Exhibit A

Page 1

                IN THE UNITED STATES DISTRICT COURT
                  NORTHERN DISTRICT OF ILLINOIS
                        EASTERN DIVISION

TRADING TECHNOLOGIES INTERNATIONAL,) No. 05 C 4811
INC.,   )
)
                    Plaintiff,   )
)
           v.   )
)
CQG, INC. and CQGT, LLC.,   ) February 25, 2015
) Chicago, Illinois
) 10:05 a.m.
                    Defendants.   ) Trial

                         VOLUME 1
                 TRANSCRIPT OF PROCEEDINGS
   BEFORE THE HONORABLE SHARON JOHNSON COLEMAN, and a
                          jury

APPEARANCES:

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                                 MS. JENNIFER M. KURCZ
                                 MR. JAMES C. GUMINA
                                 MR. MATTHEW J. SAMPSON
                                 MR. MICHAEL D. GANNON

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 1   APPEARANCES CONTINUED:

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1   (Brief pause.)

2   BY MS. KURCZ:

3   Q.   Mr. McDonnell, keep your voice up so everyone can hear.

4   A.   I'm sorry, yeah.

5   Q.   No worries. Can you think of an example where TT has

6   monetized its distribution?

7   A.   I can. In fact, just recently we went live, in fact,

8   last week with a firm called EEX, the European Energy

9   Exchange. They're a very big exchange in Europe, and they

10   pay us to connect their markets into TT. So they get our

11   distribution, and in doing so that means that all of our

12   traders can trade on their exchange.

13   Another example would be early on this year we did

14   a deal with BM & F which is the Brazilian exchange. And

15   they, too, paid us to connect to their market. And in doing

16   so, that preserves prices on TT screens, and traders

17   throughout the world can access those prices. It's valuable

18   to them and valuable enough for them to pay us. So that's

19   the value of the distribution asset.

20   I am presently working on a half dozen deals right

21   now where other exchanges are looking to connect to TT and

22   pay us for that same distribution.

23   So it's not just selling the software to traders

24   anymore, it's selling to exchanges who want to avail

25   themselves of our distribution throughout the world. And we

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1   have offices all over Asia, and all over Europe, and here in

2   the States. And that's really important.

3   Q.   Has TT's competition changed over the years?

4   A.   Well, it has, given the fact that most of the

5   competitors that were in play back in '98 and '99 have either

6   gone out of business or been bought, and we're seeing new

7   competitors coming into the space who are not traditional

8   independent software vendors. So other players who already

9   have established their own distribution points can come in

10   and compete with us as they move in and start offering

11   electronic trading execution on their systems.

12   Q.   Who does TT compete with today?

13   A.   CQG is one of our big competitors.

14   Q.   Was CQG a competitor in TT's early years?

15   A.   No.

16   Q.   How has that changed?

17   A.   Back many years ago CQG began to offer execution on

18   their screens and such they were -- they've already

19   established a user base, and they're using what we think is

20   infringing software to sell against us.

21   Q.   Is CQG a direct competitor?

22   A.   Absolutely.

23   Q.   Does the presence of CQG's DOMTrader screen impact TT?

24   A.   It does, yeah. Yes.

25   Q.   How so?

1   A.   Well, in the first instance, they -- CQG are present at

2   a number of our customers because they're cheaper than we

3   are. They're competing with us. We've had to drop our

4   prices, in fact. So our ability -- it's called price

5   erosion. Our ability to keep pace with pricing is difficult.

6   And we lose business to them because they have already got

7   charts out there in the system, and they just add an MD

8   Trader type window to it, and they can displace us.

9   Q.   Is TT still profitable today?

10   A.   No.

11   Q.   Why is that?

12   MS. WYTSMA: Objection. Calls for speculation.

13   Foundation. He's testified he has no knowledge of the

14   financials.

15   MS. KURCZ: We just went over some financials, your

16   Honor.

17   THE COURT: He did state that's not his area,

18   didn't he? All right?

19   Objection sustained.

20   BY MS. KURCZ:

21   Q.   How does price erosion impact TT?

22   MS. WYTSMA: Objection, your Honor. There is no

23   lost profits claim in this case.

24   THE COURT: Response?

25   MS. KURCZ: Your Honor, this is part of the impact

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1   MD Trader have a static price axis?

2   A   Yes, as you saw last week. Yes, MD Trader has a static

3   price axis, yes.

4   Q   Can you explain that to the jury, please, how that's so.

5   A   Well, sure. So MD Trader has a static price axis as you

6   saw because it operates in a mode. It has one mode in which it

7   has a static price axis. But it also has another mode in which

8   it has automatic re-centering.

9   Q   Is MD Trader covered by the patents in suit here?

10 A   Yes, it is covered by the patents in suit.

11 Q   Okay.

12 A   And I think that's probably the most important thing to

13 understand here is that just because something has a mode in

14 which there's automatic movement doesn't mean that it's not

15 covered by the patent. Because if it also has a mode in which

16 it is static, it's covered, and that's exactly the case.

17   MR. VOLLER: Your Honor, objection.

18   THE COURT: Basis.

19   MR. VOLLER: Modes are not described in the claim

20 construction. This is well beyond the claim construction that

21 you provided in this court.

22   THE COURT: Response.

23   MR. GANNON: The question wasn't about the claim

24 construction.

25   THE COURT: Objection's overruled.

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1   THE WITNESS: So I think that's the important thing

2   to really understand here.

3   BY MR. GANNON:

4   Q   Okay. Now, you're describing -- you described in your

5   answer mode. Could you tell the jury what a mode is. Can we

6   go to the next slide, please.

7   A   Sure. So mode is an operational state or maybe you could

8   look at it as a set of conditions in which you would operate

9   something in. Everything we do in our lives has modes. In

10   your car most people have automatic transmission. It has

11   reverse, neutral, drive. Those are modes. Your thermostat in

12   your house, it has heating mode, cooling mode. The cruise

13   control on cars, those have modes to get into the cruise

14   control, out of the cruise control.

15   When you go on a plane, most phones these days have

16   airplane mode, so you can turn off the transmission when you're

17   own the plane. And there's even apps now for phones, and cell

18   phones are coming up with a mode where if they detect movement

19   of the car, then it will stop you from texting. So those are

20   all kind of examples of molds.

21   Q   So taking this into consideration, in your opinion do the

22   CQG products have a static price axis?

23   A   Yes, they do.

24

25

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1   Q   Why is that?

2   A   Because they function in such a way that there is a mode in

3   which the price axis is static.

4   Q   Do the accused products have a noninfringing mode?

5   A   Yes, they do.

6   Q   And could you describe to the jury what mode that is.

7   A   In the DOMTrader -- well, in the accused products, that is

8   known as the dynamic scale mode.

9   Q   What mode in the accused products meets the construction of

10   static?

11   A   Okay. Now, that is called the responsive scale mode.

12   Q   Okay. And with respect to DOMTrader, how do you put that

13   product into that responsive scale mode?

14   A   Well, there's a menu setting, and you can actually see it

15   here. There's a menu setting where you can choose either one,

16   responsive scale or dynamic scale.

17   And, actually, the default mode, so to speak, the

18   default setting is the responsive scale. So, well, if you just

19   got the software and you opened it for the first time, it would

20   be in the responsive scale.

21   Q   Does the presence of the dynamic scale impact your opinion

22   in any way?

23   A   No, not at all.

24   Q   And why not?

25   A   Because it's just an additional mode. The fact is is that

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1   the responsive scale mode is there, and that's all you need.

2   Q   Have you seen any evidence in this case of CQG describing

3   the responsive scale as static?

4   A   Yes, I have.

5   Q   Okay. Let's go to PTX2314, please.

6   MR. GANNON: And, Brian, if you could just blow up the

7   top of the document just so we can see what we're looking at.

8   And then if you could highlight the first sentence.

9   First sentence. And then also highlight the third sentence

10   where it starts with "It," "It does work."

11   BY MR. GANNON:

12   Q   So, Mr. Thomas, could you describe what's shown on the

13   screen here.

14   A   So this is an internal CQG engineering document. And

15   they're referring to a dynamic DOMT, and they're referring to a

16   static DT.

17   And really -- so DOMT and DT, those are the

18   DOMTraders. There's really only two choices as you saw in the

19   menu setting. There's dynamic or responsive scale. So CQG

20   internally are referring to the responsive scale mode as a

21   static DOMTrader.

22   Q   And who is the e-mail from here?

23   A   It's from a gentleman called Yuriy Shterk, who I believe

24   was head of product development for CQG.

25   MR. GANNON: Brian, let's go to PTX138.

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1   And if you could highlight -- I'm sorry, Brian. It's

2   PTX138. Could you highlight just the top of the document,

3   please.

4   BY MR. GANNON:

5   Q   Mr. Thomas, just generally, can you describe what this

6   document is?

7   THE COURT: You know what, sir? While you're doing

8   that, go ahead and make your move so you can turn --

9   BY MR. GANNON:

10 Q   Just highlight that --

11   THE COURT: One second, please.

12   MR. GANNON: Sorry.

13   THE COURT: You can turn your screen.

14   COURT REPORTER: Thank you.

15 BY MR. GANNON:

16 Q   Just generally, is this a CQG document?

17 A   Yes, it is, yes.

18 Q   And who is it from?

19 A   It's from Mr. Shterk again.

20   MR. GANNON: Okay. Can you go to the page 2, Brian,

21 and highlight static DT and dynamic DT.

22 BY MR. GANNON:

23 Q   What is this showing, Mr. Thomas?

24 A   Well, just like in the previous document, they're referring

25 to the dynamic DT and static DT, so again static being the

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 1   potentially too big.

 2   Q   Have you prepared a video showing how you get in and out of

 3   the browse prices mode?

 4   A   Yes, I have.

 5   Q   Okay. You want to just take the jury through this?

 6   A   Yeah, yeah.

 7   Okay. So I'm going to launch the DOMTrader, and when

 8   it launches, it's in the responsive scale in market mode. And

 9   what I'm going to do next is I am going to select a price

10   eventually.

11   Okay. So you can see the price at 17977 is selected.

12   Q   How do you know that, Mr. Thomas?

13   A   Well, it's highlighted.

14   Now I'm going to enter an order. Okay. I entered an

15   order, and now we've got one contract working at 17976.

16   Next thing I'm going to do is I'm going to deselect

17   that price, get out of the market mode. So I'm going to hit

18   the escape key, and you can see it's not selected anymore.

19   And the next thing I'm going to do, I'm going to

20   select a price again, and I'll be back in browse prices mode.

21   And there you go. 17974 is selected back in browse

22   prices mode.

23   MR. GANNON: Let's go to the next slide, please.

24   BY MR. GANNON:

25   Q   What is this showing, Mr. Thomas?

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1   A   So this shows -- it's a summary of the infringing products

2   from the CQG Integrated Client. It shows the version ranges

3   that have the DOMTrader with browse prices mode.

4   Q   What is this slide showing, Mr. Thomas?

5   A   This shows it for CQG Trader and WebTrader, and this shows

6   which versions have browse prices mode.

7   Q   So we've talked about the browse prices mode. What is the

8   second infringing mode that has a static price axis?

9   A   Well, those market -- excuse me -- the market windows that

10   I showed you just a little bit ago, those can actually be

11   disabled. And I call that market window disabled mode.

12   Q   And what is this slide showing?

13   A   So this is showing the DOMTrader with the market windows

14   disabled. And in this case, you can see the red highlighted --

15   the whole price display here is static.

16   And that's what that shows.

17   Q   And so when you disable the market window, what price

18   levels become static?

19   A   All of them. All of them in their display.

20   Q   Have you seen any documents in this case about disabling

21   the market window?

22   A   Yes, I have.

23   MR. GANNON: Okay. Let's put up PTX192.

24   And can you highlight the bottom portion of that,

25   Brian. Highlight the first sentence and the third sentence.

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 1   BY MR. GANNON:

 2   Q   Now, first of all, Mr. Thomas, is this an internal CQG

 3   document?

 4   A   Yes, it's from Mr. Shterk again.

 5   Q   And what does this document say?

 6   A   Well, he's saying he wants to know, basically, how the

 7   market windows disappear because in this case then, CQG is in

 8   violation of the TT patents.

 9   Q   Okay.  And do you understand what arguments CQG is making

10   with respect to this disabling the market window --

11   A   Yes.

12   Q   -- or at least one of their arguments in connection with

13   the mode issue?

14   A   Sure.  Again, they're saying that it's -- it's not a mode.

15   And also they're saying that it's a defect and that nobody did

16   it.

17   Q   Okay.  Do you agree with their argument regarding the mode?

18   A   No, definitely not.

19   Q   And why is that?

20   A   Well, because it has a set of conditions that when it's

21   done, it meets the limitation.

22           MR. GANNON:  Okay.  Let's go to the next slide,

23   please, Brian.

24   BY MR. GANNON:

25   Q   So how does a user disable the market windows?
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1   A   So there's two ways to disable it. You can either resize

2   it or you can change a file, a setting in a file called an ini

3   file.

4   Q   Okay. Let's talk about resizing. Did you prepare a video

5   showing how to resize?

6   A   Yes, I did.

7   Q   Okay. Now, what is this? Could you take the jury through

8   this portion.

9   A   Okay. So here we see the DOMTrader, and we've got the

10   market window in the top, same browse prices mode. Price is

11   selected at the bottom.

12   Now, I'm going to resize the market windows so that

13   it's just a bit smaller than the overall DOMTrader, deselected

14   the price. Now what I'm going to do is I make the DOMTrader

15   smaller, and I reselect the price.

16   Now, when I've done that, the market windows will not

17   appear.

18   Q   And how does the price levels change, if at all, when the

19   market window is disabled?

20   A   The price levels when the market window is disabled are

21   static.

22   Q   Do you have to resize the window every time that you trade?

23   A   No. Once you've done this, there's a few steps involved to

24   do that.

25   But once you've done it once, then you don't have to

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1   do it again. It remembers -- it remembers the settings. So

2   when you reopen it -- if you close it, reopen it, I even

3   believe that if you installed a new version that the settings

4   would carry over. So you've only got to do it once.

5   Q   Is it pretty easy to resize to disable the market window?

6   A   Yeah.

7   Q   Now, you mentioned disabling the market window through a

8   change in the ini file. What is that?

9   A   Sure. Well, an ini file is a file that's commonly used in

10   applications to enable or disable certain functions of that

11   application when it's running. So you can -- here is an

12   example here. This is actually a CQG internal document that

13   talks about the ini file.

14   And if you look at the bottom, you can see that you

15   can change it from -- the settings are either a 1 or a 0. If

16   it's set to 1, then it will appear. If it's 0, then it won't

17   appear.

18   Q   Is it pretty easy to change the ini file?

19   A   Sure. You just have to find -- at the bottom here, it says

20   market window auto 0. You just find that line item, and you

21   just change it to 0, save the file, and that's done.

22   Q   So when the market windows are disabled, what happens if

23   the inside market goes past the edge of the screen?

24   A   Well, it will disappear.

25   Q   Do you have a video just showing that?

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1   A   Sure, yep.

2   So you can see here -- so we've disabled the window.

3   And price is selected. And you can see here the market's gone

4   off the bottom of the screen. There's no market windows,

5   nothing.

6   And the price display is static. There's no movement.

7   Q   When the market window is disabled, can you re-center like

8   in MD Trader?

9   A   Yes, you can, yes.

10 Q   Now, you mentioned that CQG said that disabling the market

11 window is a defect.

12 A   Mm-hmm.

13 Q   Is that right?

14 A   Yes.

15 Q   Do you know whether CQG's disputing whether or not the

16 functionality is actually in the products?

17 A   No, they're not disputing that.

18 Q   Okay. Do you agree that this is a defect?

19 A   No, not at all.

20   MR. GANNON: Okay. Let's go to PTX194.

21   And if you could go to page 3, and highlight the first

22 paragraph starting with "the behavior in question." Yeah.

23   So go up -- yeah, right there. And you can stop right

24 there.

25 BY MR. GANNON:

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1   Q   Okay. What is this? First of all, what is this document,

2   Mr. Thomas?

3   A   So, again, this is an internal CQG engineering document.

4   And I'd just like to say, you know, a defect, the

5   normal word of a defect is like a software bug where there's

6   something wrong. It's not -- it's not a feature or anything.

7   If you look here at what the highlighted text, it says

8   the behavior in question is intentional. That's not a defect.

9   So it's intentional. Somebody requested it. And it says the

10   code checks whether the market window will have more rows than

11   the grid has, and, if so, then it doesn't show the market

12   window.

13   It's not a defect. Although they are calling it a

14   defect in this e-mail, it's not a defect in the common meaning

15   of the word.

16   Q   What does a defect mean?

17   A   To me?

18   Q   Yes.

19   A   A defect to me is, like I said, just a bug, something that

20   is just not functioning correctly or it's an error. But this

21   isn't an error. It's intentional.

22   Q   Okay. Did CQG remove the market window disabled mode from

23   their products?

24   A   Yeah, they did in late 2010, I believe. But it was in the

25   product for about five to six years before that.

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1   Q   Okay. So so far you've talked about the browse prices mode

2   and the mode -- and the mode in which the market windows are

3   disabled.

4   A   Yes.

5   Q   Is there a third infringing mode?

6   A   Yes. My favorite is called -- sorry. Excuse me.

7   Yes, this mode is called price hold or hover mode.

8   Q   And can you describe that mode, please.

9   A   So this mode occurs when the product is in the responsive

10   scale, in market mode.

11   And in this mode, the price hold, what it does is

12   it -- even if there's some movement in the price display, the

13   price hold ensures that you do not miss your price when you

14   place an order, even if there's movement in the screen.

15   Q   Okay. So how do you access the -- this particular mode?

16   A   Well, you have to have what's called fast click enabled.

17   Q   Okay. And when you get in -- what -- is this in responsive

18   or dynamic, this particular mode?

19   A   Yes, this is in the responsive scale.

20   Q   Okay. And then once you're in the responsive scale, how do

21   you access the mode?

22   A   Well, when you open it, when you open the product in the

23   responsive scale, it's in market mode.

24   Q   Do you have a video showing that?

25   A   Oh, yes. Actually, yeah.

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1   Q   Okay. What is shown here, Mr. Thomas?

2   A   So this is showing our market mode on the left here. So on

3   the right is the DOMTrader -- the MD Trader. And you can see

4   the market is moving up and down relative to the price axis,

5   and that is basically in market mode.

6   Q   Okay. Now, when you're in this market mode, can the price

7   axis move automatically?

8   A   Yes. Occasionally, maybe one or two times a day for common

9   futures, sometimes less if you have a lot of price -- lot of

10   price levels displayed. There can be movement if the price

11   goes off the display. There can be automatic movement.

12   Q   So in the first two modes that you described, a trader

13   could avoid all automatic movement. Is that a fair statement?

14   A   Yes.

15   Q   Okay. Can the trader avoid this type of automatic movement

16   in this particular mode, the market mode?

17   A   Yes, it can. In fact, if all that this did was just this,

18   then my infringement analysis would stop at this point.

19   But the fact is is that CQG added a feature into

20   market mode called price hold. And what that does is when you

21   hover your mouse over either a buy or sell region next to a

22   price, it locks in that price.

23   So if the labels change, the price labels change on

24   the display, when you place an order, you still get your price.

25   So although it doesn't meet the construction of static

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1   literally, then -- but it is -- it's equivalent to static.

2   Q   Okay. When you say equivalent, what do you mean by that?

3   A   So I've been informed that if the difference between the

4   claims and the functionality of an accused product is

5   insubstantial, then they're equivalent.

6   MR. GANNON: Okay. Let's go to the next slide.

7   BY MR. GANNON:

8   Q   What is this showing, Mr. Thomas?

9   A   Right. So what this is showing is a patented key on the

10   top, and on the bottom is the test for equivalents. And the

11   test is performs substantially the same function in

12   substantially the same way to perform substantially the same

13   result. That's the test for equivalents.

14   Q   Okay. What is this slide showing?

15   A   So this shows another key. And it's not literally the same

16   as the patented key because it has a different shaped head and

17   it's a different color.

18   So now what we're going to do is we're going to do the

19   test, test of the bottom. What is the function of the keys?

20   The function of both of them is to unlock the door. The way in

21   which they do that, you insert the key and the lock turns. And

22   the result is the door opens.

23   So both of these keys are equivalent.

24   Q   Okay. Now, you mentioned -- you described the price hold

25   feature. Did you prepare anything to show that visually?

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1   A   Yes, I did.

2   Q   Okay. We're going to put up an animation. Can you take

3   the jury through this.

4   A   Right. So this is in market mode, the responsive scale

5   market mode. Excuse me.

6   And what you're going to see here is you're going

7   to -- so just focus on 98 for a second. The market moves up,

8   and you can see here that what was -- 98 has moved down one

9   price. Okay?

10   Now, let's keep going. So now you see I've moved my

11   mouse right next to the price. So I'm hovering over it. Now,

12   that price that's there is now locked in. It's locked in.

13   Okay?

14   So let's keep going. Now you can see -- you see the

15   98 has moved down. And so we have a displayed value next to

16   where I'm hovering of 101.

17   The real price, though, is still associated with

18   there, but the labels -- not the price -- the labels have moved

19   down. You can see 98 down below there.

20   So keep going. Now, I just placed an order. I wanted

21   98. Now, look. If you look down to where 98, the label, had

22   moved down to, you see I have a working order at 98. So even

23   though the labels moved in the display, I still got my price.

24   Q   Mr. Thomas, is this type of -- isn't this the type of

25   automatic movement that you showed in the figure 2-style

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1   screens that we talked about last week?

2   A   No, this is very different.

3   Q   And how is it different than those conventional screens?

4   A   Okay. Now, if you remember the conventional screens, when

5   we had the prices -- so every single time the inside market

6   changed, those prices changed. But that's the real value of

7   that price. The real value of that price is changing.

8   Here what's happening is the label associated with the

9   price may move, but the real price associated with where the

10   mouse was is still there. Otherwise, it wouldn't get my order.

11   So it's kind of a gimmick in a way.

12   Q   When you say a gimmick, what do you mean by a gimmick?

13   A   Well, think of it this way. Imagine -- imagine you've got

14   your keyboard on your computer, and somebody paints a Z on the

15   A key. If I press the A -- well, now what it's saying, it's a

16   Z key. If I press it, I still get A, though. So it's kind of

17   a gimmick.

18   The real thing that you get -- that you want is still

19   associated when the mouse is hovering.

20   Q   Okay. And you mentioned to get into this mode, you need

21   fast click?

22   A   That's correct, yeah.

23   Q   What is that?

24   A   Well, fast click is a -- it's a menu setting. And that's

25   needed to get into this.

1   Q   Okay. Have you seen any documents in this case that

2   support your opinion on this price hold feature being

3   equivalent?

4   A   Yes, I have, yes.

5   MR. GANNON: Okay. Let's go to PTX182.

6   And if you could blow up in the middle and highlight

7   it in yellow starting with "When I hover."

8   BY MR. GANNON:

9   Q   And, Mr. Thomas, could you just describe, just generally,

10 again what this e-mail is.

11 A   This is an internal CQG e-mail. And here it says, "When I

12 hover over a price, the price becomes static, not the price

13 display."

14   So that's exactly what I was just saying. So the

15 price that you want, the intended price, stays associated with

16 it, but the labels move.

17 Q   And is this document, when it's referring to hover, is that

18 the hover you were describing?

19 A   That's it, yes, exactly.

20 Q   Okay. Are you aware of any testimony in this case relevant

21 on this particular issue?

22 A   Yes.

23 Q   Could you describe what testimony you recall, if you do,

24 Mr. Thomas?

25 A   I believe that Mr. Veselica, who is coming to testify here

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 1   this week, I believe in his deposition that he testified that

 2   he uses the price hover feature to trade.

 3   Q   Okay.  Are you aware of any testimony from any CQG

 4   employees in this case?

 5   A   Well -- well, actually, I believe the deposition of

 6   Mr. Mather himself, in his deposition, he was asked about the

 7   functionality of price hold.  And he said when you hover, you

 8   get your price.

 9          THE COURT:  All right, Counsel.  Before you go to the

10   next one, is this a good breaking spot?

11          MR. GANNON:  It actually is, your Honor, yes.

12          THE COURT:  All right.  Good.

13          Ladies and gentlemen, it's a little after 12:00.

14   We're going to take a break here.  Plan to start up at 1:15.

15   It is lunchtime.  Again, don't worry about the case during

16   lunch.  Attend to your other duties, such as eating.  And we

17   will see you at 1:15.

18          All rise for the jury.

19     (Jury out at 12:08 p.m.)

20          MR. SIGMOND:  Want me to get the door, your Honor?

21          MR. IRWIN:  I'll get it.

22          THE COURT:  Yes, thank you.

23          Thank you.

24          All right, sir.  Step down for lunch.  Now there is to

25   be no conversation between you and the lawyers other than
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1   Q   And I put up a slide here. Is this ChartTrader?

2   A   Yes. On the right-hand side of the screen, you can see

3   that it has what looks like a DOMTrader there and then a price

4   chart on the left.

5   Q   Do you have an opinion as to whether ChartTrader infringes?

6   A   Yes, it does.

7   Q   Can you identify the mode in ChartTrader that infringes?

8   A   Well, the mode is the responsive scale mode. And within

9   that, do you see there's a box down there on the screen in

10   yellow. That enables you to toggle into what's called the

11   scroll mode or regular scroll mode. So my opinion, the

12   infringing mode within the responsive scale is the regular

13   scroll mode.

14   Q   And how does the product operate in scroll mode?

15   A   In scroll mode, it operates in such a way that the price

16   axis is static, and you will not miss your price.

17   Q   Okay. In addition to the static limitation, what about the

18   other claim limitations?

19   A   Those are also met.

20   Q   Okay. Are there market windows in ChartTrader?

21   A   No.

22   Q   Does CQG say that any of the automatic shift types that

23   they rely on affect your ChartTrader analysis?

24   A   CQG says that shift-K applies to ChartTrader.

25   Q   And does that change your opinion in any way?

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1   A   No, for the same reason that shift-K didn't apply to the

2   other modes that we talked about this morning.

3   Q   What is this slide show, Mr. Thomas?

4   A   So this shows the versions that include ChartTrader that

5   infringe with regular scroll mode.

6   Q   Okay. So Mr. Thomas, we've covered how the static

7   limitation is met in the accused products.

8   Did you prepare any claim charts summarizing your

9   opinion on infringement with respect to the other claim

10   elements?

11   A   Yes, I did.

12   Q   And what's a claim chart?

13   A   So a claim chart, what you do with a claim chart is you

14   look at -- you map each of the elements of the claims to the

15   functionality in the accused product.

16   Q   And what does this show, Mr. Thomas?

17   A   This is claim 1 of the 301 -- of the '304 patent, sorry.

18   Q   And why is those terms highlighted?

19   A   Well, this is the common static price axis, and that's what

20   we've been -- the main thing we've been talking about.

21   Q   Okay. What is shown on this slide?

22   A   This is the first paragraph of claim 1, and this is what's

23   called the preamble. And it's talking about trading a

24   commodity on an exchange that has an inside market, and the

25   inside market there is in yellow on the accused product.

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1   Q   And is the preamble found in the accused product?

2   A   Yes. The preamble is found in the accused product, yes.

3   Q   What does this slide show?

4   A   So this is showing the elements of the first indicator, the

5   first indicator is in the orange box, in a variety of locations

6   in a bid display region. The bid display region is in the

7   yellow box.

8   Where the first indicator represents a quantity

9   associated with at least one order to buy the commodity at the

10   highest bid price. And that's showing the quantity of 229 at

11   the highest bid price of 205050.

12   Q   What does this slide show?

13   A   This is showing where each location in the bid display

14   region corresponds to a price level along a common static price

15   axis, and that's what those are showing in the yellow boxes.

16   Q   What does this slide show?

17   A   This shows the element requiring a second indicator. And

18   again, that is in the orange box. In one of a plurality of

19   locations in the ask display region which is in the yellow box.

20   Whereby the second indicator represent the quantity associated

21   with at least one order to sell the commodity at the lowest ask

22   price. And there's at least one order of 87 there at the

23   lowest ask price of 205075.

24   THE COURT: I'm sorry, the Court has a question. The

25   orange box? Where is the orange box?

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1   THE WITNESS: It's actually -- it may be the

2   demonstrative's not that good, your Honor. There's an orange

3   box around the red box.

4   THE COURT: Oh, okay. I'm sorry, maybe I'm color

5   blind. It's red to me. I was looking for orange. I'm sorry.

6   Go ahead, sorry.

7   THE WITNESS: So that's met.

8   BY MR. GANNON:

9   Q   Okay. Let's go to the next slide.

10   A   So each location in the ask display region corresponding to

11   a price level along the common static price axis. And as you

12   can see, each region does, in the ask display, corresponds to a

13   price.

14   Q   Okay. Let's go to the next slide.

15   A   So this is displaying the bid and ask display regions in

16   relation to fixed price levels. So as you can see, each of

17   those is in relation to the price in the yellow boxes.

18   Q   Let's go to the next slide.

19   A   So this is such that when the inside market changes, the

20   price levels along the common static price axis do not move and

21   at least one of the first and second indicators moves in the

22   bid or ask display regions relative to the common static price

23   axis. So the arrows up and down will indicate the movement.

24   Q   Okay. Let's go to the next slide.

25   A   So this is displaying an order entry region. And the order

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1   entry region is in the yellow boxes to the left and to the

2   right.

3   Q   And the final slide here?

4   A   So the final element is in response to a selection of a

5   particular location of the order entry region. So you see the

6   mouse selecting right there. By a single action of a user

7   input device -- you have a click of the mouse -- setting a

8   plurality of parameters such as whether it's a buy or sell and

9   the quantity for a trade order related to the commodity and

10   then sending the trade order to the electronic exchange. So

11   that is present, too.

12   Q   And how does -- how do you perform a single action in the

13   accused products?

14   A   Just -- well, there's a menu setting to set that.

15   Q   And then when you're clicking with a mouse, how do you

16   perform the single action?

17   A   You just click on the price. Well, you click on the region

18   in the buy/sell in the order entry region next to the price.

19   Q   Are you familiar with the concept of confirmations?

20   A   Yes.

21   Q   And are confirmations in the accused products?

22   A   They are, but they can be turned off. For single action,

23   confirmations are turned off.

24   Q   And are you familiar with the concept of fast click?

25   A   Yes.

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1   Q   And what is that? Could you remind the jury again?

2   A   Fast click is required for if you're -- well, fast click is

3   single-click trading, yeah.

4   Q   So what does this show, Mr. Thomas?

5   A   So this is showing basically that in browse prices mode,

6   that all of the elements of claim 1 are met, and the static

7   price axis is highlighted in the yellow box.

8   Q   Okay. Let's go to the next slide. What does this show?

9   A   This is showing the same thing, all the elements for

10 claim 1, everything is met. This is market windows disabled

11 mode, and you can see the static price axis in the accused

12 product in the yellow box.

13 Q   And let's go to the next slide. What does this show?

14 A   This is for price hold. Again, each of the elements of

15 claim 1 are met, and the static -- the equivalent to the static

16 price axis is in the yellow box.

17 Q   Let's go to the next slide. What does this show,

18 Mr. Thomas?

19 A   So this is the claim 1 of the '304 patent, and this is for

20 the ChartTrader product. And again, we're talking about the

21 preamble, the first paragraph, and that is met. You see you

22 have an inside market right there in the yellow box.

23   And this is similar -- this is the same as what we

24 saw -- just saw for the DOMTrader, too. So dynamically

25 displaying a first indicator, plurality of locations. We have

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1   the yellow box and then -- well, the first indicator's in the

2   orange box. In the bid display region is the yellow box.

3   First indicator represents a quantity, and the number, I

4   believe, is 334 in there, yes.

5   Q   And the next slide?

6   A   Okay. So each location in the bid display region

7   corresponding to a price level along the common static price

8   axis. So as you can see in the yellow boxes, that's met, too.

9   Q   What does the next slide show?

10   A   This shows displaying a second indicator in the ask display

11   region, and that is in the orange box. Second indicator

12   represents quantity associated with at least one order to sell

13   at the lowest ask price. The quantity is 511, I believe, yes.

14   Q   And how about this?

15   A   Each location in the ask display region corresponding to a

16   price level along the common static price axis, and they're in

17   the yellow boxes next to the prices.

18   Q   What does this slide show?

19   A   Displaying the bid and ask display regions in relation to

20   fixed price levels along the common static price axis. So

21   that's within the yellow boxes. That's met, too.

22   Q   And the next slide?

23   A   Yes. Similar to the previous one that we saw. So such

24   that the inside market changes, the price levels along the

25   common static price axis do not move, and at least one of the

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1   first and second bid indicators moves in the bid or ask display

2   regions relative to the common static price axis. And you can

3   see that in Time 1 and Time 2 here.

4   Q   Let's go to the next slide.

5   A   Okay. This is displaying an order entry region comprising

6   plurality of locations for receiving commands to send trade

7   orders. And each one corresponds to a price level along the

8   common static price axis. And that you can see in the yellow

9   boxes on either side.

10   Q   Okay. And the next slide?

11   A   Again, in response to selection of particular location with

12   a mouse right there. Single action of a user input device,

13   click of a mouse. Setting the pluralities -- plurality of

14   parameters for the trade order such as buy in this case and the

15   quantity, and then sending the trade orders to the electronic

16   exchange.

17   Q   Let's go to the next slide.

18   THE COURT: Counsel, can we have a sidebar?

19   MR. GANNON: Sure.

20   THE COURT: This is off the record.

21   (Off-the-record discussion at sidebar.)

22   THE COURT: Thank you, ladies and gentlemen. Any time

23   you want to start.

24   BY MR. GANNON:

25   Q   Okay. Mr. Thomas, are you going to also testify about

1   other claims in the '304 patent?

2   A   Yes, claim 7, 16 and 17.

3   Q   Okay. Could you just briefly describe the claim and how

4   the claim is met in the accused product?

5   A   Sure.

6   Q   Okay. What does this show?

7   A   It's a method of claim 1. It comprises of the step of

8   displaying at least a portion of common static price axis in

9   price display region. And as you can see, it's met there in

10   the yellow box.

11   Q   And that's met in both products?

12   A   In both products, that's correct.

13   Q   What about claim 16?

14   A   Again, it's the method of claim 1, which further comprises

15   dynamically displaying an entered order indicator in

16   association with the price levels arranged along the common

17   static price axis. And as you can see, order -- working order

18   icon right there, and that's in both products.

19   Q   And how about claim 17?

20   A   And so that's of 16 and wherein the entered order indicator

21   is displayed in an order entry region, and the yellow box right

22   there is in the entered order region.

23   Q   Let's move on to claim 22 of the '304 patent. What is

24   this, Mr. Thomas?

25   A   Again, it's the method of claim 1 comprises the steps of

1   displaying the first indicator at a first location associated

2   with a particular price level on the common static price axis

3   and repositioning it -- repositioning. So this is covering

4   re-centering.

5   Q   Okay. And what is this showing?

6   A   So this is for ChartTrader. It is basically the same

7   thing.

8   Q   Okay. Let's go to the next slide. And what is this

9   showing with respect to ChartTrader?

10   A   This is showing re-centering ChartTrader.

11   Q   Let's go to claim 26. What is this showing, Mr. Thomas?

12   A   So what this is showing is it's a method of claim 1, the

13   bid and ask display regions are displayed in the window further

14   comprising centering the display. The first and second

15   indicators in the window upon receipt of a centering

16   instruction. So that is re-centering command.

17   Q   And that's in DOMTrader?

18   A   That is in DOMTrader, yes.

19   And this is the same claim, but as it applies to

20   ChartTrader and it applies there, too.

21   Q   And that's claim 26?

22   A   Correct.

23   Q   Okay. Let's move on to claim 27 of the '304 patent. And

24   what's shown here, Mr. Thomas?

25   A   It's a computer-readable medium claim having program code

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1   regarded thereon on execution of a computer. This is what's

2   called a CRM claim.

3   Q   Okay. And do you know whether CQG sells software?

4   A   Yes, they do.

5   Q   Okay. And does the selling of that software meet that part

6   of the claim?

7   A   Yes, it does.

8   Q   And why is that?

9   A   Because that's all that's required for that is that they

10   sell the software.

11   Q   Okay. So now --

12   A   Or license it.

13   Q   And it looks like the claim terms in claim 27 appear to be

14   similar to claim 1, if you could just briefly go through the

15   rest of that claim.

16   A   Okay. So displaying market information just like in

17   claim 1, we have the highest bid price and the lowest ask price

18   in the yellow box in the graphical user interface. So that's

19   met, too.

