' motion for summary judgment on a patentee's pre-*Seagate* willful infringement claim.[183]

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[181] *ResQNet.com, Inc. v. Lansa, Inc.*, 553 F. Supp. 2d 397, 420 (S.D.N.Y. 2008).

[182] *See Anascape, Ltd. v. Microsoft Corp.*, No. 9:06-CV-158, 2008 WL 7182476, at *4 (E.D. Tex. Apr. 25, 2008); *GSI Group*, 591 F. Supp. 2d at 984-85 ("The statements in the *Seagate* opinion . . . are quite clear. The Federal Circuit stated that a patent holder . . . has an adequate remedy for post-filing willful infringement through the pursuit of preliminary injunctive relief. . . . This Court must follow the Federal Circuit.") (finding patentee was "not entitled to enhanced damages for any post-filing willful infringement" because it "could have stopped such infringement through preliminary injunctive relief" where the complaint was filed *in 2005*); *Baxter Healthcare*, 2010 WL 668039, at *18-*19 ("persuaded by the reasoning in *Seagate*" that "the remedy that was available to [plaintiffs] for any alleged willful, post-litigation conduct collapsed when [plaintiffs] failed to move for a preliminary injunction at the inception of the case in *March 2007* ") (emphasis added); *see also Webmap Tech.*, 2010 WL 3768097, at *4 ("Even assuming *Seagate* may be dicta on this point, . . . it accurately reflects the general rule in the Federal Circuit. No extenuating circumstances have been alleged in this case that would justify a departure from that rule.").

[183] *See Anascape*, 2008 WL 7182476, at *3.

Applying *Seagate*'s guidance that "'in ordinary circumstances, willfulness will depend on an infringer's prelitigation conduct,'"[184] the court denied the patentee's claim for willful infringement because

> [the patentee] did not even attempt to stop any alleged infringing activity, electing instead to allow any enhanced damages to accrue. The court does not impose a categorical rule that lack of a motion for preliminary injunction automatically bars post-suit willful infringement, but rather finds that in these particular circumstances, [the patentee's] post-suit conduct coupled with the lack of any evidence of pre-suit notice of the [] patent establishes that there is no willful infringement by [the accused infringers].[185]

One court in this district has reasoned (in dicta) that "it is unlikely that Seagate's discussion of the necessity of a preliminary injunction applies retroactively,"[186] reasoning that "[i]t is one thing to apply *Seagate*'s objective recklessness standard retroactively and quite another to bar [a patentee's] willful infringement claim as a matter of law because [a patentee] did not seek a preliminary injunction that it had no reason to believe was required."[187] However, that reasoning did not form the basis for the court's decision; instead, it found that

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184 *Id.* (citing *Seagate*, 497 F.3d at 1374).

185 *Id.*

186 *Astrazeneca AB v. Apotex Corp.*, Nos. 01 Civ. 9351, M-21-81, 2010 WL 2541180, at *3 (S.D.N.Y. June 9, 2010). This appears to be the only case that has addressed this issue explicitly.

187 *Id.*

because the patentee's claims for willful infringement were not based *solely* on the infringer's post-filing conduct, "*Seagate*' s requirement of a preliminary injunction does not apply."[188]

Thus, for the aforementioned reasons, ITG's motion for summary judgment on Liquidnet's claim that it willfully infringed Patent '834 is granted.

C. Liquidnet's Motion for Partial Summary Judgment on ITG's Inequitable Conduct Claim Is Denied

In its amended complaint, ITG alleges that Liquidnet's CEO, Seth Merrin, and the other named inventors of Patent '834 did not invent what is claimed in Patent '834 but rather copied a system called "@Harborside" developed by Richard Holway at a firm called Jefferies & Co. from 1997-1999.[189] ITG contends that Liquidnet's failure to disclose the @Harborside system to the PTO during prosecution constitutes inequitable conduct, rendering Patent '834 unenforceable.[190] In particular, it has alleged three bases for a finding of inequitable conduct: (1) Liquidnet's failure to disclose a patent application filed by Harborside, (2) Liquidnet's failure to disclose the "@Harborside" system itself, and (3) a statement Liquidnet made during prosecution that it "know[s] of no prior art system or

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188 *Id.*

189 *See* 2/15/08 ITG Amended Complaint Against Liquidnet ("ITG Amended Complaint") ¶¶ 18-86; ITG Opp. Mem. at 24 n.16.

190 *See id.*

method, manual or automated, for reading OMS records reflecting orders, deriving non-binding indications and providing such non-binding indications to a separate marketplace."[191] Liquidnet now moves for summary judgment that the *first* ground on which ITG alleges inequitable conduct – failure to disclose the patent application – fails as a matter of law because "ITG does not have any evidence that anyone at Liquidnet knew of the contents of the Harborside patent application."[192]

1. Factual Background Relating to ITG's Inequitable Conduct Claim

ITG has produced evidence that, prior to the formation of Liquidnet, Holway and Jefferies & Co. hired VIE Systems to write, under Holway's direction, the software code to integrate a system called @Harborside with OMSs used by Jefferies' clients.[193] Acccording to ITG, Merrin (Liquidnet's CEO and a named inventor on Patent '834) owned VIE, and two VIE employees – Kevin Lupowitz (another named inventor on Patent '834) and Eric LeGoff (a founder of Liquidnet) – worked on the @Harborside integration.[194] Merrin, Lupowitz, and LeGoff left VIE

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191 ITG Response to Liquidnet 56.1 ¶ 83.

192 Liquidnet Reply Mem. to ITG Opp. Mem. at 9.

193 *See* ITG Response to Liquidnet 56.1 ¶ 80.

194 *See id.*

and started Liquidnet, a direct competitor to @Harborside.[195]

ITG presents evidence (1) that Holway told both Lupowitz and Merrin in 2001 that he believed Liquidnet had stolen his invention, and (2) that John Halloran (a third named inventor on Patent '834) knew about this accusation.[196] ITG also presents evidence suggesting that these persons, and others at Liquidnet, did not disclose @Harborside to the PTO during the prosecution of Patent '834, instead disclosing to the PTO only a later version of @Harborside called "Harborside+" and telling the PTO that the later version was a copy of *Liquidnet*'s invention.[197]

Regarding the third basis for its inequitable conduct defense, ITG presents evidence that Liquidnet did not disclose to the PTO a patent application that Holway and his colleagues at Jefferies had filed for the @Harborside system – an application that was publicly available as of January 2, 2003.[198] As evidence that Liquidnet knew about this patent application, ITG points to (1) testimony by Holway that he told Merrin, Lupowitz, and LeGoff about his patent application;[199]

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195 *See id.*

196 *See id.* ¶ 81.

197 *See id.*

198 *See id.*

199 *See id.* ¶¶ 80-82.

(2) an email dated April 7, 2005, showing that LeGoff and Merrin had been told about the Harborside patent application;[200] and (3) testimony by Merrin and LeGoff that they were aware during the prosecution of the Liquidnet patent application that there was a Harborside patent application.[201] As evidence that Liquidnet did *not* know about this patent application, Liquidnet points to Holway's deposition testimony that he never gave a copy of the Harborside patent application to anyone at Liquidnet and could not identify anyone who provided the application to anyone at Liquidnet.[202]

2. Applicable Law

"To hold a patent unenforceable due to inequitable conduct, there must be clear and convincing evidence that the applicant (1) made an affirmative misrepresentation of material fact, failed to disclose material information, or submitted false material information, and (2) intended to deceive the U.S. Patent and Trademark Office ('PTO')."[203] "Clear and convincing evidence must prove that an applicant had the specific intent to . . . mislead[ ] or deceiv[e] the PTO. In a

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200 *See id.* ¶¶ 80-81.

201 *See id.*

202 *See* Liquidnet v. ITG Mem. at 25.