20   Q   And the next element?

21   A   So displaying -- dynamically displaying a first indicator

22   in a plurality of locations in bid display region, each

23   location in the bid display region corresponding to price

24   level. And you can see that in the yellow boxes. And that's

25   for DOMTrader up top and for ChartTrader below.

1   Q   Okay. The next element, if you could just summarize

2   generally what that element is.

3   A   Well, that's the second indicator for in the plurality of

4   ask regions, just like it was for the bid display region, and

5   that's present in both, too.

6   Q   And the next element, again, if you could just briefly

7   identify.

8   A   Yes, displaying bid and ask regions in relation to fixed

9   levels in the static price axis, and that's right there.

10   Q   Let's go to the next element.

11   A   Displaying an order entry region comprising of a plurality

12   of locations for receiving commands. And the top there on

13   either side in the yellow boxes for DOMTrader and ChartTrader

14   on the bottom.

15   Q   And the last element?

16   A   In response to -- so this is selecting a particular

17   location the order entry region with a mouse and setting the

18   parameter -- plurality of parameters such as buy, quantity and

19   then sending the trade to the electronic exchange. And the

20   top, that's found in DOMTrader. And on the bottom, it's found

21   in ChartTrader.

22   Q   Okay. Let's move to the '132 patent, claim 1. Again, if

23   you could just briefly describe what's in the top portion of

24   that claim.

25   A   The first one is the preamble, and it's a method for

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1   placing trade order on a commodity -- for a commodity on an

2   exchange, highest bid price, lowest ask price. So the inside

3   market there is marked in the yellow box, and it's present in

4   the DOMTrader.

5   Q   The next element?

6   A   Setting a preset parameter for a trade order. And on the

7   bottom, we have the default quantities in the yellow box, so

8   that's present.

9   Q   And the next slide?

10   A   Yes. Displaying market depth of the commodity through a

11   dynamic display of plurality of bids and asks. And as you can

12   see, you have those there in the yellow boxes.

13   Q   And the next element?

14   A   The dynamic display being aligned with a static display of

15   prices corresponding thereto. So again, you have the prices

16   aligned with the bids and asks.

17   Q   Okay. The next element, just briefly if you could describe

18   what's shown.

19   A   Yes. Displaying an order entry region aligned with the

20   static price axis, and we have them there in the yellow boxes

21   on either side.

22   Q   Okay. The next element?

23   A   Selecting the area in the order entry region, single action

24   of a mouse, for example, user input device. That sets a

25   plurality of additional parameters such as buy and the

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1   quantity, and then sending the trade order through the

2   electronic exchange, and that's present here.

3   Q   And I'm just going to quickly go through this, Mr. Thomas.

4   What is shown in this slide?

5   A   So this is claim 1 for the browse orders mode in the

6   DOMTrader, and we have the static display right there in the

7   yellow box.

8   Q   Okay. And this slide?

9   A   And it's the same thing, the elements of claim 1 for the

10   DOMTrader with market window to disabled mode, and we have the

11   static display outlined in the yellow box.

12   Q   And this slide?

13   A   The same thing, claim 1, the elements are met. DOMTrader,

14   price held mode, and the static displays outlined in the yellow

15   box.

16   Q   And this is just a summary slide, Mr. Thomas, with respect

17   to ChartTrader in claim 1 of the '132. Do you have an opinion

18   as to whether that claim is met?

19   A   Yeah, all the elements I found in ChartTrader.

20   Q   Let's go to claim 7. What's shown on this slide?

21   A   So this is a method to place a trade order according to

22   claim 1, wherein said trade order is a buy order for position

23   of the pointer at the time of said is within the bid entry --

24   bid order entry region. And here you can see with the yellow

25   box it is in DOMTrader and in ChartTrader.

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1   Q   And the next slide?

2   A   And this is wherein said trade order is a sell order. If

3   the position of the pointer is within an ask order entry

4   region, and the yellow box in both DOMTrader and ChartTrader is

5   within that.

6   Q   And what about claim 7 of the '132?

7   A   So claim 7 is dependent on claim 2 which is dependent on

8   claim 1, and that further comprises canceling the trade order

9   in response to a single-action user input device. So that is

10   present, too, in DOMTrader and in ChartTrader.

11   Q   Real briefly now, claims 24 and 25, could you just briefly

12   describe claim 24?

13   A   So 24 comprising -- so this is a re-centering the prices,

14   and as you can see, that is present in the DOMTrader.

15   Q   Okay. And then claim -- excuse me.

16   Is it also present in ChartTrader?

17   A   Yes. Yeah, I'm sorry, it is, yes.

18   Q   Next slide, claim 25.

19   A   So 25, so it's a method according to claim 1, further

20   comprising dynamically displaying working orders in alignment

21   to the prices. And as you can see in the yellow boxes, the

22   working order are aligned to the prices. That's in DOMTrader

23   and in ChartTrader.

24   Q   And claim 8. And I'm just going to go to the end here,

25   Mr. Thomas.

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1   Do you have an opinion as to whether claim 8 is met by

2   the DOMTrader and ChartTrader products?

3   A   It's a computer-readable medium claim, and it is met by the

4   DOMTrader and ChartTrader products, yes.

5   THE COURT: Counsel, if you need to go through the

6   others, don't rush on my account.

7   BY MR. GANNON:

8   Q   Let's go to claim 34 of the '132 patent.

9   A   Okay. So the claim 34, computer-readable medium according

10   to claim 8. Further comprising program code to ensure that

11   said displayed prices corresponding to the bids and asks are

12   re-centered around the inside market upon receipt of a

13   re-centering.

14   So that is met there. It's a re-centering command,

15   and that's met in the DOMTrader.

16   Q   And how about in ChartTrader?

17   A   Yes. For the same, yes, it's met there, too.

18   Q   And how about claim 35?

19   A   So claim 35, computer-readable medium according to claim 8

20   further comprising program code dynamically displaying working

21   orders in alignment with the prices.

22   And the working orders in the yellow box are aligned

23   to the prices in DOMTrader on the top and in ChartTrader at the

24   bottom.

25   Q   Okay. So let me ask you some questions about the direct

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1   infringement. We talked about how all the accused products

2   meet those elements of the claim.

3   In your opinion, what type of infringement is CQG

4   liable for?

5   A   Well, there are two types, direct infringement and indirect

6   infringement.

7   Q   What's your basis for saying CQG directly infringes?

8   A   Well, there's three different types that they're liable

9   for, if they make the software, if they use it or if they sell

10   it.

11   And CQG makes it. We know that. They developed the

12   accused products. They use it and they test the product, and

13   they demonstrate the software to customers.

14   And they sell it. In this case, they actually license

15   it, but that's equivalent for this purpose. They sell or

16   license the software to users.

17   Q   Is there any other type of infringement CQG is liable for?

18   A   Yes, it's indirect.

19   Q   And what is that?

20   A   Well, with indirect infringement, CQG is either inducing or

21   contributing to the direct infringement of others. And in this

22   case, that's CQG's customers who are directly infringing, but

23   CQG is inducing that or contributing to it.

24   Q   Sorry.

25   A   That's indirect infringement.

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1   Q   How do CQG's customers directly infringe?

2   A   By using the software.

3   Q   And how do you know that?

4   A   Well, there's transaction data relating to that that CQG

5   has produced a list of customers and all the transactions that

6   they've done with the software.

7   Q   Are you aware of any other evidence regarding direct

8   infringement?

9   A   Yes. I'm aware of the users that in depositions have

10   testified -- and they will be here, I believe, at the end of

11   this week. One of them, Mr. Crouch, said that he has used the

12   product with, I believe, browse prices mode with selecting a

13   price.

14   And I believe there's a Mr. Veselica who said that he

15   has used the product with browse prices and with price hold.

16   Q   Do you have an opinion about how traders would use the CQG

17   products in general?

18   A   Yeah. You know, I think traders would use the products in

19   the way that we've described it, but also that they would

20   cancel orders, too.

21   Q   How many more orders would you say end up getting entered

22   and canceled than actually getting filled?

23   A   Well, I'd say that probably it's conservative --

24   MR. VOLLER: Objection, speculation.

25   THE COURT: Any orders? Your objection is overruled.

1   You may answer.

2   THE WITNESS: I know this from my own experience. I

3   would say that conservatively, five times the amount of orders

4   that traders will enter actually get filled, and the rest will

5   get canceled.

6   I would say it could be 10 times and, in fact, some of

7   the exchanges -- some of the exchanges impose fines on people

8   where your cancellation to fill a ratio gets up to something

9   like 100 to 1. So five times, ten times, I think is very

10   conservative.

11   BY MR. GANNON:

12   Q   Okay. Let's go to the next slide. How has CQG contributed

13   to direct infringement?

14   A   Well, they contributed to it by providing them with the

15   software.

16   Q   And how has CQG induced infringement?

17   A   By instructing their users on how to use the product, how

18   to install it, how to place orders, how to cancel orders, that

19   type of thing.

20   Q   Did they provide user manuals?

21   A   Yes, they provide user manuals. They have instructions on

22   the website. There's numerous You Tube videos. You can get

23   demonstrations, free trials, that type of thing. Also, you

24   could call the help desk and get support that way, too.

25   Q   Are you aware of any evidence in this case regarding CQG's

1   indirect infringement as to specific customers?

2   A   Well, there's transaction data, I guess.

3   Q   Okay. So let's switch gears. One last topic for today for

4   you, Mr. Thomas, and the topic is opinions of counsel.

5   Do you know what an opinion of counsel is?

6   A   Yes. An opinion of counsel is a letter that a company

7   hires a lawyer to write if they're worried about a patent --

8   about a patent covering their product.

9   In other words, one of their products might infringe a

10 patent. So the lawyer will look at the patent, will look at

11 their product and then summarize in a letter what the lawyer

12 believes is the risk of infringement.

13 Q   Are you aware of any opinions in this case?

14 A   Yes. I'm aware of two.

15 Q   And have you reviewed those opinions?

16 A   I have.

17 Q   And what do they say?

18 A   Basically the opinions say that CQG's not liable for

19 infringement in this -- with these patents because there's

20 always the risk of automatic movement.

21 Q   And what time were these opinions generated?

22 A   I believe early 2005.

23 Q   Do those opinions and your opinion accurately describe the

24 CQG products at that time frame?

25 A   No, because --

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1   MR. GARNETT: Objection, your Honor.

2   THE COURT: Basis.

3   MR. GARNETT: Calls for speculation.

4   THE COURT: Overruled. He said they're friends of

5   his.

6   You may answer.

7   THE WITNESS: It's very significant to the way they

8   trade and important to them.

9   BY MR. IRWIN:

10   Q.   Why did they move from TT to CQG?

11   MR. GARNETT: Objection, your Honor, calls for

12   speculation. Lacks foundation.

13   THE COURT: That general question, objection

14   sustained.

15   BY MR. IRWIN:

16   Q.   Do you know what the price was for the product that the

17   customer, M & M Trading, acquired from CQG as compared to TT?

18   A.   Yes. It was -- one of the owners told me that they were

19   all in, it was $1600 all in for everything CQG.

20   MR. GARNETT: Your Honor, he just testified

21   hearsay.

22   THE COURT: Yes, he did.

23   MR. GARNETT: Strike the answer?

24   THE COURT: The objection is a little late. Stand.

25

1   Q   Last topic, Mr. Burns. At some point did you investigate

2   the operation of the DOMTrader?

3   A   Yes, I did.

4   Q   What did you investigate?

5   A   I wanted to see how it operated. So I had CQG, so I --

6   Q   Was there any specific functionality that you were trying

7   to determine whether or not it existed?

8   A   Well, I wanted to see how the -- how their vertical

9   presentation worked.

10   Q   What did you determine?

11   A   Well, I determined that it was -- it would not -- I was

12   under the impression -- or under the understanding that it

13   would automatically -- the prices would automatically recenter

14   if it went above, above the screen, the top of the screen or

15   below the bottom of the screen.

16   Q   And did it?

17   A   It did not. When I clicked on the -- anywhere in the

18   price column, it would stop moving.

19   Q   How long did it take you to figure that out?

20   A   It was less than an hour.

21   Q   And what did happen when the price would go -- or when the

22   quantities would go off the screen?

23   A   You would see the price column, and you wouldn't see

24   anything else until the prices went up there. And once they

25   went up -- when I say up there, you'd be watching them and all

Page 762

1   of a sudden this window would pop up. And that would be the,

2   what I guess is now the -- is the inside market. It would just

3   pop up there.

4   Q   And did you investigate the characteristics of that

5   screen?

6   A   I did. Once it popped up, there's a -- it was a line, a

7   black line. That it -- it made it very easy to click on. So I

8   just clicked on it and pulled it down a little bit and to see

9   how big I could get it. And it was -- you know, it was showing

10   four and five. So then I just pulled it all the way down,

11   almost all the way down and then it -- and I recentered and I

12   moved it around a little bit. And that it was static. It

13   was -- just operated like MD Trader.

14   Q   Did you consider what you did unnatural?

15   A   Well, any time you see a line on some sort of spread

16   sheet, it looks like you can move it. So I figured that was

17   the same thing with the -- with that line.

18   Q   Why would you want to eliminate that window?

19   A   Well, I found -- I found it a distraction and kind of an

20   annoyance.

21   Q   Did you convey what you discovered to CQG?

22   A   I did.

23   Q   And who specifically did you convey that to?

24   A   That was Russian -- his first name Yuriy. And the

25   counselor for -- attorney for, lawyer for CQG, Nina.

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1   Q   Nina. What was Yuriy's reaction?

2   MR. GARNETT: Objection, Your Honor. Calls for

3   hearsay.

4   MR. IRWIN: Admission.

5   THE COURT: What did you say?

6   MR. IRWIN: It's an admission, Your Honor. Yuriy's a

7   party. He's an employee. He's an employee. He's a senior

8   person at the --

9   THE COURT: You're going to have to show me more than

10 that, Counsel. Objection is sustained.

11 BY MR. IRWIN:

12 Q   Okay. Do you know who Yuriy worked for?

13 A   CQG.

14 Q   Do you know relatively what his position was within CQG?

15 A   He was on the development side.

16 Q   And what did Yuriy -- what was Yuriy's reaction when you

17 told him about what you discovered?

18   MR. GARNETT: Objection, calls for hearsay.

19   THE COURT: Objection sustained. That's beyond the

20 development side. I assume this person is also going to be

21 testifying?

22   MR. GARNETT: Yes, he is, Your Honor.

23   THE COURT: Objection sustained.

24 BY MR. IRWIN:

25 Q   Okay. What was Nina's --

Page 888

1   how many minutes you talk. However, if you go over the two

2   gigs or if you go over the 400 minutes, then you start paying

3   on a per unit basis, per minute and so forth.

4   So in this example, if you were on the phone for 562

5   minutes, you'd have to pay an extra $50 for that 162 minutes,

6   yeah, 162 minutes over the 400. So the rates go up as you use

7   the phone more. But if you don't use the phone, you still pay

8   that same 59.99.

9   Q. And can you show the jury how you applied that in this

10 case?

11 A. Yeah. As I said, the cutoff is 500 transactions. So, for

12 example, if a trader traded or executed 400 trades in a month,

13 25 cents times 400 is $100. So that trader didn't hit that

14 $125 minimum. So that trader, for that trader's trades, CQG

15 would be assessed the $125 minimum royalty. If the trader

16 traded 650 trades or transactions at 25 cents per trade, that

17 would be 162.50. So that trader did exceed the minimum, and

18 the royalties in that case would be 162.50.

19 Q. Now, I believe you mentioned that some of the TT agreements

20 included minimums. Are you aware if CQG has ever used

21 minimums?

22 A. Yes, CQG has plans that have monthly rates, minimum rates

23 for their software.

24 Q. And can you describe for the jury the effect of the monthly

25 minimum on the overall damages in this case?

1   A.   Well, it's not insignificant.   It's between 81.4 and

2    $83.1 million over the course of this ten-year time period.

3   Remember, we have ten years times 12 months per year times a

4   lot of traders.   So it's, you know, a significant amount of

5   money.

6   Q.   And how would you -- how would it impact your analysis if

7   the jury were to find that minimums are not appropriate in this

8   case?

9   A.   Well, I don't think it would be a reflection of the total

10   value of the patent.   But if you didn't apply minimums, you

11   would simply either subtract the minimums from the total

12   number, or alternatively you could add up the numbers in the

13   right-hand side of the reasonable royalty column.   So at 25

14   cents it would be 165.7 for the royalties applied to those

15   transactions, 165.7 million.   For the non-derivative

16   transactions, it would be 16.1 million.   So the total would be

17   181.8 million.

18   Q.   So the last component we have to look at today is the base.

19   A.   Okay.

20   Q.   All right.   Can you tell the jury what data you looked at

21   in considering what the appropriate base should be for the

22   royalty in this case?

23   A.   The data that I looked at?

24   Q.   The data.

25   A.   Well, I mean, I looked at a lot of information reflecting

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1 transactions that was produced by -- transactions and customer

2 data produced by CQG. So, for example, there were a couple of

3 sources of transaction data. The one that I primarily used was

4 called pivot tables, and this is basically a large database

5 with literally hundreds of thousands of transactions in it. It

6 identified monthly totals by trader and identified the version

7 of the software and the interface that they used for those

8 particular trades so that we could determine the number of

9 trades for each trader.

10   There were also enablement tables, and those

11 enablement tables identified which traders were traders who

12 were enabled to trade on the accused software during any

13 particular month. I did use those tables for purposes of

14 determining the monthly minimums.

15   The Gateway transaction data was similar to the pivot

16 tables in that it contained all of the tables on all of

17 transactions over the past ten years. However, it didn't

18 provide information about the versions that those transactions

19 were executed in. So since I needed the versions, I didn't use

20 that data. I used the pivot table data.

21 Q. And before we talk about the customer experience logs in

22 any detail, can you just tell the jury whether you really

23 relied on those at all for purposes of your calculation?

24 A. The Gateway transactions?

25 Q. The customer experience.

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1   A.   The customer log, I did not, no.

2   Q.   So with that data, how did you use it to come up with the

3   base in this case?

4   A.   Well, what we did, I had my staff. Again, it's a very

5   large computer database. We identified what information we

6   wanted from that database and the form we wanted it, and what I

7   did was I had them develop by trader. So this is the

8   information that we collected. It was trader name, trader ID,

9   the client version, which is the version of the software that

10 was used so that we could determine whether that version was

11 accused of infringing, the interface that was used. Again, we

12 could determine whether that interface was accused of

13 infringing. The month and the year and the interface group, in

14 this case it's Responsive which is accused of infringing. Then

15 the platform that was used, and then the last column is the

16 number of filled lots, the filled orders. So then we basically

17 accumulated all of the orders for all of the traders for all of

18 the months and all of the accused systems over that ten-year

19 time period.

20 Q.   Now, you made a reference to your staff.

21 A.   Uh-huh.

22 Q.   Does that mean that you didn't personally perform every

23 calculation with respect to your report?

24 A.   I did not, no. I mean, that's why I have staff, because it

25 takes literally hundreds, if not thousands, of hours to go

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1   and that included trades that may not have been able to be

2   accessed by a licensed product. It includes all trades for all

3   systems used by the licensee.

4   Q. So in your opinion, Mr. Sims, is the use of this applicable

5   trade approach a reasonable approximation of value in this

6   case?

7   A. Yes, I think it's reasonable. In fact, I believe it's

8   conservative.

9   Q. Why do you believe it's conservative?

10   A. Well, I believe it's conservative because of the amount of

11   use that's not recorded in the trades themselves, the filled

12   orders. In other words, as I said, we're trying to get a proxy

13   for the total use, the total benefit of the patents. There's a

14   lot of placed orders, there's canceled orders, there's

15   modifications that don't get recorded typically. So all we --

16   if we're just looking at the filled orders, that's only a piece

17   of the pie.

18   Q. Okay. Did you prepare any analysis to help the jury

19   understand why the applicable trade approach is conservative?

20   A. I did, yes.

21   Q. And if you can walk us through this, right now I'm going to

22   -- sorry -- I want to ignore right now the right-hand column on

23   applicable trade. I'm going to help you out with the pointer,

24   but if you'd like it, let me know. So if you could just walk

25   us through first the --

1   THE COURT: Mr. Carden, move the mike towards you.

2   MR. CARDEN: I apologize, Your Honor.

3   THE COURT: Okay. Now it has a range. Go ahead.

4   BY MR. CARDEN:

5   Q. Let's start with the first column where you refer to

6   "royalty applied to all placed orders, industry data." Can you

7   tell the jury what calculation you're showing in this column?

8   A. Well, the calculation I'm showing in this column is an

9   estimate of the total number of placed orders that would have

10 been -- orders that would have been placed in order to generate

11 the number of filled orders that were recorded. So the first

12 number, the 198.597 million filled orders, those are the orders

13 that were filled in the accused interface -- interfaces. So

14 that's that number.

15   According to Mr. Thomas who I spoke with, the way the

16 traders use these trading software systems is, you know,

17 they'll be sitting at the screens and they'll be placing

18 orders, viewing them and modifying them and placing a bunch of

19 more orders and canceling orders.

20   Then ultimately, eventually there may be an order

21 filled or there may not be an order filled for that particular

22 trader for that particular hour or day or whatever. But

23 there's a lot more orders placed or entered than there are

24 filled. According to Mr. Thomas, a conservative estimate of

25 that would be five times as many orders entered or placed as

Page 898

1   filled.

2   So what I did was I took those 198 million filled

3   orders from the accused interfaces and multiplied that by five

4   to determine how many orders would have been entered in those

5   interfaces, and that would be 992.987 million orders entered.

6   That still doesn't include modifications, cancellations. So

7   there would be a total of 992 million uses on estimated, and if

8   we applied the royalty rate to that we'd end up with

9   248.2 million, which is greater than the number -- and that's

10   before minimums -- greater than the number that I've suggested

11   as a reasonable royalty in this case.

12   Q.   Okay. So can you tell us now what the second column is

13   where you say "CQG data"?

14   A.   Yes. Well, remember I said that most companies, in fact,

15   virtually all companies don't record the number of placed

16   orders. Interestingly, CQG does record placed orders or

17   entered orders. It was in that Gateway database. It wasn't in

18   the pivot table, the pivot database, so it didn't have the

19   versions attached to it, but it was in the Gateway database.

20   So what I did was I looked to see the relationship

21   between placed orders or entered orders and filled orders based

22   on all of those transactions over that time period, and I

23   determined that for CQG the ratio of entered orders to filled

24   orders was 4.83.

25   I want to clarify that there was some data there that

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1   we ignored because it provided -- it resulted in very high

2   multiples. So we took that data out as outliers. We didn't

3   include that. If I had included it, that number would have

4   been far greater than 5. But I used the data that seemed more

5   reasonable, and it came out to 4.83 as the ratio between placed

6   orders and filled orders.

7   So if I had used that multiplier and applied that to

8   the number of orders that were filled in the accused

9   interfaces, that would result in 959.2 million orders that

10   would have been placed or entered in those accused systems. If

11   I applied that royalty rate to those orders, it would result in

12   a royalty of 239.8 million, again, before the minimums.

13   Q. So now that you've looked at those other approaches, can

14   you walk the jury again through how applicable trade works in

15   this case?

16   A. Yes. Well, the applicable trades, what TT has done is

17   they've agreed with licensees that as a proxy for all of this

18   value, all of this use, we'll apply the royalty rate to all

19   trades that were filled in a system, an accused system that

20   that could have been viewed, even if they weren't viewed and if

21   they weren't entered in a particular accused interface. In

22   this case, that's 662,914,000 transactions. So all of those

23   were entered. Those are all the trades that were entered in

24   the accused versions of the software.

25   Now of those, 198,597,000, as we've already talked

Page 900

1 about, those were the filled orders that used the accused

2 interfaces. What that means is that the multiple that we're

3 basically using as the proxy is the total divided by that

4 198 million, which is 3.34, which is far less than the 5 that

5 Mr. Thomas indicated was sort of the industry average, and it's

6 far less than the 4.83 that the CQG data would indicate is

7 their experience.

8   So as a result of that, when I apply the royalty rate

9 to those applicable trades, that results in a royalty of 165.7

10 million which, as you can see, is lower than the other two

11 numbers.

12 Q. And if we look at your comparison here, the total number of

13 transactions that you're actually using as the base in the

14 applicable trade approach is about two-thirds of the other

15 numbers that you could have used?

16 A. Roughly two-thirds, yes.

17 Q. So given that, Mr. Sims, why didn't you use one of these

18 other methods to determine damages in this case?

19 A. Well, because again, when you're determining a reasonable

20 royalty rate, you have to look at all of the evidence, and one

21 of the pieces of evidence is TT's actual practice in its

22 license negotiations. This is what it typically does in its

23 license negotiations. It applies the royalty rate to the

24 applicable trades. So that's what I did in this case.

25 Q. Now, you recall from earlier this morning we talked about

Page 901

1   another range of versions that previously was a little bit in

2   dispute but is now perhaps in the case. Did you perform an

3   additional calculation based on those versions?

4   A.   Yes.

5   Q.   And so how does that impact this analysis?

6   A.   Well, I mean, if I add those, if I add those trades into

7   it, I mean, if you can go back to the prior --

8   Q.   You bet.

9   A.   Okay. So you can see that the ratio is 3.34. If you go to

10 the new slide, it's 3.25. So this is even more conservative

11 because it's a lower multiplier. Now, if these other

12 additional trades or transactions are included, it's now

13 700 million transactions. And on the 215,572,000 orders that

14 were executed in the accused interfaces, that ratio is now

15 3.25, which is even further below the 5 and the 4.83. So the

16 difference between the damages numbers if you were to calculate

17 it in each of these three ways is even wider. It's greater.

18 Q.   Now, Mr. Sims, you realize there are several different

19 infringement theories in this case?

20 A.   Yes. I'm not an infringement expert, but I understand.

21 I've been told that there are basically, I think, three

22 different theories of infringement.

23 Q.   And did you factor those infringement theories into your

24 analysis?

25 A.   I did, based on information that was provided to me as to

Page 902

1   what fell within which of the theories.

2   Q. And did you prepare charts to show for the jury how your

3   damages calculations are impacted by those different theories

4   of infringement?

5   A. Yes.

6   Q. So can we look at some of these charts and, if you could,

7   walk the jury through what is contained in this particular

8   chart?

9   A. Okay. So on the left-hand side, we have a list of the

10   versions that were accused or are accused of infringing. Now,

11   this doesn't include those additional ones that we've just been

12   talking about today, and it also doesn't include, as you can

13   see on the bottom, that there's 18 million trades, 18 million

14   futures trades and 22,000 non-derivative trades that we

15   couldn't assign to a version or an infringing mode. So they're

16   not included in this analysis, and that's because they didn't

17   have version numbers or there was no analysis of this done.

18   So all of these on the left are the infringing

19   versions. The three columns on the right are the three

20   different theories of infringement. Again, I'm not a technical

21   expert or an infringement expert, but one is called browse

22   prices mode. That's the title that was given to me, and

23   according to counsel, the first row of versions and the second

24   to the last and the third to the last, those versions are

25   accused of infringing based on that theory of infringement.

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 1    Q    Sir, are you familiar with CQG's Integrated Client product?

 2    A    Yes, I am a client of theirs.

 3    Q    Okay.  What is that Integrated Client product?

 4    A    It consists of essentially two primary functions:  One is

 5    order entry into the electronic markets; the second is a

 6    charting and analytical service.

 7              I have a subscribed to the charting and analytic

 8    service since the early '80s, before, you know, personal

 9    computers were really the main thing.  CQG had a -- a

10    yellow-and-black screen back in the days when, you know,

11    Cathay -- cathode ray tubes were the thing.

12    Q    What do you think of CQG's charting tools?

13    A    The charting tools?

14    Q    Yes.

15    A    They're excellent.  Over the years, I've used a variety of

16    various analytical systems, but I always returned to CQG

17    because it gives me primarily what I need.

18    Q    You mentioned order entry.  Do you use any order entry

19    tools or interfaces within Integrated Client?

20    A    We do.  The types of trades that we do are primarily

21    relationship or correlation-type trades.  And so we use what's

22    called the Spreader or Autospreader function in CQG.