203 *Cargill, Inc. v. Canbra Foods, Ltd.*, 476 F.3d 1359, 1363 (Fed. Cir. 2007).

case involving nondisclosure of information, clear and convincing evidence must show that the applicant made a deliberate decision to withhold a known material reference."[204] Even "'gross negligence' does not . . . justify an inference of intent to deceive; the involved conduct, viewed in light of all the evidence, including evidence indicative of good faith, must indicate sufficient culpability to require a finding of intent to deceive."[205]

3. Whether Liquidnet Made a "Deliberate Decision to Withhold a *Known* Material Reference" Raises a Genuine Issue of Material Fact

Drawing all reasonable inferences in ITG's favor, I conclude that there is a genuine issue of material fact whether, in failing to disclose the Harborside patent application, Liquidnet "made a deliberate decision to withhold a known material reference"[206] – specifically, the Harborside patent application.

Liquidnet argues that, because there is no evidence that Liquidnet received a copy of the Harborside patent application, there is insufficient evidence

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[204] *Star Scientific, Inc. v. R.J. Reynolds Tobacco Co.*, 537 F.3d 1357, 1366 (Fed. Cir. 2008) (quotation marks omitted).

[205] *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 876 (Fed. Cir. 1988).

[206] *Star Scientific*, 537 F.3d at 1366 (quotation marks omitted).

for a trier of fact to find that Liquidnet knew of its contents.[207] I disagree. Based on the undisputed fact that Merrin, Lupowitz, and LeGoff knew the Harborside patent application existed – on an invention they were accused of stealing – a reasonable trier of fact could infer that Liquidnet knew of its contents, even if there is no hard evidence that it received or had in its possession a physical copy of the application. Liquidnet is patently wrong that there is "no evidence showing, what, if anything, Liquidnet personnel knew about the Harborside patent application."[208] However, it is for a trier of fact to determine whether the named inventors and others involved in the prosecution of Patent '834 had knowledge of the Harborside Patent application (and its contents) and deliberately withheld it from the PTO.[209] Therefore, Liquidnet's motion for summary judgment is denied.

V. CONCLUSION

For the aforementioned reasons, ITG's and Pulse's motions for

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[207] *See* Liquidnet v. ITG Mem. at 24-25. I note that Liquidnet does not argue the application was not a "material reference," only that there is insufficient evidence that Liquidnet knew of its contents. *See id.* at 23-25.

[208] *Id.* at 24.

[209] *See McClellan v. Smith*, 439 F.3d 137, 144 (2d Cir. 2006) ("[i]t is a settled rule that [c]redibility assessments, choices between conflicting versions of the events, and the weighing of evidence are matters for the jury, not for the court on a motion for summary judgment.") (quotation marks and citation omitted); *see also Orange Lake Assocs., Inc. v. Kirkpatrick*, 825 F. Supp. 1169, 1173 (S.D.N.Y. 1993) ("[W]here a [party's] intent and state of mind are implicated, summary judgment is ordinarily inappropriate.").

summary judgment of no literal infringement are granted and Liquidnet's motions are denied; ITG's motion for summary judgment on Liquidnet's willful infringement claim is granted; and Liquidnet's motion for summary judgment on ITG's inequitable conduct claim is denied. The Clerk of the Court is directed to close these motions (Docket nos. 74 and 82 (sealed) in 07 Civ. 510; Docket nos. 61 (sealed) and 62 (sealed) in 07 Civ. 6886).

SO ORDERED:

Shira A. Scheindlin
U.S.D.J.

Dated: New York, New York
December 20, 2010

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UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

INVESTMENT TECHNOLOGY GROUP, INC., ITG INC., ITG SOLUTIONS NETWORK, INC., AND THE MACGREGOR GROUP, INC.,

Plaintiffs/Counterclaim-Defendants,

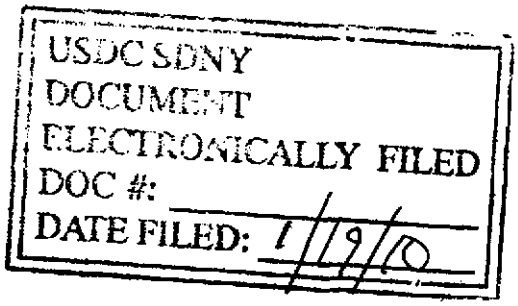
- against -

LIQUIDNET HOLDINGS, INC.,

Defendant/Counterclaim-Plaintiff.

OPINION & ORDER

07 Civ. 510 (SAS)



LIQUIDNET HOLDINGS, INC.,

Plaintiff/Counterclaim-Defendant,

- against -

PULSE TRADING, INC.,

Defendant/Counterclaim-Plaintiff.

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07 Civ. 6886 (SAS)

SHIRA A. SCHEINDLIN, U.S.D.J.

I. INTRODUCTION

Investment Technology Group ("ITG") and related corporate entities have brought an action against Liquidnet Holdings, Inc. ("Liquidnet") seeking a declaratory judgment that U.S. Patent No. 7,136,834 ("Patent '834") is invalid, unenforceable, and not infringed by ITG products. Liquidnet has brought its own action against Pulse Trading, Inc. ("Pulse") alleging infringement of claim one of Patent '834. The defendants in both cases have asserted counterclaims, and the cases have been consolidated before this Court.

Claim construction – the process wherein the court determines, as a matter of law, the meaning of disputed claim terms – is a task preferably tackled early on in a patent infringement action. Because of the elevation of Judge Gerard Lynch to the Second Circuit, and the subsequent transfer of the *ITG* and *Pulse* cases to this Court, that process has been unavoidably delayed. However, a Markman hearing – which provides the parties the opportunity to argue for, and introduce evidence in support of, their proposed constructions – was held on December 16, 2009. The parties dispute the meaning of eleven terms appearing throughout claim one of Patent '834. For ease of reference, a list of the constructions I have adopted is included at the conclusion of this Opinion.

II. BACKGROUND

A. The Invention

On November 14, 2006, the Patent and Trademark Office ("PTO") issued Patent '834 – entitled "Electronic Securities Marketplace Having Integration with Order Management Systems" – to Liquidnet.[1] In basic terms, the patented invention allows institutional investment management firms to connect with an electronic marketplace and trade securities (or other financial instruments) with one another.

These investment firms often seek to trade very large blocks of securities. If such trades are executed on traditional markets, the trades themselves may drive the price of the security up during the purchasing process. In order to reduce this impact, companies have developed electronic crossing networks – which allow firms to trade securities with one another outside of traditional markets.

Patent '834 claims a computer-implemented method that, according to Liquidnet, provides one solution to reducing the market impact of block trades. Liquidnet's electronic trading system requires each participating investment firm to have a computerized Order Management System ("OMS") – which traders at

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[1] *See* 11/14/06 U.S. Patent 7,136,834 ("Patent '834"), Ex. 1 to Declaration of Elizabeth Brenner-Leifer ("Brenner-Leifer Decl.), counsel for ITG. Technically, patents are issued to the individual inventors who apply for them. However, the patent is assigned to Liquidnet, who for all intents and purposes owns and controls the patent.

the firm use to store information about orders to purchase or sell securities.[2] The patented method uses an OMS Interfacing Module ("OIM") to gather orders from these OMS databases and transmit them to an Electronic Trading Marketplace ("ETM").[3] Securities trades are then negotiated within the ETM[4] and the electronic system can update the OMS databases to reflect these trades.[5]

Liquidnet argues, and the patent's background section reflects, that this patented method was designed to fulfill three needs in the institutional securities trading industry. *First*, it provides an electronic trading system "that does not require any manual intervention by traders or other parties."[6] *Second*, it allows traders "to anonymously negotiate trades of securities."[7] *Third*, it creates a high amount of liquidity – *i.e.*, the degree to which an asset or security can be traded without affecting its price.[8]

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2 *See id.* col. 1 ll. 22-25, col. 2 ll. 38-48.

3 *See id.* col. 2 ll. 49-52. The patent uses the terms Electronic Trading Marketplace and Electronic Marketplace synonymously. I will use the abbreviation "ETM" to refer to both terms.

4 *See id.* col. 2 ll. 52-53.

5 *See id.* col. 2 ll. 49-52.

6 *Id.* col. 2 ll. 31-32.

7 *Id.* col. 2 l. 53.

8 *See id.* col. 2 l. 34.

B. Claim One Language

Claim one of Patent '834 contains the following language. The disputed terms are emphasized.

We claim:

1. A computer-implemented method for generating non-binding indications for at least one security comprising:

i) *accessing, by at least one computer, all records of open orders* from a database of an order management system wherein the order management database is associated with a trading firm and wherein the order management system is coupled to at least one workstation utilized by the trading firm wherein the order management system database comprises at least the following fields.

(a) security name, symbol or identifier,
(b) transaction type,
(c) total order size,
(d) quantity of the security placed elsewhere, and
(e) quantity of the security executed;

ii) *generating, by at least one computer, all non-binding indications* from the accessed records of orders that are *suitable for transmission* to at least one *electronic marketplace*, each *non-binding indication* comprising security name, symbol or identifier, the transaction type, and an available quantity, such available quantity being determined by the accessed records;

iii) *sending* the suitable *non-binding indications* to the at least one *electronic marketplace*.

iv) *periodically determining* if at least one accessed record of order of the order management system database has changed, then *subsequently generating*, for the changed record of order, at least one updated *non-binding indication*; and

v) if updated, *subsequently sending* the updated *non-binding indication* to the at least one *electronic marketplace.*

C. Procedural History

ITG and Pulse, like Liquidnet, develop and market electronic securities trading systems. Liquidnet alleges that various ITG and Pulse products infringe claim one of Patent '834.[9] ITG and Pulse allege that Liquidnet's patent is invalid, unenforceable, and not infringed by ITG and Pulse's various trading systems.[10]

Specifically, the litigation contains the following claims and counterclaims. On January 1, 2007, ITG filed a declaratory judgment action against Liquidnet seeking a declaration that Patent '834 is invalid, unenforceable, and not infringed by ITG, and damages based on Liquidnet's tortious interference with ITG's prospective business relations.[11] Liquidnet counterclaimed that ITG's products infringe Patent '834.[12] On July 31, 2007, Liquidnet filed a patent

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[9] *See* Liquidnet's Opening Claim Construction Brief ("Liquidnet Br.") at 1.

[10] *See* Opening Claim Construction Brief of ITG and Pulse Trading ("ITG Br.") at 1.

[11] *See* 1/1/07 ITG Complaint Against Liquidnet.

[12] *See* 2/13/07 Liqudnet Answer to ITG Complaint.

infringement action against Pulse Trading – asserting that Pulse's products infringe claim one of Patent '834.[13] Pulse filed a counterclaim seeking a declaration that Pulse has not infringed Patent '834.[14]

III. APPLICABLE LAW

Analysis of patent infringement involves two steps: (1) construction of the terms of the asserted claims and (2) a determination of whether the accused device infringes the claims, as construed.[15] Claim construction is a question of law,[16] the purpose of which is to determine what is covered by an asserted claim. In other words, "'[t]he construction of claims is simply a way of elaborating the normally terse claim language in order to understand and explain, but not to change, the scope of the claims.'"[17]

The following canons of construction are often employed by courts in interpreting patent claims. However, the Federal Circuit has "recognized that

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[13] *See* 7/31/07 Liquidnet Complaint Against Pulse.

[14] *See* 8/21/07 Pulse Answer to Liquidnet Complaint.

[15] *See Metabolite Labs., Inc. v. Laboratory Corp. of Am. Holdings*, 370 F.3d 1354, 1360 (Fed. Cir. 2004).

[16] *See Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384, 390-91 (1996).

[17] *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1322 (Fed. Cir. 2001) (quoting *Embrex, Inc. v. Services Eng'g Corp.*, 216 F.3d 1343, 1347 (Fed. Cir. 2000)).

there is no magic formula or catechism for conducting claim construction,"[18] and it is apparent from experience that the various canons of claim construction will sometimes, if not often, lead to contradictory results. Accordingly, while these interpretive tools can be indispensable aids to a federal district court tasked with construing the meaning of a patent claim, the court must ultimately be guided by the core inquiry of claim construction: How a "person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application," would understand the terms of the claim.[19]

A. Intrinsic Evidence

Claims are to be construed in light of the intrinsic record, which "is the most significant source of legally operative meaning of disputed claim language."[20] The intrinsic record includes the claims themselves, the rest of the patent specification, and the prosecution history if in evidence.

1. Claim Language

Judicial interpretation must begin with and remain focused upon the

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[18] *Phillips v. AWH Corp.*, 415 F.3d 1303, 1324 (Fed. Cir. 2005) (en banc).

[19] *Id.* at 1313.

[20] *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

"words of the claims themselves . . . to define the scope of the patented invention."[21] On occasion, "the ordinary meaning of claim language as understood by a person of skill in the art" will be sufficiently apparent that the claim language itself is all that is needed to construe the claims at issue.[22] However, even when the terms in a claim are not self-explanatory, "[t]he context in which a term is used in the asserted claim can be highly instructive. To take a simple example, [the use of the term] 'steel baffles' . . . strongly implies that the term 'baffles' does not inherently mean objects made of steel."[23]

"Other claims of the patent in question, both asserted and unasserted, can also be valuable sources of enlightenment as to the meaning of a claim term."[24] In particular, the doctrine of claim differentiation has had a significant impact on claim construction. According to this doctrine, because it is assumed that additional claims are not added to a patent superfluously, claims are presumed to have a different "meaning and scope when different words or phrases are used

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21 *Id.*

22 *Phillips*, 415 F.3d at 1314 (citation omitted).

23 *Id.*

24 *Id.*

in [the] separate claims."[25] However, the Federal Circuit has long stressed that "[c]laim differentiation is a guide, not a rigid rule,"[26] and has recently urged district courts to recognize that the doctrine "works best in the relationship between independent and dependent claims,"[27] *i.e.*, when a latter claim (the dependent claim) expressly adds a limitation to those already recited in a previously asserted claim (the independent claim).[28]

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[25] *Tandon Corp. v. United States Intern. Trade Com'n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987).

[26] *Id.*

[27] *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). *See id.* (because section 112 of title 35 of the United States Code requires dependent claims to "add a limitation to those recited in the independent claim . . . reading an additional limitation from a dependent claim into an independent claim would not only make that additional limitation superfluous, it might render the claim invalid.").

[28] Professor Mark A. Lemley's article, "The Limits of Claim Differentiation," 22 Berkeley Tech. L.J. 1389 (2007), helps to illuminate why the doctrine of claim differentiation is often misapplied by courts. Claim differentiation is a corollary to the doctrine of statutory construction that rejects redundant interpretations of various statutory provisions. *See id.* at 1392. Like this statutory doctrine, which presumes that Congress "would not knowingly pass the same statute twice," the doctrine of claim differentiation is based on the presumption that patent applicants (like legislators) will not waste time and money "drafting two claims that mean exactly the same thing." *Id.* However, according to Lemley, this presumption does not reflect the common practice of patent applicants. Rather, "[p]atent applicants who draft multiple claims quite often are trying to be redundant . . . because writing words to define ideas is an inherently difficult and uncertain process, and taking multiple bites at the apple gives patentees a greater chance of successfully capturing their single invention in

2. The Specification

Apart from the claims themselves, a patent consists of a written description of the patented invention. This written description, which is also referred to as the specification,[29] typically includes: an abstract of the invention; a description of the invention's background; a summary of the invention; patent drawings; and a detailed description that discusses preferred embodiments of the invention. Because the specification must, by statute, enable one skilled in the art to practice the invention,[30] it "is always highly relevant to the claim construction

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words." *Id.* at 1394 (citations omitted). In such instances, the doctrine of claim differentiation can "lead courts astray" by encouraging them to give unique meanings to terms that were intended to have a single meaning. *Id.* Accordingly, Lemley suggests that the doctrine of claim differentiation should be limited to contexts, such as when a court is comparing independent and dependent claims, where it is more likely that different meanings were actually intended. *See id.* at 1396.