23    Q    And are you familiar with the term "DOMTrader"?

24    A    Yes.

25    Q    And do you use the DOMTrader?
```

Page 1203

1   A   Yes.

2   Q   What's the difference between the DOMTrader and the

3   Spreader?

4   A   The DOMTrader is the user interface that an operator sees

5   on the computer screen. Windows, as an example, is a user

6   interface. DOMTrader is a user interface.

7   The Spreader is actually the logic and the

8   communications behind the order entry process that works one

9   market against another at computer kinds of speeds.

10 Q   So you use the DOMTrader for spreading. Is that right?

11 A   You effectively use the DOMTrader as the user interface to

12 the Spreader.

13 Q   Okay.

14 A   Although you can use -- I mean, CQG has a variety of -- of

15 order entry interfaces as well.

16 Q   Can you tell the jury about your first experience using the

17 DOMTrader.

18 A   The first that I can really recall was in that 2005-2006

19 period when the NYMEX -- the New York Mercantile Exchange --

20 was initiating electronic contracts. And they allowed on-floor

21 trading access. And both CQG and TT essentially offered

22 inexpensive access to the electronic markets.

23   So, you know, I went out to New York and basically

24 taught our traders how to use the electronic interface. But

25 that was -- I would say that's the first time that I was

Page 1204

1   actively involved in the CQG.

2   Q   And as an owner of Kottke Associates, do you supervise

3   traders?

4   A   Yes. We -- our business model is we financially support

5   individuals to trade accounts owned by Kottke Associates, and

6   then we share the profits.

7   Q   And can you tell the jury how many traders you regularly

8   supervise on an annual basis?

9   A   At the peak, Kottke had 125 trading deals. That is, we had

10   125 units that traded our capital in this business

11   relationship. Most of those were individual traders, but there

12   were, you know, several, two or three groups. We're down to

13   less than 20 of those units now.

14   So supervision has fluctuated, you know, wildly over

15   the years depending on markets' profitability and access.

16   Q   And as an owner, are you aware if any of these supervised

17   traders have used CQG's DOMTrader to place trades?

18   A   CQG is among one of many order entry systems that we've

19   used currently and over the years. We use TT; we use CQG; we

20   use another popular one called Cunningham. But over the years,

21   we've used many, many of the electronic order systems.

22   Q   And can you approximate how many contracts you and your

23   supervised traders have placed in the DOMTrader since that

24   '05-'06 time frame?

25   A   That would be a I guess complete approximation. The last

Page 1205

1   time I looked at the hardcore numbers, the firm executed over

2   12 million contracts.

3   Now, many, many of those were on the trading floor

4   because at that point in time, we had a large number of traders

5   on the trading floor. What percentages those were electronic

6   versus that are -- you know, do we have the records? Yes. But

7   it would take a lot of work to figure out.

8   Q   Okay. Why do you use the DOMTrader to trade?

9   A   I -- I don't use the DOMTrader to trade. I use the

10   Autospreader to work those relationships in the marketplace.

11   The logic and the speed -- we're not really

12   high-frequency traders, but the transactions that we do are

13   definitely time-sensitive. We're bidding in one market based

14   on prices in another market. If those prices change in another

15   market, we change the prices in the first market.

16   And so it's the relationship of the two contracts is

17   why we use the Autospreader, which is, in my judgment, the best

18   value in terms of technology, speed, and consistency of use in

19   the market today.

20   So I use the DOMTrader to do nothing more than operate

21   the Autospreader.

22   Q   Okay. And as a professional trader, what sort of

23   information is important to you?

24   A   That's, you know, kind of an open-ended question. The --

25   you know, once you have your system down, you're primarily

1   interested in price and price relationships. So I'm

2   continuously looking at price relationships. The Autospreader

3   manages the order entry between those price relationships.

4   But we do a wide variety of historical research and

5   fundamental analysis and reading, if you will, to determine

6   when -- at what levels we want to execute those relationships.

7   Q   Okay. Are you familiar with a concept of the best bid and

8   best ask price?

9   A   Yes.

10   Q   And is that information important to you?

11   A   That's what you trade on.

12   Q   Okay.

13   A   I mean, that's -- you -- yes.

14   Q   Mr. Crouch, has someone from CQG contacted you recently to

15   discuss product behavior in the DOMTrader?

16   A   I was contacted by one of the salesmen at CQG that I've

17   been familiar with in the past. And he asked me to watch a

18   video about actions of the DOMTrader.

19   Q   And what did you see on that video?

20   A   I saw essentially a demonstration of how the DOMTrader

21   could be manipulated to achieve certain kinds of functionality.

22   Q   And what was the result of that manipulation?

23   A   Oh. Well, in -- in CQG's standard product, when -- we're

24   talking about a ladder, you know, high price at the top, low

25   price at the bottom -- when the bid and offer, for instance,

Page 1207

1   would scroll off the screen on the downside, CQG continues to

2   display the current best bid and best offer so that you know

3   where the market is.

4   The demonstration that I saw made it so that when the

5   prices scrolled off the screen on the downside, they, in

6   effect, disappeared and you didn't know where the current bid

7   and offer was.

8   Q   What was your reaction, sir, to that video?

9   A   Well, my first reaction was, well, why would you want to do

10 that because, you know, we basically trade price. And if you

11 don't know where the price is, then how do you know where you

12 want to trade?

13   And, secondly, it took a lot of effort and distortion

14 that I certainly wouldn't spend any time to get inferior

15 information.

16 Q   Have you ever seen a DOMTrader configured like the way it

17 was shown in that video?

18 A   No.

19 Q   And as a professional trader, would you ever want to

20 configure the DOMTrader as it was shown in that video?

21 A   I cannot imagine that I would want the DOMTrader to act

22 like that.

23 Q   And you've testified you've been a trader of CQG since the

24 '05-'06 time frame?

25 A   Well, yeah.

Page 1208

1   Q   And you've CQG user manuals?

2   A   Yeah, I have. I even have, you know, bound copies of the

3   early manuals.

4   Q   And are you aware that CQG also has online tutorials?

5   A   Yes.

6   Q   Have either the manuals or the online tutorials taught a

7   user how to manipulate the DOMTrader as you saw on that video?

8   A   I -- I can't say that they don't, but I've never seen that.

9   You know, manuals are a couple hundred pages long, and it's --

10   you know, I have a hard enough time looking in the index to

11   find what I want, let alone something that I don't want.

12   Q   Sir, I want to move on a little bit and ask you about a

13   feature called price hover. Have you heard of that before?

14   A   Yes.

15   Q   And what is it?

16   A   That when the mouse hovers over a price level, it in effect

17   doesn't change.

18   Q   Do you have any opinions about it?

19   MR. GANNON: Object to the form, your Honor.

20   THE COURT: Objection --

21   MR. GANNON: Calls for speculation. Outside the

22   scope.

23   THE COURT: Objection sustained.

24   And also, Counsel, depending on your time, he'll be

25   back here tomorrow.

Page 1475

1   Q. Sir, do you recognize this document?

2   A. It's an e-mail.

3   Q. Okay. Is that your e-mail address on that document?

4   A. Yes.

5   Q. Do you remember seeing this document before?

6   A. Yes.

7   MR. VOLLER: Your Honor, I'd like to publish this to

8   the jury.

9   THE COURT: Any objection?

10   MS. KURCZ: No, Your Honor.

11   THE COURT: All right. It will be allowed.

12   MR. VOLLER: Okay. Let's go to the very bottom of

13 the e-mail, the very last -- the very first correspondence.

14 You know, let's take this down real fast. I'm going to start

15 over, Your Honor, and move to a different exhibit, then come

16 back to that one later.

17   THE COURT: Okay.

18   MR. VOLLER: Let's publish only to Mr. Shterk -- and

19 I apologize for that -- PTX 188.

20   (Brief pause.)

21 BY MR. VOLLER:

22 Q. There we go. Mr. Shterk, how about this e-mail? Do you

23 recognize this e-mail?

24 A. Yes.

25 Q. Is that your e-mail address that appears in this document?

Page 1476

 1   A.   Yes.

 2   Q.   Do you remember seeing and receiving this e-mail?

 3   A.   No.

 4   Q.   Okay. Do you have any doubt that you didn't receive this

 5   e-mail?

 6   A.   No.

 7   MR. VOLLER: Okay. Your Honor, I'd like to publish

 8   the document to the jury.

 9   THE COURT: Any objection?

10   MS. KURCZ: No objection, Your Honor.

11   THE COURT: It will be allowed.

12   MR. VOLLER: Thank you.

13   BY MR. VOLLER:

14   Q.   Now let's go to the back, the very bottom, the first e-mail

15   in the thread. So, Mr. Shterk, we're looking at an e-mail, and

16   there is a line that says:

17   "Title: Intended functionality interferes with

18   user's trading."

19   Do you see that?

20   A.   I do.

21   Q.   Okay. Then below there's a description field. What did

22   you understand by the statement:

23   "Currently, the ladder will always try to show the

24   best b/a. But if a user has scrolled under the best bid to

25   place an order, it moves the prices around and confuses the

Page 1477

1 user."

2 A. That's exactly as it states in there. It's that the

3 DOMTrader -- I think in this case it was the DOMTrader -- would

4 basically freeze, and the prices will update, continuously

5 update, and not allow the specific trader to target the price

6 that he or she was interested in.

7 Q. And can you tell the jury what we're looking at? This is

8 in an e-mail, but is there a particular name for what we're

9 looking at?

10 A. So this is an inquiry that came from a customer of CQG, was

11 logged in CQG's, you know, tool for logging defect suggestions

12 and questions.

13 Q. Okay. What was the date of this inquiry?

14 A. So this inquiry was opened on March 15, 2010.

15 Q. Okay. Let's go to another place in this document, on page

16 2 towards the bottom. There you write to Ms. Morrissey, and

17 you state that, quote:

18   "Has he tried selecting a price and keeping the

19 selection? In this case it will not jump. This price will

20 stay visible all the time."

21   What did you mean by "it will not jump"?

22 A. Well, the complaint that was coming from the customer is

23 that the DOMTrader will update itself continuously. So if the

24 market moved, you know, in and out of the screen, you know,

25 then the prices will be reprinted. So when somebody wanted to

Page 1478

1   trade on a specific price, they couldn't select it quickly

2   enough.

3   The suggestion that I had was if you click on the

4   price and select it, then the movement of the price scale will

5   be less abrupt. So there will be fewer updates that will be

6   visible to the user and fewer updates that will be visible on

7   the screen, and that should allow this user, you know, better

8   precision in selecting a price.

9   Q. And Ms. Morrissey responded to you on the same day in the

10   e-mail directly above the highlighting, and there she says:

11   "The ladder still jumps around and confuses him."

12   What was your understanding of what Ms. Morrissey

13   meant by that statement?

14   A. That my suggestion was not good enough.

15   Q. Okay.

16   A. I think the explanation there was that while we definitely

17   reduced the noise by showing some of the movement of the market

18   by selecting a price, that still wasn't good enough, still

19   wasn't frozen enough for this trader to be able to focus on a

20   specific price.

21   Q. Okay. I want to change gears a little bit here. Sir, are

22   you aware of how the price scale behaves in the DOMTrader when

23   a price is selected?

24   MS. KURCZ: Objection, Your Honor, vague as to

25   version.

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1   THE COURT: I'm sorry. Louder.

2   MS. KURCZ: Vague as to version.

3   THE COURT: Objection sustained. Clarify.

4   BY MR. VOLLER:

5   Q. Let's start with the very original DOMTrader. Mr. Shterk,

6   are you aware of how the price scale behaved in the original

7   DOMTrader when a price was selected?

8   A. I think I am, yes.

9   Q. Okay. Can you describe for the jury what happens when the

10   inside marketing would otherwise leave the display?

11   A. So when a specific price is selected, the system will try

12   to keep this price visible. Basically, by selecting a price,

13   the user indicated the intent to either trade this price or

14   monitor this price, so the software would keep this price

15   visible. But if things like market or the current bid and ask

16   moves off the screen and cannot be displayed within the current

17   price scale, then the market window was supposed to appear,

18   again, to keep showing where the current market is.

19   Q. And are you aware of a time when the market window might

20   not have appeared in a situation like you just described?

21   A. I don't think we've intended or developed the functionality

22   for the market window to not appear.

23   MR. VOLLER: Okay. Let's show only Mr. Shterk a copy

24   of PTX 192.

25   (Brief pause.)

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 1   BY MR. VOLLER:

 2   Q.  Mr. Shterk, do you recognize the e-mail that's in front of

 3   you?

 4   A.  Yes.

 5   Q.  And is that your e-mail address that's identified on this

 6   document?

 7   A.  Yes.

 8           MR. VOLLER:  Your Honor, I would like to publish this

 9   e-mail for the jury.

10           THE COURT:  Any objection?

11           MS. KURCZ:  No, Your Honor.

12           THE COURT:  All right.  It will be allowed.

13   BY MR. VOLLER:

14   Q.  Let's go to the first e-mail in this document, all the way

15   at the bottom.  Okay.  Mr. Shterk, what is this e-mail

16   describing?

17   A.  This was my e-mail that I sent to a team lead who was

18   working on the DOMTrader at the time.

19   Q.  And what is the subject of the e-mail?  The subject matter,

20   not the subject line.

21   A.  Okay.

22   Q.  What is the e-mail describing?

23   A.  I'm asking Alexey a question to see when we had allowed for

24   the market window to be not visible.

25   Q.  Okay.  The e-mail also refers to a video, isn't that right?
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 1   A.   Yes.

 2   Q.   Did you ever view that video?

 3   A.   I did.

 4   Q.   And when did you first receive that e-mail?

 5   A.   The video, you mean.

 6   Q.   Yes.

 7   A.   So I don't remember exact date as to when it happened, but

 8   this video was produced for us by TT lawyers, and they've shown

 9   it to us sometime in November 2010.

10   Q.   What did the video show? Can you tell the jury about it?

11   A.   The video showed the DOMTrader that was running in a very

12   weird configuration with only -- I think it was only one price

13   that was visible in it, and basically that price was not

14   moving. It was a single price that was visible at the time,

15   and no matter what happened to the market this price would not

16   move.

17   Q.   Did you have a reaction to that video?

18   A.   Well, I had two reactions. Reaction number 1 was whoever

19   came up with this idea probably didn't know what he or she was

20   doing because that's definitely not how our users use the

21   product. Then the second one was what I'd seen was definitely

22   unintended functionality of the system. That's not something

23   that we designed for it to do.

24   Q.   And I just want to be clear. Did this video show a

25   configuration where the market window could not appear. Is

1 that what I heard you state?

2 A. Yes. I think it's gotten to the point when -- whoever

3 produced this video has gotten DOMTrader to the state when the

4 market window would not appear, yes.

5 Q. Okay. Have you ever seen the DOMTrader configured like

6 that?

7 A. No.

8 Q. Okay. Let's move up the document by one e-mail and take a

9 look at what Mr. Korepanov writes back. How did you understand

10 Mr. Korepanov's statement that, quote: "We don't allow to

11 remove the market window"?

12 A. Exactly as I stated previously. We never intended for

13 functionality to remove the market window, and Alexey confirmed

14 it in this e-mail, saying that from the coding perspective, as

15 he viewed the code, we don't have any code in the system to

16 allow for market window to be removed.

17 Q. And then he uses the word "defect" in the next sentence.

18 What's a defect?

19   THE COURT: One second, counsel.

20   (Brief pause.)

21   THE COURT: Proceed, counsel.

22 BY MR. VOLLER:

23 Q. So my question was that the next sentence includes the word

24 "defect." What's a defect?

25 A. A defect is something that all of us in software

Page 1483

1   development are dreading to think about. It's something --

2   it's a piece of code that behaves not the way of how it was

3   required to behave. It's basically something that we don't

4   like to see in the software. I can give you a more scientific

5   definition of "defect," but that's --

6   Q. I think we'll get there in a second.

7   THE COURT: A little louder.

8   THE WITNESS: Sorry.

9   BY MR. VOLLER:

10   Q. Do you know if the behavior you saw in that video was a

11   defect?

12   A. It definitely was. That wasn't something that we've

13   planned for, and it definitely did not meet the requirements.

14   Q. Okay. Let's go to the next e-mail, if we could. So you

15   respond back to Mr. Korepanov in this e-mail. What did you

16   say?

17   A. I basically stated: It's a defect. We need to fix it, and

18   we need to fix it as soon as possible.

19   Q. Okay. There's some language in there in the third

20   sentence:

21   "With this video we're in violation of TT patent."

22   What do you mean by that?

23   A. So when this video was presented to us by Trading

24   Technologies' attorneys, it was stated that that's the

25   indication, that the DOMTrader could be in a mode that violates

Page 1484

1 the patent. So that's what I've expressed in this e-mail to

2 Alexey. Then another element was basically the sense of

3 urgency. We needed to jump on this defect, and we needed to

4 resolve it as soon as we could.

5 Q. You just said it was stated that it may be a violation.

6 Who stated that? Are those your words, or where did that come

7 from?

8 A. No, they were not my words. I think it came from the TT

9 side, from TT's attorneys.

10 Q. Okay. Now, did you ever learn how to configure the

11 DOMTrader to make it look like it did in the video?

12 A. Yes, we did.

13 Q. And what is it that you learned? Perhaps we can go to the

14 next e-mail in this stream. This is an e-mail from

15 Mr. Korepanov to you. I think it's the same day, and what is

16 Mr. Korepanov telling you?

17 A. Alexey is giving me the steps to reproduce it. Basically

18 the steps are that when the user immediately goes into the

19 market window and makes it as big as the DOMTrader in terms of

20 size and then resizes DOMTrader to be smaller, then the market

21 window will remember its original size and basically, because

22 it couldn't display itself on the screen anymore because now

23 DOMTrader is smaller, it would never appear.

24 Q. And let's go to, you know, the very first -- the last

25 e-mail in the chain at the top of the page. What was your

1   response to Mr. Korepanov?

2   A.   So my response has been we need to correct it, that we need

3   to correct it as soon as possible and basically jump on it.

4   Q.   Okay.

5   A.   As you can see, this whole correspondence took place over

6   Saturday, so that kind of indicated the sense of urgency as

7   well.

8   Q.   Sure.   Let's move on to a new document.

9   MR. VOLLER: I'd like to show Mr. Shterk only PTX

10   175.

11   (Brief pause.)

12   BY MR. VOLLER:

13   Q.   Now, sir, do you recognize this document that's in front of

14   you?

15   A.   If there's a way to zoom in somehow, then I would read it.

16   Q.   I'm sorry?

17   A.   If there's a way to zoom in somehow, I will actually read

18   it.

19   Q.   Sure.

20   A.   There you go.   Thank you.   Yes, I do.

21   Q.   Okay.   And what is it?

22   A.   It's the complete record of basically the defect that we've

23   just discussed from Genie, which was the defect tracking system

24   of CQG.

25   Q.   And you've seen this document before?

Page 1512

1   DOMTrader, right?

2   A   Correct.

3   Q   And it's true that Tim Mather was a primary driving force

4   behind the development of Z-Click and then developing

5   DOMTrader, right?

6   A   Yes. The Z-Click was designed and built with Mr. Mather's

7   involvement and taking his requirements into account, yes.

8   Q   And it's true that CQG's first vertical price scale that

9   permitted order entry in the same screen was DOMTrader, right?

10   A   No. The Order View and Order Ticket was the first trader

11   interface that had the vertical price display.

12   Q   Now, at your deposition in 2013, there was a court reporter

13   recording your -- my questions and your answers, right?

14   A   Yes.

15   Q   And you were under oath?

16   A   Yes.

17   Q   Let's try this one more time.

18   A   Sure.

19   Q   What was CQG's first vertical price scale that permitted

20   order entry in the same screen?

21   A   I'm sorry, when you say the same screen, let's define that.

22   If you're talking about price display with ability to trade

23   from the same interface, then the Order Ticket or Order View

24   was the first interface that allowed you to do that.

25   If you're talking about being able to trade from the

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Page 1513

1   price display, then the DOMTrader is the first interface.

2   Q   And it's true that DOMTrader was first launched around

3   2004, right?

4   A   Probably. I don't remember.

5   Q   And it's also true that CQG offered its DOMTrader to

6   compete against TT's MD Trader, right?

7   MR. VOLLER: Objection, speculation.

8   THE COURT: Objection is overruled. If you can

9   answer.

10   THE WITNESS: I don't remember whether Trading

11   Technologies' product was ever a factor in the design of

12   DOMTrader.

13   BY MS. KURCZ:

14   Q   But it's true that CQG offered its DOMTrader product in

15   order to compete against TT's MD Trader product, right?

16   A   Being an engineer, I have an issue with questions that are

17   not very tight. Was the DOMTrader used to compete with Trading

18   Technologies' product when it was released? Probably, yes.

19   Because TT's product was a dominant trading product at the time

20   available to futures traders.

21   But at the same time, did we take the MD Trader

22   functionality into account when the DOMTrader was designed?

23   No, I don't think so.

24   Q   Well, it's true that CQG offered DOMTrader in order to sell

25   into the Chicago market, right?

Page 1514

1   A   The DOMTrader was offered in order to sell to the trading

2   community, yes. Not limited to Chicago.

3   Q   And to sell into that market, CQG needed to provide a

4   product that people were familiar with, correct?

5   MR. VOLLER: Objection, speculation.

6   THE COURT: Objection sustained.

7   BY MS. KURCZ:

8   Q   And Mr. Shterk, isn't it true that you know that to sell

9   into that Chicago market, CQG needed to provide a product that

10   people were familiar with?

11   MR. VOLLER: Same objection, your Honor.

12   THE COURT: Overruled.

13   THE WITNESS: Do I need to answer this?

14   THE COURT: Yes.

15   THE WITNESS: No. I think -- and the aspect of

16   familiarity is not something that is of a concern. We needed

17   to create a product that would appeal to the traders. The

18   approach that was taken, as far as to design the product that

19   would appeal to Tim, to Tim Mather, was the assumption that if

20   it works for him, then it will work for other traders who share

21   a similar trading behavior.

22   BY MS. KURCZ:

23   Q   The predominant product, isn't it true that you're aware of

24   this, that was being used in the Chicago market at the time was

25   TT's MD Trader, correct?

Page 1515

1   A   Back in 2004?

2   Q   Yes.

3   A   I think I remember Trading Technologies' product was

4   definitely being used, but it wasn't exclusive. There were

5   other software development packages that were provided by other

6   ISV's.

7   Q   It's true it was a predominant product in the Chicago

8   market, correct?

9   A   I don't know how to answer this question. I don't know

10   what was predominant back then. I don't have any numbers that

11   show the market share or what type of functionality that people

12   used. There were a lot of traders that were using Trading

13   Technologies and MD Trader at the time, of course. Was it

14   predominant or was it one of? I can't tell you.

15   MS. KURCZ: Your Honor, I'd like to publish just to

16   Mr. Shterk the deposition transcript, page 271.

17   THE COURT: All right.

18   BY MS. KURCZ:

19   Q   So Mr. Shterk, we went over this, but at your deposition --

20   THE COURT: It's not showing. All right. Now it's

21   ready.

22   THE WITNESS: I see it now.

23   BY MS. KURCZ:

24   Q   If you go to line 16, Mr. Shterk.

25   "Question: Did CQG offer its DOMTrader product in

Page 1516

1   order to compete against TT's MD Trader?

2   "Answer: Of course.

3   "Question: Why do you say of course?

4   "Answer: Because in order to sell in the Chicago

5   market, the predominant product that's being used in that

6   market was Trading Technologies' X_Trader, and in order to sell

7   into that market, we needed to provide a product that people

8   were familiar with." Correct?

9   A   Yes.

10   Q   And those are my questions and those are your answers,

11   correct?

12   A   Yes.

13   Q   Now, it's your opinion also, right, that most of the people

14   who were switching from TT were using DOMTrader and CQG,

15   correct?

16   A   There was a large number of users that when they were

17   switching from TT, they were using the DOMTrader along with

18   other functionality provided by CQG, yes.

19   Q   And while you were at CQG, you also knew about TT's

20   patents, right?

21   A   I did, of course.

22   MR. VOLLER: Objection.

23   THE COURT: I'm sorry?

24   MR. VOLLER: Objection. No reference to time.

25   THE COURT: While you were at CQG, it's a little

1   broad-ranging. Why don't you just make it clear for the jury.

2   MS. KURCZ: Sure, your Honor.

3   BY MS. KURCZ:

4   Q   At the time around 2004 to 2005 while you were at CQG, you

5   also knew about TT's patents, right?

6   A   I don't remember exact time frame when I became aware of TT

7   patents.

8   Q   But at some point while you were at CQG, correct, you

9   reviewed all the patents that had been granted to TT at that

10   time, correct?

11   A   Yes, it is correct, although I think it was a lot later

12   than 2004/2005 time frame.

13   Q   And Mr. Schroeter asked you to review TT's patents, didn't

14   he?

15   A   Yes.

16   Q   And you've had a lot of conversations about those patents,

17   especially after this lawsuit began, right?

18   A   Unfortunately so, yes.

19   Q   You're not a patent attorney?

20   A   I'm not.

21   Q   And you never read any claim construction opinions from the

22   Court?

23   A   No.

24   Q   But while you were at CQG, it's true that the one ruling

25   you were aware of was the eSpeed ruling where eSpeed was found

Page 1518

1   infringing on TT's patents, correct?

2   MR. VOLLER: Objection, your Honor, foundation.

3   THE COURT: Again, let's clarify for the jury when he

4   was at CQG. He's been on the stand a while.

5   BY MS. KURCZ:

6   Q   You were at CQG for about 12 years?

7   A   Yes.

8   Q   And around 2000 to 2012?

9   A   Exactly. From November of 2000 until January of 2012, yes.

10   Q   And in that time frame while you were at CQG, the one

11   ruling you were aware of was the eSpeed ruling where eSpeed was

12   found infringing on TT's patents, correct?

13   A   I was aware of this ruling, yes.

14   Q   And this is the only ruling you knew about while you were

15   at CQG, right?

16   A   I guess so.

17   THE COURT: Don't guess, sir. That's a poorly worded

18   question. Did I hear an objection?

19   MR. VOLLER: Objection, your Honor.

20   THE COURT: Sustained, vague.

21   Next. You can rephrase.

22   BY MS. KURCZ:

23   Q   Mr. Shterk, you're aware of the eSpeed ruling as we

24   discussed?

25   A   Am I aware of the eSpeed ruling, yes.

Page 1519

1   Q   And isn't it true you were not aware of any other rulings?

2   A   I was not aware of any other rulings, yes.

3   Q   Now, TT was certainly a topic of conversation at CQG,

4   right?

5   MR. VOLLER: Objection, your Honor.

6   THE COURT: Objection sustained. Where are we going?

7   MS. KURCZ: We're going to lay some foundation for

8   some other documents, your Honor.

9   THE COURT: All right. Be very careful. You're about

10   to go into the Court's rulings. We're not making this a case

11   about eSpeed. Proceed.

12   BY MS. KURCZ:

13   Q   Let's show to Mr. Shterk PTX600. Now, with respect to this

14   e-mail that you sent September 20th, 2009, that was produced to

15   us by your counsel, you don't have any reason to believe it's

16   not a true and accurate copy of that e-mail?

17   A   Don't have any reasons to doubt it.

18   Q   No reason to believe that you didn't send it on

19   September 20th of 2009?

20   A   No.

21   Q   And you're responding to Ms. Morrissey, Molly Morrissey.

22   She works at CQG, right?

23   A   She worked at CQG at that time, yes.

24   Q   And in this e-mail, if you go down below, Ms. Morrissey

25   identified a visit at ICE QAP, right?

1   than the specific question that you're asking. Because I don't

2   know what's going to happen in the next two minutes, right?

3   Markets are unpredictable.

4   Q   Well, the DOMTrader has a manual re-centering feature,

5   right?

6   A   It did. It was added at some point.

7   Q   And you're aware of that, right?

8   A   Yes.

9   Q   For example, the user can press a button and this will

10   manually bring back the inside market back to center, correct?

11   A   Yes.

12   Q   And you're also aware that traders have used that feature,

13   correct?

14   A   Yes.

15   Q   And when using the manual re-centering feature, it makes it

16   even less likely for the inside market prices to get near the

17   top or the bottom of the screen, correct?

18   MR. VOLLER: Objection, your Honor. Calls for

19   speculation.

20   THE COURT: Objection is overruled. You can answer.

21   THE WITNESS: I think, again, it's a question that's

22   not very proper. A lot depends on the instrument and the

23   volatility of a specific instrument.

24   BY MS. KURCZ:

25   Q   But in this example here, it's true, right, that using the

Page 1540

1   manual re-centering button makes it even less likely for the

2   inside market prices to get near the top or the bottom of the

3   screen, correct?

4   A   Again, it's hard for me to answer about this example

5   because, as I said, in two seconds the market could move and

6   could move very rapidly. So it could get outside the screen.

7   But typically if people use the re-centering, then

8   they will be moving the trading price range into view, into the

9   center of the view, yes.

10   Q   And even in those cases, I think you mentioned in which the

11   best bid and the ask, for example, they could get to the top of

12   the screen and cause an automatic re-centering, hover or price

13   hold, as I call it, would allow the trader to get their price,

14   right?

15   A   One specific price, yes.

16   Q   Now, isn't it true that CQG instructed its customers how to

17   use hover?

18   A   Can you define the word "instructed"?

19   Q   Gave instructions.

20   A   There are user guides produced.

21   Q   Right.

22   A   Sure. There were user guides produced for all the

23   functionality we pushed out.

24   Q   Isn't it true that the price hold or hover functionality is

25   tied to the Fast Click feature in the DOMTrader?

Page 1541

1   MR. VOLLER: Objection.

2   THE COURT: Basis?

3   MR. VOLLER: Objection, form, just confusion.

4   THE COURT: All right. If the witness can answer, the

5   objection is overruled. Proceed.

6   THE WITNESS: I would like for it to be clarified.

7   THE COURT: You may clarify or take the question back,

8   one or the other, whatever.

9   MS. KURCZ: Sure, your Honor.

10   BY MS. KURCZ:

11   Q   So isn't it true that whenever Fast Click is turned on,

12   then price hold is turned on, right?

13   A   Okay. So if the Fast Click is permissioned, then the price

14   hover feature is allowed, is available for users, yes.

15   Q   And isn't it true that CQG also instructs customers how to

16   use the Fast Click functionality to enter orders, correct?

17   A   So I have an issue with the word "instruct." Provides

18   explanation, yes.

19   Q   And so it's true then that CQG teaches its customers how to

20   use the Fast Click functionality, correct?

21   A   There is a user guide that is provided explaining to users

22   how to use CQG functionality.

23   Q   Let's go ahead and look at one of those user guides, okay?

24   A   Sure.

25   Q   We can take this down. Let's put up Plaintiff's Trial

Page 1542

1   Exhibit 1582. What is this, Mr. Shterk?

2   A   That is the user guide for the CQG Integrated Client.

3   Q   And any reason to believe that this isn't a true and

4   accurate copy of a CQG user guide?

5   A   No.

6   MS. KURCZ: Your Honor, may we publish?

7   THE COURT: Any objection?

8   MR. VOLLER: No objection, your Honor.

9   THE COURT: Proceed.

10   (Exhibit published to the jury.)

11   BY MS. KURCZ:

12   Q   Let's go ahead and go to page 108 of this user guide. And

13   if we could just blow up the section that says "to enter an

14   order with Fast Click."

15   So here, the user guide is telling you you can place

16   orders in just one click if fast mode is activated in trading

17   preferences, correct?

18   A   Yes, correct, the first sentence.

19   Q   And then isn't it true that it also identifies click the

20   buy or sell column at the desired price level, correct?

21   A   Yes.

22   Q   So this manual is showing the user how to use Fast Click,

23   right?

24   A   Yes, along with every other feature that's available to

25   them, yes.

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 1              MS. KURCZ:  We can take that down.

 2    BY MS. KURCZ:

 3    Q   Let's talk about price selection and response of scale.  I

 4    think we talked about that a little bit with Mr. Voller.

 5              Now, you know that price selection was in DOMTrader

 6    when it first launched, right?

 7    A   Was the price selection in the first DOMTrader?  Yes.

 8    Q   Okay.  Let's actually just look at one of CQG's early user

 9    guides.  Let's put up Plaintiff's Trial Exhibit 31, please.

10              Mr. Shterk, no reason to believe that this document

11    which came from CQG's files was produced by CQG's attorneys to

12    us?  No reason to believe that this isn't a true and accurate

13    copy of this user guide?

14    A   No, no reason.

15    Q   And CQG gave user guides to its customers to tell them how

16    to use the products, right?

17    A   Yes.

18    Q   Let's go to page 76 of this user guide, and we can blow up

19    the DOM grid.

20              MS. KURCZ:  Your Honor, may we publish?

21              THE COURT:  Any objection?

22              MR. VOLLER:  No, your Honor.

23              THE COURT:  You may publish.

24         (Exhibit published to the jury.)

25    BY MS. KURCZ:
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1   Q   You can see in the middle here. Isn't it true that this

2   user guide identifies price selection?

3   A   Yes, there's one element of it.

4   Q   Okay. Let's go ahead and there's also market window at the

5   bottom, right?

6   A   Yes.

7   Q   Let's go to the next page of this user guide. If we could

8   focus in on the section that says market window, please. And

9   isn't it true that this section is identifying for the user how

10   to make a market window, correct?

11   A   Yes, that's one of the ways to get a market window.

12   Q   And it also says in this manual, if you can highlight it,

13   it says, "You cannot place orders in this portion of the

14   DOMTrader window." Can we highlight that where it says "you."

15   So it's true in this manual, you can -- for this

16   version, you couldn't even place orders in the market window,

17   right?

18   A   So that's what the document says. I don't remember it

19   being limited. I think we allowed people to place an order

20   from the market window of the different DOMTraders.

21   Q   But not in this version, right?

22   A   That's what this document states, yes.

23   Q   But the user can place orders in the rest of the DOMTrader

24   that's not a market window, correct?

25   A   But you can left click on the price cell in the market

Page 1546

1   All right. And I have another demonstrative for you,

2   Mr. Shterk.

3   Can we publish it to the jury? I think this has

4   already been ruled on, your Honor.

5   THE COURT: Any objection? Oh, this is already --

6   objection sustained -- I mean, request sustained. You can do

7   it.

8   MS. KURCZ: Thanks, your Honor.

9   (Exhibit published to the jury.)

10   BY MS. KURCZ:

11   Q   Mr. Shterk, can you identify -- I'll go ahead and run it --

12   the market window in this DOMTrader for the jury?

13   A   Yes, the top two prices.

14   Q   So right here?

15   A   Yes, between 050 and 075, between four and a half and four

16   and three-quarters.

17   Q   And that black line shows that the market window is two

18   rows, correct?

19   A   Yes.

20   Q   And there's a price selected in this example also, right,

21   Mr. Shterk?

22   A   Yes, the price in the middle, the 203800.

23   Q   But in this market window, those prices are constantly

24   moving automatically, right?

25   A   They show the current market, the current inside market,

1   yes.

2   Q   And in this version, if I'm showing you right here, the

3   rest of the price display, the price levels are not moving,

4   right?

5   MR. VOLLER: Objection, your Honor. Time.

6   THE COURT: Objection sustained.

7   BY MS. KURCZ:

8   Q   With respect to the version I've identified right here,

9   Mr. Shterk, version 8.2915, in the rest of the price display,

10   the price levels are not moving, right?

11   MR. VOLLER: Same objection, your Honor. It's a

12   limited period of time.

13   MS. KURCZ: Your Honor, I've identified the version on

14   here.

15   THE COURT: All right. I'm going to allow it to

16   stand. The objection is overruled.

17   THE WITNESS: The point here is that the market window

18   and the rest of the DOMTrader in terms of price scale represent

19   a single price scale, and this price scale shows you both

20   elements. It shows you the price that was selected by user,

21   but also it shows you where the current market is.

22   BY MS. KURCZ:

23   Q   You know, I'm asking you about the rest of the prices right

24   below the market window, Mr. Shterk.

25   Isn't it true that in the rest of the price display,

Page 1548

1   the price levels are not moving?

2   A   Because the user specifically indicated the market window

3   to be limited to two rows. Only those two rows will display

4   the current market. All of the other rows will display the

5   prices that were there when the user made the selection.

6   Q   And those prices are not moving, correct?

7   A   The prices outside of the market window do not move because

8   of how the price was selected, correct.

9   Q   Let's go ahead and go to Plaintiff's Trial Exhibit 170.

10   Mr. Shterk, I showed you this document at your deposition.

11   It's a Genie record, correct?

12   A   I'm sure you have, and yes, it's a Genie record.

13   Q   And this document, which was produced to us by CQG's

14   attorneys, no reason to believe it's not a true and accurate

15   copy of those Genie records?

16   A   No reason.

17   MS. KURCZ: May I publish, your Honor?

18   THE COURT: You may.

19   (Exhibit published to the jury.)

20   BY MS. KURCZ:

21   Q   If we could just please go to the e-mail on the third page,

22   row 4. It's from you to Ms. Molly Morrissey.

23   Ms. Morrissey at that time worked in customer support

24   for CQG, correct?

25   A   I don't remember.

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1   Q   And in response to a question you asked Ms. Morrissey,

2   "Have you tried to select the price on the DT? Once the price

3   is selected, we will not get this price out of view."

4   Those were your words, right?

5   A   Yes.

6   Q   Isn't it true, when I asked you about those words at your

7   deposition, you told me that once a price is selected, it will

8   always be displayed in the DOMTrader on the price grid?

9   A   Yes.

10   Q   Now, there was a comment in row 6 of this document. And

11   when I asked you about that comment at your deposition, isn't

12   it true that you didn't know what this comment meant, correct?

13   A   Yes. I don't know what this comment meant. It still does

14   not make sense to me.

15   Q   Let's go ahead and look at the next document, please,

16   Plaintiff's Trial Exhibit 189.

17   Mr. Shterk, you don't have any reason to believe that

18   this e-mail which was produced by CQG to TT in this litigation

19   isn't a true and accurate copy of an e-mail that you received

20   on October 22nd, 2010?

21   A   No, there isn't.

22   MS. KURCZ: Your Honor, may we publish?

23   THE COURT: Any objection?

24   MR. VOLLER: No, your Honor.

25   THE COURT: Proceed.

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1   (Exhibit published to the jury.)

2   BY MS. KURCZ:

3   Q   So if we could please start at the bottom on page 3, kind

4   of get the first chain in the e-mail string.

5   So in October of 2010, you had asked Mr. Korepanov,

6   "When have we made the change that once a user selects the

7   price on responsive DT, the grid would stop moving completely."

8   Do you see that?

9   A   I do.

10   Q   And if we could go to actually the e-mail above it, the

11   response. Mr. Korepanov had responded that it worked that way

12   since the DOMTrader redesign project. No reason to doubt that?

13   A   No.

14   Q   Okay. And let's look at your response to Mr. Korepanov's

15   e-mail. And you said, "We do need to fix it. The way we had

16   it before was a better way. Now we're giving argument for TT

17   since upon single click, the price grid becomes static."

18   Correct?

19   A   That's what it says.

20   Q   And those were your words in October of 2010?

21   A   That's what it says.

22   Q   Let's go to the next document, Plaintiff's Trial

23   Exhibit 341.

24   Mr. Shterk, with respect to this e-mail that you sent

25   on June 23rd, 2011, produced by your counsel, any reason to

Page 1556

1   (The following proceedings were had in open court outside

2   the presence of the jury:)

3   THE COURT: Any additional arguments?

4   MS. KURCZ: No, Your Honor.

5   THE COURT: You said yes.

6   MS. KURCZ: No, Your Honor.

7   THE COURT: Anything additional?

8   MR. VOLLER: Nothing from defense, Your Honor.

9   MS. WYTSMA: Your Honor, it's not an argument or an

10   issue. It's just Mr. Shterk, we've managed to push back his

11   flight by two hours, but --

12   THE COURT: Where is he flying in from?

13   MR. VOLLER: New York City.

14   THE COURT: I mean, that's his destination point?

15   MR. VOLLER: He's going to Florida, Your Honor.

16   MS. WYTSMA: He's going to spend some time --

17   THE COURT: What's the big deal in Florida? All your

18   witnesses are headed to Florida.

19   MR. VOLLER: Trade industry, Your Honor.

20   THE COURT: Not to mention it's in the States, so I

21   don't know. What's the timing?

22   MS. KURCZ: Your Honor, I cut back some things. So I

23   think maybe for 10 minutes.

24   THE COURT: Yes, but then what's your timing?

25   MR. VOLLER: I will be very brief, Your Honor.

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1   THE COURT: Okay. All right. Let's go.

2   MS. KURCZ: Okay.

3   (Before the jury:)

4   THE COURT: All right. Counsel, whenever you're

5   ready.

6   BY MS. KURCZ:

7   Q   Let's go ahead and put back Plaintiff's Trial Exhibit 135,

8   the same place where we were before. Page 63.

9   Mr. Shterk, isn't it true that CQG's original design

10   contemplated that someone would have the ability to disable the

11   market window?

12   A   No, it's not true.

13   Q   Isn't this showing that the product had initialization

14   files that could be turned on or off to disable the market

15   window appearance?

16   A   For the purposes of developers being able to troubleshoot

17   different technology in the future, yes. Never for the

18   customer of CQG.

19   Q   Developers are people too right?

20   A   I'm not implying that it wasn't available for people. I'm

21   implying it wasn't available for customers of CQG.

22   Q   Let's go to look at another document. We can take that

23   down. Let's go ahead and go to Plaintiff's Trial Exhibit 2879.

24   Mr. Shterk, this is a CQG client release document.

25   Are you familiar with this type of document at CQG?

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1   A   I think that's an internal release notes document.

2   Q   CQG's counsel produced to us. No reason to believe it's

3   not a true and accurate copy of a release document for CQG?

4   A   No reason.

5   Q   So let's go ahead and go to page 57 of the document.

6   MS. KURCZ: May we publish this, Your Honor.

7   THE COURT: Any objection?

8   MR. VOLLER: No, Your Honor.

9   BY MS. KURCZ:

10 Q   Let's go to pages 56 and 57 of the document. If we could

11 just highlight the bar, and then on 57 the one defect on market

12 window disabling.

13   Isn't it true, Mr. Shterk, that CQG also knew the

14 impact of market window disabling on its customers?

15   MR. VOLLER: Objection, speculation, Your Honor.

16   THE COURT: Objection's overruled. If he can answer.

17   THE WITNESS: Actually if you could state the

18 question again. I don't think I understood it.

19 BY MS. KURCZ:

20 Q   Sure. In this CQG release note it -- this is the fix for

21 the market window doesn't show up if it's higher than DOMTrader

22 height, correct?

23 A   Yes, that's the defect.

24 Q   And isn't it true that it says in this document, "the

25 impact to customer TT patent violation," correct?

Page 1559

1   A   That's what this document says, yes.

2   Q   You can take that down. And you testified, right, that TT

3   told CQG about disabling the market window in around November

4   of 2010?

5   A   That's my recollection.

6   Q   And per your testimony CQG fixed it when they learned

7   about it, is that right?

8   A   Yes, we corrected this defect.

9   Q   Isn't it true that CQG knew that the market window could

10 be disabled through resizing well before TT told CQG?

11 A   I'm not aware of this.

12 Q   Let's go to Plaintiff's Trial Exhibit 190. And this is an

13 e-mail from you dated Friday, May 8th, 2009 produced by your

14 counsel. No reason to believe that this isn't a true and

15 accurate copy of that e-mail?

16 A   No.

17 Q   Let's go to the bottom of the e-mail, page 3 of the

18 document, and let's blow up the suggestion.

19   MS. KURCZ: Could we publish it to the jury, Your

20 Honor?

21   THE COURT: You may. There being no objection.

22   MR. VOLLER: No objections.

23 BY MS. KURCZ:

24 Q   And if we could also enlarge the title of the document in

25 the suggestion, Brian. And the title is "BBA not showing

Page 1560

1   correctly. Market window not working." Do you see that?

2   A   I do.

3   Q   And there's a comment below from Alex K. It says, "When

4   market window is bigger than DOMTrader, in this case market

5   window is not shown," correct?

6   A   Yes.

7   Q   And the date that this was opened, if we could highlight

8   that. March 24th, 2009, correct?

9   A   Yes.

10   Q   This is over a year and a half prior to when TT told you

11   about this, correct?

12   A   Yes.

13   Q   Let's go to the May 8th e-mail on page 2 of this document.

14   It's from you to Marcus Kwan and Alexey Korepanov. And you

15   say, "Agree, we need to correct it. Alexey, please set it as

16   P2 for general 1," correct?

17   A   Yes.

18   Q   But it wasn't changed in 2009, correct?

19   A   I don't know. I've been getting a lot of e-mails in my

20   time in CQG, so I don't remember every single one of them. I

21   definitely don't remember every single defect or suggestion

22   that came upon. So was this suggestion ever implemented? Do

23   we have any records from Genie indicating whether the

24   suggestion was done or not?

25   Q   Well, market window disabling was still around in 2010,

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1   select stop moving -- do they stop moving completely?

2   MS. KURCZ: Objection, form. Vague as to time.

3   THE COURT: Foundation. Objection sustained as to

4   time.

5   BY MR. VOLLER:

6   Q   Mr. Shterk, let's look at the date of this e-mail,

7   October 19th, 2010.

8   A   Yes.

9   Q   I'd like to direct your attention to the DOMTrader that

10   you were speaking of on that date.

11   A   Yes.

12   Q   With price select did prices in that DOMTrader stop moving

13   completely?

14   A   No --

15   MS. KURCZ: Objection, form. Leading.

16   MR. VOLLER: I can rephrase it, Your Honor.

17   THE COURT: All right. Then rephrase.

18   BY MR. VOLLER:

19   Q   What do you mean by stop moving completely?

20   A   This question was asked with respect to nonmarket window

21   prices that are visible in the DOMTrader.

22   Q   So what do you mean by that?

23   A   The answer to the previous question is that prices will

24   not stop moving completely because the market window will be

25   displayed once the price gets outside the grid.

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1   Q   Okay. I want to move on. Sir, we talked a little bit

2   about this INI file business. Do you remember that?

3   A   I do. The developers are not people. I remember that.

4   Q   Are you aware of --

5   THE COURT: I'm sorry. What was your answer?

6   THE WITNESS: I do remember.

7   BY MR. VOLLER:

8   Q   Are you aware of any CQG customer ever accessing the INI

9   file and changing it such that the market window would not

10   appear?

11   A   No.

12   Q   Let's now go to and republish Plaintiff's Trial Exhibit

13   2879. Do you remember seeing this exhibit, sir?

14   A   I'm sure I've seen it today. No, I don't remember.

15   Q   I'm not going to be able to find the particular page. But

16   do you remember seeing a line that said TT patent violation in

17   a release document on cross-examination?

18   A   I do.

19   Q   Where did that language come from?

20   A   It came from Genie record.

21   Q   And how did it come into the Genie record? Was that

22   something you used to describe that defect?

23   MS. KURCZ: Objection to form of the question.

24   THE COURT: You got two sides going here. Both with

25   direct, cross. Objection's overruled. He can answer.

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1   Proceed.

2   THE WITNESS: So this defect was written by

3   developers based on the e-mail that I sent them. This language

4   was taken from my e-mail. I introduced this language because

5   of the statement that was made by TT attorneys when we were

6   reviewing the video.

7   BY MR. VOLLER:

8   Q   So that's not CQG's language, that's TT's language?

9   A   It came from attorneys, right.

10   Q   Let's now go to Plaintiff's Trial Exhibit 190, page 2.

11   And let's enlarge the middle e-mail from Alexey Korepanov and

12   from Yuriy Shterk to Alexey Korepanov and others.

13   Mr. Shterk, I just wanted to clarify or make sure I

14   understand, is it your testimony that this configuration that

15   is discussed in this e-mail about making the market window

16   bigger than the DOMTrader should have been fixed because of

17   your instruction to Mr. Korepanov?

18   A   That's what it states.

19   Q   Okay. And let's now go to the page 3 of this same

20   document, and there's a note at the very bottom. Alex K: This

21   happens when the market window is bigger than the DOMTrader.

22   In this case market window is not shown.

23   Mr. Shterk, did you or CQG know about the impact that

24   this configuration would have on the price column in the

25   DOMTrader?

1   A   The specific case that is described here is the fact that

2   the market window is not working. None of us could realize the

3   impact of, you know, freezing the price scale that was

4   highlighted later to us by TT attorneys.

5   Q   And I want to go back to the very beginning of what I

6   started to ask you about when I took the podium here on

7   reexamination. The use of the word static. On

8   cross-examination you talked about certain documents you may or

9   may not have seen in different cases.

10   Did the people that used that word static have access

11   to the Court's claim construction?

12   A   I hope not. No. The answer is no.

13   Q   Did you have access to the claim construction?

14   A   No.

15   MR. VOLLER: No further questions, Your Honor.

16   THE COURT: TT, follow-up.

17   RECROSS-EXAMINATION

18   BY MS. KURCZ:

19   Q   Just a couple more questions, Mr. Shterk, and we'll get

20   you on your way.

21   Can we go ahead and show you Plaintiff's Trial

22   Exhibit 2314. And, Mr. Shterk, this is an e-mail that you sent

23   July 18th, 2008, regarding tablets.

24   A   Yes.

25   Q   No reason to believe you didn't get this?

1   Q. And did CQG have any development activity in the United

2   States?

3   A. Yes, certainly.

4   Q. Where?

5   A. It's in Denver where we still have developers there. We

6   do the top-level management out of Chicago here, but it's

7   those two places besides Moscow. Well, not just Moscow. I

8   mean, let's say eastern Europe. It goes outside of Moscow

9   now.

10 Q. After the DOMTrader was released, did you remain involved

11 in its development?

12 A. I did for a while. Typically, the way it works for me is

13 if there is a new product coming out, that's where I am most

14 involved with something. For a product that I continue to use

15 personally myself, I would stay with it quite a bit longer,

16 forever.

17   But in the case of the DOMTrader, it wasn't something

18 that I personally used at that time. I still preferred my

19 blanky, my comfortable interface, which was the Order Ticket.

20 So I stayed with it, I would guess, a year or two after that,

21 and then it kind of went on on its own.

22 Q. Did your involvement with the DOMTrader change after TT

23 filed this lawsuit?

24 A. Well, with all of our order entry products, and the

25 DOMTrader being the primary one, yeah, we carefully reviewed

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1 our products and the patent claims, as we understood them, to

2 do -- and with the help of counsel, of course, to do the best

3 we could to make sure we were not infringing on the patents as

4 we understood them.

5 Q. Did you ever personally use the DOMTrader?

6 A. I have used it, but it's not my preferred interface.

7 Q. What's your preferred interface?

8 A. Now it's something we call the SnapTrader, which we

9 haven't seen yet.

10 Q. We have a slide for it.

11 A. Great.

12 Q. That looks very different.

13 A. There it is. There it is. That's all it is is right

14 there.

15   Because I use charts for making trading decisions, we

16 developed a little trading interface that's called the

17 SnapTrader that is right here, this red and green thing, and

18 it -- you simply put a horizontal cursor on your chart, and

19 that price where your cursor is is reflected in the SnapTrader

20 here. And then when you get the right price, you've got the

21 right quantity in there, you simply click on one of these

22 buttons on the SnapTrader and it will allow you to put an

23 order in. That works for me. For many people it doesn't, but

24 that's my baby.

25 Q. Okay. Let's talk about TT's patents.

 1   When did you first become aware of TT's patents?

 2   A.   It was probably around 2003. I mean, I was aware that

 3   they had filed patents that had not yet been granted, but it

 4   was sometime between when they filed and when it was granted.

 5   Q.   So you were aware of the patent applications before they

 6   became patents?

 7   A.   Yes, that's true.

 8   Q.   What year was that, did you say?

 9   A.   2002 or '3.

10   Q.   '3?

11   A.   '3 I would guess, but it certainly could have been 2002.

12   Q.   When you became aware of those patent applications, what

13   did you do?

14   A.   Well, you know, I just -- I didn't know whether they were

15   going to be granted or not at that time, so I said, let's just

16   wait until we see if they're granted. If they are granted,

17   then we will address any issues that are brought up because of

18   the patents.

19   Q.   And once TT's patents were granted, what did you do?

20   A.   Okay. Well, first of all, we struggled through trying to

21   read the patents ourself and understand them, but it's really

22   limited what we can do there without the help of counsel. We

23   -- I had Joe Schroeter. We agreed and he suggested that we

24   contact somebody who had experience in patent law to review

25   both the patents and our products and give us an opinion as to

1 where we stood with our product and the claims of the patent.

2 Q. Before you had contacted counsel and you had read the

3 patents, did you believe you infringed?

4 A. Well, there were -- you know, as was in that video that

5 was presented about how patent law works, you know, in this

6 patent, there were -- it appeared to be three boundaries, if

7 you will, and, you know, one was the vertical DOM or the

8 ladder, another one was the static scale, and the third one

9 was the single user action. And so we looked at whatever

10 interfaces we had at that time and in the light of those three

11 legs or the three boundaries, and, you know, again, it was

12 just our reading, but we were looking for counsel to give us a

13 more professional opinion, but we felt that in every product

14 that we had, we were outside at least one of those boundaries

15 in terms of the claims of the patent.

16 Q. So explain the process you went through in selecting a

17 patent counsel.

18 A. Well, I can't tell you that in detail. Joe Schroeter, who

19 was president, had previously been an attorney, and law stuff

20 wasn't one of my favorite things, so I simply would ask him to

21 do things oftentimes that involved legal issues. So I asked

22 him to find us a competent patent lawyer to give us an opinion

23 on it. I am sure I suggested that he look in the Silicon

24 Valley area. Software patents and this issue was not nearly

25 as common as it is today, we are talking probably 2004, 2005,

1   and I just thought, okay, if there's going to be patent

2   lawyers that are skilled in this, there's a good likelihood

3   that they're going to be operating out there in the Silicon

4   Valley area, so let's go look out there and see if we can find

5   somebody good to give us an opinion as to where we stand.

6   Q. Who did you choose?

7   A. It was Kevin LeMond.

8   Q. What resources did you make available to Mr. LeMond when

9   he was investigating CQG's products to give you an opinion?

10 A. Again, it was Joe that did that, but I was aware that we

11 made him -- we made available to him the CQG product and the

12 order execution platforms that we had, as well as one of our

13 most competent product specialists with deep knowledge of the

14 product, and both of those were provided to him to help him

15 with his evaluation.

16 Q. Who was that product specialist?

17 A. It was Mike Glista.

18 Q. Where is he located?

19 A. Right back here.

20 Q. He is here.

21   Which office?

22 A. He is out of the Chicago office, yes.

23 Q. Okay. So what conclusion did Mr. LeMond reach, do you

24 recall?

25 A. Well, we had a preliminary opinion from him before he

1 Q. While this litigation has been pending, has CQG made

2 changes to its products to further distance those products

3 from TT's patents?

4 A. We're always looking for -- again, these boundaries -- in

5 the video, it sounds like these boundaries are precise and you

6 know where they are. In reality, especially when you're

7 talking with the patentholder, they become very blurry and

8 very vague, so it was always a struggle to know not whether

9 you were outside the boundary or not, but had we gone far

10 enough outside the boundary to avoid litigation. And so, yes,

11 we're always looking for opportunities to move us further

12 outside the boundary but still have a product that will meet

13 the needs of our customers.

14 Q. But you weren't making changes to your products because

15 you believed you infringed?

16 A. No, we were making changes in our product to avoid

17 litigation. In some cases, we were making changes in our

18 product to -- okay. There was something going on here. There

19 was a lot of -- let's be honest. Let's call it fear in

20 Chicago. You know, people didn't want to be sued and that

21 included --

22   MR. SIGMOND: Your Honor, I object. Speculation and

23 hearsay.

24   THE COURT: All right. Sir, stop your answer.

25   Next question and we will see where it goes. The

1   objection is sustained at this time.

2   No, no. There is no question.

3   THE WITNESS: I'm sorry.

4   THE COURT: That's okay.

5   BY MR. KELLY:

6   Q. Were you aware of any decisions from the court that

7   influenced your decision to change certain functionality in

8   your products?

9   A. We kept track of, you know, various litigations that were

10   going on to help us understand where these boundaries were.

11   There was a matter with counsel to review the history of the

12   issuance of the patent and what went on between the time it

13   was applied for and when it was issued. Then there were -- in

14   2006 and 2007, there were rulings that came out of litigation

15   that was happening here in Chicago in this basic court, and

16   so, yeah, we watched those closely to see where the court's

17   opinions were regarding some of these boundary lines.

18   Q. While this litigation was going on, were you receiving

19   express concerns from your customers of being sued?

20   A. Yes.

21   Q. What did you do to address those concerns?

22   A. We did a couple of things, and this is where -- the

23   customers themselves were afraid that TT was going to sue them

24   for using our product, and so there was -- there was a strong

25   feeling that if we had clear, multiple user actions, not a

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1   click, not a double click, and then there's that foggy area of

2   drag and drop, but rather, click, pop up another window, move

3   to it, confirm, we call it click and confirm, that that was

4   clearly outside the single click or the single user action

5   boundary, that that would be okay, so that any product that

6   had that function in it, it was okay.

7   So some -- so we had the ability through our

8   enablement system for any user, we could force it so it was

9   only click and confirm on that product. If that's what the

10   FCM or the user was comfortable with, we would provide that.

11   Another one was the, you know, clearly the dynamic

12   scale where the scale shifted with every price change. That

13   was on the opposite spectrum of the static scale. It felt

14   comfortable that with the dynamic scale they weren't going to

15   be sued, so that was another one that we could control through

16   enablement.

17   And then the third thing we did was in firms that

18   wanted it, we provided them with letters that were

19   indemnification letters, indemnification basically saying, if

20   TT sues you because you're using our product that we don't

21   feel infringes, but if they do sue you, that we will cover the

22   costs of the litigation and whatever it takes for you to

23   protect yourself.

24   Q. Do you have an understanding of what functionality in the

25   DOMTrader TT accused of infringement when it filed the

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1   lawsuit?

2   A. Well, again, it wasn't -- nothing was specific. You know,

3   nothing was specific. So certainly we had DOMTraders that had

4   a single click there, so that would have been one of the legs

5   that we infringed on. It was a vertical column of prices, so

6   that was certainly inside their boundaries.

7   The area where we were outside of the boundaries was

8   with the auto scaling as opposed to the static scaling, so any

9   disputes about our infringement would have had to have been in

10 that auto scaling, static scaling field part of the patent.

11 Q. So that would have been in 2005?

12 A. Yes.

13 Q. Do you know when TT brought to CQG the theory of disabling

14 the market window?

15 A. I'm sorry, but I don't. After that. Significantly after

16 that, I believe.

17   I don't know. I am not going to guess. I shouldn't

18 guess.

19 Q. I don't want you to guess.

20 A. Okay.

21 Q. Do you recall when TT brought their theory involving price

22 hold or price hover to CQG?

23 A. Again, it was significantly after that time period, but I

24 can't tell you when it was.

25 Q. Who is Peter Hwang?

1 A. Peter Hwang is a friend of mine and an astrologer.

2 Q. Do you believe in astrology?

3 A. Astrology is probably -- you know, to say believe in

4 astrology is probably too strong a word. Do I have an

5 interest in it, yes. Do I think there's some truth in it,

6 yes. I am a child of the '60s, so all of these kinds of

7 things, metaphysical, mystical things have some interest to

8 me, astrology is one of them. And Peter was a friend of mine,

9 and he often offered astrological advice around dates to do

10 things and what kind of relationships would be -- in his

11 opinion, astrological opinion, which kind of relationships

12 would be good or not good. Not that a person is good or bad,

13 but rather whether there is a good match up there

14 astrologically.

15   So while I have interest in it and I believe there is

16 some truth in it, there is probably, in my opinion, some truth

17 in it.

18   What I think I can say I believe is that astrology

19 has nothing to do with the infringement on the patent or not.

20 It's outside the realm of the issues that we are trying to

21 decide here in the court.

22 Q. Who is Nina Wang?

23 A. Nina is a recently appointed federal judge in the Denver

24 area.

25 Q. And what did she do before she became a federal judge?

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1   right?

2   A.   I'm sure that's close. I don't have the date.

3   Q.   Does order entry increase the sales of your charting

4   products?

5   A.   Perhaps. You know, it is an integrated product. We all

6   have felt that integrated products were the future. I think

7   you can answer that by simply asking yourself, does the

8   charting on TT help the sale of your order routing product on

9   TT? We have a similar combination there, and, yes, I mean,

10 together it may have. But does it help sell -- we have -- a

11 significant part of our revenue comes from the traditional

12 charting and analytics product without using the order routing

13 functionality. That is still there.

14 Q.   And you've gained customers for your order entry from your

15 traditional charting customers?

16 A.   I would hope so.

17 Q.   Now, this DOMTrader has two modes, correct, responsive and

18 dynamic?

19 A.   Say that again, please.

20 Q.   Does the DOMTrader have two modes, responsive and dynamic?

21 A.   That can be configured.

22 Q.   And in the responsive mode, there is a time that you could

23 see the inside market moving up or down the price scale,

24 correct?

25 A.   Yes.

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1 Q. And sir, you don't know what happens when you select a

2 price in market mode with a DOMTrader, correct?

3 A. You know, these modes and things, I really am not familiar

4 with the terminology. If you can demonstrate to me the --

5 exactly what's happening there, I suspect I'd be familiar with

6 it, but I don't know what you mean by market mode. That's not

7 a term that -- I don't use the DOMTrader. I am not

8 particularly familiar with mode.

9 Q. You know that there's a feature called hover, correct?

10 A. That one I am familiar with, yes.

11 Q. And is this also referred to as price hold?

12 A. I think you're correct.

13 Q. And the purpose of hover is so that traders don't miss

14 their price, right?

15 A. The purpose of hover is so that if the auto scaling

16 feature is shifting the scale at the time that you're

17 selecting a price, that it will help you not get the wrong

18 price, to help you get the price that you intend to select,

19 yes.

20 Q. So the answer is yes, it helps the trader get his price,

21 right?

22 A. It doesn't work very well is the problem, so it simply

23 moves the problem back a step. So if you -- without hover,

24 you click on a price at the time it's moving, you've executed

25 an order at the wrong price. With hover, you click on a price

1   at the time it's moving, you're hovering on the wrong price.

2   So, you know, then you may have to click again to execute the

3   order, but it doesn't solve the problem. It simply moves it

4   back a step.

5   Q. But when the trader clicks after hovering, the trader gets

6   his price, right?

7   A. He gets the price that is in the hover view at the time.

8   That doesn't mean that that's the price he intended.

9   Q. And, again, you remember when I took your deposition

10 September 2013, right?

11 A. Yes.

12 Q. And you were under oath?

13 A. Yes.

14 Q. And did I ask you these questions and did you give me

15 these answers? And this is from page 224.

16   "QUESTION: Is it so that when you're selecting a

17 price, you don't, you don't miss your price, is that what it

18 does?

19   "ANSWER: Yeah, in a sense, yes."

20   And that was your answer, right?

21 A. I don't have the transcript here. I will have to take

22 your word for it.

23   THE COURT: Sir, you are very right.

24   MR. SIGMOND: Here it is. Sorry.

25   THE COURT: All right. Refer him to the page again,

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 1   Counsel.

 2   BY MR. SIGMOND:

 3   Q.   Page 224.

 4   Actually, I tell you what. Why don't we put it up on

 5   the screen. Page 224, lines 7 through 13. There it is for

 6   you right there, Mr. Mather.

 7   That was my question and that was your answer,

 8   correct?

 9   THE COURT: Refer him to the lines. There you go.

10   Why don't you read it again, Counsel.

11   BY MR. SIGMOND:

12   Q.   I think I selected the wrong -- sorry. It should be page

13   224, line 2 through line 6.

14   "Is it so that when you're selecting a price, you

15   don't, you don't miss your price, is that what it does?

16   "ANSWER: Yeah, in a sense, yes."

17   A.   I see that.

18   Q.   And that was your answer, right?

19   A.   Yes.

20   Q.   Now, Mr. Mather, why don't we look at PDX -- sorry, let's

21   look at PTX 0236.

22   THE COURT: It will come up in a second, sir.

23   MR. SIGMOND: I think we can publish, your Honor.

24   There is no objection that I know of to this.

25   THE COURT: Is there an objection to this?

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1   Buttonwood Group as a proprietary trading operation, and now

2   I'm an independent trader with PNT.

3   Q. And in the various positions that you've had held over the

4   years, have you supervised any other traders?

5   A. Over the years, several hundred globally, you know, well

6   over 300 different traders. I started all the offices, all the

7   overseas offices, so London, Madrid, Mumbai, Sydney, Singapore,

8   several others in the U.S. So I'm very familiar with traders

9   and managing them.

10   Q. And you're familiar with the term ISV?

11   A. Yes.

12   Q. And what is an ISV?

13   A. An ISV is an electronic platform that you use to execute

14   your orders into an electronic exchange.

15   Q. And "ISV" would refer to independent software vendor?

16   A. Right.

17   Q. Okay. They provide these interfaces for electronic

18   trading?

19   A. Correct.

20   Q. And can you describe for the jury some of the various

21   trading products that you've used in the past for electronic

22   trading?

23   A. Well, I've used quite a few of them. Yeah, I happened to

24   be fortunate enough to be around when electronic trading was

25   first starting, so GL, J Trader, Ecco, Easy Screen, RTS, TT,

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1   CQG, the Canter screens, Bloomberg, TradeBook, TradeWeb. So

2   because we've had so many different asset classes that we

3   traded, you know, electronically, we were always testing and

4   checking out new systems. So I've used most of them, most of

5   them that were around at the time.

6   Q.   And are you currently a customer of TT?

7   A.   Yes, I am.

8   Q.   And are you currently a customer of CQG?

9   A.   Yes, I am.

10 Q.   By the way, how many hours in a day can a trader trade

11 today?

12 A.   Approximately 23 and a half hours, five days a week.

13 Q.   And are you familiar with TT's MD Trader product?

14 A.   Yes, I am.

15 Q.   Are you familiar with CQG's Integrated Client software?

16 A.   Yes, I am.

17 Q.   And have you used both of those?

18 A.   I do and have.

19 Q.   And approximately how many orders do you believe you've

20 placed using MD Trader?

21 A.   Well, I don't know exactly, but certainly hundreds of

22 thousands.

23 Q.   And how many products do you think you -- or how many

24 orders do you believe you've placed using Integrated Client?

25 A.   Probably a similar amount. So between myself and traders

1   that were under me, millions.

2   Q.   And how long have you been a customer of CQG?

3   A.   Sometime in the early '80s, I started using their data

4   product. I've always stayed with that, although I do use

5   others. In the, you know, early 2000s, I started using their

6   trading execution system.

7   Q.   And do you have any opinion on CQG's charting and analytic

8   tools?

9   MR. IRWIN: Objection, Your Honor, 701 opinion.

10   THE COURT: Has this been disclosed?

11   MS. WYTSMA: I'm just asking what his experience has

12 been with those products. I can rephrase.

13   THE COURT: Rephrase.

14 BY MS. WYTSMA:

15 Q.   Well, what has your experience been or what is the reason

16 that you use CQG's charting and analytic tools?

17 A.   Well, it's a reasonably priced quick interface and provides

18 the data needed for me to conduct my trading operations.

19 Q.   Now, since you began using -- actually, do you recall

20 specifically when you began using the order execution tool in

21 the Integrated Client product offered by CQG?

22 A.   Well, I don't know the exact date, but shortly after it was

23 available. We were always asking every vendor to show us what

24 was new and different and more efficient than what we might

25 have been using and how they might be able to help us get

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1   better, so right around the early 2000s.

2   Q. And have you used the Integrated Client software product

3   continuously since that time?

4   A. I wouldn't say -- well, I mean, I would say I've used it

5   every single year since it's been, but I wouldn't necessarily

6   say continuously.

7   Q. And what are some of the reasons that you would use both

8   CQG's trading interface as well as TT's trading interface to

9   execute orders?

10 A. Well, every trade is different, and so the type of system

11 that you might want to use to execute that trade efficiently

12 would depend, you know, on that trade. So there were certain

13 attributes of trades that TT was better at and certain trades

14 that CQG was better at. So we would, you know, use whichever

15 system was best because, you know, you wanted your traders to

16 have the greatest opportunity to extract a profit.

17 Q. Are you familiar with a term called "inside market"?

18 A. Well, you know, there are a lot of different lingos, but

19 during the deposition the inside market to me is what the best

20 bid and best offer is.

21 Q. And how important is that information to a trader?

22 A. It's critical. I mean, you want to know where your best

23 bid is and what the best offer is so that you know the price

24 that you have a good chance of executing your trade at.

25 Q. And you're familiar with the Integrated Client product.

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1   Are you familiar a tool within that called the DOMTrader?

2   A. Yes, I am.

3   Q. And do you know where the inside market information is in

4   the DOMTrader tool?

5   A. Well, it's generally in the center of the DOMTrader.

6   Q. And are there times when that inside market will move up

7   the ladder or price column?

8   A. Yes.

9   Q. In your experience, has that market window ever moved

10 completely off the price column?

11 A. Well, it can, but it re-centers. So it doesn't go

12 completely off.

13 Q. So it would come back as it moves off, and then it would

14 re-center itself automatically, is that correct?

15 A. Correct.

16 Q. Are you aware of the CQG Integrated Client software having

17 INI files?

18 A. No, not until -- well, not until the deposition where they

19 were asking me about it.

20 Q. Okay. When you say "the deposition," that was the

21 deposition that Trading Technologies took of you?

22 A. Yes.

23 Q. And have you ever modified an INI file in an Integrated

24 Client software product?

25 A. No, not at all.

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1   Q. Has anyone at CQG ever shown you how to modify an INI file

2   of Integrated Client software?

3   A. No, never.

4   Q. Were you recently contacted by someone at CQG to discuss

5   the DOMTrader?

6   A. Yes.

7   Q. Can you describe for the jury what happened?

8   MR. IRWIN: Objection, calls for hearsay, Your Honor.

9   THE COURT: Objection sustained right now. Objection

10   sustained, foundation.

11   BY MS. WYTSMA:

12   Q. Mr. Veselica, did you recently have an opportunity to watch

13   a video of the DOMTrader product being used in a way that you

14   had not seen before?

15   A. Yes.

16   Q. And how was it that you came to watch that video?

17   A. I was contacted by Joe --

18   MR. IRWIN: Objection, Your Honor, hearsay.

19   THE COURT: As to who he was contacted by? Objection

20   overruled.

21   BY THE WITNESS:

22   A. I was contacted by one of their sales reps, Joe Koehnen.

23   THE COURT: Excuse me. One of whose sales reps?

24   THE WITNESS: Oh, I'm sorry. CQG's sales rep.

25   THE COURT: Okay.

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1   BY MS. WYTSMA:

2   Q. And following this call, did Mr. Koehnen show you a video?

3   A. Yes, he brought in a laptop and showed me a podcast or a

4   video of their front end doing something I'd never seen.

5   Q. Can you tell the jury a little bit about the video that you

6   watched?

7   A. Well, it was about a 15-minute -- or maybe a

8   five-to-ten-minute video of how you could take their DOMTrader

9   and make some changes to it to turn the inside market to where

10   it would literally go off the page. So you wouldn't see it

11   anymore. It would either go off the top or the bottom.

12   THE COURT: All right. Counsel, can you clarify?

13   You said "recently." We don't have any time parameters as to

14   when this took place.

15   MS. WYTSMA: Thank you, Your Honor.

16   THE COURT: Thank you.

17   BY MS. WYTSMA:

18   Q. Do you recall when you saw that video?

19   A. It was right around -- it was around the 1st of February.

20   Q. And prior to the 1st of February or thereabouts, had you

21   ever seen the DOMTrader window function in the way that you saw

22   in the video?

23   A. No.

24   Q. Had anybody ever shown you how to modify the product so

25   that it functioned in the way you saw in the video?

1   was a loss, somebody's roof blew off.

2   So that's just a couple examples of kinds of GUIs.

3   Q   Well, you know, how many different GUIs do you think you've

4   created?

5   A   Well, a lot. I've -- there's probably been about a dozen

6   large GUIs like the three that I just talked about that I've

7   pretty much built from the ground up and spent maybe about a

8   year developing those graphical user interfaces.

9   There's been a lot more graphical user interfaces that

10   were sort of smaller that I use either in my research or in

11   class or for personal projects. And those primarily use, you

12   know, sort of GUI tool kits and things like that, maybe on the

13   order of a hundred or so of those.

14   Q   You mentioned GUI tool kits. What's a GUI tool kit?

15   A   So a GUI tool kit is -- well, they're basically building

16   blocks, so there's some premade GUI parts that you can rapidly

17   put together to assemble your graphical user interface.

18   You still have to provide the code for what your

19   application will do. But the building blocks really help you

20   put it together and -- and speed the development of that

21   graphical user interface. Once you've got it, you can

22   customize it. But it's a big help in building graphical user

23   interfaces.

24   Q   Where do these tool kits come from?

25   A   Well, a real common source of them is they tend to be

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1   bundled with operating systems that we use on our computers.

2   So Microsoft produces a good set of graphical -- or

3   GUI tool kits, or those building blocks, and they come with

4   Microsoft Windows.

5   Q   Are tool kits related to this case?

6   A   Absolutely. So CQG's product is -- uses many of the GUI

7   tool kits that come with the Microsoft Windows operating

8   system.

9   Q   Is the DOMTrader and ChartTrader product of CQG's based on

10   Windows?

11   A   It is. They are both Windows programs, Windows

12   applications. And they use the GUI tool kit that's provided by

13   Microsoft.

14   Q   How would the DOMTrader and ChartTrader function in an

15   Apple environment?

16   A   Well, it wouldn't work in an Apple environment. It's

17   designed to run in Windows. And it uses the Windows tool kits.

18   Q   So if someone wanted to buy a CQG product, how would they

19   go about that?

20   A   Well, you could go to the CQG website. Just point your web

21   browser at it, and there's a link to download the software. So

22   you can download it just like you would any other piece of

23   software or app that you might want to use.

24   And then you can sign up for an account with CQG, and

25   then you can run their products and make electronic trades.

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1   Q   And how would you describe GUIs that are based on the same

2   operating system, like Windows, for example?

3   A   Well, it's common for programs that are written for the

4   same operating system to use the GUI tool kits that come with

5   the operating system. So, for example, two programs that are

6   written for Windows would likely use the GUI tool kits that

7   come with Windows, and they'd have a similar look and feel

8   because they're using the same GUI tool kits.

9   Q   Dr. Mellor, this case is about software for the trading

10   industry. What have you done to familiarize yourself with

11   software for the trading industry?

12   A   Well, I met with another expert, a Mr. Steve Van Dusen.

13   He's a professional trader and has more than 15 years of

14   experience with electronic trading.

15   And we had several conversations about trading, and

16   electronic trading in particular. He told me about the --

17   trading in the pits before electronic trading developed. He --

18   we talked about electronic trading and a number of software

19   packages and GUIs that were used in electronic trading, though

20   they're not involved in this case.

21   We also talked about CQG's products. We talked about

22   the kinds of things that a trader would want to know and how

23   they would use those software products.

24   Q   Sir, what was your reaction to what Mr. Van Dusen told you?

25   A   Well, what he told me was consistent with what I already

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1   Q.   And are those your words, sir?

2   A.   Yeah.

3   MR. VOLLER: Thank you.   No further questions at this

4   time, Your Honor.

5   THE COURT: All right.   Thank you.

6   CROSS-EXAMINATION

7   BY MR. SAMPSON:

8   Q.   Good morning, Mr. Prince.

9   A.   Good morning.

10 Q.   My name is Matt Sampson, and I represent TT.   We've met

11 before.   I'm just introducing myself for the record here.

12   Mr. Voller asked you about an e-mail in DTX 2114

13 where you suggested or you made a request about locking the

14 DOMTrader, is that right?

15 A.   Right, right.

16 Q.   And are you familiar with the operation of the DOMTrader?

17 A.   I am.

18 Q.   Did the DOMTrader have -- excuse me.   Did the DOMTrader

19 have different modes?

20 A.   Yeah.

21 Q.   What were they?

22   MR. VOLLER: Objection, Your Honor, beyond the scope

23 of the direct examination.

24   THE COURT: Response?

25   MR. SAMPSON: Your Honor, he asked to explain the

 1 e-mail.

 2   THE COURT: I'll allow some leeway. Overruled.

 3 BY MR. SAMPSON:

 4 Q. What were the different modes of operation of the

 5 DOMTrader?

 6 A. The DOMTrader could be put in like two different modes. So

 7 it could be put in responsive or dynamic.

 8 Q. At CQG, did they have any other names for the responsive

 9 mode?

10 A. Yeah, people --

11   MR. VOLLER: Objection, Your Honor. It goes beyond

12 the scope of the direct.

13   THE COURT: The objection is overruled. You may

14 answer.

15 BY THE WITNESS:

16 A. Yeah, they could call it responsive or static.

17 BY MR. SAMPSON:

18 Q. And did customers of CQG call it the static mode?

19   MR. VOLLER: Objection, Your Honor, calls for

20 speculation.

21   THE COURT: Based on that e-mail, the objection is

22 overruled.

23 BY THE WITNESS:

24 A. Yes, that's what customers called that.

25 BY MR. SAMPSON:

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1 Q. And you said you were aware of the DOMTrader functionality.

2 Were you aware of price selection functionality in the

3 DOMTrader?

4 A. Yes.

5 Q. And can you explain what price selection functionality is?

6 A. Yeah. They would just simply hover their mouse at the

7 price that they're looking at and click it, and their price is

8 selected. So the DOM would remain where it's at.

9 Q. And if you do that step, if you select a price in the DOM,

10 what would the trader see as the bids and offers and the market

11 change?

12   MR. VOLLER: Objection, Your Honor, calls for

13 speculation.

14   THE COURT: Objection sustained.

15 BY MR. SAMPSON:

16 Q. Mr. Prince, you're familiar with how the DOMTrader in the

17 responsive or static mode reacts when market updates come in,

18 right?

19 A. Right.

20 Q. Can you please describe that for the jury?

21   MR. VOLLER: Objection, Your Honor, beyond the scope

22 of the direct examination.

23   THE COURT: Objection overruled.

24 BY THE WITNESS:

25 A. Sorry. You wanted me to explain both modes?

1   BY MR. SAMPSON:

2   Q. No, just the responsive or static mode.

3   A. Oh, okay. So if you put it in the responsive mode, you

4   would see all your prices in the price ladder. Then if the

5   market moved, you would see the bid or ask move up or down,

6   but you would always see the same prices.

7   THE COURT: Keep your voice up, please, sir.

8   THE WITNESS: Sorry.

9   THE COURT: State it again. State your answer again.

10   THE WITNESS: So if it was in responsive mode, all

11 the prices remain the same on the price ladder, and then you

12 would see like the bid or ask move up or down in the window.

13   MR. SAMPSON: Okay. I'd like to just show Mr. Prince

14 PTX 6006.

15   (Brief pause.)

16   MR. SAMPSON: This is a demonstrative that has been

17 used in court, but I want to see if the witness can identify it

18 first, Your Honor.

19   (Brief pause.)

20 BY MR. SAMPSON:

21 Q. Do you see on your screen, Mr. Prince, the version -- I'm

22 sorry -- Plaintiff's Exhibit 6006?

23 A. Yes.

24   MR. SAMPSON: Your Honor, can I publish this to the

25 jury?

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1   THE COURT: Any objection?

2   MR. VOLLER: No objection, Your Honor.

3   THE COURT: All right.

4 BY MR. SAMPSON:

5 Q. So, Mr. Prince, is this -- can you tell us what we're

6 looking at here?

7 A. Yeah, it's a CQG DOMTrader. We're looking at the S&P 500

8 March 2015 contract. There is a price selected at 208-even.

9 Q. So can you explain -- I'm sorry to interrupt, but can you

10 explain to the jury how you know that that's the selected

11 price?

12 A. There's a box around the actual price there of 203800, and

13 it's in responsive mode because none of the prices are moving.

14 Since this price is selected, I'm assuming the market has gone

15 up, and the market view appeared at the top of the best bid and

16 ask.

17 Q. Okay. Are you -- Mr. Voller asked you some questions about

18 a suggestion that you submitted to Genie for Mr. Hess, a

19 question from Mr. Hess, right?

20 A. Right.

21 Q. And can you -- based on your knowledge about the responsive

22 mode with price selection and Mr. Hess' requests, do you know

23 if there's anything in your e-mail exchange that tells you

24 exactly why this solution would not work for Mr. Hess?

25   MR. VOLLER: Objection, Your Honor, calls for

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1   speculation.

2   THE COURT: Objection to the form of the question is

3   sustained.

4   BY MR. SAMPSON:

5   Q. All right. Let me start over. Did you know that this

6   solution would not work for Mr. Hess?

7   A. Yeah.

8   MR. VOLLER: Objection, Your Honor, calls for

9   speculation.

10   BY MR. SAMPSON:

11   Q. How did you know it?

12   THE COURT: Wait, wait, wait. Objection to

13   foundation sustained.

14   BY MR. SAMPSON:

15   Q. All right. We'll step back a little bit. Did you know

16   what kind of trading Mr. Hess was doing?

17   A. He was a spread trader, so he had like synthetic DOMs and

18   then his legs were displayed.

19   Q. Did you know what he wanted to see on his display?

20   A. Yeah, he told me that --

21   MR. VOLLER: Objection, Your Honor, calls for

22   hearsay.

23   THE COURT: All right. Don't get into the substance

24   of the conversation, just "yeah, he told me."

25   BY MR. SAMPSON:

 1   A.   Yeah, I was aware of it.

 2   Q.   And why would that solution not work for Mr. Hess?

 3   MR. VOLLER: Objection, Your Honor, calls for

 4   speculation.

 5   THE COURT: A little more foundation on that,

 6   counsel.

 7   BY MR. SAMPSON:

 8   Q.   Mr. Prince, do you have an understanding as to why the

 9   responsive mode with a price selection would not work for

10   Mr. Hess based on your conversations with Mr. Hess?

11   A.   Yes.

12   Q.   Why wouldn't they work for Mr. Hess?

13   A.   He always wanted the synthetic spread DOMs to have even

14   money at the middle, and he only wanted to see certain price

15   levels at all times.

16   Q.   And so what's the problem with price selection if you

17   wanted to see all the price levels?

18   A.   So if he just selected even money and the market went up or

19   down, those market views that we saw on the video would pop up

20   on the top or the bottom of his DOM. So then he's losing his

21   entry points of his prices that he wanted to see.

22   THE COURT: Again, the end of your answer?

23   THE WITNESS: Yeah. So if he selected the price of

24   like zero, to have that in the middle, if the market went up or

25   down on his price ladders, then he would see those market view

Page 2001

1   windows at the top or the bottom, and that's not what he wanted

2   because he specifically said that he wanted to see --

3   BY MR. SAMPSON:

4   Q. So you're saying that the market window itself would cover

5   up price levels that this trader was interested in seeing at

6   all times.

7   A. Right, right.

8   Q. Okay. So you've described price select functionality. Did

9   you see people using the price select functionality?

10   A. Yeah.

11   Q. In the responsive DOM?

12   A. Yeah.

13   Q. Did you use it yourself?

14   A. Yeah.

15   Q. How often did you see people using it?

16   A. Quite often.

17   Q. Were you aware of the ability to hover a cursor or mouse in

18   the DOM?

19   MR. VOLLER: Objection, Your Honor, beyond the scope

20   of the direct examination.

21   MR. SAMPSON: It just goes to his knowledge about the

22   DOMTrader, Your Honor.

23   THE COURT: This is part of the DOMTrader. The

24   objection is overruled.

25   BY MR. SAMPSON:

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1   Q.   So in the DOMTrader, you're familiar with the hover

2   functionality?

3   A.   Sure, yeah.

4   Q.   How does that work?

5   A.   You just move your mouse over like a price that interests

6   you, and it would hold that area for you, like that row.

7   MR. SAMPSON: Can we put up DTX 6006 again?   Maybe we

8   can use that to give an example.   Can we publish that?

9   (Brief pause.)

10 BY THE WITNESS:

11 A.   So instead of that 203800 actually being selected, like if

12 I were to move my mouse over that price, it would temporarily

13 hold it there so I could get my order in there.   But if I move

14 my mouse back off that window, then it's just going to go back

15 to the normal operation.

16 BY MR. SAMPSON:

17 Q.   So you could put the mouse cursor on either the buy side or

18 the sell side of that price anywhere in the row?

19 A.   Right, right.

20 Q.   And it would hold that price?

21 A.   Yeah.   If the market went a couple of ticks around or

22 whatever, like you could still get it in there.

23 Q.   And did you describe this hover functionality to customers

24 of CQG?

25 A.   On occasion, yeah.

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1   Q.   And did customers actually use that functionality?

2   A.   Yeah.

3   MR. VOLLER: Objection, Your Honor, calls for

4   speculation.

5   THE COURT: Objection sustained as to whether they

6   used it.

7   BY MR. SAMPSON:

8   Q.   Did you see customers using that functionality, Mr. Prince?

9   A.   Yeah.

10 Q.   Did you use it yourself?

11 A.   Yeah.

12 Q.   Are you familiar with the INI files associated with

13 DOMTrader?

14 A.   I am.

15 Q.   What are INI files?

16 A.   There's like configuration files that are like on the local

17 PC of where the Integrated Client or CQGTrader is installed,

18 and they just hold like the settings that are set for, you

19 know, how the software acts when you load it.

20 Q.   And did you ever modify INI files in CQG's DOMTrader?

21 A.   On occasion, yeah.

22 Q.   And for what purpose do you recall doing that?

23 A.   I worked on like the FCM desk at one point, and there was

24 like work around for some bug for the time being. So they

25 changed like the throttling or something. Then on occasion I

1   changed the default number of rows that would show up on the

2   DOM.

3   Q.   Okay. Was that a common way to set up the DOMTrader

4   functionality for traders?

5   MR. VOLLER: Objection, Your Honor, beyond the scope

6   of the direct, calls for speculation.

7   THE COURT: Lack of foundation, objection sustained.

8   BY MR. SAMPSON:

9   Q.   Mr. Prince, in your role as a customer support

10   representative for CQG, did you talk with traders on how to set

11   up their DOMTraders?