[29] The terminology used to describe the parts of a patent can be slightly confusing. Technically, the specification includes both the claims and the written description. However, courts typically use the term specification to refer to the written description on its own and as distinct from the claims. For purposes of consistency, I adopt this common usage.

[30] *See* 35 U.S.C. § 112 ("The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention."). The Federal Circuit has also explained that courts should rely on intrinsic evidence because a person of ordinary skill in the field would use "the patent specification and the prosecution history" to understand the

analysis."[31] Accordingly, it is axiomatic that the "claims must be read in view of the specification, of which they are a part."[32]

However, there is a difference "between using the specification to interpret the meaning of a claim and importing limitations from the specification into the claim."[33] The former is permissible; the latter is not. Although it is often difficult to distinguish between these interpretive outcomes, the Federal Circuit has provided some general guidance to aid district courts. Because it is the claims themselves that "define the scope of the right to exclude,"[34] the specification should normally only be used to limit a claim: (1) if the claim "explicitly recite[s] a term in need of definition"[35]; or (2) if the specification unambiguously defines a term, *i.e.*, if "a patent applicant has elected to be a lexicographer by providing an

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invention claimed by the patent. *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998). *Accord Phillips*, 415 F.3d at 1311-14.

[31] *Phillips*, 415 F.3d at 1315 (quotation marks and citations omitted).

[32] *Id.* In fact, a claim interpretation that excludes a preferred embodiment described in the specification is "rarely, if ever, correct." *Vitronics*, 90 F.3d at 1583.

[33] *Phillips*, 415 F.3d at 1323.

[34] *Renishaw PLC v. Marposs Societa' Per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998).

[35] *Id.*

explicit definition in the specification for a claim term."[36] While these guideposts *do not make every question an easy one,*[37] *they do provide an informed starting* point from which to begin interpretation.

3. Prosecution History

The prosecution history of a patent, sometimes called the patent's file wrapper or file history, "consists of the complete record of the proceedings before the PTO and includes the prior art cited during the examination of the patent."[38] "Because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes."[39] Nonetheless, "[l]ike the specification, the prosecution history provides evidence of how the PTO and the inventor understood the patent," and accordingly, "can often inform the meaning of the claim language[.]"[40]

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[36] *Id.* at 1249.

[37] *See Phillips*, 415 F.3d at 1323 ("In the end, there will still remain some cases in which it will be hard to determine whether a person of skill in the art would understand the embodiments to define the outer limits of the claim term or merely to be exemplary in nature.").

[38] *Id.* at 1317(citation omitted).

[39] *Id.* (citations omitted).

[40] *Id.* (citations omitted)

As with other sources of intrinsic evidence, courts have developed various doctrines to aid in the application of these general interpretive principles. Importantly, under the prosecution disclaimer doctrine, "the prosecution history . . . [may] limit[] the interpretation of claims so as to exclude any interpretation that [has] been disclaimed or disavowed during prosecution in order to obtain claim allowance."[41] For example, if an applicant makes limiting statements to overcome prior art that the PTO asserts will invalidate one of the patent's claims, the scope of that claim should normally be limited to exclude the disavowed material.[42] However, the Federal Circuit has stressed that "the disavowal must be both clear and unmistakable to one of ordinary skill in the art" for this doctrine to apply.[43]

B. Extrinsic Evidence

The extrinsic record "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and

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41 *Standard Oil Co. v. American Cyanamid Co.*, 774 F.2d 448, 452 (Fed. Cir. 1989).

42 *See Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576 (Fed. Cir. 1995) ("Claims may not be construed one way in order to obtain their allowance and in a different way against accused infringers.").

43 *Elbex Video, Ltd. v. Sensormatic Elecs. Corp.*, 508 F.3d 1366, 1371 (Fed. Cir. 2007).

learned treatises."[44] Because extrinsic evidence (unlike intrinsic evidence) is not part of "the indisputable public record," putting too much weight on that evidence "poses the risk [of] . . . undermining the public notice functions of patents."[45] Nevertheless, while extrinsic evidence is less important than intrinsic evidence, it remains useful and district courts are "authorized . . . to rely upon [it]."[46] In particular, "technical dictionaries" may help "a court to better understand the underlying technology and the way in which one of skill in the art might use the claim terms."[47]

IV. DISCUSSION

A. "Automatic" and "Without Manual Intervention"

Liquidnet requests that I construe several terms within claim one of Patent '834 to include the words "automatically" and "without manual intervention." For example, it proposes that the term "by at least one computer" be construed throughout the patent claim as "by one or more computers, without

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44 *Phillips*, 415 F.3d at 1317.

45 *Id.* at 1319.

46 *Id.* at 1317.

47 *Id.* at 1318.

manual intervention."[48] Because claim one does not use the words "automatically", "without manual intervention", or any analog, Liquidnet relies for support on the patent's specification – which, unlike the claim itself, frequently uses both terms. Of particular relevance, the specification outlines in detail "that there is a need in the art for an electronic marketplace that does not require *any manual intervention* or traders,"[49] and asserts that "[t]he present invention addresses [that] need by providing for the *automated* transmission of orders (*i.e.*, *without manual* trader *intervention*) from various order management systems . . . to an electronic trading marketplace[.]"[50]

This language, along with the fact that the specification discusses multiple preferred embodiments wherein the patented method occurs automatically, provides evidence that the inventor envisioned the patented method

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[48] In total, Liquidnet proposes that this construction be read into five different terms that appear one or more times in the claim: (1) that "by at least one computer" be construed as "by one or more computers, without manual intervention"; (2) that "subsequently generating" be construed as "subsequently producing in a format understood by the electronic marketplace automatically, without manual intervention"; (3) that "sending" be construed as "automatically transmitting, without manual intervention"; (4) that "subsequently sending" be construed as "subsequently transmitting automatically, without manual intervention"; (5) that "periodically determining" be construed as "automatically determining, from time to time, without manual intervention."

[49] Patent '834 col. 2 ll. 30-33.

[50] *Id.* col. 2 ll. 38-43 (emphasis added).

occurring without manual intervention. However, this pervasive use of the words "automatically" and "without manual intervention" does not settle the issue.[51] It is the claim itself, and not the specification, that defines an invention, and courts are well-advised not to add limiting modifiers (*e.g.*, an adjective like "automatically") to broad claim language (*e.g.*, a verb like "sending") without sufficient justification.[52]

As stated, the Federal Circuit has discussed two ways in which the specification can be used to narrow the construction of a patent's claims. While

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[51] *See Lemelson v. United States*, 752 F.2d 1538, 1552 (Fed. Cir. 1985) (holding that a district court erred in construing the term "prepositioning" to mean "automatic prepositioning" even though the specification only discussed *automatic* prepositioning and did not discuss *manual* prepositioning at all). As Patent '834 itself states of the specification: "The above description is included to illustrate the operation of the preferred embodiments and is not meant to limit the scope of the invention. The scope of the invention is to be limited only by the following claims." Patent '834 col. 12 ll. 42-45. This may be boilerplate language found in almost any patent, but it must still be taken seriously. A patent applicant should not be allowed to use a patent's described embodiments to broaden that patent's scope when doing so is desirable (*e.g.*, to sue for alleged infringement by later inventions) and to narrow it when doing so is desirable (*e.g.*, to avoid invalidation by prior art).

[52] *See Renishaw PLC*, 158 F.3d at 1249-50 ("Nor may we in the broader situation, add a narrowing modifier before an otherwise general term that stands unmodified in a claim. For example, if an apparatus claim recites a general structure (*e.g.*, a noun) without limiting that structure to a specific subset of structure (*e.g.*, with an adjective), we will generally construe the claim to cover all known types of that structure that are supported by the patent disclosure." (*citations omitted*)).

these are not necessarily the only ways that such narrowing can occur, they do provide a good starting point for analysis.

First, the claim may contain ambiguous language that is susceptible to being construed as requiring the requested limitation. The closest such term in claim one is "by at least one computer." During the Markman hearing, Liquidnet contrasted *computerized* operations with *manual* operations, and stressed that the patented method was computerized.[53] However, while the computerization of a process does suggest a degree of automation, this term does not rule out manual intervention. As a matter of common sense, it is apparent that some computer functions require manual intervention (*e.g.*, a user must often click a key to save a document to a computer's hard drive). In addition, and perhaps more importantly, the specification states that even though computers are used in the prior art, these processes are not fully automated.[54] If, as the specification states, the use of

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[53] *See* 12/16/09 Markman Hearing Transcript ("Tr.") at 64-65.

[54] *See* Patent '834 col. 1 ll. 20-33 ("Although computers are heavily used to facilitate trading of securities, manual intervention is still required at certain steps in the trading process. For example, most traders at institutional investment management firms record their orders to purchase or sell securities in computerized order management systems (OMS's). However, one or more traders at each firm must manually review the orders in the OMS and attempt to fill the orders by contacting one or more market intermediaries. Typically, the traders transmit the orders in the OMS by telephone or separate data entry links to registered broker-dealers for the securities, to electronic marketplaces that trade the securities, or to other market intermediaries. Accordingly, manual effort is

computers in the prior art does not mean that those processes occur automatically, the use of computers in the patented method cannot require such automation.

Second, a specification may unambiguously provide a non-standard definition for a term. Liquidnet has not highlighted, and I have not found, any express definitions within the specification. For example, the specification does not expressly state, as it could, that the term "sending" means "automatically sending."

Nevertheless, Liquidnet asks me to read the claim terms to include the words "automatically" and "without manual intervention" on the grounds that the purpose of the invention will be frustrated unless the patented method includes such limitations.[55] As Liquidnet argues, the specification explicitly describes the importance of the invention's automatic nature to solving issues not addressed in the prior art. I am also convinced that the invention, as it is actually practiced, involves a large degree of automation, and that its success in the marketplace is at least partly due to this automation.[56] However, while an invention's purpose can

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required to actually execute the orders in the OMS.").

[55] *See* Tr. at 48-49.

[56] *See, e.g.*, 5/31/02 Dow Jones News Story, Ex. 8 to Declaration of Gaston Kroub ("Kroub Decl."), counsel for Liquidnet, at 2 ("Liquidnet differs from all its counterparts in that traders do not have to enter orders themselves. Its software searches participants' order management systems (OMSs) and

be useful for interpreting "ambiguous" claim language,[57] the Federal Circuit has made clear that "the court's task is not to limit claim language to exclude particular devices because they do not serve a perceived 'purpose' of the invention."[58] In our patent system, it is the claims, and not the invention to which they relate, that define a patent's scope.

Moreover, it is apparent from the specification that the claimed invention is not exclusively aimed at addressing the lack of automation in the prior art.[59] The patented method is also designed to address the need for an electronic trading system that offers anonymity,[60] creates a high amount of liquidity,[61] and prevents over-execution of trades.[62] In fact, during prosecution, the patent

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automatically alerts traders to natural matches.").

[57] *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 n.3 (Fed. Cir. 2003).

[58] *Id. at* 1370.

[59] *See id.* ("An invention may possess a number of advantages or purposes, and there is no requirement that every claim directed to that invention be limited to encompass all of them.").

[60] *See* Patent '834 col. 2 l. 32.

[61] *See id.* col. 2 l. 33.

[62] *See id.* col. 2 ll. 18-22. At the Markman hearing, Liquidnet argued that it is the automatic nature of the patented method that creates liquidity and prevents over-execution. *See* Tr. at 48. And the specification corroborates that the use of manual effort contributed, in part, to the existence of these problems in

applicants removed the term "automatically" from the claim language in response to the PTO's assertions that the automatic nature of the method would not distinguish the patent from the prior art. In doing so, the applicants made clear that "although Applicants still do not agree with the Examiner's previous discussion [regarding automatic execution] . . . , this limitation is not relied upon as a distinguishing element in the current claims."[63] While this statement is not definitive in determining the scope of the claim at issue, it further supports the view that the patented method need not proceed automatically.

Liquidnet and ITG have both made persuasive arguments regarding whether the patented method should be construed to occur automatically. Because one skilled in the art could reasonably have adopted either interpretation, this is one of those unfortunate situations where the patent has failed to perform adequately its public notice function, and my decision may consequently

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the prior art. *See, e.g.*, Patent '834 col. 1 ll. 34-37 ("One problem arising from this manual effort is that institutional traders cannot execute trades involving large quantities of securities without adversely affecting the market price of the securities."). However, the specification also discloses other ways that the invention addresses gaps in the prior art. For example, the patented method is designed to allow "[t]raders [to] communicate with the ETM to *anonymously* negotiate trades of securities." Patent '834 col. 2 ll. 52-53 (emphasis added). This is a proposed benefit of the patented method that is entirely independent of the invention's automatic nature.

[63] 7/12/06 Amendment to Patent '834, Ex. 4R to Brenner-Leifer Decl., at 7.

undermine the reasonable expectations of persons who are engaged in practicing or designing around the claimed invention. Nevertheless, this case cannot proceed with two interpretations of the same term, and I must therefore choose the definition that most closely accords with the claim language and the intrinsic evidence. While I do not doubt that the applicants believed their invention would work best when the method is automated, the intrinsic evidence is insufficient to read such a limitation into the claim. If automation was absolutely necessary to the invention, the words "automatically" and "without manual intervention" should have appeared in the claim itself.

Accordingly, I do not construe any of the disputed terms to include the words "automatically" or "without manual intervention."

B. "Accessing, by at least one computer, all records of open orders"

1. "Accessing"

Liquidnet proposes that I construe "accessing" to mean "gaining entry to,"[64] while ITG/Pulse proposes that I construe it to mean "retrieving."[65] The parties appear to agree that the patented method must perform both of these steps – *i.e.*, it must first gain entry to the OMS database and then at some point retrieve

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64 Liquidnet Br. at 12.

65 Opening Brief of ITG and Pulse Concerning Claim Construction ("ITG/Pulse Br.") at 33.

data from within that database in order to transmit it to an ETM.[66] However, the parties disagree as to which action the term "accessing" refers. While both parties' arguments are meritorious, Liquidnet's construction has the greater evidentiary support.

First, Liquidnet's construction better reflects the ordinary meaning that one skilled in the art would attribute to the term "accessing" when reading it in the context of the specification. In one of the few places that the specification uses the term accessing, it discloses that:

> The OIM is in communication with the OMS database and the ETM. An OMS database integration module in the OIM reads data records stored in the OMS database and, in a preferred embodiment, also creates and modifies data records stored in the OMS database upon execution of a trade through the ETM. In one embodiment, the OMS database interaction module directly *accesses* the OMS database and in another embodiment it sends commands to an application programming interface (API) in the OMS for *accessing* the database.[67]

Although the specification never defines "accessing," this section uses the terms "accesses" and "accessing" to refer to a mode of "communication" between the

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[66] *See* Liquidnet Br. at 13 ("[T]he act of retrieving data must logically be something that takes place after the step of 'accessing' that data."); Responsive Brief of ITG and Pulse ("ITG/Pulse Resp.") at 19 ("ITG and Pulse agree that to retrieve data – in Liquidnet's example email — one must connect to the database through the use of a computer.").

[67] Patent '834 col. 3 ll. 43-52 (emphases added).