12   A.   Yeah.

13   Q.   Regularly? Was that a regular part of your job?

14   A.   Yeah.

15   Q.   So did you know whether it was common or not for traders to

16   specify a certain number of rows in their trading?

17   MR. VOLLER: Objection, Your Honor, to the form,

18   calls for speculation.

19   THE COURT: The form of "common," sustained.

20   BY MR. SAMPSON:

21   Q.   Based on your experience dealing with traders, Mr. Prince,

22   do you know whether traders had a preference for a certain

23   number of rows in their trading?

24   A.   Some did, yeah.

25   MR. VOLLER: Objection, Your Honor. Same objection.

 1   THE COURT: It will stand.

 2   BY MR. SAMPSON:

 3   Q. How about --

 4   THE COURT: Overruled.

 5   MR. SAMPSON: I'm sorry, Your Honor.

 6   THE COURT: Overruled.

 7   MR. SAMPSON: Thank you.

 8   BY MR. SAMPSON:

 9   Q. How about Mr. Hess? He had a preference for a certain

10   number of rows?

11   A. Yeah.

12   Q. And how many did he prefer?

13   MR. VOLLER: Objection, Your Honor, calls for

14   speculation and hearsay.

15   THE COURT: Foundation, sustained.

16   BY MR. SAMPSON:

17   Q. Okay. Lastly, do you know where Mr. Hess traded?

18   A. Yeah, he was a spreader over at Advantage.

19   Q. Did Advantage traders have access to all the CQG DOMTrader

20   functionality?

21   MR. VOLLER: Objection, Your Honor, speculation,

22   foundation.

23   THE COURT: Where are we going with this? It sounds

24   like we are going a little bit beyond.

25   MR. SAMPSON: No, it relates to the e-mail they put

1   up about lock the DOM.

2   THE COURT: All right. Proceed.

3   BY MR. SAMPSON:

4   Q. Did Advantage traders have access, Mr. Prince, to all the

5   CQG DOMTrader functionality?

6   A. Like some other firms, they had like some limitations or

7   whatnot that, you know, had to be set for all their traders.

8   Q. Okay. Could traders at Advantage use the responsive DOM

9   with fast-click?

10   A. No, everyone in there had to use like an order confirmation

11   screen to like get through to place their orders.

12   Q. Or they could use the dynamic window, right?

13   A. Yeah.

14   Q. And were you aware that Advantage had agreed to honor TT's

15   patents?

16   A. Not that I remember.

17   MR. VOLLER: Objection, Your Honor. This is well

18   beyond the scope.

19   THE COURT: He said no, he doesn't. Objection

20   overruled.

21   BY MR. SAMPSON:

22   Q. Okay. When you were at CQG, did you train traders on how

23   to use the DOMTrader?

24   A. Yeah.

25   Q. And you trained them on the functionality that we talked

Page 2007

1   about before, the price selection functionality?

2   A.   Yeah.

3   Q.   And the hover functionality?

4   A.   Uh-huh.

5   MR. VOLLER: Objection, Your Honor.

6   THE COURT: Is that a yes?

7   THE WITNESS: Yes.

8   THE COURT: I'm sorry. What was that, Mr. Voller?

9   MR. VOLLER: It's beyond the scope of the direct

10   examination, Your Honor.

11   THE COURT: Objection overruled.

12   MR. SAMPSON: Nothing further. Thank you,

13   Mr. Prince.

14   THE COURT: All right. Redirect?

15   MR. VOLLER: No questions, Your Honor.

16   THE COURT: All right. You may step down, sir.

17   Thank you.

18   THE WITNESS: All right. Thanks.

19   (Witness excused.)

20   THE COURT: For the parties, will somebody approach

21   before I take my break?

22   (Discussion at sidebar on the record.)

23   THE COURT: Do you want to do this now?

24   MR. CARDEN: If Mr. Peterson is going on, yes.

25   THE COURT: All right.

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1   (Discussion at sidebar concluded.)

2   THE COURT: Ladies and gentlemen, before we have the

3 next witness come up, the Court is going to give you an

4 instruction that you must have as you go on to hear the

5 evidence today.

6   There was evidence that was requested from TT -- from

7 CQG by TT, and at this time you are instructed that CQG failed

8 to preserve the information from a data set called the customer

9 experience logs. These logs contained information about both

10 the disabling of confirmation windows and the selection or lack

11 of a selection of a price by users in the accused products.

12   Due to the failure to preserve by CQG, you may infer

13 that the data would have been unfavorable to CQG's positions

14 and favorable to TT's positions regarding the disabling of

15 confirmation windows and the selection or lack of selection of

16 prices by users in this case.

17   That instruction only goes to the customer experience

18 logs and the data sets surrounding that. There's a lot

19 involved in this case, but that instruction goes to that

20 particular evidence that was not provided. All right?

21   All right. The next witness is?

22   MR. MILLER: CQG calls Mark Peterson.

23   THE COURT: All right, Mr. Peterson. As Mr. Peterson

24 steps up, he's a consultant with Robinwood Consulting. He'll

25 be testifying about damages.

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1   (Witness duly sworn.)

2   THE COURT: Step up, sir, and the best way to enter

3   is the other way. You've got it. There you go. That water is

4   there for you, and serve yourself. Wait until each question is

5   fully asked before you answer. There may be objections that

6   the Court would like to rule on. Thank you.

7   THE WITNESS: There's binders from a prior witness.

8   THE COURT: Don't worry about the binders.

9   THE WITNESS: Okay.

10   THE COURT: You can come up and get it if you want,

11   Mr. Carden.

12   (Discussion off the record.)

13   THE COURT: Anytime you're ready.

14   MR. MILLER: Thank you, Your Honor.

15   MARK PETERSON,

16   DEFENDANTS' WITNESS, DULY SWORN,

17   DIRECT EXAMINATION

18   BY MR. MILLER:

19   Q. Good morning, Mr. Peterson.

20   A. Good morning.

21   Q. You and I have obviously met, but for the benefit of the

22   jury, let me introduce myself. My name is Don Miller. I'm an

23   attorney for CQG.

24   Mr. Peterson, are you here today to discuss damages

25   in the event the jury finds infringement?

1   that a little bit, essentially that was about a hundred and --

2   I don't know, over a hundred CDs that had data. And it was

3   tough to work with. And all of the necessary information that

4   had even more information than the pivot table, but it was

5   missing certain information that was more useful in the pivot

6   table. So Mr. Sims nor I actually used the gateway transaction

7   data, but there was a lot of it.

8   Q   Could you describe what the customer experience logs is.

9   A   Sure. The customer experience logs were basically a

10   snapshot of a trader's computers when it crashes. So if you

11   think about any time your computer crashed, it would just take

12   a picture of everything that was going on at that moment. And

13   so Mr. Sims said he didn't use the customer experience logs.

14   We didn't find them to be useful. They were sort of a sample

15   of a sample of a sample. And as a result, didn't yield any

16   information that would help us really sort out the damages in

17   the case.

18   Q   Was there any information that you needed in the customer

19   experience logs that you wished that you had in order to

20   perform your analysis?

21   A   No. They -- as I said, they were just set up when

22   people's computer crashed, so they weren't really a large

23   sample over all time. And I don't think they ever had them for

24   the entire time period. So I never would have used them under

25   normal circumstances.

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1   Q   Was there any information in the customer experience logs

2   that you needed in order to calculate your base or your rate?

3   A   No.

4   Q   Did Mr. Sims to your knowledge rely on or consider the

5   customer experience logs?

6   A   Well, I know he didn't rely on them. I don't know what he

7   did with respect to considering.

8   Q   From, from this data how did you then determine the

9   appropriate base was 178 million as opposed to 669 million?

10   A   Well, I think you have to start with the pivot table,

11   which is this huge group of transactions. And if you think

12   about it, this was -- all of the data in the pivot table

13   amounted to 741 million trades. So if we think about it as

14   that's the -- all the data that's in the pivot table. And it's

15   741 million trades over a 10 plus year time period.

16   Q   All right. Is that what you intend to represent by this

17   slide?

18   A   Yes.

19   Q   On your screen now.

20   A   And we'll walk through how that breaks down.

21   Q   Were you able to determine from Mr. Sims' report a number

22   of trades or an amount of trades that TT was not making a claim

23   to?

24   A   Yes. We just talked about the 669 million trades that

25   they were claiming. So the difference is about 72 million

1   trades that were not claimed by TT. So they're part of the

2   741 million, but they are basically unclaimed. TT isn't

3   accusing them of anything.

4   Q   So once you subtract the 72.4 million from the

5   741 million, can you describe to the jury what you have left

6   and what does that represent.

7   A   That represents what Mr. Sims has included in his royalty

8   base. So these are all the trades that he included in his

9   base.

10   Q   And of those -- why did you not adopt Mr. Sims' base of

11   669.4 million trades?

12   A   Well, the 669.4 million trades also include a lot of

13   trades that are not entered using the accused interfaces. Or

14   another way of saying it, they're not directly getting the

15   benefits of the patented invention. And Mr. Sims had some

16   schedules which, in fact, calculated those.

17   Q   All right. Let me take a step back. Could you describe

18   to the jury what that 669.4 million trades represents?

19   A   Well, it represents two groups of trades. Trades that are

20   entered in an accused interface and trades that are actually

21   entered in a nonaccused interface.

22   Q   All right. And of those 669 million trades, how many are

23   entered in an accused interface and how many are not?

24   A   Using Mr. Sims' analysis, we'll break it down further.

25   But his schedules from his report and trial schedules show that

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1 became HR manager of people for just one year until 2009.

2 Since 2009, I hold my current position as a client system

3 owner.

4 Q. I want to start with the original position you identified,

5 software developer in 1998.

6   Can you tell the jury what you did as a software

7 developer?

8 A. I wrote code, I wrote requirements, designed

9 implementation associated with the code.

10 Q. Sir, are you familiar with the DOMTrader?

11 A. Yes.

12 Q. And how are you familiar with it?

13 A. From my own experience as a developer. Then as a project

14 manager and system owner.

15 Q. And do you know who developed the very first DOMTrader?

16 A. Yes.

17 Q. Who developed it, sir?

18 A. It was myself, Andrei Nikulin, with the help of Mr. Mather

19 and Mr. Shterk.

20 Q. And in that very first DOMTrader, are you familiar with

21 the concept of the Market Window?

22 A. I am.

23 Q. And remind us what the Market Window is.

24 A. So the Market Window is a portion of the DOM grid that is

25 responsible for showing inside market, when the price is

1 selected and the inside market is about to leave a display, a

2 visible portion of the display.

3 Q. Now, as a software developer, team lead, project manager,

4 and system owner, are you familiar with the DOMTraders that

5 have existed since the very first one in 2004 to the present?

6 A. Yes.

7 Q. And has that functionality that you just described about

8 the Market Window, has that changed from version to version?

9 A. That core functionality didn't really change. It stayed

10 the same.

11 Q. Are you aware of a time when the Market Window could be

12 configured to be larger than the DOMTrader?

13 A. Yes.

14 Q. Okay. And when that happened, what was the result of

15 that?

16 A. The result of that would be that Market Window is not

17 shown in the cases when it shall be shown.

18 Q. And do you know when CQG became aware of this behavior?

19 A. Yes. We became aware of that in 2010, and we fixed that

20 defect right away.

21 Q. So you just used the word defect. Why did you call it a

22 defect?

23 A. I called it a defect because it violates the very core

24 requirement associated with a Market Window.

25 Q. Okay. You've also used the word requirement now at least

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1 once, if not twice. Can you tell us what a requirement is?

2 A. Sure. So as part of the developing of our product,

3 developers took -- had conversations with the business people,

4 and they captured statements that describe functionality of

5 the product we are trying to develop in the requirements.

6 Those statements that we take from business and we put it as

7 requirements, and they generally describe what product we are

8 trying to build.

9 Q. So does that mean it's the intended functionality of the

10 software?

11 A. Yes.

12   MS. KURCZ: Objection. Form.

13   THE COURT: To the form, the objection is overruled.

14   Proceed.

15 BY MR. VOLLER:

16 Q. Now, is there a particular requirement that this defective

17 behavior doesn't follow?

18 A. Yes, there is -- there are requirements that the defect

19 doesn't follow.

20 Q. Let's take a look and show Mr. Katin only PTX 196, please.

21   Mr. Katin, have you seen this document before?

22 A. Yes.

23 Q. Okay. Let's go to page 2.

24   All right. Have you seen the attachment here?

25 A. I have seen them before, yes.

1 you to restart the software to proceed with your work.

2 Q. Is there any real world examples that you are aware of

3 that are similar to that?

4 A. It's like Microsoft Word can just disappear from your

5 screen and you have to restart it in order to proceed with

6 your work.

7 Q. Okay. Let's change gears. Let's talk about INI files.

8   Mr. Katin, are you aware of INI files that exist in

9 the Integrated Client?

10 A. Yes.

11 Q. And can you just explain briefly what an INI file is?

12 A. So an INI file is a text-based file that contains certain

13 configuration settings for the software in it, and when the

14 software reads that INI file, it uses them, the settings from

15 the INI file, for its own configuration.

16 Q. And based on your experience, how does CQG use these INI

17 files?

18 A. Based on my experience, developers use INI files for the

19 testing purposes.

20 Q. Can you give the jury a simple example of a parameter or

21 setting that might be saved in an INI file?

22 A. Sure. We are talking about DOMTrader mostly here, so, for

23 example, part of the INI file is last traded symbol parameter.

24 So whenever you, for example, trade gold and you close your

25 DOMTrader, next time you open your DOMTrader, it will be gold

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1   that will appear on your screen. Then if you change it to

2   crude oil, for example, and close the DOMTrader, the next time

3   you open it, it will be crude oil.

4   Q. Okay. Thank you.

5   Are you aware of any INI files in the Integrated

6   Client that controlled whether a Market Window would appear?

7   A. Yes, I am.

8   Q. Okay. And which versions of Integrated Client had an INI

9   file that controlled the appearance of the Market Window?

10   A. It's from beginning until early 783 versions, so roughly

11   one year time period.

12   Q. Do you know the years at issue?

13   A. 2005 I think it was removed.

14   Q. Okay. So 2004 to 2005 in Integrated Client?

15   A. Yes.

16   Q. Okay. And do you know which INI file? What was the name

17   of it that allowed this behavior?

18   A. It's order.ini file.

19   Q. Now, we talked about parameters and settings in these INI

20   files. What was the name of the setting or parameter that

21   controlled the appearance of the Market Window?

22   A. The name of that particular setting is Market Window auto

23   appear.

24   Q. Okay. Let's show Mr. Katin only a copy of DTX 2345.

25   Do you recognize this document?

Page 2195

 1 A. Yes.

 2 Q. How do you recognize it?

 3 A. I pulled it from our database.

 4 Q. Okay. And what are you looking at?

 5 A. We are looking at order.ini file sample.

 6 Q. And do you know what version of Integrated Client this

 7 came from?

 8 A. I do. It's version 7.2805.

 9 Q. Okay.

10   MR. VOLLER: Your Honor, permission to publish this

11 to the jury?

12   MS. KURCZ: No objection, your Honor.

13   THE COURT: All right. You may publish.

14 BY MR. VOLLER:

15 Q. So this is an INI file? We have finally seen it.

16 A. This is a sample INI file, yes.

17 Q. Finally seen one, okay.

18   Does this INI file include that Market Window auto

19 appear parameter?

20 A. Yes, it does as line number 10 in this document.

21 Q. Okay. Could we highlight the tenth row where it says

22 Market Window Auto Appear all the way to the 1? Perfect.

23   So what we highlighted, is that what you're referring

24 to?

25 A. Yes.

Page 2215

 1 A. Yes.

 2 Q. And if you look at the second, if we could go down to

 3 200410, that's from October of 2004, right?

 4 A. Yes.

 5 Q. Okay. And this is a summary of all transactions on a

 6 monthly basis through CQG software, right?

 7 A. It looks like it, yes. It is that.

 8 Q. And so it's true that this summary doesn't look accurate,

 9 correct?

10 A. I believe it's the most accurate information that is in

11 CQG's possession.

12 Q. But you would expect more than zero filled lots in October

13 of 2004, correct?

14 A. I am not a trader. I don't know what could happen in

15 October 2004. Maybe we had our servers down hypothetically.

16 I really cannot comment on that.

17 Q. For the whole month?

18 A. I have reasons to believe that we provided most accurate

19 information by the time of September 2013.

20 Q. But you would believe that there should be more than zero

21 transactions in the month of October, right?

22   MR. VOLLER: Asked and answered, your Honor.

23   THE COURT: Objection sustained. It has been

24 answered. He is not a trader.

25 BY MS. KURCZ:

1   Q. Okay. And just to refresh your recollection, if we could

2   go to page 56 of your transcript, lines 17 through 20. And

3   the question posed was: Would you expect there to be more

4   filled lots than that in October of 2014?

5   "ANSWER: Personally, I would expect some filled lots."

6   And those were your answers?

7   A. Yes, that was my answer. And it was my personal opinion,

8   personally, I would expect some lots filled in October 2004.

9   Q. Last topic, Mr. Katin. You heard the term customer

10 experience data, right?

11 A. Yes.

12 Q. And customer experience data at CQG saves users'

13 preferences upon exiting of CQG IC right?

14 A. It does for certain sample of users, for certain amount of

15 users.

16 Q. Okay. And customer experience data includes whether or

17 not a trade was made with or without a confirmation window,

18 right?

19 A. Part of customer experience data contains the log file

20 that would have this information inside the log file, but it

21 will be incomplete and inaccurate to say that customer

22 experience has all this information, because I, like Mr. --

23 Q. Mr. Katin, I am just trying to get what is in that data,

24 and that would be one of the things that was in the data,

25 right, whether or not there were confirmation windows on when

Page 2217

1   a trade was entered?

2   A.   There is some data associated with confirmation dialogs

3   inside customer experience, yes.

4   Q.   It would also track whether or not a price was selected

5   when an order was entered?

6   A.   For certain versions since 2010, yes --

7   Q.   And --

8   A.   -- there is.

9   Q.   And customer experience data could also track the size of

10   a user's DOMTrader when they close their program, correct?

11   A.   Yes, it has also this data.

12   MS. KURCZ: No further questions.

13   THE COURT: Thank you.   Redirect.

14   - - -

15   MAXIM KATIN, REDIRECT EXAMINATION

16   BY MR. VOLLER:

17   Q.   Mr. Katin, how many -- what percentage of CQG's customers

18   that utilize Integrated Client are signed up for customer

19   experience?

20   A.   Roughly 10 percent, and I think in reality, less than

21   that.

22   Q.   You were asked some questions -- you were asked some

23   questions about this document right here.   Do you remember

24   that, Mr. Katin?

25   A.   Yes.

Page 2218

1   THE COURT: I need reference to what this document

2   is.

3   MR. VOLLER: Sorry, your Honor.

4   THE COURT: We have a few too many in this case.

5   MR. VOLLER: I understand. That was my fault. I

6   should have mentioned it right away.

7   This is Defendant's Trial Exhibit No. 2077.

8   THE COURT: Okay.

9   BY MR. VOLLER:

10   Q. And this was used on direct by Mr. Kurcz. Do you remember

11   that, Mr. Katin?

12   A. Yes, I do.

13   Q. And do you remember that she pointed out some deposition

14   testimony from I think it was two years ago, and do you

15   remember testifying during that deposition:

16   "QUESTION: Do you know why the transaction data would

17   show no filled lots for the month of October 2004?"

18   MS. KURCZ: Your Honor, objection to the form of the

19   question.

20   THE COURT: One second. Objection's overruled at

21   this time. He's just going over what you went over on your

22   questioning.

23   Proceed.

24   MR. VOLLER: Thank you, your Honor.

25   BY MR. VOLLER:

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1   THE COURT: All right. We had some objections for

2   the next witness?

3   MS. WYTSMA: Correct. Your Honor, you may recall

4   that we filed a motion in limine -- and this was motion in

5   limine number 4 -- relating to settlement-related

6   communications. I have copies of the order and the motion, if

7   I can hand those up.

8   THE COURT: You can.

9   MR. CARDEN: (Handing document to the Court.)

10   THE COURT: Okay.

11   MR. CARDEN: In the motion, we discussed the fact

12   that several exhibits that plaintiff had designated related

13   directly to internal communications regarding settlement

14   positions, analysis done in preparation for settlement

15   conferences with Magistrate Judge Schenkier. The motion cited

16   to the case of Lyondell Chemical versus Occidental. This is

17   page 1 of our motion:

18   "Rule 408 extends to legal conclusions, factual

19   statements, internal memoranda, and the work of non-lawyers and

20   lawyers alike."

21   The Court reserved ruling on our motion and indicated

22   that it would take up the issue on an exhibit-by-exhibit basis,

23   and now we're at that point.

24   THE COURT: Actually, you can put that down. Just

25   bend it down. We don't need the extra volume because of the

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 1   jurors.

 2   MS. WYTSMA: Okay.

 3   THE COURT: All right.

 4   MS. WYTSMA: So the first exhibit that Mr. Carden

 5   intends to use that we believe is protected Rule 408 is a

 6   June 20th, 2011 e-mail from Mr. Fischer, who as you know is now

 7   deceased, to Mr. Schroeter. This is an e-mail that followed a

 8   May 25th settlement conference with the magistrate judge, and

 9   this is internal analysis from Mr. Fischer to Mr. Schroeter

10   discussing his understanding of TT's argument and his thoughts

11   on those arguments.

12   We would object to that as hearsay. Mr. Fischer

13   cannot be here to tell us why he believed this and the reasons

14   he believed this, but it is his follow-up analysis specifically

15   related to a settlement conference occurring the month before

16   and which was going to be continued to another date to allow

17   the parties to exchange additional information and thoughts.

18   I can just go through the three documents, and then

19   maybe we can do it as a group. The second document is Exhibit

20   -- I'm sorry. If I didn't mention it, the one I was just

21   referring to was Plaintiff's Trial Exhibit 335. The second

22   document that we object to under Rule 408 is Plaintiff's Trial

23   Exhibit 336. This is a May 27, 2011 e-mail from Mr. Fischer to

24   Mr. Schroeter again. This is an e-mail that was --

25   THE COURT: Hold on a second. If you want to pop

Page 2225

1   that up on the screen for me, thank you.

2   MR. CARDEN: I've got it. I can put it on the ELMO.

3   Have you got it?

4   THE COURT: Thank you.

5   MR. CARDEN: That's 335.

6   THE COURT: That one I have.

7   MS. WYTSMA: It's 336.

8   (Brief pause.)

9   MS. WYTSMA: And can we pop up the top?

10   (Brief pause.)

11   MS. WYTSMA: This is a May 27 --

12   THE COURT: I've got that one.

13   MS. WYTSMA: -- a May 27 e-mail. This is just two

14   days after the mediation occurred, and it's clear that they're

15   talking about settlement-related issues. Mr. Schroeter's

16   e-mail to Mr. Fischer says:

17   "Their price point for loyalty incensed us to

18   litigate."

19   It's clear that this is a follow-up on the settlement

20   conference, an additional analysis. Mark Fischer's e-mail at

21   the bottom of that page talks about the arguments and what's

22   persuasive or not. It all comes directly out of a settlement

23   conference two days earlier.

24   The last document, I think, is even easier.

25   THE COURT: But there's not a mention of the

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1   settlement in that document, though.

2   MS. WYTSMA: There's not a mention.

3   THE COURT: You're saying it's a continuation of a

4   settlement conference or comments made at a settlement

5   conference, but the references to it being a settlement

6   conference are not contained therein.

7   MS. WYTSMA: They're not contained within the

8   document. There was an ongoing process that began with the

9   May 25th settlement conference, but there were a number of

10 follow-up conferences. The Lyondell case talks about the

11 protection extending to internal memoranda of non-lawyers if

12 they were intended to be part of negotiations towards

13 compromise. These e-mails were created in an effort to

14 understand TT's arguments as a part of a process towards

15 compromise under a court-ordered mediation process.

16   The last exhibit, this is Plaintiff's Trial Exhibit

17 338. It specifically says in the re line "settlement, summary

18 of TT damages and settlement." This is a document that

19 preceded the May 25th settlement conference, and it's pretty

20 clear that this is a document that was prepared in preparation

21 for that settlement conference.

22   So under Rule 408 as well as the Lyondell Chemical

23 case that we cited in our motion in limine, we would ask to

24 have those documents excluded during Mr. Schroeter's

25 examination.

1   MR. CARDEN: Certainly, Your Honor. First of all, if

2   we start with 335 and 336, I think as the Court properly

3   pointed out, there's no references in those to being related to

4   the settlement. Mr. Fischer was not involved in those

5   settlement discussions. He was providing -- essentially, as

6   the deposition testimony points out, he was continuing to

7   provide guidance, even as a non-lawyer, internally at CQG about

8   issues.

9   THE COURT: So TT's position is this was not during a

10 time that settlement was being discussed, and this would not

11 have related at all to settlement talks.

12   MR. CARDEN: No, our position is that they can't

13 simply say that because there was a period where settlement was

14 being discussed, every internal communication directly relates

15 to that, especially when it doesn't indicate that that's what

16 it's about. Mr. Schroeter's and Mr. Fischer's analyses of the

17 strength of their argument, there's no suggestion here that

18 he's preparing something for purposes of the settlement.

19   THE COURT: And Mr. Fischer is no longer with us.

20   MR. CARDEN: Mr. Fischer is no longer with us,

21 agreed. Mr. Schroeter is on these communications, however.

22   THE COURT: Yes. But my point is you're saying that

23 Mr. Fischer didn't have anything to do with the settlement,

24 that this wasn't about the settlement, but he's the one who

25 could really tell us other than Mr. Schroeter, right?

1   MR. CARDEN: He has told us. He's given his

2   impression in the documents, and he's not available here to

3   testify about it.

4   MS. WYTSMA: For that reason, we would also make the

5   objection under 403 that it's prejudicial because we can't

6   bring the author of these documents into court. It's already

7   been established, I think, before the jury that he was at one

8   point counsel of record. In fact, we heard him talking from

9   the grave, unfortunately, during one of the videos. So they

10 know he was at one time counsel of record in this case. So

11 it's unfairly prejudicial.

12   THE COURT: So do you really think with all the

13 counsel --

14   MS. WYTSMA: No.

15   THE COURT: Thank you.

16   MS. WYTSMA: No.

17   THE COURT: -- on this case that they remember who

18 the counsel of record was? I don't think so.

19   MS. WYTSMA: But here's the problem, too. If

20 Mr. Carden is allowed to use these exhibits with Mr. Schroeter,

21 in order to respond to these e-mails, it will be necessary for

22 Mr. Schroeter to testify what he did in response to receiving

23 these e-mails, and that's going to involve conversations he had

24 with trial counsel, Nina Wang, and what she said about these,

25 and the fact that she didn't agree with Mr. Fischer. Then that

1   opens a whole other can of worms. So if we go down this path,

2   we're just getting so off the course.

3   Mr. Carden can ask Mr. Schroeter what he thought as

4   president of this company during this time period. We're not

5   suggesting that everything that happened during that time

6   period is somehow privileged. But in terms of whether, you

7   know, the documents relate to settlement, the trial exhibit,

8   Plaintiff's Trial Exhibit 336 couldn't make it any clearer.

9   There's a court-ordered settlement conference on the

10   25th. This is the 27th, and it's talking about, you know, what

11   the TT arguments were and trying, you know, trying to respond

12   to the things that came out of that settlement conference. So

13   I think if read in context and within the chronology of the

14   events, it's pretty clear that this is the type of internal

15   memoranda that the case law says is part of a process to

16   facilitate settlement.

17   THE COURT: All right. Mr. Carden, last word.

18   MR. CARDEN: Sure. 336 is a very interesting example

19   because it points out exactly what Mr. Wytsma said before. If

20   we're going to ask him about what his thoughts were, 336

21   contains them.

22   THE COURT: Okay. Again, 336 is the e-mail that's up

23   now.

24   MR. CARDEN: That's correct, Your Honor.

25   THE COURT: Where are you all getting 336 on this?

1   MR. CARDEN: It's at the very bottom, PTX 336-001,

2   the bottom right-hand corner, Your Honor.

3   THE COURT: Oh, okay.

4   MR. CARDEN: Sorry.

5   THE COURT: It's not on the one I'm looking at.

6   MR. CARDEN: Oh, I'm sorry.

7   THE COURT: All right. I was just confused.

8   MR. CARDEN: So this contains Mr. Schroeter's

9   analyses of things. Again, there is not a mention that this

10   discussion is being had in furtherance of the settlement

11   discussions.

12   THE COURT: Well, okay. The Court is reviewing this

13   while I've been listening to you, and I do also see the

14   language. I agree with your assessment yesterday. If the

15   timing is that this was right after the settlement talks, an

16   assessment was made yesterday they're still talking about

17   things in that way, coupled by the fact that Mr. Fischer is no

18   longer with us and we can't know for sure, the Court is not

19   going to allow this in. All right?

20   MS. WYTSMA: Thank you. Just to preserve the record,

21   I want to renew our objection to --

22   MR. CARDEN: I'm sorry. Before you go on, I want to

23   make sure. Did that extend to all three documents then?

24   THE COURT: What's the other documents again?

25   MR. CARDEN: 335.

1   THE COURT: Which is?

2   MR. CARDEN: This is the June 10th e-mail.

3   THE COURT: June 20th?

4   MR. CARDEN: June 20th, yes.

5   MS. WYTSMA: This is one where they're again

6   communicating after the settlement conference. For example,

7   I'm looking at the paragraph right underneath the box, you

8   know, and it talks about one argument could be -- it says:

9   "Now I suppose that they will argue that for the

10   middle" -- and it goes on.

11   So it's going back and forth, you know, what they're

12   going to argue based on the settlement conference and our

13   response. You know, the re line is "understanding the

14   infringement argument." What they're trying to understand is

15   what TT disclosed during a settlement conference less than a

16   month before this e-mail was written.

17   THE COURT: Your objection to that one is overruled.

18   MS. WYTSMA: Okay. Then the last one says

19   "settlement" right in the re line. This is a document that --

20   THE COURT: Sustained.

21   MS. WYTSMA: Thank you.

22   THE COURT: Anything else?

23   MS. WYTSMA: Yes. I just wanted to preserve the

24   record. It's an e-mail we've dealt with extensively. I don't

25   think we needed to address it, but it's Plaintiff's Trial

1 Q. And what was your first position with the company?

2 A. I didn't really have a position with the company when I

3 first started. I was there to just help, help Mr. Mather, I

4 guess, organize the company more like a company. Then after

5 several years -- I'm not sure when honestly -- I became the

6 president of the company.

7 Q. Now, did you serve in any legal capacity while employed at

8 CQG?

9 A. No, I didn't.

10 Q. In fact, did you still have your law license at the time

11 you worked for CQG?

12 A. No, my law license had expired.

13 Q. Now, you mentioned that when you practiced as an attorney

14 you worked with teachers and school districts, is that correct?

15 A. Yes, that was the biggest part of our practice.

16 Q. When you were a practicing attorney, did you ever handle

17 any patent cases?

18 A. No.

19 Q. Did you ever handle any intellectual property cases?

20 A. No, I didn't.

21 Q. When you were in law school, did you take any patent cases?

22 A. No.

23 Q. Did you take any intellectual property cases?

24 A. No, I didn't.

25 Q. Prior to the time you joined CQG, did you have any

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1   familiarity with the patent laws or the patent process?

2   A.   No, I did not.

3   Q.   Now, in May of 2003, did you become aware of the patents

4   being asserted by Trading Technologies -- I'm sorry -- patent

5   applications being prosecuted by Trading Technologies?

6   A.   Yeah. It was some time around then that we at CQG became

7   aware of the patent applications that TT had filed.

8   Q.   And how did you become aware of that?

9   A.   I believe that one of our staff, Ernie Popke, forwarded

10 them to me. At that time, I didn't read them myself, but I

11 read the summary enough to understand they were for patent

12 applications that had to do with trading systems in futures,

13 and that was about it.

14   I became concerned enough to at least raise the issue

15 of, you know, we probably should pay attention to these

16 applications because, number one, I had heard at least about

17 how complex and sophisticated patent issues could be, but the

18 other thing is that we just, I think, as a company were pretty

19 conservative about intellectual property issues and just

20 respecting the rights of others.

21   MS. WYTSMA: Let's go ahead and show the jury

22 Plaintiff's Trial Exhibit 280. Can we go to the top and show

23 the date?

24   (Brief pause.)

25 BY MS. WYTSMA:

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1   Q. Now, is that an e-mail that you received on May 2nd of 2003

2   from Brian Vancil?

3   A. Yes, it is.

4   Q. And is this the first time that you became aware of TT's

5   patent applications?

6   A. Yes.

7   MS. WYTSMA: Why don't we scroll down just a little

8   bit so we can see Mr. Schroeter's e-mails.

9   (Brief pause.)

10   BY MS. WYTSMA:

11   Q. You said you had received the applications from Mr. Popke,

12   is that correct?

13   A. Yes, that's right.

14   Q. Now, this is your response after receiving the applications

15   from Mr. Popke?

16   A. Yes, that's right.

17   Q. Now, in that first sentence, you say:

18   "This is a very serious threat to us if they are

19   granted."

20   What did you mean by that?

21   A. I simply meant that as far as I understood from just the

22   summary of them, they were in the futures industry area as well

23   as they had to do with trading systems. So I wanted to raise

24   essentially the awareness in the company that we needed to take

25   these things seriously.

1   Q. Did you actually read the patent applications yourself at

2   this time?

3   A. No, I did not.

4   Q. Is there a reason why you didn't?

5   A. They're really thick and not very easy to understand,

6   frankly. So I read the summary, and that was enough for me to

7   know we needed to get somebody else with more expertise than I

8   had with them.

9   Q. The second paragraph says:

10   "Could you please set up a conference call with the

11 patent attorney for next week?"

12 A. Uh-huh.

13 Q. Do you know why you were asking for a conference call to be

14 arranged with the patent attorney the following week?

15 A. I don't entirely. I understand why I would have raised the

16 issue, but frankly I can't remember if we had a patent attorney

17 at the time or not.

18 Q. The last line in that e-mail says:

19   "Please set something up ASAP."

20 A. Yes, that's right.

21 Q. Were you concerned about the timing in any way?

22 A. I just wanted us to look at this as soon as we could so

23 that we stayed on top of it.

24 Q. Can you explain what you meant by the three bullet points

25 in this e-mail?

1 A. Sure. I didn't understand the application process itself,

2 and I thought we should be getting some legal counsel on what

3 the whole application process looks like. I also had no idea

4 what the difference between a patent application was and what a

5 granted patent was, and I wanted to understand what that

6 process was like. Then, in addition, we had never done

7 anything that was patent related at CQG, and I didn't know if

8 we should be engaging in some area where we were protecting our

9 own IP.

10 Q. Now, at some point in time, did you learn that the patent

11 office had, in fact, allowed the patent applications and had

12 granted patents to TT?

13 A. Yes, I did. I think it was sometime in the spring of 2004

14 that we became aware that the patent office had granted the

15 '132 and the '304 patents. As a result, I talked with our

16 external counsel, Bill Fischer, at that time, as well as Tim,

17 and we decided to get essentially an expert opinion, I guess,

18 an opinion by a patent attorney to tell us if our own products

19 had any chance or possibility of infringing on the newly

20 granted patents.

21 Q. And if the patents had been granted in July and August,

22 would that refresh your recollection as to the timing when you

23 made that decision?

24 A. Yeah, I think that's right.

25 Q. So it would have been after the patents were granted, not

1   in the spring?

2   A. That's right. It was after the patents. I can't remember

3   exactly when the patents were granted, but I heard about them

4   after, at that point in time.

5   Q. And you said you made a decision to retain an attorney who

6   was experienced with patents, is that correct?

7   A. Yes, I mean, I talked with Tim and Bill, Mr. Fischer, about

8   it a bit. You know, Mr. Mather wanted to get somebody from

9   Silicon Valley. He felt like that was the place where patent

10 law really happened, not Denver, Colorado. Then secondly we

11 wanted a firm that, you know, just had the appropriate

12 expertise in patent law.

13 Q. And did CQG ultimately retain an attorney to provide advice

14 on the patents?

15 A. Yes, we retained a firm called Townsend & Townsend, and the

16 attorney's name was Kevin LeMond.

17 Q. Did you know anything about Townsend & Townsend and what

18 type of work they did at the time?

19 A. Yeah. I mean, going into the process, of course, I didn't.

20 But in the process, Townsend & Townsend was a -- had patent

21 expertise and was a patent specialty firm in the San Francisco

22 area, and that was a big reason why we selected them.

23 Q. Now, prior to the time you had engaged Mr. LeMond, had CQG

24 reached any tentative or internal conclusions about whether it

25 infringed TT's patents?

1 A. Very tentative, I would say. We did read the patents

2 ourselves, and frankly Tim and I were pretty -- not confused,

3 but it was hard for us to go through them and understand what

4 they meant. But our initial impressions as laypeople, I guess,

5 was that we didn't infringe, but we did not understand them

6 nearly at the level that we felt like we needed to.

7 Q. And when you engaged Mr. LeMond, did you tell him the very

8 tentative conclusion that CQG had reached on infringement?

9 A. I don't recall that. When I retained Mr. LeMond, the

10 purpose was for him to look at our products and give us his own

11 independent opinion as to whether we had any chance, basically,

12 of infringing on the TT patents.

13 Q. Now, after Mr. LeMond was retained, did you ask anybody to

14 provide information to him so that he could reach conclusions

15 on the issue of infringement?

16 A. Yes. I mean, the main person that I put him in touch with

17 was Mike Glista. He knew the most about the trading industry

18 at CQG. He was really the resident guru on trading. He had

19 had just this great history and taught us a lot, I think, and

20 then he also knew really as much about our product as anybody

21 else and was one of the main people that would go out and do

22 product demos.

23 Q. Okay. That's the same Mike Glista who testified at trial

24 here?

25 A. Yes, yes, it's the Mike Glista here.

1 Q. And what would be your reason for doing that?

2 A. They were people that would have been interested and had

3 feedback for us about the opinion. Of course, Tim ultimately

4 is our decision-maker, so he would have needed to know what the

5 opinions were.

6 Q. And do you know if any of these individuals, did they ever

7 indicate to you that they actually read the opinions?

8 A. I know, or I remember anyway, that Mike did, and I spoke

9 about the opinions specifically with Tim several times. We

10 reviewed it together.

11 Q. And that "Mike" that you referenced, that was Mike Glista?

12 A. Sorry. Yes, Mike Glista.

13 Q. And did Mr. Glista ever indicate to you that he believed

14 that Mr. LeMond didn't understand the product functionality?

15 A. No. I mean, Mr. Glista is great at giving product demos,

16 and he never indicated that Mr. LeMond did not understand the

17 functionality of the product.

18 Q. I'm not sure everyone can hear you. You might want to lean

19 in a little bit more.

20 A. Okay. I was getting feedback before.

21   THE COURT: I'll adjust it. Go ahead.

22   THE WITNESS: Okay. Sorry.

23   THE COURT: Answer that last question again.

24 BY THE WITNESS:

25 A. Could you give me the question back one more time?

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 1 BY MS. WYTSMA:

 2 Q. Sure. You indicated Mr. Glista had read the opinion

 3 letter. Did he ever indicate to you that he believed

 4 Mr. LeMond did not understand the product functionality that he

 5 had demonstrated?

 6   MR. CARDEN: Objection, Your Honor, calls for

 7 hearsay.

 8   MS. WYTSMA: It goes to state of mind.

 9   THE COURT: Do you believe?

10   THE WITNESS: I believe --

11   THE COURT: Wait, wait, wait.

12   THE WITNESS: Sorry.

13   THE COURT: Objection sustained.

14 BY MS. WYTSMA:

15 Q. Did anyone ever express to you --

16   MS. WYTSMA: Strike that.

17 BY MS. WYTSMA:

18 Q. Did you ever have a concern based on conversations with

19 individuals who had read the opinion letters that Mr. LeMond

20 may not have understood the product functionality demonstrated

21 to him?

22 A. No.

23 Q. Now, we've heard a lot in this case about another lawsuit

24 involving eSpeed. Are you familiar with that case?

25 A. Generally, yes.

Page 2252

1   Q. And are you familiar with the fact that it involved Trading

2   Technologies' patents against eSpeed?

3   A. Yes.

4   Q. Was there a point in that eSpeed litigation where you asked

5   Mr. LeMond to update his opinions on the issue of infringement?

6   A. Yes, there was. There was an opinion, I think it was, in

7   the eSpeed case, and someone forwarded it on to us. Then I

8   forwarded that opinion on to Mr. LeMond and said: Could you

9   take a look at this and give us an updated view as to whether

10 or not we infringed?

11 Q. Let's take a look at Plaintiff's Trial Exhibit 82. That's

12 not the right exhibit. I think we'll get to it a little bit

13 later, but did you, in fact, read the preliminary injunction

14 order that was entered in the eSpeed case?

15 A. Yes, I did.

16 Q. Did anything in that preliminary injunction order cause you

17 to question whether CQG infringed TT's patents?

18 A. No. However, I do recall that the order discussed the

19 functionality of the eSpeed product, and I wanted to be sure

20 that there was nothing in there essentially that Mr. LeMond

21 would want to know or would become concerned about. So I

22 wanted to give him a chance to update his opinion.

23 Q. Did you ask Mr. LeMond to, in fact, look at that order and

24 provide you with an opinion?

25 A. Yes, I did.

1   Q.   And did he? Do you know if he did so?

2   A.   Yes, he did. He did take a look at the opinion, and as I

3   recall, maybe within a few weeks, he sent me an e-mail with his

4   sort of updated thoughts about it.

5   MS. WYTSMA: Then let's go ahead and look at that

6   e-mail, Plaintiff's Trial Exhibit 242. Let's look at the

7   e-mail dated February 14th from Mr. LeMond to Mr. Schroeter.

8   Let's highlight that. Let's highlight the date.

9   BY MS. WYTSMA:

10   Q.   Is that an e-mail you received on February 14th, 2005, from

11   Mr. LeMond?

12   A.   Yes, it is.

13   Q.   The subject line is "Judge Moran's preliminary injunction

14   decision"?

15   A.   That's correct.

16   Q.   After "hi, Joe," what does the first sentence say?

17   A.   It says:

18   "I think we are still fine."

19   Q.   And in the bottom -- in the next paragraph, does Mr. LeMond

20   describe the functionality of CQG's displays?

21   A.   Yes, he did there, and then it looked like he was going to

22   verify that within the next several days with Mike, Mr. Glista.

23   Q.   The last portion of the paragraph says:

24   "But rather dynamically keeps certain prices and

25   volumes visible, which generally means there may be breaks or

1   jumps in the price axis."

2   Do you know what he was referring to there?

3   MR. CARDEN: Objection, Your Honor, calls for

4   speculation.

5   THE COURT: What he was referring to?

6   MS. WYTSMA: Let me rephrase.

7   THE COURT: Okay.

8   BY MS. WYTSMA:

9   Q. What did you understand Mr. LeMond to refer to in that

10   sentence?

11   A. I understood that to mean that he was referring to when a

12   market window would appear in the product.

13   Q. And when does a market window appear in a product?

14   MR. CARDEN: Again, Your Honor, it calls for

15   speculation.

16   MS. WYTSMA: Let me rephrase.

17   THE COURT: She's rephrasing.

18   BY MS. WYTSMA:

19   Q. When you're saying a market window appears in the product,

20   are you talking about the DOMTrader?

21   A. Yes, I am.

22   Q. And that's the market window that we've seen that will

23   sometimes move to the top or bottom of the price column?

24   A. Yes, that's my understanding.

25   Q. And in this e-mail, did Mr. LeMond indicate whether he was

Exhibit B

Korepanov

📁 **Korepanov, Alexey (Vol. 01) - 05/20/2013**   **1 CLIP (RUNNING 01:07:02.225)**

🎬 Korepanov_TT and CQG (both sides initial and counters) Final 3.2.15

AK-FINAL   **377 SEGMENTS (RUNNING 01:07:02.225)**

1. PAGE 8:10 TO 8:11 (RUNNING 00:00:02.364)