OIM and the OMS database wherein the OIM reads and monitors records within the OMS database. Nothing in this section suggests that the records must be retrieved for them to be accessed. Instead, it appears that when the patent applicants used the term "accessing," they contemplated a process in which the OIM would be able to *gain entry to* the records and read them while they remained within the database.[68]

Second, and relatedly, ITG/Pulse's construction would exclude preferred embodiments described in the specification. According to Patent '834, after a trader logs on to the OMS, the trader's computer "retrieves data records about orders suitable for transmission to the ETM from the OMS database."[69] In one embodiment, "all open orders are suitable for transmission to the ETM," but in other embodiments, only some orders are deemed suitable for transmission.[70] The

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[68] The parties disagree about whether computers, at the time Patent '834 was filed in 2001, were able to manipulate data without first retrieving that data to memory. *Compare* Liquidnet Br. at 13 (describing a process by which email may be accessed without retrieving those emails) *with* ITG/Pulse Resp. at 18 ("A computer cannot do anything with data until it has first retrieved it to memory."). *See also* Tr. at 31-32, 43-44. However, neither party has introduced expert testimony on this point, and I cannot determine the state of technology in 2001 on the basis of attorney representations. I must rely on the intrinsic and extrinsic evidence that is in the record to determine the correct meaning of the term "accessing."

[69] Patent '834 col. 11 ll. 17-20.

[70] *Id.* col. 11 ll. 20-27.

specification, therefore, discloses embodiments wherein the trader's computer will only retrieve the records of some orders – *i.e.*, those determined to be suitable for transmission. Because the claim describes the patented method as "accessing . . . *all* records of open orders," construing "accessing" to mean "retrieving" would exclude the preferred embodiments where only *some* records of open orders are retrieved.[71]

Third, Liquidnet's definition is also supported by extrinsic evidence. Liquidnet has introduced a computer dictionary published by Microsoft in 2002 that defines "access" as "[t]o gain entry to memory in order to read or write

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[71] Because constructions that exclude preferred embodiments render the claims and specification inconsistent, such constructions should only be adopted if supported by "highly persuasive" evidence. *Vitronics*, 90 F.3d at 1583. ITG/Pulse points to a drawing submitted during the prosecution of the patent, "which has an arrow going from a box labeled '[OMS] Database' to a box labeled 'Computer' that is labeled . . . 'accessing . . . all records.'" Liquidnet Br. at 33 (quoting 7/12/06 Amendment, Ex. 4R to Brenner-Leifer Decl., at 15). While the direction of this arrow does suggest that "accessing" involves the movement of records from the database to the computer, this evidence from the prosecution history is insufficient to overcome the other intrinsic evidence supporting Liquidnet's construction as well as the fact that ITG/Pulse's definition would exclude preferred embodiments.

ITG/Pulse has also directed my attention to preferred embodiments in the specification that describe the retrieval of order records from the OMS database. *See* ITG/Pulse Resp. at 18. However, Liquidnet does not dispute that the patented method contemplates the retrieval of those records. It only claims that this retrieval is not reflected by the accessing step described in the claim.

data."[72] While courts are cautioned not to rely too heavily on dictionaries, the definition further supports the view that Liquidnet's construction reflects the ordinary meaning of the term "accessing."

Despite this intrinsic and extrinsic evidence, ITG/Pulse objects to defining the term "accessing" to mean "gaining entry to" on the grounds that Liquidnet's construction does not make sense in the syntax of the claim language. The claim describes the patented method as "accessing . . . all records of open orders *from* a database of an order management system." According to ITG/Pulse, "[c]omputers do not *gain entry to* records *from* a database, they *retrieve* records *from* a database."[73] While it is true that applying Liquidnet's definition to the term "accessing" results in awkward phrasing, ITG/Pulse is incorrect that Liquidnet's construction is illogical. The preposition "from" may refer to a prepositional object of the transitive verb (*e.g.*, removing a splinter *from* your skin), but it may also refer to the location of that verb's object (*e.g.*, meeting a man *from* China). Therefore, "accessing . . . records of open orders from a database of an order management system" can logically be read to mean that the records of the open orders are located in the OMS database without suggesting that they are

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[72] Entry from Microsoft Computer Dictionary, Fifth Edition, Ex. 15 to Kroub Decl., at 13.

[73] ITG/Pulse Resp. at 18 (emphasis in original).

being removed from that database.

Accordingly, I adopt Liquidnet's construction of the term "accessing" to mean "gaining entry to."

2. "All"

Liquidnet construes the term "all" as the "whole number or sum,"[74] while ITG/Pulse defines it as "each and every."[75] I see little practical difference between these two constructions once the other terms in the claim are defined, and the parties have not pointed to any evidence that strongly suggests that one of these definitions is more accurate than the other. I therefore will define "all" in the most common-sense way – namely "each and every."[76]

3. " Open orders"

ITG/Pulse proposes that the term "open orders" be construed to mean "firm orders, *i.e.*, binding purchase or sale offers that can be executed without a further affirmative action by the trader; not contemplated or completed orders."[77]

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74 Liquidnet Br. at 17.

75 ITG/Pulse Br. at 32.

76 *See Phillips*, 415 F.3d at 1314 (stating that when the ordinary meaning of claim language is apparent a district court need not consider any other source of intrinsic or extrinsic evidence to interpret that language).

77 *Id.* at 23.

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[74] Liquidnet Br. at 17.

[75] ITG/Pulse Br. at 32.

[76] *See Phillips*, 415 F.3d at 1314 (stating that when the ordinary meaning of the claim language is apparent a district court need not consider any other source of intrinsic or extrinsic evidence to interpret that language).

[77] *Id.* at 23.

Liquidnet proposes that the term should be construed to mean "instructions to buy or sell a quantity of a security not yet placed elsewhere (*i.e.*, where the total order size exceeds the quantity, if any, committed to another broker or other execution venue)."[78] The major distinction between the parties' constructions is whether an order's "open" status means that it has already been placed in another venue – besides the ETM contemplated by the patented method – for execution. ITG/Pulse argues that the "open" status of an order indicates that it has already been placed in another venue for execution but has not yet been executed.[79] Liquidnet, in contrast, argues that the "open" status indicates that the order has not yet been placed elsewhere for execution, and that a trader has only indicated internally to others within his or her investment firm that a quantity of a security should be bought or sold.[80]

While the claim language and the specification do not explicitly define the term "open orders," these sources of intrinsic evidence most directly support Liquidnet's definition of the term. The claim states that the OMS contains records of orders – including a field identifying "the total order size" and a field

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78 Liquidnet Reply Claim Construction Brief ("Liquidnet Reply") at 5.

79 *See* ITG/Pulse Br. at 24.

80 *See* Liquidnet Reply at 6.

describing the "quantity of the security placed elsewhere."[81] According to the specification, in a preferred embodiment, "the ETM uses the values of these two fields to determine a quantity of the security if any, that are [sic] available to be transacted to the ETM."[82] The specification, therefore, contemplates at least one embodiment of the invention wherein the term "open orders" (*i.e.*, those orders that are accessed and ultimately transmitted to the ETM) refers to the subset of orders that have not been placed elsewhere for execution. Furthermore, step (ii) of claim one states that the non-binding indications generated from the "open orders" indicate the "available quantity" of the security as "determined by the accessed records."[83] This claim language in step (ii) does not require, but is consistent with, Liquidnet's construction – as the "available quantity" described in the claim would be determined by subtracting the quantity of a security placed elsewhere from the total order size (both of which can be determined by reference to the accessed records).

ITG/Pulse, obviously, objects to this definition, and provides evidentiary support for its view. Its most persuasive, but ultimately unavailing,

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81 Patent '834 col. 12 ll. 62-63.

82 *Id.* col. 9 ll. 42-45.

83 *Id.* col. 13 l. 4.

argument is that Liquidnet disclaimed its construction of the term "open orders" during its prosecution of Patent '834.[84] In late 2004, Liquidnet, in arguing that its claims were not encompassed by prior art, told the PTO that its patented method "reflect[s] a conversion from firm orders to non-binding indications; from the proverbial 'apples' to 'oranges.'"[85] According to ITG/Pulse, this statement shows that the patented method involves the conversion of firm – *i.e.*, binding – orders to non-binding indications, and that the original orders were binding because they had already been placed in another venue for execution. This statement, however, is not sufficiently unambiguous to constitute a prosecution disclaimer.[86] At the time the statement was submitted to the PTO, the claim language was different than it is now and referred to "orders" rather "open orders."[87] Given that the specification identifies several different order statuses (*e.g.*, open, contemplated,

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[84] *See* Tr. at 5-6 (the proper construction "open orders . . . comes down to statements that were made by Liquidnet to the patent office during the prosecution in order to obtain allowance of the claim").