```
10      Q.     Good morning, Mr. Korepanov.
11      A.     Good morning.
```

2. PAGE 8:12 TO 8:13 (RUNNING 00:00:02.840)

```
12      Q.     Could you please state your name and spell
13  it for the record?
```

3. PAGE 8:16 TO 8:18 (RUNNING 00:00:19.815)

```
16      A.     (By the witness:)  A-L-E-X-E-Y
17  K-O-R-E-P-A-N-O-V.
18      Q.     And what's your address?
```

4. PAGE 8:19 TO 8:22 (RUNNING 00:00:22.825)

```
19      A.     Russia, Samara, Penzenskaya Street 57 --
20  57, Apartment 86.
21      Q.     Have you been deposed before?
22      A.     No.
```

5. PAGE 25:21 TO 25:22 (RUNNING 00:00:01.173)

```
21  BY MS. KURCZ:
22      Q.     Where did you go to school?
```

6. PAGE 25:23 TO 25:24 (RUNNING 00:00:07.704)

```
23      A.     In Samara.
24      Q.     Where did you go to college?
```

7. PAGE 26:01 TO 26:02 (RUNNING 00:00:04.540)

```
00026:01    A.     Also in Samara.
      02      Q.     What is the name of the institution?
```

8. PAGE 26:03 TO 26:05 (RUNNING 00:00:11.081)

```
03      A.     It is called the Samara State Aerospace
04  University.
05      Q.     What degree did you obtain?
```

9. PAGE 26:06 TO 26:08 (RUNNING 00:00:11.233)

```
06      A.     My diploma state mathematician software
07  developer or programmer.
08      Q.     Do you have any other degrees?
```

10. PAGE 26:09 TO 26:11 (RUNNING 00:00:08.561)

```
09      A.     Do you mean a college diploma?
10      Q.     A college diploma or any other formal
11  education.
```

11. PAGE 26:12 TO 26:13 (RUNNING 00:00:15.596)

```
12      A.     I also went through a programming course.
13      Q.     When was that?
```

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12. PAGE 26:14 TO 26:15 (RUNNING 00:00:06.989)

```
14      A.    I don't remember exactly.
15      Q.    Any other formal education?
```

13. PAGE 26:16 TO 26:16 (RUNNING 00:00:04.364)

```
16      A.    No.
```

14. PAGE 26:17 TO 26:17 (RUNNING 00:00:01.888)

```
17      Q.    When did you join CQG?
```

15. PAGE 26:18 TO 26:19 (RUNNING 00:00:07.860)

```
18      A.    In 2004.
19      Q.    What was your position?
```

16. PAGE 26:20 TO 26:20 (RUNNING 00:00:05.189)

```
20      A.    Software developer.
```

17. PAGE 26:24 TO 27:01 (RUNNING 00:00:02.772)

```
24         Q.    How long did you work as a software
00027:01  developer?
```

18. PAGE 27:02 TO 27:03 (RUNNING 00:00:09.101)

```
02      A.    Several years.
03      Q.    Who did you report to?
```

19. PAGE 27:06 TO 27:08 (RUNNING 00:00:07.043)

```
06      A.    I had several bosses.
07  BY MS. KURCZ:
08      Q.    Name them.
```

20. PAGE 27:09 TO 27:09 (RUNNING 00:00:18.111)

```
09      A.    Yuriy Shterk.  S-h-t-e-r-k.
```

21. PAGE 27:11 TO 27:11 (RUNNING 00:00:01.151)

```
11      Q.    Name them all, please.
```

22. PAGE 27:12 TO 27:14 (RUNNING 00:01:07.558)

```
12      A.    Alexey Paravin, last name P-a-r-a-v-i-n.
13  Ildar, I-l-d-a-r, Khasanov, K-h-a-s-a-n-o-v.  Sergey
14  Gorelov, last name G-o-r-e-l-o-v.
```

23. PAGE 27:16 TO 27:17 (RUNNING 00:00:02.591)

```
16      Q.    What software did you develop in that
17  role?
```

24. PAGE 27:20 TO 27:23 (RUNNING 00:00:13.704)

```
20      A.    I participated in writing the code for
21  CQG IC.
22  BY MS. KURCZ:
23      Q.    Anything else?
```

25. PAGE 27:24 TO 28:01 (RUNNING 00:00:15.008)

```
24         A.    Yes, as far as I know, my code was used in
00028:01  CQGT.
```

26. PAGE 28:02 TO 28:02 (RUNNING 00:00:01.335)

```
02      Q.    Was that the same code?
```

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27. PAGE 28:03 TO 28:03 (RUNNING 00:00:03.124)

    03   A.   I don't remember.

28. PAGE 28:04 TO 28:05 (RUNNING 00:00:04.541)

    04   Q.   For CQG IC, did you write code for
    05 DOMTrader?

29. PAGE 28:08 TO 28:08 (RUNNING 00:00:07.593)

    08   A.   Yes, I wrote the code for DOMTrader.

30. PAGE 29:23 TO 30:02 (RUNNING 00:00:08.776)

    23   Q.   You said you worked as a software
    24 developer for several years.
 00030:01   What was your role after software
    02 developer?

31. PAGE 30:05 TO 30:07 (RUNNING 00:00:20.005)

    05   A.   I continued to work as a software
    06 developer, but in addition to that, I also managed
    07 projects.

32. PAGE 30:08 TO 30:09 (RUNNING 00:00:01.034)

    08 BY MS. KURCZ:
    09   Q.   When was that?

33. PAGE 30:10 TO 30:10 (RUNNING 00:00:02.777)

    10   A.   I don't remember.

34. PAGE 30:11 TO 30:11 (RUNNING 00:00:02.414)

    11   Q.   Are you still a project manager today?

35. PAGE 30:12 TO 30:12 (RUNNING 00:00:02.126)

    12   A.   Yes.

36. PAGE 30:13 TO 30:14 (RUNNING 00:00:02.704)

    13   Q.   How many years have you served as a
    14 project manager?

37. PAGE 30:15 TO 30:16 (RUNNING 00:00:06.499)

    15   A.   I don't remember exactly.
    16   Q.   Do you have any other roles?

38. PAGE 30:17 TO 30:18 (RUNNING 00:00:18.513)

    17   A.   We call it team -- team lead.
    18   Q.   When did you begin your role as team lead?

39. PAGE 30:19 TO 30:21 (RUNNING 00:00:07.599)

    19   A.   I don't remember.
    20   Q.   What were your duties as a project
    21 manager?

40. PAGE 30:22 TO 30:24 (RUNNING 00:00:17.278)

    22   A.   To manage the code developer within the
    23 scope of the project.
    24   Q.   What software is that from?

41. PAGE 31:01 TO 31:01 (RUNNING 00:00:03.929)

 00031:01   A.   For CQG IC.

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42. PAGE 31:02 TO 31:02 (RUNNING 00:00:01.217)

    02   Q.   Does that include DOMTrader?

43. PAGE 31:03 TO 31:03 (RUNNING 00:00:00.984)

    03   A.   Yes.

44. PAGE 37:07 TO 37:08 (RUNNING 00:00:02.986)

    07   Q.   What's your understanding of recentering
    08 at DOMTrader?

45. PAGE 37:17 TO 37:18 (RUNNING 00:00:22.109)

    17   A.   I understand it is an event when a
    18 particular price becomes centered in the DOM grid.

46. PAGE 42:09 TO 42:10 (RUNNING 00:00:06.217)

    09   Q.   Are you aware of a dynamic price scale
    10 setting in DOMTrader?

47. PAGE 42:13 TO 42:16 (RUNNING 00:00:10.020)

    13   A.   Do you mean -- do you mean that in
    14 choosing trading preferences?
    15 BY MS. KURCZ:
    16   Q.   Yes.

48. PAGE 42:17 TO 42:19 (RUNNING 00:00:08.133)

    17   A.   When you say trading preferences, do you
    18 mean in the window of trading preferences?
    19   Q.   Yes.

49. PAGE 42:20 TO 42:22 (RUNNING 00:00:11.004)

    20   A.   Yes, there is, there is this adjustment
    21 there.
    22   Q.   What is that?

50. PAGE 43:01 TO 43:02 (RUNNING 00:00:25.179)

  00043:01   A.   This is a radio group that switches
        02 DOMTrader from dynamic into responsive mode.

51. PAGE 45:12 TO 45:14 (RUNNING 00:00:14.205)

    12   Q.   Mr. Korepanov, I'm going to hand you what
    13 I've marked as Plaintiff's Exhibit 2183. This is
    14 labeled CQG00581905 through 581988.

52. PAGE 45:18 TO 45:18 (RUNNING 00:00:04.377)

    18   Q.   Could you turn to row 35, Mr. Korepanov.

53. PAGE 45:19 TO 45:21 (RUNNING 00:00:45.455)

    19 It begins on page 581954, row 35. 581954. And it
    20 goes on for a few pages. Would you, please, just take
    21 a look at row 35.

54. PAGE 45:22 TO 45:23 (RUNNING 00:00:02.771)

    22   My question is: Do you recognize this
    23 document?

55. PAGE 45:24 TO 46:02 (RUNNING 00:00:10.819)

    24   A.   When you say "recognize," do you mean
  00046:01 whether I've seen it previously?
        02   Q.   Can you tell me what it is?

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56. PAGE 46:05 TO 46:11 (RUNNING 00:00:26.173)

```
05        A.    This is a printout of an electronic table,
06  a spreadsheet.
07  BY MS. KURCZ:
08        Q.    And if you see the top of -- it is
09  page 581956, I think you are looking at, in row 35, it
10  says, "The following suggestion has been assigned to
11  Alexk."
```

57. PAGE 46:12 TO 46:13 (RUNNING 00:00:05.528)

```
12        A.    (By the witness:)  Um-hum, um-hum.
13        Q.    Where is this document stored at CQG?
```

58. PAGE 46:16 TO 46:19 (RUNNING 00:00:16.078)

```
16        A.    This looks very much like a note in Genie,
17  like a record in Genie.
18  BY MS. KURCZ:
19        Q.    What's Genie?
```

59. PAGE 46:22 TO 47:02 (RUNNING 00:00:22.343)

```
22        A.    This is the system for storing various
23  types of information inside of CQG.
24  BY MS. KURCZ:
00047:01        Q.    Do you enter information in the Genie
02  system at CQG?
```

60. PAGE 47:03 TO 47:06 (RUNNING 00:00:11.563)

```
03        A.    Do you mean whether I've personally made
04  notes inside the system?
05        Q.    Yes.
06        A.    Yes.
```

61. PAGE 48:05 TO 48:05 (RUNNING 00:00:02.129)

```
05        Q.    Are notes maintained in Genie?
```

62. PAGE 48:06 TO 48:08 (RUNNING 00:00:07.429)

```
06        A.    Yes, the notes are maintained in Genie.
07        Q.    What's the purpose of maintaining notes in
08  Genie?
```

63. PAGE 48:11 TO 48:15 (RUNNING 00:00:12.249)

```
11        A.    In order to know the history of certain
12  events.
13  BY MS. KURCZ:
14        Q.    And does this look like one of those
15  notes?
```

64. PAGE 48:18 TO 48:18 (RUNNING 00:00:04.804)

```
18        A.    Yes, it does look like one of those notes.
```

65. PAGE 49:08 TO 49:09 (RUNNING 00:00:05.025)

```
08        Q.    In row 35 where it says, "Reported by
09  Alexk," who is Alexk?
```

66. PAGE 49:12 TO 49:16 (RUNNING 00:00:11.838)

```
12        A.    Alexk is the name of the -- of my mail
13  account.
14  BY MS. KURCZ:
15        Q.    And when it says, "Created by Alexk," who
16  is that referring to?
```

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67. PAGE 49:19 TO 49:24 (RUNNING 00:00:21.740)

```
19        A.      It means a user with the name of Alexk.
20   BY MS. KURCZ:
21        Q.      Is that you?
22        A.      This is my account.
23        Q.      And do you have any reason to doubt that
24   you created this note in row 35?
```

68. PAGE 50:03 TO 50:08 (RUNNING 00:00:46.393)

```
03        A.      Do you mean the notes that is reflected in
04   the row 35?  Do you mean the record on row 35?
05   BY MS. KURCZ:
06        Q.      Yes.
07        A.      I don't know who wrote -- who made the
08   record that's represented here in row 35.
```

69. PAGE 50:09 TO 50:11 (RUNNING 00:00:14.875)

```
09        Q.      On this page, row 35, cell I, does this --
10   do you have any reason to doubt that you did -- that
11   you created this record as is shown on this document?
```

70. PAGE 50:14 TO 50:20 (RUNNING 00:00:25.388)

```
14        A.      When it says "created by," it doesn't --
15   it is not the same person who created the record.  I
16   mean here in the row 35.
17   BY MS. KURCZ:
18        Q.      Who wrote -- there is a title on this
19   cell.  It says, "Changes to DOMTrader required to
20   bypass TT patent."
```

71. PAGE 50:23 TO 50:23 (RUNNING 00:00:01.023)

```
23        Q.      Who authored that?
```

72. PAGE 51:02 TO 51:02 (RUNNING 00:00:01.940)

```
02        A.      I don't know.
```

73. PAGE 51:05 TO 51:06 (RUNNING 00:00:03.419)

```
05              It says, "Created by Alexk."  What does
06   that mean?
```

74. PAGE 51:09 TO 51:14 (RUNNING 00:00:32.181)

```
09        A.      It means that the suggestion with this
10   number 35495307 was entered into the Genie system
11   under the account of Alexk.
12   BY MS. KURCZ:
13        Q.      Which is your name, correct?
14        A.      Yes, this is my account.
```

75. PAGE 51:15 TO 51:17 (RUNNING 00:00:05.956)

```
15        Q.      So it says, "Changes to DOMTrader required
16   to bypass TT patent."
17              What does that mean?
```

76. PAGE 51:19 TO 51:22 (RUNNING 00:00:05.018)

```
19   BY THE WITNESS:
20        A.      I don't know what it means.
21   BY MS. KURCZ:
22        Q.      Did you write it?
```

77. PAGE 51:24 TO 52:04 (RUNNING 00:00:06.216)

```
24   BY THE WITNESS:
```

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```
00052:01      A.    I don't know.
      02  BY MS. KURCZ:
      03      Q.    Who could have written it if it wasn't
      04  you?
```

78. PAGE 52:07 TO 52:09 (RUNNING 00:00:14.534)

```
      07  BY THE WITNESS:
      08      A.    It could have been any user of Genie who
      09  edited the suggestion after it has been created by me.
```

79. PAGE 52:16 TO 52:17 (RUNNING 00:00:07.967)

```
      16      Q.    Well, if you created the suggestion, do
      17  you typically enter a title with the suggestion?
```

80. PAGE 52:20 TO 52:22 (RUNNING 00:00:16.038)

```
      20      A.    Yes, when I create a suggestion in the
      21  Genie system, I would enter something in the title
      22  field.
```

81. PAGE 52:23 TO 53:01 (RUNNING 00:00:07.400)

```
      23  BY MS. KURCZ:
      24      Q.    And this Genie entry says, "Changes to
00053:01  DOMTrader required to bypass TT patent," correct?
```

82. PAGE 53:03 TO 53:04 (RUNNING 00:00:03.188)

```
      03  BY THE WITNESS:
      04      A.    Could you please repeat the question?
```

83. PAGE 53:06 TO 53:07 (RUNNING 00:00:03.141)

```
      06      Q.    When was the first time you heard about
      07  TT's patent?
```

84. PAGE 53:10 TO 53:10 (RUNNING 00:00:03.426)

```
      10      A.    Several years ago.
```

85. PAGE 53:11 TO 53:12 (RUNNING 00:00:02.974)

```
      11  BY MS. KURCZ:
      12      Q.    Have you seen this entry before?
```

86. PAGE 53:14 TO 53:18 (RUNNING 00:00:18.174)

```
      14  BY THE WITNESS:
      15      A.    When you say "entry," do you mean the
      16  suggestion or this whole entry in Genie?
      17  BY MS. KURCZ:
      18      Q.    The suggestion.
```

87. PAGE 53:20 TO 53:21 (RUNNING 00:00:02.568)

```
      20  BY THE WITNESS:
      21      A.    I don't remember.
```

88. PAGE 55:10 TO 55:11 (RUNNING 00:00:04.532)

```
      10      Q.    Have you heard of the term "price
      11  selection" in the context of DOMTrader?
```

89. PAGE 55:14 TO 55:16 (RUNNING 00:00:06.318)

```
      14      A.    Yes, I did hear that.
      15  BY MS. KURCZ:
      16      Q.    Okay.  And what is it?
```

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90. PAGE 55:18 TO 55:20 (RUNNING 00:00:21.919)

```
18  BY THE WITNESS:
19      A.    In DOMTrader it means that the cursor --
20  the cursor is positioned on the price scale.
```

91. PAGE 56:16 TO 56:18 (RUNNING 00:00:07.789)

```
16            Is it true that in some versions of
17  DOMTrader the price scale will not recenter if a price
18  is selected in the grid?
```

92. PAGE 56:22 TO 56:22 (RUNNING 00:00:02.191)

```
22      A.    I don't know.
```

93. PAGE 56:24 TO 57:03 (RUNNING 00:00:23.286)

```
   24      Q.    Let me hand you what's been previously
00057:01  marked as Plaintiff's Exhibit 2165.  It is Bates
   02  stamped CQG00145601 to 145614.  Take a moment to
   03  review it, please.
```

94. PAGE 57:07 TO 57:10 (RUNNING 00:00:07.123)

```
07      A.    Could you please repeat which page I
08  should be looking at?
09  BY MS. KURCZ:
10      Q.    Just review the document.
```

95. PAGE 57:11 TO 57:15 (RUNNING 00:00:19.379)

```
11            Specifically if you go to page 145604,
12  look at the top of it, it says, "I believe the inside
13  market should return to center only if we don't have
14  selection on the DOM grid."
15            What does that mean?
```

96. PAGE 57:19 TO 57:24 (RUNNING 00:00:34.199)

```
19      A.    I don't know what they mean in here.
20  BY MS. KURCZ:
21      Q.    If you turn to 611, it is towards the end.
22  At the top it says, "The following inquiry has been
23  assigned to Alexk."
24            What does that mean?
```

97. PAGE 58:03 TO 58:05 (RUNNING 00:00:16.355)

```
03      A.    It means that the following inquiry has
04  been assigned to me, so I should either investigate it
05  or reassign it to someone else.
```

98. PAGE 58:07 TO 58:07 (RUNNING 00:00:02.929)

```
07      Q.    Do you recall investigating this inquiry?
```

99. PAGE 58:10 TO 58:13 (RUNNING 00:00:09.650)

```
10      A.    I don't remember whether I've investigated
11  this.
12  BY MS. KURCZ:
13      Q.    Do you recall this inquiry?
```

100. PAGE 58:15 TO 58:19 (RUNNING 00:00:11.856)

```
15  BY THE WITNESS:
16      A.    No, I don't remember it.
17  BY MS. KURCZ:
18      Q.    Do you recall the functionality in
19  DOMTrader that's described in this inquiry?
```

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---

101. PAGE 58:21 TO 59:02 (RUNNING 00:00:18.441)

```
     21  BY THE WITNESS:
     22      A.    No, I don't remember.
     23  BY MS. KURCZ:
     24      Q.    Do you ever remember a time at DOMTrader
  00059:01  in which the inside market would not recenter if there
     02  was a selection on the DOM grid?
```

102. PAGE 59:06 TO 59:06 (RUNNING 00:00:03.586)

```
     06      A.    No, I don't remember that.
```

103. PAGE 59:07 TO 59:09 (RUNNING 00:00:03.041)

```
     07  BY MS. KURCZ:
     08      Q.    What's the purpose of price selection in
     09  DOMTrader?
```

104. PAGE 59:12 TO 59:17 (RUNNING 00:00:32.223)

```
     12  BY THE WITNESS:
     13      A.    For example, to see the DOM data or the
     14  trading volume related to this price.
     15  BY MS. KURCZ:
     16      Q.    What's the impact of selecting a price in
     17  DOMTrader?
```

105. PAGE 59:21 TO 59:21 (RUNNING 00:00:13.845)

```
     21      A.    A square appears inside the price cell.
```

106. PAGE 60:13 TO 60:21 (RUNNING 00:00:23.748)

```
     13  BY MS. KURCZ:
     14      Q.    I'm marking Plaintiff's Exhibit 2184,
     15  Bates stamped CQG00883926 through 28, an e-mail from
     16  Yuriy Shterk to Alexey Korepanov, Marcus Kwan dated
     17  April 14th, 2010.
     18              (WHEREUPON, a certain document was
     19               marked Plaintiff's Deposition
     20               Exhibit No. 2184, for identification,
     21               as of 05/20/13.)
```

107. PAGE 60:23 TO 60:24 (RUNNING 00:00:06.965)

```
     23      Q.    Mr. Korepanov, is this an e-mail that you
     24  would have received on or around April 14th, 2010?
```

108. PAGE 61:01 TO 61:01 (RUNNING 00:00:02.893)

```
  00061:01      A.    I don't remember.
```

109. PAGE 61:18 TO 61:19 (RUNNING 00:00:03.119)

```
     18      Q.    Any reason to think you didn't receive
     19  this e-mail?
```

110. PAGE 61:22 TO 62:02 (RUNNING 00:00:17.129)

```
     22      A.    No, I don't have any reason to believe
     23  that I haven't received this e-mail.
     24  BY MS. KURCZ:
  00062:01      Q.    Do you keep e-mails that you receive at
     02  CQG?
```

111. PAGE 62:05 TO 62:05 (RUNNING 00:00:04.214)

```
     05      A.    It is automatically kept.
```

112. PAGE 62:18 TO 62:23 (RUNNING 00:00:31.963)

```
     18  BY MS. KURCZ:
```

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```
19      Q.    If you look at the e-mail -- if you go
20  down to the e-mail sent from you at 9:27, it is on the
21  first page.  And just take a second to review the
22  content of the e-mail so you are familiar with the
23  discussion.
```

113. PAGE 62:24 TO 63:04 (RUNNING 00:00:22.313)

```
24              Did you review this string?  The entire
00063:01  document.
02      A.    I read --
03              (By the witness:)  Until the last page,
04  uh-huh.
```

114. PAGE 63:05 TO 63:07 (RUNNING 00:00:10.581)

```
05      Q.    Mr. Korepanov, the title of the inquiry at
06  issue here is:  "Intended functionality interferes
07  with user's trading," correct?
```

115. PAGE 63:09 TO 63:13 (RUNNING 00:00:13.572)

```
09  BY THE WITNESS:
10      A.    Yes, this is the title of the inquiry.
11  BY MS. KURCZ:
12      Q.    What was the problem being discussed in
13  this e-mail?
```

116. PAGE 63:15 TO 63:17 (RUNNING 00:00:11.161)

```
15  BY THE WITNESS:
16      A.    For some reason the user cannot place
17  several orders with the same price.
```

117. PAGE 63:19 TO 64:01 (RUNNING 00:00:24.368)

```
19      Q.    On the first page of the document, there
20  is an e-mail from you, if you go to it.  The top of
21  the page, 9:27 a.m.  You are looking at it.  And you
22  say, "As I see in Version 8.3136, we don't go to
23  market mode after order placement if we had a price
24  selected."
00064:01              What does that mean?
```

118. PAGE 64:04 TO 64:08 (RUNNING 00:00:12.126)

```
04      A.    I don't remember.
05  BY MS. KURCZ:
06      Q.    The e-mail -- you are responding to an
07  e-mail below where Mr. Shterk says, "Now we select the
08  price, the grid freezes."
```

119. PAGE 64:09 TO 64:12 (RUNNING 00:00:10.462)

```
09      A.    Where are you reading that?
10      Q.    Right below at the 5:25 e-mail where
11  Mr. Shterk says, "Now we select the price, the grid
12  freezes."
```

120. PAGE 64:15 TO 64:16 (RUNNING 00:00:04.565)

```
15      Q.    What does -- what does that mean, "We
16  select the price, the grid freezes"?
```

121. PAGE 64:20 TO 64:20 (RUNNING 00:00:04.355)

```
20      A.    I don't know what he meant.
```

122. PAGE 65:13 TO 65:16 (RUNNING 00:00:10.629)