[85] 12/10/04 Amendment to Patent '834, Ex. 4L to Brenner-Leifer Decl., at 19.

[86] *See Elbex Video*, 508 F.3d at 1371 (stating that a prosecution disclaimer must be "clear and unmistakable" (quotation marks and citations omitted)).

[87] See 12/10/04 Amendment to Patent '834, Ex. 4L to Brenner-Leifer Decl., at 2.

completed), it is apparent from the intrinsic evidence that the term "orders" is more inclusive than the subset described as "open orders." In addition, another portion of the prosecution history directly contrasts the patented method with a "system [in the prior art] that merely consolidates . . . bids and offers" already placed in other venues.[88] Accordingly, when the intrinsic evidence is considered "as a whole," the prosecution history statement describing the conversion of firm orders to non-binding indications is too ambiguous to constitute a prosecution disclaimer.[89]

Of course, the fact that this statement does not rise to the level of prosecution disclaimer does not eliminate its possible relevance. District courts use prosecution history to clarify claim language even when they are not applying the prosecution disclaimer doctrine. That said, because the prosecution history reflects an ongoing negotiation between the patent applicant and the PTO, it cannot be given precedence over the specification and the claims themselves, which reflect the final agreement between the parties.[90] The specification and the

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[88] 6/6/03 Amendment to Patent '834, Ex. 4D to Brenner-Leifer Decl., at 13. *See* also *id.* (describing the patented method as "reading non-binding indications of interest, not firm orders, . . . from an order management system database").

[89] *Elbex Video*, 508 F.3d at 1372.

[90] *See Phillips*, 415 F.3d at 1317.

claim language provide greater support to Liquidnet's definition. Accordingly, the term "open orders" means "instructions to buy or sell a quantity of a security not yet placed elsewhere."

B. "Generating, by at least one computer, all non-binding indications from the accessed records of open orders suitable for transmission to at least one electronic marketplace."

1. "Generating"

The parties' disagreement over the proper construction of the term "generating" is largely an outgrowth of their disagreement over the proper construction of the term "open orders." ITG/Pulse construes "generating" to mean "converting firm orders to non-binding indications."[91] Liquidnet construes the term to mean "producing [non-binding indications] in a format understood by the electronic marketplace."[92] Because I have already rejected ITG/Pulse's construction of "open orders" as "firm orders," it would be illogical to adopt its construction of the term "generating." Accordingly, I adopt ITG/Pulse's construction of "generating" to mean "producing [non-binding indications] in a format understood by the electronic marketplace."

However, this construction requires one caveat. The specification

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[91] ITG/Pulse Br. at 30.

[92] Liquidnet Br. at 20.

discloses that while "[i]n one embodiment, the OIM converts the data records retrieved from the OMS database into a standardized format understood by the ETM[,] [i]n another embodiment this functionality is part of the ETM."[93] Thus, while the non-binding indications are always produced in a format that is understood by the ETM in the sense that the ETM is able to convert the indications into a standardized format, the specification discloses that these indications are not necessarily produced in a format that is immediately functional within the context of the ETM. In at least one embodiment, the ETM must convert the indications into such a format.

2. "Non-binding indications"

Liquidnet proposes that "non-binding indications" be construed to mean "non-binding offers to buy or sell a security."[94] ITG/Pulse adds a further limitation – that the non-binding purchase or sale offers "allow[] traders to enter into negotiations to trade the securities, which cannot be executed without a further, affirmative action by a trader."[95] Because it is supported by the intrinsic evidence, I adopt ITG/Pulse's construction.

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93 Patent '834 col. 4 ll. 4-8.

94 Liquidnet Br. at 22.

95 ITG/Pulse Br. at 28.

The word negotiation appears throughout the specification. In one of those instances, a portion of the specification states that, "[b]ased on these indications, traders at one institution can enter into *negotiations* with traders at other institutions[.]"[96] Thus, according to the specification, traders use non-binding indications to enter into negotiations with one another. Moreover, during prosecution of the patent, the patent applicant confirmed this interpretation of the patented method – telling a PTO examiner, "[a]s pointed out in the specification . . . , the indications provide information to allow traders to enter into *negotiations* to ultimately trade the securities."[97]

Liquidnet objects to this interpretation of the term "non-binding indications" on the ground that it requires a limitation to be read from the specification into the claim.[98] A district court must be careful not to read language into a patent claim without appropriate justification. Accordingly, earlier in this Opinion, I declined to construe several terms in claim one to require automation even though the specification described the patented method as occurring

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[96] Patent '834 col. 3 ll. 6-9 (emphasis added).

[97] 10/20/03 Amendment to Patent '834, Ex. 4F to Brenner-Leifer Decl., at 12 (emphasis added).

[98] *See* Liquidnet Br. at 23.

automatically.[99] However, the relevant distinction between those terms (*e.g.*, sending), and the term "non-binding indications," is that the word "non-binding" is an ambiguous term that requires further clarification.[100] The term "non-binding" reveals that these indications alone are insufficient to constitute trader authorization, and that at least one further step must take place before a trade is executed. The specification and prosecution history make clear that this extra step is negotiation.

Accordingly, I adopt ITG/Pulse's construction of the term "non-binding indications" to mean "non-binding purchase or sale offers that allow traders to enter into negotiation to trade securities, which cannot be executed without a further, affirmative action by a trader." However, I emphasize that negotiation need not be an in-depth process. It can be as basic as each party assenting to the terms of the other party's non-binding indications.

3. "Suitable for transmission"

Liquidnet construes "suitable for transmission" to mean "meeting the

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[99] *See supra* Part IV.A.

[100] *See Renishaw PLC*, 158 F.3d at 1248 ("[I]t is manifest that a claim must explicitly recite a term in need of definition before a definition may enter the claim from the written description.").

filtering criteria established by the traders and/or the electronic marketplace."[101] ITG/Pulse suggests a broader definition, construing the term to mean "appropriate for transmission."[102] I adopt ITG/Pulse's definition because suitable and appropriate are virtual synonyms.[103] As a result, the adopted definition is nothing more than the language of the claim, while Liquidnet's definition attempts to inappropriately narrow the claim.

While it is apparent from the specification that the patented method will often use a filtering module to determine what data is suitable for transmission,[104] it is also apparent that the patented method does not always use such filtering modules. This is disclosed by a portion of the specification which

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101 Liquidnet Br. at 24.

102 ITG/Pulse Br. at 33.

103 While it is unclear from the syntax of the sentence in which the term "suitable for transmission" appears whether the term modifies "non-binding indications" or "accessed records of orders," a later step in the claim, which refers to "suitable non-binding indications," clarifies that "suitable for transmission" modifies "non-binding indications."

104 *See, e.g.*, Patent '834 col. 3 ll. 61-65 ("The OIM also preferably includes a filtering module for filtering out specified orders by security type, security name, order type, order price, order quantity, or other category, so that those orders are not transmitted to the ETM."); *id.* col. 11, lines 22-27 ("In other embodiments of the present invention, the OIM, through the filtering module, makes the determination of suitable orders based on other criteria, such as the security type (e.g., stock or bond), security name (e.g., IBM or T), order type (e.g., market or limit order), order quantity, and/or order price.").

describes two embodiments of the patented method – one where "all open orders are suitable for transmission" and another where a "filtering module" is used to determine what orders are suitable for transmission.[105] As ITG/Pulse argues, "Liquidnet's construction of 'suitable for transmission' accounts for the second embodiment but ignores the first."[106] Accordingly, it is inappropriate to limit the term "suitable for transmission" to the use of filtering criteria.

Instead, I adopt ITG/Pulse's broader construction of the term. While substituting the word appropriate for the word suitable does little to clarify the meaning of this term, the evidence does not permit a more exacting definition. The patented claim encompasses any means for determining whether a non-binding indication is appropriate for transmission – including the use of a filtering module or simply allowing all non-binding indications generated from records of open orders to be transmitted.

4. "Electronic Marketplace"

Liquidnet defines "electronic marketplace" broadly as "any combination of computer hardware and/or software for receiving and processing, for potential execution, data representative of orders received from an OMS

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105 Patent '834 col. 11 ll. 18-27.

106 ITG/Pulse Resp. at 20.

database."[107] ITG/Pulse proposes a narrow definition that defines the term as "an electronic destination where non-binding indications are matched and negotiated."[108] Because the intrinsic evidence supports elements found in both definitions, I construe "electronic marketplace" to have a different meaning than that provided by either of the parties. An "electronic marketplace" is an electronic destination that (1) receives and processes non-binding indications, (2) allows for the matching of non-binding indications with their contra interests and for the negotiation and execution of trades, and (3) has the capacity to record trades if and when they are executed.

Each element of this definition is supported by intrinsic evidence. The specification states: that "[t]he ETM includes an OMS data integration module (ODIM) for receiving and processing data representative of orders received from the OIMs";[109] that "[t]raders can communicate with the ETM to anonymously *negotiate* trades of securities";[110] and that "[a] transaction history module records transactions performed by the ETM in the ETM database."[111] As

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107 Liquidnet Br. at 25.

108 ITG/Pulse Br. at 20.

109 Patent '834 col. 2 ll. 61-63.

110 *Id.* col. 2 ll. 52-53 (emphasis added).

111 *Id.* col. 3 ll. 13-15.

for the capacity to allow matching, claim two contemplates the "matching [of] at least one non-binding indication sent to the electronic marketplace with a contra interest[.]"[112] Because claim two expressly adds this limitation to the method described in claim one,[113] claim two evidences that the ETM described in claim one has the capacity to match non-binding indications.

Within the securities trading context, the term "electronic marketplace" suggests an electronic destination where trades are executed. The specification clarifies how these trades occur: the ETM receives and processes non-binding indications; it allows for the matching of non-binding indications and for the negotiation and execution of trades; and it records those trades if and when executed.

Liquidnet objects to the incorporation of a "negotiation requirement" in this definition on the grounds that the specification "discloses a host of other modules and features that may optionally be incorporated into the electronic marketplace, and the negotiations module is not described as being any more

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[112] *Id.* col. 13 ll. 16-18.

[113] *See id.* col. 13 ll. 16-19 (beginning claim two by incorporating "[t]he method of claim 1" and then adding the "further" limitation of "matching at least one non-binding indication sent to the electronic marketplace with a contra interest and providing an indication of the match"). In the vernacular of patent law, claim two is dependent on claim one.

fundamental to the operation of the electronic marketplace than any of these features."[114] However, the sections of the specification that I have cited are from the "Disclosure of the Invention" section of the patent. The other modules mentioned by Liquidnet are either from the"Detailed Description of the Preferred Embodiments" section, which expressly states that "the present invention can lack one or more of the modules described herein,"[115] or are described as *preferable* aspects of the invention.[116] Thus, the specification's disclosure of the patented method's negotiation aspect is properly distinguished from these other possible aspects of the patented method.

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[114] Liquidnet Reply at 18.

[115] Patent '834 col. 6 ll.62-63. Liquidnet suggests that this statement within the "Detailed Descriptions of the Preferred Embodiments" section means that all modules described throughout the entire specification are not required elements of the patented method. *See* Liquidnet Reply at 17. However, it is far from obvious that this statement applies to the entire specification. Moreover, the main aspect of my construction to which Liquidnet objects is the inclusion of language referring to negotiation. The specification does not just say that the claimed method includes a negotiation module. It flatly states that "[t]raders can communicate with the ETM to anonymously *negotiate* traders of securities." Patent '834 col. 2 ll. 52-53 (emphasis added).

[116] *See, e.g.*, Patent '834 col. 3 ll.15-18 ("The transaction history module also *preferably* records other data processed by the ETM including, for example, the orders received from and sent to the trading systems and the conducted negotiations." (emphasis added)).

Liquidnet has one other objection that must be addressed.[117] It asserts that ITG/Pulse's construction is precluded by the claim differentiation doctrine because "dependent claim 2 of the '834 Patent depends directly from claim 1 and adds the additional step of 'matching at least one non-binding indication sent to the electronic marketplace with a contra interest and providing an indication of the match.'"[118] While claim two is dependent on claim one – and this is an appropriate context to apply the claim differentiation doctrine –[119] Liquidnet's argument fails. My construction only states that the "electronic marketplace" *allows* for the matching of non-binding indications; it does not require that an instance of such matching must *occur*.

Accordingly, I construe the term "electronic marketplace" to mean "an electronic destination that (1) receives and processes non-binding indications, (2) allows for the matching of non-binding indications with their contra interests and for the negotiation and execution of trades, and (3) has the capacity to record

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[117] Liquidnet also points to evidence in the prosecution history suggesting that an "electronic marketplace" does not have to allow for negotiation. *See* Liquidnet Reply at 19. However, this evidence is insufficient to overcome statements in the specification showing that the *capacity to permit negotiation* is a necessary feature of an "electronic marketplace" as the term is used in claim one of Patent '834.

[118] Liquidnet Br. at 27 (quoting Patent '834 col. 13 ll. 16-19).

[119] *See Curtiss-Wright Flow Control Corp.*, 438 F.3d at 1380.

trades if and when they are executed."

C. "Sending"; "Periodically determining"; "Subsequently generating"; "Subsequently sending"

The parties have also asked the Court to define the following terms: "sending"; "periodically determining"; "subsequently generating"; and "subsequently sending." Because the only meaningful distinction between the definitions of these terms proposed by the parties relates to whether I should include the words "automatic" or "without manual intervention," no further analysis is needed to construe these terms.[120]

Apart from the automation issue, the parties agree: that "sending" means "transmitting";[121] that "subsequently sending" means "subsequently transmitting";[122] and that "periodically determining" means "determining from time to time."[123] I have already construed "generating" to mean "producing,"[124]

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120 *See supra* Part IV.A.

121 *Compare* Liquidnet Br. at 27 ("automatically *transmitting*, without manual intervention" (emphasis added)) *with* ITG/Pulse Br. at 35 ("transmitting").

122 *Compare* Liquidnet Br. at 30 ("*subsequently transmitting*, without manual intervention" (emphasis added)) *with* ITG/Pulse Br. at 45 ("subsequently transmitting")

123 Compare Liquidnet Br. ("automatically determining, *from time to time*, without manual intervention" (emphasis added)) with ITG/Pulse Br. at 45 ("recurring *from time to time*" (emphasis added))".

124 *See supra* Part IV.B.1.

and neither party suggests an alternative definition for the word "subsequently." Therefore, I construe the term "subsequently generating" to mean "subsequently producing."

V. CONCLUSION

For the aforementioned reasons I construe the disputed terms within claim one as follows:

"Accessing" means "gaining entry to."

"All" means "each and every."

"Open orders" means "instructions to buy or sell a quantity of a security not yet placed elsewhere (*i.e.*, where the total order size exceeds the quantity, if any, committed to another broker or other execution venue)."

"Generating" means "producing non-binding indications in a format understood by the electronic marketplace."

"Non-binding indications" meanings "non-binding purchase or sale offers that allow traders to enter into negotiation to trade securities, which cannot be executed without a further, affirmative action by a trader."

"Suitable for transmission" means "appropriate for transmission."

"Electronic marketplace" means "an electronic destination that (1) receives and processes non-binding indications, (2) allows for the matching of

non-binding indications with their contra interests and for the negotiation and execution of trades, and (3) has the capacity to record trades if and when they are executed."

"Sending" means "transmitting."

"Periodically determining" means "determining from time to time."

"Subsequently generating" means "subsequently producing."

"Subsequently sending" means "subsequently transmitting."

SO ORDERED:

Shira A. Scheindlin
U.S.D.J.

Dated: New York, New York
January 19, 2010

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