```
13      Q.    And then but you respond to that e-mail,
14  correct, above saying that, "We don't go to market
```

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15 mode after order placement if we had a price
16 selected," correct?

123. PAGE 65:20 TO 65:21 (RUNNING 00:00:07.260)

20   A.   Yes, according to this printout, this is
21 what I answered.

124. PAGE 74:01 TO 74:01 (RUNNING 00:00:02.864)

 00074:01   What is the DOMTrader Redesign project?

125. PAGE 74:04 TO 74:06 (RUNNING 00:00:09.067)

04   A.   We had a project named like that.
05 BY MS. KURCZ:
06   Q.   And what was it?

126. PAGE 74:07 TO 74:09 (RUNNING 00:00:19.188)

07   A.   We changed the look and some of the
08 behavior of DOMTrader.
09   Q.   What behavior did you change?

127. PAGE 74:10 TO 74:10 (RUNNING 00:00:05.960)

10   A.   Something related to the market window.

128. PAGE 74:11 TO 74:11 (RUNNING 00:00:01.109)

11   Q.   What?

129. PAGE 74:13 TO 74:17 (RUNNING 00:00:18.698)

13 BY THE WITNESS:
14   A.   I don't remember the details.
15 BY MS. KURCZ:
16   Q.   Other than changes to the market window,
17 what other behavior changes did you make to DOMTrader?

130. PAGE 74:19 TO 74:20 (RUNNING 00:00:05.885)

19 BY THE WITNESS:
20   A.   I cannot recollect.

131. PAGE 74:22 TO 74:23 (RUNNING 00:00:03.649)

22   Q.   Who was the project manager of the
23 DOMTrader redesign project?

132. PAGE 75:02 TO 75:02 (RUNNING 00:00:03.117)

02   A.   I was the project manager.

133. PAGE 80:11 TO 80:14 (RUNNING 00:00:09.857)

11   Q.   He also says, "Now we're giving argument
12 for TT since upon single click the price grid becomes
13 static."
14   What does that mean?

134. PAGE 80:18 TO 80:18 (RUNNING 00:00:02.838)

18   A.   I don't know.

135. PAGE 82:13 TO 82:13 (RUNNING 00:00:02.899)

13   Q.   Were you aware of TT's patents in 2010?

136. PAGE 82:16 TO 82:16 (RUNNING 00:00:01.892)

16   A.   Yes.

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137. PAGE 83:06 TO 83:10 (RUNNING 00:00:12.711)

```
06  BY MS. KURCZ:
07      Q.    In your e-mail you also say, "We have a
08  logic that if we have selection on this specific row
09  than it should not move as the price moves."
10            What logic were you referring to?
```

138. PAGE 83:13 TO 83:15 (RUNNING 00:00:08.005)

```
13      A.    I don't remember.
14  BY MS. KURCZ:
15      Q.    Were you referring to the source code?
```

139. PAGE 83:18 TO 83:21 (RUNNING 00:00:06.343)

```
18      A.    Would you like me to suppose?
19  BY MS. KURCZ:
20      Q.    It is your words.  So what do you think
21  your words mean?
```

140. PAGE 83:24 TO 84:01 (RUNNING 00:00:07.102)

```
24          A.    I think we are talking about the source
00084:01  code.
```

141. PAGE 84:21 TO 84:21 (RUNNING 00:00:02.623)

```
21      Q.    Let's go back to Exhibit 2185.
```

142. PAGE 85:03 TO 85:04 (RUNNING 00:00:07.407)

```
03            Mr. Korepanov, did you receive this e-mail
04  in the ordinary course of your business at CQG?
```

143. PAGE 85:07 TO 85:13 (RUNNING 00:00:20.517)

```
07      A.    What other course of business could there
08  be?
09            (By the witness:)  What is ordinary
10  course?
11  BY MS. KURCZ:
12      Q.    In the usual function of your role there,
13  is that an e-mail that you received at CQG?
```

144. PAGE 85:15 TO 85:19 (RUNNING 00:00:12.844)

```
15  BY THE WITNESS:
16      A.    I don't remember.
17  BY MS. KURCZ:
18      Q.    Do you have any reason to believe you did
19  not receive this e-mail during your work at CQG?
```

145. PAGE 85:20 TO 85:20 (RUNNING 00:00:04.061)

```
20      A.    No, I don't have any reason to believe so.
```

146. PAGE 86:03 TO 86:04 (RUNNING 00:00:02.834)

```
03      Q.    Do you have any reason to believe it
04  wasn't maintained by CQG?
```

147. PAGE 86:07 TO 86:11 (RUNNING 00:00:11.661)

```
07      A.    No, I don't have -- don't have any reason
08  to believe so.
09  BY MS. KURCZ:
10      Q.    And as part of your work at CQG, you send
11  and receive e-mails, is that correct?
```

148. PAGE 86:12 TO 86:12 (RUNNING 00:00:02.240)

```
12      A.    Yes, that's correct.
```

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149. PAGE 86:19 TO 86:21 (RUNNING 00:00:06.405)

```
19      Q.     And you don't have any reason to believe
20   that this is not an e-mail that you received during
21   your work at CQG?
```

150. PAGE 86:24 TO 86:24 (RUNNING 00:00:05.486)

```
24      A.     I don't have any reason to believe so.
```

151. PAGE 87:01 TO 87:08 (RUNNING 00:00:21.517)

```
00087:01        MS. KURCZ:  Okay.  I'm marking as Plaintiff's
      02   Exhibit 2186 CQG0081920 to 812092.  It is an e-mail
      03   from Yuriy Shterk dated May 8th, 2009, to
      04   Mr. Korepanov and others.
      05                (WHEREUPON, a certain document was
      06                 marked Plaintiff's Deposition
      07                 Exhibit No. 2186, for identification,
      08                 as of 05/20/13.)
```

152. PAGE 87:10 TO 87:11 (RUNNING 00:00:02.180)

```
10      Q.     Do you recognize this document,
11   Mr. Korepanov?
```

153. PAGE 87:12 TO 87:13 (RUNNING 00:00:09.383)

```
12      A.     It looks like an e-mail that has been
13   printed out.
```

154. PAGE 87:15 TO 87:16 (RUNNING 00:00:04.181)

```
15             Is this an e-mail that you would have
16   received on or around May 8th, 2009?
```

155. PAGE 87:17 TO 87:19 (RUNNING 00:00:07.081)

```
17      A.     What do you mean "would have received"?
18      Q.     Is this an e-mail that you received on
19   May 8th, 2009?
```

156. PAGE 87:20 TO 88:04 (RUNNING 00:00:59.591)

```
20      A.     I don't remember.
21      Q.     Any reason to believe that you did not
22   receive this e-mail on May 8th, 2009?
23      A.      It is possible that I would not have
24   received it on May 8th because it is possible that
00088:01   May 8th could have been a weekend.  It could have been
      02   a holiday.
      03      Q.     Any doubt that your e-mail account did not
      04   receive this e-mail on or around that date?
```

157. PAGE 88:07 TO 88:07 (RUNNING 00:00:03.552)

```
07      A.     No, no reason to believe so.
```

158. PAGE 88:08 TO 88:09 (RUNNING 00:00:01.477)

```
08   BY MS. KURCZ:
09      Q.     Okay.  Do you recall this e-mail?
```

159. PAGE 88:10 TO 88:10 (RUNNING 00:00:04.059)

```
10      A.     No, I don't remember it.
```

160. PAGE 88:23 TO 88:24 (RUNNING 00:00:04.462)

```
23      Q.     Any reason to believe this wasn't -- this
24   e-mail was not maintained by CQG?
```

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161. PAGE 89:03 TO 89:09 (RUNNING 00:00:27.019)

```
03        A.     No, no reason to believe so.
04  BY MS. KURCZ:
05        Q.     In this e-mail at the very last page, if
06  you go to the end of it, there is a suggestion
07  reported of "BBA not showing correctly; market window
08  is not working," is the title.
09               Do you see that?
```

162. PAGE 89:10 TO 89:12 (RUNNING 00:00:08.127)

```
10        A.     I see.  I see the title.
11        Q.     And at the very bottom there is a comment
12  from Alexk.  Is that you?
```

163. PAGE 89:13 TO 89:13 (RUNNING 00:00:06.255)

```
13        A.     This is my user name in CQG.
```

164. PAGE 89:19 TO 89:20 (RUNNING 00:00:03.163)

```
19        Q.     Any reason to believe that you did not
20  write that comment?
```

165. PAGE 89:23 TO 89:23 (RUNNING 00:00:04.680)

```
23        A.     No, no reason to believe so.
```

166. PAGE 90:07 TO 90:08 (RUNNING 00:00:03.665)

```
07        Q.     Do you recall the general subject matter
08  of this e-mail?
```

167. PAGE 90:11 TO 90:13 (RUNNING 00:00:08.069)

```
11        A.     In general, yes.
12  BY MS. KURCZ:
13        Q.     What do you recall about this e-mail?
```

168. PAGE 90:14 TO 90:17 (RUNNING 00:00:24.370)

```
14        A.     It is possible that I have misunderstood
15  the question.  I -- my recollection is not about the
16  e-mail as such but the previous topic, in general.
17        Q.     What were you recalling?
```

169. PAGE 90:20 TO 90:23 (RUNNING 00:00:23.153)

```
20        A.     In some versions the market window did not
21  appear under certain circumstances.
22  BY MS. KURCZ:
23        Q.     What circumstances?
```

170. PAGE 90:24 TO 91:04 (RUNNING 00:00:48.983)

```
   24        A.     When the user magnified the DOMTrader --
00091:01  resized it, the DOMTrader, and then he resized the
   02  market window almost to the full size of DOMTrader and
   03  then minimized the DOMTrader again or resized it to
   04  make it smaller.
```

171. PAGE 93:06 TO 93:11 (RUNNING 00:00:15.620)

```
06        Q.     And the comment at the bottom of this
07  e-mail, it said you -- where it says Alexk, it says,
08  "This happens when market window is bigger than
09  DOMTrader.  In this case market window is not shown."
10               Do you -- is this what you are talking
11  about?
```

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---

172. PAGE 93:14 TO 93:17 (RUNNING 00:00:13.646)

```
14      A.    Yes.
15  BY MS. KURCZ:
16      Q.    How do you resize a market window to be
17  larger than DOMTrader?
```

173. PAGE 93:21 TO 93:24 (RUNNING 00:00:34.206)

```
21      A.    First we have to resize DOMTrader and then
22  we resize the market window to make it bigger.  Then
23  we resize the DOMTrader to make it smaller than the
24  market window.
```

174. PAGE 94:08 TO 94:09 (RUNNING 00:00:06.953)

```
08      Q.    Why does this software permit disabling of
09  the market window in that situation?
```

175. PAGE 94:12 TO 94:16 (RUNNING 00:00:06.628)

```
12  BY THE WITNESS:
13      A.    I don't know.
14  BY MS. KURCZ:
15      Q.    Did you ever investigate why this
16  functionality occurred?
```

176. PAGE 94:18 TO 94:21 (RUNNING 00:00:05.818)

```
18  BY THE WITNESS:
19      A.    Yes, I did investigate.
20  BY MS. KURCZ:
21      Q.    When?
```

177. PAGE 94:22 TO 94:23 (RUNNING 00:00:04.802)

```
22      A.    I don't remember when.
23      Q.    Why did you investigate?
```

178. PAGE 95:01 TO 95:02 (RUNNING 00:00:04.034)

```
00095:01  BY THE WITNESS:
02      A.    I don't remember why.
```

179. PAGE 95:03 TO 95:05 (RUNNING 00:00:05.599)

```
03  BY MS. KURCZ:
04      Q.    Who asked you to investigate why the
05  software permitted disabling of the market window?
```

180. PAGE 95:08 TO 95:12 (RUNNING 00:00:08.002)

```
08  BY THE WITNESS:
09      A.    I don't remember.
10  BY MS. KURCZ:
11      Q.    Did you discuss this issue with anyone
12  else at CQG?
```

181. PAGE 95:14 TO 95:18 (RUNNING 00:00:16.258)

```
14  BY THE WITNESS:
15      A.    According to these letters I did discuss
16  it with Marcus and Yuriy Shterk.
17  BY MS. KURCZ:
18      Q.    Marcus Kwan?
```

182. PAGE 95:19 TO 95:20 (RUNNING 00:00:08.096)

```
19      A.    Yes, I mean Marcus Kwan.
20      Q.    Did you ever discuss it with Mark Fischer?
```

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183. PAGE 95:22 TO 96:02 (RUNNING 00:00:05.746)

```
    22  BY THE WITNESS:
    23      A.    I don't remember.
    24  BY MS. KURCZ:
00096:01      Q.    Did you ever discuss this functionality
    02  with Tim Mather?
```

184. PAGE 96:05 TO 96:05 (RUNNING 00:00:01.404)

```
    05      A.    No.
```

185. PAGE 96:07 TO 96:07 (RUNNING 00:00:00.917)

```
    07      Q.    Joe Schroeter?
```

186. PAGE 96:09 TO 96:10 (RUNNING 00:00:01.446)

```
    09  BY THE WITNESS:
    10      A.    No.
```

187. PAGE 97:15 TO 97:20 (RUNNING 00:00:15.778)

```
    15      MS. KURCZ:  I'm marking Plaintiff's
    16  Exhibit 2187, document CQG0073993 through 74681.
    17              (WHEREUPON, a certain document was
    18               marked Plaintiff's Deposition
    19               Exhibit No. 2187, for identification,
    20               as of 05/20/13.)
```

188. PAGE 97:22 TO 97:24 (RUNNING 00:00:18.692)

```
    22      Q.    Mr. Korepanov, you need to look at row 406
    23  on page 74699, and I'll represent to you that this is
    24  an excerpt from a larger spreadsheet.
```

189. PAGE 98:20 TO 99:01 (RUNNING 00:00:48.577)

```
    20      Q.    Is this the same suggestion being
    21  discussed as in the prior Exhibit 2186?
    22      MR. KELLY:  Specifically row 406?
    23      MS. KURCZ:  Yes.
    24  BY THE WITNESS:
00099:01      A.    Yes.  Yes, this is the same suggestion.
```

190. PAGE 99:03 TO 99:05 (RUNNING 00:00:33.596)

```
    03      Q.    And in row 406 in the exhibit before you,
    04  if you go to page 671, it says, "8x1G1 DOMTrader
    05  Redesign."
```

191. PAGE 99:06 TO 99:07 (RUNNING 00:00:03.849)

```
    06      A.    Yes.
    07      Q.    What does this mean?
```

192. PAGE 99:10 TO 99:13 (RUNNING 00:00:12.531)

```
    10      A.    This is the fee -- a field that's called
    11  "target fixed version."
    12  BY MS. KURCZ:
    13      Q.    What does that mean?
```

193. PAGE 99:14 TO 99:17 (RUNNING 00:00:16.776)

```
    14      A.    It means that the suggestion should be
    15  realized -- implemented in this version.
    16      Q.    And if you turn to page 676 of this
    17  document?
```

194. PAGE 99:18 TO 99:24 (RUNNING 00:00:25.066)

```
    18      A.    (By the witness:)  What was the number
```

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19 again, 67?
20   Q.   676. In column AL it says, "Converted to
21 suggestion because this functionality exists in 7x9
22 and earlier."
23   Is that consistent with your recollection
24 of how long the market window could be disabled?

195. PAGE 100:04 TO 100:04 (RUNNING 00:00:02.216)

04   A.   I don't remember.

196. PAGE 100:06 TO 100:06 (RUNNING 00:00:03.000)

06   Q.   It says, "Needs BD approval." What's BD?

197. PAGE 100:08 TO 100:11 (RUNNING 00:00:06.163)

08 BY THE WITNESS:
09   A.   Business driver.
10 BY MS. KURCZ:
11   Q.   Who is a business driver?

198. PAGE 100:12 TO 100:13 (RUNNING 00:00:08.344)

12   A.   It's the person who provides the business
13 requirements.

199. PAGE 100:14 TO 100:15 (RUNNING 00:00:05.995)

14   Q.   Who is the person who provided the
15 business requirements for this particular suggestion?

200. PAGE 100:18 TO 100:18 (RUNNING 00:00:05.303)

18   A.   I don't recall.

201. PAGE 102:08 TO 102:08 (RUNNING 00:00:02.525)

08   Q.   What is this document that's before you?

202. PAGE 102:11 TO 102:12 (RUNNING 00:00:12.660)

11   A.   It looks like a printout of defects and
12 suggestions from Genie.

203. PAGE 102:13 TO 102:15 (RUNNING 00:00:03.468)

13 BY MS. KURCZ:
14   Q.   Is this created by CQG in the ordinary
15 course of its business?

204. PAGE 102:18 TO 102:21 (RUNNING 00:00:05.976)

18   A.   You refer to the defects and the
19 suggestions?
20 BY MS. KURCZ:
21   Q.   Yes.

205. PAGE 102:22 TO 102:22 (RUNNING 00:00:01.353)

22   A.   Yes.

206. PAGE 103:16 TO 103:17 (RUNNING 00:00:05.577)

16   Q.   Do you have any reason to believe that
17 this report did not come from Genie?

207. PAGE 103:18 TO 103:21 (RUNNING 00:00:11.492)

18   A.   No, no.
19   Q.   And is the data that's stored in the Genie
20 database maintained by CQG in the ordinary course of
21 its business?

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208. PAGE 103:24 TO 104:03 (RUNNING 00:00:09.705)

            24   A.   Yes, correct.
    00104:01 BY MS. KURCZ:
            02   Q.   And is the data in the Genie database
            03 created by CQG in the ordinary course of its business?

209. PAGE 104:06 TO 104:09 (RUNNING 00:00:10.201)

            06   A.   When you say "created by CQG," do you mean
            07 created by the employees of CQG?
            08 BY MS. KURCZ:
            09   Q.   Yes.

210. PAGE 104:12 TO 104:15 (RUNNING 00:00:08.825)

            12   A.   In this case the answer is yes.
            13 BY MS. KURCZ:
            14   Q.   Let's turn to row 23 of this document,
            15 please.

211. PAGE 104:16 TO 104:19 (RUNNING 00:00:08.360)

            16   MR. KELLY: Is that 74006?
            17   MS. KURCZ: Yes.
            18   MR. KELLY: I'm just making sure it is clear for
            19 the record.

212. PAGE 105:05 TO 105:09 (RUNNING 00:00:11.218)

            05   Q.   It says, "Market window with default size
            06 (5 rows) doesn't appear in DOMTrader with reduced
            07 height."
            08   Is that the same issue as we were just
            09 discussing about disabling the market window?

213. PAGE 105:13 TO 105:13 (RUNNING 00:00:02.536)

            13   A.   I don't know.

214. PAGE 106:02 TO 106:17 (RUNNING 00:01:33.155)

            02 BY MS. KURCZ:
            03   Q.   What do you think that's referring to?
            04   MR. KELLY: Speculation, form, vague,
            05 foundation.
            06 BY THE WITNESS:
            07   A.   I suppose that it means -- here the issue
            08 being discussed here is that under certain conditions
            09 market window does not appear, although it should
            10 appear.
            11 BY MS. KURCZ:
            12   Q.   And what were those conditions?
            13   MR. KELLY: Foundation, vague.
            14 BY THE WITNESS:
            15   A.   It is when the size of the market window
            16 is five rows and the size of the DOMTrader is less
            17 than five rows.

215. PAGE 106:18 TO 106:20 (RUNNING 00:00:04.577)

            18 BY MS. KURCZ:
            19   Q.   Is that the same issue that's being
            20 addressed in 406?

216. PAGE 106:22 TO 106:23 (RUNNING 00:00:02.129)

            22 BY THE WITNESS:
            23   A.   I don't know.

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217. PAGE 107:01 TO 107:03 (RUNNING 00:00:10.140)

```
00107:01        Q.    Now, when you were talking about disabling
      02  the market window earlier, would this activity cause
      03  disabling of the market window?
```

218. PAGE 107:07 TO 107:10 (RUNNING 00:00:09.769)

```
      07        A.    When you refer to activities, do you mean
      08  the steps to reproduce?
      09  BY MS. KURCZ:
      10        Q.    Yes.
```

219. PAGE 107:13 TO 107:21 (RUNNING 00:00:24.063)

```
      13        A.    Yes.
      14        MS. KURCZ:  I'm marking as Plaintiff's
      15  Exhibit 2188 a document Bates stamped CQG00943525
      16  through 943526.  It an e-mail from Mr. Shterk to
      17  Mr. Korepanov, dated November 13th, 2010.
      18                  (WHEREUPON, a certain document was
      19                   marked Plaintiff's Deposition
      20                   Exhibit No. 2188, for identification,
      21                   as of 05/20/13.)
```

220. PAGE 107:23 TO 107:24 (RUNNING 00:00:04.202)

```
      23        Q.    I'll just have you take a look at it.  Let
      24  me know if you recognize it.
```

221. PAGE 108:01 TO 108:04 (RUNNING 00:00:19.495)

```
00108:01        A.    It looks like a printout of an e-mail from
      02  Yuriy Shterk addressed to me.
      03        Q.    Any reason to believe you did not receive
      04  this e-mail on or around November 13, 2010?
```

222. PAGE 108:05 TO 108:08 (RUNNING 00:00:17.068)

```
      05        A.    It was a Saturday, so it was a weekend.
      06        Q.    Any reason to believe that your e-mail
      07  account did not receive this e-mail on or around
      08  November 13th, 2010?
```

223. PAGE 108:09 TO 108:11 (RUNNING 00:00:10.615)

```
      09        A.    No.
      10        Q.    Is this e-mail received by you in the
      11  ordinary course of your business at CQG?
```

224. PAGE 108:12 TO 108:13 (RUNNING 00:00:06.523)

```
      12        A.    I don't remember.
      13        Q.    Any reason to doubt that it was?
```

225. PAGE 108:16 TO 108:19 (RUNNING 00:00:07.802)

```
      16        A.    No.
      17  BY MS. KURCZ:
      18        Q.    Was this e-mail maintained by CQG in the
      19  ordinary course of its business?
```

226. PAGE 108:22 TO 109:01 (RUNNING 00:00:04.445)

```
      22        A.    I don't know.
      23  BY MS. KURCZ:
      24        Q.    Any reason to believe it was not
00109:01  maintained by CQG?
```

227. PAGE 109:04 TO 109:04 (RUNNING 00:00:02.045)

```
      04        A.    No.
```

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228. PAGE 109:06 TO 109:06 (RUNNING 00:00:01.346)

```
06      Q.    Do you recall this e-mail?
```

229. PAGE 109:08 TO 109:09 (RUNNING 00:00:02.576)

```
08  BY THE WITNESS:
09      A.    No, I don't recall it.
```

230. PAGE 109:11 TO 109:12 (RUNNING 00:00:02.772)

```
11      Q.    Do you generally recall the subject matter
12  of this e-mail?
```

231. PAGE 109:15 TO 109:18 (RUNNING 00:00:09.583)

```
15      A.    In general, yes, I do.  I do.
16  BY MS. KURCZ:
17      Q.    What do you recall about the subject
18  matter of this e-mail?
```

232. PAGE 109:19 TO 109:21 (RUNNING 00:00:16.894)

```
19      A.    We were discussing that under certain
20  circumstances the market window does not appear,
21  although it should appear.
```

233. PAGE 109:22 TO 109:23 (RUNNING 00:00:04.897)

```
22      Q.    Did you review the video referenced by
23  Mr. Shterk in the first e-mail?
```

234. PAGE 110:01 TO 110:05 (RUNNING 00:00:20.573)

```
00110:01  BY THE WITNESS:
02      A.    I don't remember.
03  BY MS. KURCZ:
04      Q.    Do you recall ever reviewing a video from
05  Mr. Shterk regarding the market window in DOMTrader?
```

235. PAGE 110:07 TO 110:08 (RUNNING 00:00:03.998)

```
07  BY THE WITNESS:
08      A.    No, I don't recall.
```

236. PAGE 112:12 TO 112:12 (RUNNING 00:00:02.231)

```
12      Q.    Have you reviewed TT's patent?
```

237. PAGE 112:14 TO 112:15 (RUNNING 00:00:01.727)

```
14  BY THE WITNESS:
15      A.    No.
```

238. PAGE 112:17 TO 112:18 (RUNNING 00:00:02.123)

```
17      Q.    Have you discussed the patents with
18  anyone?
```

239. PAGE 112:21 TO 112:23 (RUNNING 00:00:03.199)

```
21      A.    Yes.
22  BY MS. KURCZ:
23      Q.    With who?
```

240. PAGE 113:02 TO 113:02 (RUNNING 00:00:03.854)

```
02      A.    With Yuriy Shterk.
```

241. PAGE 113:06 TO 113:07 (RUNNING 00:00:02.440)

```
06      Q.    What did Mr. Shterk tell you about the
07  patents?
```

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242. PAGE 113:09 TO 113:11 (RUNNING 00:00:10.218)

```
09  BY THE WITNESS:
10       A.    He said that they were complicated and
11  I -- that I wouldn't be able to understand them.
```

243. PAGE 113:18 TO 113:19 (RUNNING 00:00:04.479)

```
18       Q.    What else do you recall discussing with
19  Mr. Shterk about TT's patents?
```

244. PAGE 113:22 TO 113:23 (RUNNING 00:00:08.826)

```
22       A.    He said that if I had questions that I
23  should go to him.
```

245. PAGE 119:16 TO 119:21 (RUNNING 00:00:25.650)

```
16       Q.    Going back to the exhibit before you,
17  2188, the e-mail -- the second e-mail in the chain, it
18  is from you to Mr. Shterk.  And you say, "Here are the
19  steps to reproduce this problem."  And you said, "I
20  reproduced the problem back to 7x9."
21             What does that mean?
```

246. PAGE 119:24 TO 120:02 (RUNNING 00:00:05.036)

```
     24       A.    I don't recall.
00120:01  BY MS. KURCZ:
     02       Q.    What do you think you meant by that?
```

247. PAGE 120:05 TO 120:07 (RUNNING 00:00:05.929)

```
05       A.    Would you like me to suppose?
06  BY MS. KURCZ:
07       Q.    I'd like you to interpret your own words.
```

248. PAGE 120:10 TO 120:12 (RUNNING 00:00:19.368)

```
10       A.    From those words I can infer that I
11  reproduced the problem in one of the versions 7 by 9
12  or x9, 7x9.
```

249. PAGE 122:09 TO 122:16 (RUNNING 00:00:17.864)

```
09       MS. KURCZ:  I have marked as PX 2189 documents
10  labeled CQG00943394.  It is an e-mail from Mr. Shterk
11  to Mr. Korepanov.  It is dated November 12th, 2010.
12       THE WITNESS:  Thank you.
13                 (WHEREUPON, a certain document was
14                  marked Plaintiff's Deposition
15                  Exhibit No. 2189, for identification,
16                  as of 05/20/13.)
```

250. PAGE 123:02 TO 123:02 (RUNNING 00:00:01.368)

```
02       Q.    Do you recall this e-mail?
```

251. PAGE 123:03 TO 123:05 (RUNNING 00:00:08.558)

```
03       A.    No, I don't recall this one.
04       Q.    Did you receive this e-mail on
05  November 12th, 2010?
```

252. PAGE 123:08 TO 123:11 (RUNNING 00:00:07.308)

```
08       A.    I don't recall.
09  BY MS. KURCZ:
10       Q.    Any reason to doubt you did not receive
11  this e-mail on November 12th, 2010?
```

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253. PAGE 123:14 TO 123:14 (RUNNING 00:00:03.748)

      14   A.   No, no reason to doubt it.

254. PAGE 123:22 TO 123:23 (RUNNING 00:00:02.730)

      22   Q.   Any reason to believe that it wasn't
      23   maintained by CQG?

255. PAGE 124:02 TO 124:02 (RUNNING 00:00:03.254)

      02   A.   No, no reason to believe so.

256. PAGE 126:01 TO 126:07 (RUNNING 00:00:11.764)

   00126:01   MS. KURCZ: I'm going to mark as Plaintiff's
      02   Exhibit 2190 a document Bates labeled CQG00944740
      03   through 43.
      04   (WHEREUPON, a certain document was
      05   marked Plaintiff's Deposition
      06   Exhibit No. 2190, for identification,
      07   as of 05/20/13.)

257. PAGE 126:17 TO 126:17 (RUNNING 00:00:01.247)

      17   Q.   Do you recognize the document?

258. PAGE 126:18 TO 126:21 (RUNNING 00:00:09.974)

      18   A.   Are you asking whether I recall receiving
      19   them?
      20   Q.   Do you recall the subject matter of the
      21   e-mail?

259. PAGE 126:22 TO 126:24 (RUNNING 00:00:11.884)

      22   A.   I remember some things.
      23   Q.   Did you receive this e-mail on or around
      24   November 17th, 2010?

260. PAGE 127:01 TO 127:03 (RUNNING 00:00:05.910)

   00127:01   A.   I don't recall.
      02   Q.   Any reason to believe you did not receive
      03   this e-mail on November 17th, 2010?

261. PAGE 127:06 TO 127:08 (RUNNING 00:00:05.712)

      06   A.   No.
      07   BY MS. KURCZ:
      08   Q.   Was this e-mail maintained by CQG?

262. PAGE 127:11 TO 127:14 (RUNNING 00:00:03.921)

      11   A.   I don't know.
      12   BY MS. KURCZ:
      13   Q.   Any reason to believe it was not
      14   maintained by CQG?

263. PAGE 127:17 TO 127:21 (RUNNING 00:00:11.363)

      17   A.   No.
      18   BY MS. KURCZ:
      19   Q.   Any reason to believe that you did not
      20   receive this e-mail as part of your job function at
      21   CQG?

264. PAGE 127:24 TO 128:03 (RUNNING 00:00:07.243)

      24   A.   No.
   00128:01   BY MS. KURCZ:
      02   Q.   And, again, you said you save your
      03   e-mails, is that correct?

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265. PAGE 128:06 TO 128:10 (RUNNING 00:00:08.288)

```
06        A.    Yes.
07   BY MS. KURCZ:
08        Q.    Any reason to believe that this e-mail
09   wasn't also saved by you in your archives, part of
10   your job at CQG?
```

266. PAGE 128:13 TO 128:13 (RUNNING 00:00:01.938)

```
13        A.    No.
```

267. PAGE 141:04 TO 141:09 (RUNNING 00:00:41.653)

```
04        Q.    Let's go back to Plaintiff's Exhibit 2190
05   before you.  And the description, if you go to the
06   very last page, is:  "Market window doesn't show up if
07   it's higher than DOMTrader height."
08              Do you recall generally the sub -- that
09   subject matter being discussed at CQG?
```

268. PAGE 141:13 TO 141:22 (RUNNING 00:00:31.363)

```
13        A.    Yes, in general, I do recall it.
14   BY MS. KURCZ:
15        Q.    The first page of the document at the very
16   bottom, there is an e-mail from you to Mr. Shterk
17   dated November 15th, and it says -- you say, "It would
18   be great if we could describe the patent limitation
19   with some requirements which can be used by
20   developers."
21              What patent limitation are you talking
22   about?
```

269. PAGE 142:01 TO 142:07 (RUNNING 00:00:15.167)

```
00142:01        A.    I don't recall.
02   BY MS. KURCZ:
03        Q.    You also say, "It might help to prevent
04   such problems in the future (and problems with static
05   DOM grid) when price is selected."
06              What did you mean by "problems with static
07   DOM grid when price is selected"?
```

270. PAGE 142:11 TO 142:11 (RUNNING 00:00:02.588)

```
11        A.    I don't recall.
```

271. PAGE 142:19 TO 142:20 (RUNNING 00:00:03.043)

```
19        Q.    What did you mean in the e-mail when you
20   said "static DOM grid"?
```

272. PAGE 142:23 TO 143:01 (RUNNING 00:00:03.219)

```
23        A.    I don't recall.
24   BY MS. KURCZ:
00143:01        Q.    What do you think you meant?
```

273. PAGE 143:04 TO 143:08 (RUNNING 00:00:26.423)

```
04        A.    I suppose that I meant the "suggestion
05   256543307," which is mentioned here.
06   BY MS. KURCZ:
07        Q.    What about static DOM grid generally, what
08   does that mean to you?
```

274. PAGE 143:12 TO 143:13 (RUNNING 00:00:12.218)

```
12        A.    I understand it as a DOM grid that doesn't
13   scroll.
```

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---

275. PAGE 144:22 TO 144:22 (RUNNING 00:00:02.822)

```
22      Q.    And project manager of what?
```

276. PAGE 144:24 TO 145:04 (RUNNING 00:00:07.708)

```
   24  BY THE WITNESS:
00145:01      A.    Well, I manage projects.
   02  BY MS. KURCZ:
   03      Q.    Do those projects include managing
   04  DOMTrader?
```

277. PAGE 145:06 TO 145:07 (RUNNING 00:00:05.122)

```
06  BY THE WITNESS:
07      A.    DOMTrader is not a project.
```

278. PAGE 145:08 TO 145:10 (RUNNING 00:00:05.069)

```
08  BY MS. KURCZ:
09      Q.    Are there certain products at CQG you are
10  responsible for?
```

279. PAGE 145:12 TO 145:16 (RUNNING 00:00:14.040)

```
12  BY THE WITNESS:
13      A.    No, not products.
14  BY MS. KURCZ:
15      Q.    Who is responsible for the DOMTrader at
16  CQG?
```

280. PAGE 145:18 TO 145:22 (RUNNING 00:00:06.016)

```
18  BY THE WITNESS:
19      A.    I don't know.
20  BY MS. KURCZ:
21      Q.    How many projects are you currently
22  managing at CQG?
```

281. PAGE 145:23 TO 145:24 (RUNNING 00:00:03.843)

```
23      A.    One.
24      Q.    What is that?
```

282. PAGE 146:04 TO 146:04 (RUNNING 00:00:14.378)

```
04      A.    Omnibus, omnibus in CQG IC.
```

283. PAGE 147:06 TO 147:07 (RUNNING 00:00:04.513)

```
06      Q.    What was the subject matter of the project
07  you managed for DOMTrader in the past?
```

284. PAGE 147:08 TO 147:11 (RUNNING 00:00:21.018)

```
08      A.    Those projects were related to the changes
09  in the source code.
10      Q.    Did you change the source code for those
11  projects?
```

285. PAGE 147:14 TO 147:16 (RUNNING 00:00:07.465)

```
14      A.    Do you mean in some of those projects?
15  BY MS. KURCZ:
16      Q.    In any of those projects.
```

286. PAGE 147:17 TO 147:18 (RUNNING 00:00:04.940)

```
17      A.    Yes, we -- yes, I did.
18      Q.    How many projects?
```

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287. PAGE 147:19 TO 147:22 (RUNNING 00:00:14.274)

```
19      A.    I don't recall.
20      Q.    What changes do you recall that were made
21   to the source code in any of your projects pertaining
22   to DOMTrader?
```

288. PAGE 148:01 TO 148:04 (RUNNING 00:00:18.748)

```
00148:01      A.    For instance, I added something called an
02   order type indicator.
03   BY MS. KURCZ:
04      Q.    What else?
```

289. PAGE 148:05 TO 148:07 (RUNNING 00:00:26.203)

```
05      A.    And I moved the logic of showing the
06   market window as a separate -- into a separate class.
07      Q.    Where did you move that logic to?
```

290. PAGE 148:08 TO 148:09 (RUNNING 00:00:12.589)

```
08      A.    I created a separate class.  So I moved
09   the logic in this newly created class.
```

291. PAGE 148:10 TO 148:11 (RUNNING 00:00:07.031)

```
10      Q.    What was the name of the file in which the
11   newly created class is contained?
```

292. PAGE 148:14 TO 148:16 (RUNNING 00:00:05.720)

```
14      A.    I don't recall that.
15   BY MS. KURCZ:
16      Q.    What was the newly created class called?
```

293. PAGE 148:19 TO 148:21 (RUNNING 00:00:04.518)

```
19      A.    I don't recall.
20   BY MS. KURCZ:
21      Q.    When did you do that?
```

294. PAGE 148:24 TO 149:02 (RUNNING 00:00:07.015)

```
24      A.    I don't recall.
00149:01   BY MS. KURCZ:
02      Q.    Was it after 2009?
```

295. PAGE 149:05 TO 149:05 (RUNNING 00:00:02.194)

```
05      A.    I don't recall.
```

296. PAGE 149:07 TO 149:07 (RUNNING 00:00:01.297)

```
07      Q.    Why did you do that?
```

297. PAGE 149:10 TO 149:14 (RUNNING 00:00:18.294)

```
10      A.    It is easier for the programmers to
11   maintain the code when it is separated as a separate
12   class.
13   BY MS. KURCZ:
14      Q.    Any other reason?
```

298. PAGE 149:15 TO 149:16 (RUNNING 00:00:06.142)

```
15      A.    Yes.
16      Q.    What other reason?
```

299. PAGE 149:17 TO 149:19 (RUNNING 00:00:16.311)

```
17      A.    Some requirements changed that were
18   related to how the market window showed or appeared.
```

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```
19      Q.    What requirements were those?
```

300. PAGE 149:22 TO 149:22 (RUNNING 00:00:02.822)

```
22      A.    I don't -- I don't recall.
```

301. PAGE 159:01 TO 159:14 (RUNNING 00:00:44.592)

```
00159:01      Q.    Let's go back to Plaintiff's Exhibit 2190
   02   in front of you.  We were talking about this document
   03   earlier.  I wanted to ask you a few more questions
   04   about some of the other e-mails up high on the
   05   document.
   06            On the first page you sent an e-mail to
   07   Mr. Shterk on November 17th, 2010, at 9:23.  Do you
   08   see that?
   09            And you ask him whether "we have any
   10   documents describing what we shouldn't implement in
   11   order not to get sued by TT or any other company?  I
   12   can take a look at it and try to convert to
   13   requirements."
   14            Why did you ask him that?
```

302. PAGE 159:17 TO 159:21 (RUNNING 00:00:14.633)

```
   17      A.    I don't recall.
   18   BY MS. KURCZ:
   19      Q.    Did you ever see any documents that
   20   describe what should be implemented in order not to
   21   get sued by TT?
```

303. PAGE 159:24 TO 160:04 (RUNNING 00:00:13.258)

```
   24      A.    I don't recall seeing such documents.
00160:01   BY MS. KURCZ:
   02      Q.    Did you ever discuss with anyone what
   03   shouldn't be implemented in order not to get sued by
   04   TT?
```

304. PAGE 160:07 TO 160:12 (RUNNING 00:00:12.564)

```
   07      A.    I don't recall.
   08   BY MS. KURCZ:
   09      Q.    Mr. Shterk responds to you by saying, "We
   10   have their patents."  "I can probably talk to you and
   11   explain it in some detail."
   12            Did he ever do that?
```

305. PAGE 160:16 TO 160:16 (RUNNING 00:00:03.198)

```
   16      A.    I don't recall.
```

306. PAGE 161:02 TO 161:03 (RUNNING 00:00:04.776)

```
   02      Q.    He says, "No matter what - the latter of
   03   prices cannot freeze for long periods of time."
```

307. PAGE 161:20 TO 161:22 (RUNNING 00:00:07.975)

```
   20      Q.    What do you think that he meant by "the
   21   ladder of prices cannot freeze for long periods of
   22   time"?
```

308. PAGE 162:02 TO 162:03 (RUNNING 00:00:09.680)

```
   02      A.    I think he meant that the DOM grid
   03   shouldn't stop scrolling for long periods of time.
```

309. PAGE 164:07 TO 164:07 (RUNNING 00:00:02.270)

```
   07      Q.    What is TRI refactoring?
```

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310. PAGE 164:10 TO 164:17 (RUNNING 00:00:24.861)

```
10        A.    Do you want me to spell out the
11   abbreviation?
12   BY MS. KURCZ:
13        Q.    Sure.
14        A.    I think it stands for trader -- trade
15   routing interfaces.
16        Q.    What is T -- trade routing interfaces
17   refactoring?
```

311. PAGE 164:20 TO 165:07 (RUNNING 00:00:43.818)

```
20        A.    I don't recall.
21   BY MS. KURCZ:
22        Q.    Looking at the third page of the Exhibit
23   in front of you, 2190, and, again, the title of this
24   defect was:  "Market window doesn't show up at higher
00165:01   than DOMTrader height," in the comments, there is a
02   comment that says, "This defect was injected about
03   four years ago during what appears to be 7x4
04   maintenance, but also seems to be related to work done
05   in scope of 'TRI refactoring' project."
06            Do you know what the TRI refactoring
07   project is that's being referred to in that e-mail?
```

312. PAGE 165:11 TO 165:13 (RUNNING 00:00:04.464)

```
11        A.    I have heard about that project.
12   BY MS. KURCZ:
13        Q.    What have you heard?
```

313. PAGE 165:14 TO 165:16 (RUNNING 00:00:07.335)

```
14        A.    I don't recall any details.
15        Q.    What do you recall that that project
16   generally refers to?
```

314. PAGE 165:19 TO 166:04 (RUNNING 00:00:30.685)

```
19        A.    I don't recall what -- what it is about.
20   BY MS. KURCZ:
21        Q.    And the next sentence says, "The behavior
22   in question is intentional - the code checks whether
23   the market window will have more rows than the grid
24   has, and if so, doesn't show the market window, which
00166:01   fixes some problems with DOMTrader scrolling according
02   to check-in description."
03            What does it mean that the behavior in
04   question is intentional?
```

315. PAGE 166:08 TO 166:08 (RUNNING 00:00:05.368)

```
08        A.    I don't know what Vitaly meant.
```

316. PAGE 166:10 TO 166:12 (RUNNING 00:00:09.174)

```
10        Q.    Was it the purpose of the code, the intent
11   of the code to check whether the market window will
12   have more rows than the grid has?
```

317. PAGE 166:15 TO 166:16 (RUNNING 00:00:02.826)

```
15   BY THE WITNESS:
16        A.    I don't know.
```

318. PAGE 167:21 TO 168:04 (RUNNING 00:00:25.420)

```
21        MS. KURCZ:  I'm going to mark Plaintiff's
22   Exhibit 2192.  This document is Bates labeled
23   CQG01055822 through 29, and it is an e-mail from
```

page 27

Korepanov

```
      24   Mr. Korepanov to Mr. Shterk dated March 10th, 2011.
 00168:01                  (WHEREUPON, a certain document was
      02                   marked Plaintiff's Deposition
      03                   Exhibit No. 2192, for identification,
      04                   as of 05/20/13.)
```

319. PAGE 168:12 TO 168:13 (RUNNING 00:00:04.286)

```
      12       Q.    Do you have any reason to believe you did
      13   not send this e-mail on or around March 10th, 2011?
```

320. PAGE 168:14 TO 168:14 (RUNNING 00:00:02.890)

```
      14       A.    No, no reason to believe so.
```

321. PAGE 169:04 TO 169:05 (RUNNING 00:00:06.549)

```
      04       Q.    And in your role at CQG, do you regularly
      05   send e-mails as part of your job?
```

322. PAGE 169:08 TO 169:08 (RUNNING 00:00:01.754)

```
      08       A.    Yes, I do.
```

323. PAGE 169:10 TO 169:10 (RUNNING 00:00:01.625)

```
      10       Q.    Do you recall this e-mail?
```

324. PAGE 169:11 TO 169:13 (RUNNING 00:00:04.877)

```
      11       A.    No.
      12       Q.    Do you recall the subject matter of this
      13   e-mail?
```

325. PAGE 169:14 TO 169:16 (RUNNING 00:00:15.291)

```
      14       A.    No, I don't.
      15       Q.    Did you regularly send e-mail to
      16   Mr. Shterk as part of your job at CQG?
```

326. PAGE 169:17 TO 169:20 (RUNNING 00:00:16.002)

```
      17       A.    Yes.
      18       Q.    Do you have any reason to believe that you
      19   did not compile the attachment and send it to
      20   Mr. Shterk?
```

327. PAGE 169:23 TO 169:23 (RUNNING 00:00:04.705)

```
      23       A.    No, no reason to believe so.
```

328. PAGE 171:15 TO 171:18 (RUNNING 00:00:10.915)

```
      15       Q.    Do you have any reason to believe that the
      16   data in the attachment is not a true and accurate copy
      17   of data that was stored in Genie as of March 10th,
      18   2011?
```

329. PAGE 171:21 TO 171:21 (RUNNING 00:00:03.172)

```
      21       A.    No, I don't have any reason to believe so.
```

330. PAGE 178:05 TO 178:05 (RUNNING 00:00:04.882)

```
      05       Q.    At CQG how are changes made to software?
```

331. PAGE 178:08 TO 178:11 (RUNNING 00:00:32.500)

```
      08       A.    Typically someone will come with the
      09   suggestion to make a change and typically that
      10   suggestion will be entered into the Genie.  This is
      11   one of the ways.
```

Korepanov

332. PAGE 178:12 TO 178:20 (RUNNING 00:01:18.052)

```
12              The second way would be to write a
13  so-called charter.  And if it is the case of a
14  charter, then this charter will be turned into a
15  project which will be implemented by developers.  If
16  it's a suggestion and it can also be a defect, then it
17  gets assigned to a developer who implements --
18  implements it.
19  BY MS. KURCZ:
20       Q.    Any other ways?
```

333. PAGE 178:23 TO 178:23 (RUNNING 00:00:02.221)

```
23       A.    I don't know.
```

334. PAGE 179:08 TO 179:09 (RUNNING 00:00:09.232)

```
08       Q.    If a suggestion is made, is it recorded
09  somewhere?
```

335. PAGE 179:13 TO 179:16 (RUNNING 00:00:08.141)

```
13       A.    Yes, all of the suggestions are recorded
14  in the Genie.
15  BY MS. KURCZ:
16       Q.    How are suggestions made?
```

336. PAGE 179:19 TO 179:23 (RUNNING 00:00:14.667)

```
19       A.    Anyone with access to Genie can record a
20  suggestion in there.
21  BY MS. KURCZ:
22       Q.    Are there any other ways to make a
23  suggestion?
```

337. PAGE 180:02 TO 180:05 (RUNNING 00:00:20.218)

```
02       A.    If someone who doesn't have access to the
03  Genie has a suggestion, they can come to a person who
04  does have the access and that person would make -- and
05  record a suggestion in the Genie.
```

338. PAGE 180:10 TO 180:14 (RUNNING 00:00:12.268)

```
10       A.    Yes, all of this will be saved in the
11  Genie.
12  BY MS. KURCZ:
13       Q.    If a suggestion is made, does it
14  automatically get implemented?
```

339. PAGE 180:17 TO 180:19 (RUNNING 00:00:04.539)

```
17       A.    No.
18  BY MS. KURCZ:
19       Q.    What happens to suggestions?
```

340. PAGE 180:22 TO 181:01 (RUNNING 00:00:35.502)

```
22       A.    Somebody who is authorized to make
23  decisions about which suggestions to implement will
24  review all new suggestions and mark them in a certain
00181:01  way.
```

341. PAGE 181:08 TO 181:09 (RUNNING 00:00:04.528)

```
08              Who is authorized to make decisions about
09  which suggestions to implement?
```

342. PAGE 181:12 TO 181:12 (RUNNING 00:00:05.178)

```
12       A.    For instance, business drivers.
```

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343. PAGE 182:14 TO 182:15 (RUNNING 00:00:07.304)

```
14      Q.    From 2005 to present, who is authorized to
15   make changes to DOMTrader?
```

344. PAGE 182:18 TO 182:21 (RUNNING 00:00:15.354)

```
18      A.    You mean who is authorized to make
19   decisions regarding suggestions?
20   BY MS. KURCZ:
21      Q.    Regarding -- regarding suggestions, yes.
```

345. PAGE 182:24 TO 183:01 (RUNNING 00:00:07.371)

```
      24      A.    For instance, one of those people was
00183:01   Yuriy Shterk.
```

346. PAGE 185:13 TO 185:15 (RUNNING 00:00:09.607)

```
13      Q.    Is it possible for changes to be made to
14   the DOMTrader without first being recorded as a
15   suggestion, defect or charter?
```

347. PAGE 185:17 TO 185:20 (RUNNING 00:00:02.141)

```
17   BY THE WITNESS:
18      A.    Yes.
19   BY MS. KURCZ:
20      Q.    How else?
```

348. PAGE 185:21 TO 185:23 (RUNNING 00:00:11.542)

```
21      A.    By mistake.
22      Q.    Are you aware of changes that were made by
23   mistake to DOMTrader?
```

349. PAGE 186:02 TO 186:06 (RUNNING 00:00:15.713)

```
02      A.    I know that they exist.
03   BY MS. KURCZ:
04      Q.    Are you aware of any changes that were
05   made to the functionality of DOMTrader that occurred
06   because of a mistake?
```

350. PAGE 186:09 TO 186:11 (RUNNING 00:00:08.596)

```
09      A.    I also know that they exist.
10   BY MS. KURCZ:
11      Q.    How do you know that?
```

351. PAGE 186:12 TO 186:15 (RUNNING 00:00:30.140)

```
12      A.    Many of those changes are later recorded
13   in the Genie as defects.
14      Q.    Are you aware of any changes to scrolling
15   in DOMTrader that were made by a mistake?
```

352. PAGE 186:18 TO 186:22 (RUNNING 00:00:22.087)

```
18      A.    I don't recall.
19   BY MS. KURCZ:
20      Q.    Are you aware of any changes that are made
21   that are not in a suggestion, not in a charter and not
22   recorded later as a defect?
```

353. PAGE 187:01 TO 187:01 (RUNNING 00:00:02.748)

```
00187:01      A.    No, I don't know.
```

354. PAGE 187:03 TO 187:05 (RUNNING 00:00:09.425)

```
03      Q.    You said also that changes could be made
04   to software at CQG via a charter.
```

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```
      05              Who approves charters at CQG?
```

355. PAGE 187:08 TO 187:08 (RUNNING 00:00:02.661)

```
      08      A.    Business drivers.
```

356. PAGE 187:18 TO 187:21 (RUNNING 00:00:10.809)

```
      18              When you say "business drivers" in the
      19  context of charters, are you referring to the same
      20  business drivers that you referred to in the context
      21  of suggestions?
```

357. PAGE 187:22 TO 187:24 (RUNNING 00:00:15.496)

```
      22      A.    Yes, the same.
      23      Q.    From 2005 to present, who at CQG had the
      24  authority to approve charters relating to DOMTrader?
```

358. PAGE 188:03 TO 188:03 (RUNNING 00:00:08.276)

```
      03      A.    Yuriy Shterk and Vladimir Kislenkov.
```

359. PAGE 191:02 TO 191:03 (RUNNING 00:00:05.767)

```
      02      Q.    Who made a decision whether to classify
      03  something as a defect or a suggestion?
```

360. PAGE 191:06 TO 191:06 (RUNNING 00:00:02.044)

```
      06      A.    Business drivers.
```

361. PAGE 191:22 TO 192:01 (RUNNING 00:00:13.472)

```
      22      Q.    So when Yuriy Shterk was at CQG, he was
      23  the only business driver you're aware of with
      24  authority to approve changes by suggestion or charter
   00192:01  to DOMTrader?
```

362. PAGE 192:05 TO 192:05 (RUNNING 00:00:04.087)

```
      05      A.    Yes, from the ones I know.
```

363. PAGE 224:06 TO 224:11 (RUNNING 00:00:20.523)

```
      06      Q.    I've handed you Plaintiff's Exhibit 2198
      07  labeled CQG3180998.
      08              It's an e-mail from you dated July 11th,
      09  2005 to Alexk, Sergeyg and Sergeya.
      10              Do you recall the subject matter of this
      11  e-mail?
```

364. PAGE 224:12 TO 224:12 (RUNNING 00:00:03.049)

```
      12      A.    No, I don't remember.
```

365. PAGE 224:13 TO 224:14 (RUNNING 00:00:04.694)

```
      13      Q.    Do you have any reason to believe you did
      14  not send this e-mail on July 11th, 2005?
```

366. PAGE 224:15 TO 224:15 (RUNNING 00:00:02.245)

```
      15      A.    I don't know.
```

367. PAGE 225:08 TO 225:09 (RUNNING 00:00:05.801)

```
      08      Q.    What changes to Chart Trader were required
      09  to bypass the TT patent?
```

368. PAGE 225:13 TO 225:15 (RUNNING 00:00:03.341)

```
      13      A.    I don't know.
      14  BY MS. KURCZ:
```

Korepanov

```
    15      Q.      You wrote it.  What did you mean?
```

369. PAGE 225:18 TO 225:21 (RUNNING 00:00:09.955)

```
    18      A.      I can't remember.
    19  BY MS. KURCZ:
    20      Q.      Did CQG make changes to Chart Trader to
    21  bypass TT's patent?
```

370. PAGE 226:01 TO 226:01 (RUNNING 00:00:02.243)

```
 00226:01      A.      I don't know.
```

371. PAGE 226:03 TO 226:04 (RUNNING 00:00:04.301)

```
    03      Q.      And this e-mail contains a suggestion.  It
    04  says, "Reported by:  Alexk."
```

372. PAGE 226:05 TO 226:05 (RUNNING 00:00:00.644)

```
    05              Is that you?
```

373. PAGE 226:06 TO 226:08 (RUNNING 00:00:10.574)

```
    06      A.      Do you mean that this is the name of my
    07  account at CQG?
    08      Q.      Yes.
```

374. PAGE 226:11 TO 226:12 (RUNNING 00:00:06.965)

```
    11      A.      This is -- Alexk is the name of my account
    12  at CQG.
```

375. PAGE 226:14 TO 226:15 (RUNNING 00:00:03.200)

```
    14      Q.      Do you have any reason to believe that you
    15  did not create this suggestion?
```

376. PAGE 226:18 TO 226:21 (RUNNING 00:00:06.508)

```
    18      A.      I don't know.
    19  BY MS. KURCZ:
    20      Q.      Do you have any reason to believe that you
    21  did not create this?
```

377. PAGE 226:23 TO 226:24 (RUNNING 00:00:02.291)

```
    23  BY THE WITNESS:
    24      A.      I don't know.
```

TOTAL: 1 CLIP FROM 1 DEPOSITION (RUNNING 01:07:02.225)

Exhibit C

	A	B	C	D	E	F
1	Request Update Date	Created Server Time	Response Update Date	Created Date	Activity Type	Created By
2		11/25/2009 7:11		11/25/2009 7:11	Status Change	VAL
3		9/23/2009 4:04		9/23/2009 15:09	Email - Outbound	ALEXK
4						
5		9/23/2009 3:36		9/23/2009 3:36	Reassigned	ALEXK
6		9/23/2009 3:36		9/23/2009 3:35	Status Change	ALEXK

	G	H	I
1	Description	Completed	Assigned To
2	Inquiry sub-status change to: Resolved	N	
3	Sent message to: Alexander Sidorov; SST; Alexey Korepanov; Valerie Curry. (see Comment for messa...	N	
4			
5	Inquiry reassigned to: VAL	N	
6	Inquiry sub-status change to: Investigation Complete	N	

CQG00145602

TT v. CQG (05-4811)

PTX 0169.0002

	J
1	Due Date
2	
3	
4	
5	
6	

CQG00145603

TT v. CQG (05-4811)

PTX 0169.0003

	K
1	Note/Request
2	
3	The following Inquiry has been set to Open/Investigation Complete: ---------------- Comments: I believe the inside market should return to center only if we don't have selection on the DOM grid. According to the screenshots attached, we have selection on the DOM grid on the both screenshots. We cannot center inside market in this case because this will move selection which might cause confusion or even placing order at the undesired price. Thanks! ---------------- Number: 198815709 Title: price on dom ladder sometimes goes out of visible range. Date Opened: 8/30/2009 2:54:15 PM Reported By: VAL Created By: VAL Assigned To:
4	VAL Area: CQG Client Sub-Area: Trade Routing Priority: 2-By Due Date Status: Open Sub Status: Investigation Complete Target Fix Version:⊠CQG Client Inquiries Description: Russian cust complains that after upgrade to 8x1887 with his DOM Trader is set to Responsive price scale, from time to time when the inside market reaches the top or bottom of the ladder, it doesn't return to center as it should (according to help file), but goes beyond the visible zone. This behavior doesn't depend on market or side (top or bottom). CSP tech in Moscow can reproduce (see attachment), but I cannot. screen shots, logs and pages are attached.
5	
6	

CQG00145604

TT v. CQG (05-4811)

PTX 0169.0004

	L	M	N	O	P	Q	R	S	T	U
1	System	CQG Id	Telco Row Id	Amount	Date Assigned	Acct. Name	Acct. Location	ARNum	Last Name	First Name
2										
3										
4										
5										
6										

CQG00145605

TT v. CQG (05-4811)

PTX 0169.0005

	V	W	X	Y	Z	AA	AB	AC	AD
1	CSR/ISR	Defect/Suggestion Num.	Project	Requirement	Overdue	Priority	Date Completed	Start Time	Duration
2		198815709							
3		198815709							0
4									
5		198815709							
6		198815709							

CQG00145606

TT v. CQG (05-4811)

PTX 0169.0006

	AE	AF	AG
1	End Time	Todo	Alarm
2			
3			N
4			
5			
6			

TT v. CQG (05-4811)

PTX 0169.0007

	A	B	C	D	E	F
7		9/2/2009 11:03		9/2/2009 8:46	Email - Outbound	SHEILA
8		9/2/2009 8:04		9/2/2009 8:04	Priority Change	SADMIN
9		9/2/2009 8:04		9/2/2009 8:04	Reassigned	SADMIN
10		9/2/2009 8:03		9/2/2009 8:03	Target Fix Change	SADMIN
11		9/2/2009 8:03		9/2/2009 8:03	Status Change	SHEILA

TT v. CQG (05-4811)

PTX 0169.0008

	G	H	I
7	Sent message to: Alexander Sidorov; SST; Alexey Korepanov. (see Comment for message body.)	N	
8	Inquiry Priority change to: 2-By Due Date	N	
9	Inquiry reassigned to: ALEXK	N	
10	Inquiry Target Fix Version change to: CQG Client Inquiries	N	
11	Inquiry sub-status change to: Assigned	N	

CQG00145609

TT v. CQG (05-4811)

PTX 0169.0009

	J
7	
8	
9	
10	
11	

CQG00145610

TT v. CQG (05-4811)

PTX 0169.0010

	K

The following inquiry has been assigned to ALEXK:

Comments: When you have completed your investigation, please send e-mail to the cc list with your findings. Then set the Sub-Status to Investigation Complete and assign it back to the Reporter. Thank you, Sheila

----

Number: 198815709

Due Date: ▨▨▨9/16/2009

Title: price on dom ladder sometimes goes out of visible range.
Date Opened: 8/30/2009 2:54:15 PM
Reported By: VAL
Created By: VAL
Area: CQG Client
Sub-Area: Trade Routing
Priority: 2-By Due Date
Assigned To: ALEXK
Status: Open
Sub Status: Assigned
Description: Russian cust complains that after upgrade to 8x1887 with his DOM Trader is set to Responsive price scale, from time to time when the inside market reaches the top or bottom of the ladder, it doesn't return to center as it should (according to help file), but goes beyond the visible zone. This behavior doesn't depend on market or side (top or bottom). CSP tech in Moscow can reproduce (see attachment), but I cannot. screen shots, logs and pages are attached.

7	
8	
9	
10	
11	

CQG00145611

TT v. CQG (05-4811)   **PTX 0169.0011**

	L	M	N	O	P	Q	R	S	T	U
7										
8										
9										
10										
11										

CQG00145612

TT v. CQG (05-4811)

PTX 0169.0012

	V	W	X	Y	Z	AA	AB	AC	AD
7		198815709							0
8		198815709							
9		198815709							
10		198815709							
11		198815709							

CQG00145613

TT v. CQG (05-4811)

PTX 0169.0013

	AE	AF	AG
7			N
8			
9			
10			
11			

CQG00145614

TT v. CQG (05-4811)

PTX 0169.0014

Exhibit D

	A	B	C	D	E	F
1	Request Update Date	Created Server Time	Response Update Date	Created Date	Activity Type	Created By
2		10/27/2010 15:13		10/27/2010 15:13	Status Change	SHEILA
3		4/15/2010 13:50		4/15/2010 20:48	Note	MOLLY
4		4/15/2010 13:47		4/15/2010 20:45	Note	MOLLY
5		4/15/2010 13:45		4/15/2010 20:41	Note	MOLLY
6		4/12/2010 10:39		4/12/2010 8:56	Email - Outbound	SHEILA
7		4/12/2010 10:39		4/12/2010 8:55	Status Change	SHEILA
8		4/6/2010 9:17		4/6/2010 16:17	Email - Outbound	MOLLY
9		3/25/2010 11:24		3/25/2010 11:24	Category Change	MOLLY
10		3/25/2010 11:24		3/25/2010 17:16	Email - Outbound	MOLLY
11		3/25/2010 11:24		3/25/2010 17:15	Note	MOLLY
12		3/25/2010 11:24		3/25/2010 17:13	Note	MOLLY

TT v. CQG (05-4811)

PTX 0170.0001

	G	H	I
1	Description	Completed	Assigned To
2	Inquiry sub-status change to: Inquiry Complete	N	
3		Y	
4		Y	
5		Y	
6	Sent message to: Molly Morrissey; SST. (see Comment for message body.)	N	
7	Inquiry sub-status change to: Inquiry Investigated	N	
8	Sent message to: Sheila Spampinato; Alexey Prokudin. (see Comment for message body.)	N	
9	Category change to: Inquiry	N	
10	Sent message to: Molly Morrissey; SST. (see Comment for message body.)	N	
11		Y	
12		Y	

CQG00145683

TT v. CQG (05-4811)

PTX 0170.0002

	J	K	L	M
1	Due Date	Note/Request	System	CQG Id
2				
3		From: Molly Morrissey Sent: 15 April 2010 20:48 To: Yuriy Shterk Subject: RE: Inquiry 245377993 Details This seems like it might work, but he couldn't do fast click then, correct? First he has to select price, then buy or sell-2 clicks. Let me know if I'm misunderstanding.		
4		From: Yuriy Shterk Sent: 15 April 2010 04:12 To: Molly Morrissey Subject: FW: Inquiry 245377993 Details Molly - have you tried to select a price on the DT? Once the price is selected we will not get this price out of view. if user selected the top most visible price (or bottom) the price grid will not be jumping on him anymore. Thanks.		
5		From: Alexey Korepanov Sent: Wed 4/14/2010 9:27 AM To: Yuriy Shterk; Marcus Kwan Subject: RE: Inquiry 245377993 Details As I see in version 8.3136, we don't go to market mode after order placement if we had a price selected. We only go back to market mode if we were in market mode before order placement. Thanks! Alexey Korepanov	Software Developer p. +7-(846)-269-6815 ext. 7213 alexk@cqg.com		
6		---------------- Comments: Per Yuriy - we have the compression tool that allows domtrader not to "Jump" plus when user selects the price the ladder will not move anymore. Marking this as Investigation complete - this has nothing to do with the software.		
7				
8		---------------- Comments: Hello Sheila and Alexey, I had re-opened and escalated this one but it looks like it's still assigned to me. Can you please tell me the status? The user is concerned about this. Thanks, Molly ---------------- Number:		
9				
10		---------------- Comments: Re-opened and escalated. User said that due to this issue, he lost money today because an order was put in at the wrong price because the ladder jumped before he finished clicking on a price...so the ladder jumped and he wound		
11		Re-opened and escalated. User said that due to this issue, he lost money today because an order was put in at the wrong price because the ladder jumped before he finished clicking on a price...so the ladder jumped and he wound up placing the order at the wrong price.		
12		user said that due to this issue, he lost money today because an order was put in at the wrong price because the ladder jumped before he finished clicking on a price...therefore the ladder jumped and wound up placing the order at the wrong price.		

CQG00145684

TT v. CQG (05-4811)

PTX 0170.0003

	N	O	P	Q	R	S	T	U	V
1	Telco Row Id	Amount	Date Assigned	Acct. Name	Acct. Location	ARNum	Last Name	First Name	CSR/ISR
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

CQG00145685

TT v. CQG (05-4811)

PTX 0170.0004

	W	X	Y	Z	AA	AB	AC	AD	AE
1	Defect/Suggestion Num.	Project	Requirement	Overdue	Priority	Date Completed	Start Time	Duration	End Time
2	245377993								
3	245377993			N		4/15/2010 0:00		0	
4	245377993			N		4/15/2010 0:00		0	
5	245377993			N		4/15/2010 0:00		0	
6	245377993							0	
7	245377993								
8	245377993							0	
9	245377993								
10	245377993							0	
11	245377993			N		3/25/2010 0:00		0	
12	245377993			N		3/25/2010 0:00		0	

CQG00145686

TT v. CQG (05-4811)

PTX 0170.0005

	AF	AG
1	Todo	Alarm
2		
3		N
4		N
5		N
6		N
7		
8		N
9		
10		N
11		N
12		N

TT v. CQG (05-4811)

PTX 0170.0006

	A	B	C	D	E	F
13		3/25/2010 11:24		3/25/2010 16:45	Note	MOLLY
14		3/25/2010 11:24		3/25/2010 16:45	Note	MOLLY
15		3/24/2010 10:15		3/24/2010 10:15	Category Change	MOLLY
16		3/24/2010 10:14		3/24/2010 16:13	Note	MOLLY
17		3/17/2010 8:41		3/17/2010 8:41	Priority Change	SADMIN
18		3/17/2010 8:41		3/17/2010 8:41	Reassigned	SADMIN
19		3/17/2010 8:40		3/17/2010 8:40	Target Fix Change	SADMIN
20		3/17/2010 8:40		3/17/2010 7:58	Status Change	SHEILA
21		3/17/2010 8:40		3/17/2010 7:58	Email - Outbound	SHEILA
22		3/17/2010 5:40		3/17/2010 14:39	Note	ELENAP
23		3/15/2010 10:40		3/15/2010 14:19	Email - Outbound	MOLLY
24		3/15/2010 10:40		3/15/2010 14:00	Note	MOLLY

TT v. CQG (05-4811)

PTX 0170.0007

	G	H	I
13		Y	
14		Y	
15	Category change to: Suggestion	N	
16		Y	
17	Inquiry Priority change to: 2-By Due Date	N	
18	Inquiry reassigned to: MOLLY	N	
19	Inquiry Target Fix Version change to: CQG Client Inquiries	N	
20	Inquiry sub-status change to: Investigation Complete	N	
21	Sent message to: Molly Morrissey; SST. (see Comment for message body.)	N	
22		Y	
23	Sent message to: SST. (see Comment for message body.)	N	
24		Y	

CQG00145689

TT v. CQG (05-4811)

PTX 0170.0008

	J	K	L	M
13		I went to visit the customer today and he said this is a real problem. He believes that this functionality made him lose money today, because he placed an order at what he thought was going to be -6, but the ladder moved before he even clicked off that price (using fast click). It placed his order instead at -4 after it jumped around. order 626618210 and 626618211. i attached logs. I have added another movie to the attachments called 132891Peter.exe. In the movie, you will see the orange spreader dom ladder (far left). You can see, that just by him chosing a price on the ladder, it moves around quite suddenly and not due to a busy market, but due to this re-sizing and re-alignment that CQG intends. He'd like it not to do that.		
14		-----Original Message----- From: Molly Morrissey Sent: 17 March 2010 14:18 To: Sheila Spampinato; SST Subject: RE: Inquiry 245377993 Details He's trading within the spread between the best bid/offer so this is why he can't compress. So he has to open i		
15				
16		Version 8.2854. Issue with Spreading Calendar Spreads. Example, CLES3M1-CLES3U1: there is a wide spread between the best b/a. User wants to trade within that spread. When he places an order the ladder moves, possibly to show more prices. I have attached a movie to show how the prices on the ladder shift after the user places trades. Also you will see at times duplicate price numbers on the ladder. Reproduced in-house.		
17				
18				
19				
20				
21		---------------- Comments: Molly - please use the compression button. ---------------- Number: 245377993 Title: Wide Spread between b/a in Calendar Spread Spreading-- makes trading difficult because ladder moves. Date Opened: 3/15/20		
22		[EA] In DT/OT when you scroll prices far from market a market window appears in the bottom which always shows best b/a. That's why prices duplicate. Ladder moving is also intended behaviour of showing prices in DT/OT as best b/a prices change		
23		---------------- Comments: See attached movies in the Inquiry. Thanks ---------------- Number: 245377993 Title: Wide Spread between b/a in Calendar Spread Spreading-- makes trading difficult because ladder moves. Date Opened: 15/03/2		
24		The movies are from my in-house system but it replicates the behaviour of the user's system and that is why I put his system in the title.		

CQG00145690

TT v. CQG (05-4811)

PTX 0170.0009

	N	O	P	Q	R	S	T	U	V
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									

CQG00145691

TT v. CQG (05-4811)

PTX 0170.0010

	W	X	Y	Z	AA	AB	AC	AD	AE
13	245377993			N		3/25/2010 0:00		0	
14	245377993			N		3/25/2010 0:00		0	
15	245377993								
16	245377993			N		3/24/2010 0:00		0	
17	245377993								
18	245377993								
19	245377993								
20	245377993								
21	245377993							0	
22	245377993			N		3/17/2010 0:00		0	
23	245377993							0	
24	245377993			N		3/15/2010 0:00		0	

TT v. CQG (05-4811)

PTX 0170.0011

	AF	AG
13		N
14		N
15		
16		N
17		
18		
19		
20		
21		N
22		N
23		N
24		N

CQG00145693

TT v. CQG (05-4811)

PTX 0170.0012

Exhibit E

From:	Yuriy Shterk <yshterk@cqgexchangemail.com>
Sent:	Wednesday, April 14, 2010 10:11 PM
To:	Alexey Korepanov <alexk@cqgexchangemail.com>; Marcus Kwan <marcus@cqgexchangemail.com>
Subject:	RE: Inquiry 245377993 Details

is it the same way in 8x2? I do not remember us making any changes here, but then I do not understand why user says it is not working for him. I will ask Molly to try it again.

Thanks.

From: Alexey Korepanov
Sent: Wed 4/14/2010 9:27 AM
To: Yuriy Shterk; Marcus Kwan
Subject: RE: Inquiry 245377993 Details

As I see in version 8.3136, we don't go to market mode after order placement if we had a price selected. We only go back to market mode if we were in market mode before order placement.

Thanks!

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Wednesday, April 14, 2010 5:25 PM
To: Alexey Korepanov; Marcus Kwan
Subject: RE: Inquiry 245377993 Details

I like that. Problem seems to be about the fact that market window shifts on them since they trade in the middle of BBA.

What do you think about adding a mode that will not remove the market selection upon order placement? Now we select the price, the grid freezes, but once the order is placed we're back to the market mode. What if we persist this price selection until user manually goes into market mode?

Thanks.

-----Original Message-----
From: Alexey Korepanov
Sent: Wednesday, April 14, 2010 4:47 AM
To: Yuriy Shterk; Marcus Kwan
Subject: RE: Inquiry 245377993 Details

Is the problem in market window which randomly appears above and below the main grid as the market moves?

Maybe we can introduce some mode when market window is never shown? This mode can be controlled by a new button near the compress button or in Trading Preferences.

TT v. CQG (05-4811)
PDX 2184
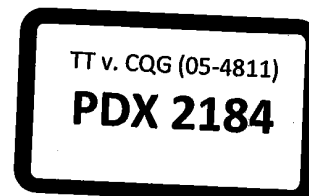
CQG00883926

Or we can allow resizing market window to zero size.

Currently we can suggest trader to resize market window to 1 row, this might help a little bit.

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Tuesday, April 13, 2010 4:22 PM
To: Marcus Kwan; Alexey Korepanov
Subject: Fw: Inquiry 245377993 Details

We need to design around this case. Any ideas?

Thanks.

-----Original Message-----
From: Molly Morrissey
To: Yuriy Shterk
Sent: Tue Apr 13 02:47:47 2010
Subject: RE: Inquiry 245377993 Details

Yes, he trades between the best bid/ best ask. He has tried the price selection, but I could see that it doesn't allow him to quickly place multiple trades in an area between the best b/a. The ladder still jumps around and confuses him.

From: Yuriy Shterk
Sent: 13 April 2010 03:02
To: Molly Morrissey
Subject: RE: Inquiry 245377993 Details

so, he wants to trade between Best Bid and Best Ask? Then the compression will not work...

has he tried selecting a price and keeping the selection? In this case it will not jump, this price will stay visible all the time.

I do not remember how we've done it, we might "unselect" the price when the order is placed (sorry, don't have CQG in front of me now). If this is the case we will add an option to keep the selection or not in 8x3. Let me know what you see please, Molly.

Thanks a lot.

_____

From: Molly Morrissey [mailto:molly@cqg.com]
Sent: Mon 4/12/2010 9:42 AM
To: Yuriy Shterk
Subject: FW: Inquiry 245377993 Details

Hi Yuriy,

CQG00883927

TT v. CQG (05-4811)   **PTX 0188.0002**

When I applied the compression tool to some of the customers' calendar spread spreads (CLES3H1 - ETS3H1), the spread between the best b and best ask was compressed and he couldn't place trades on the prices he wanted. He places orders between the best bid and ask.

Do you have another suggestion? Because the ladder does jump around quite a bit and it makes it difficult for the user to trade.

Thanks, Molly

-----Original Message-----
From: Sheila Spampinato
Sent: 12 April 2010 15:56
To: Molly Morrissey; SST
Subject: Inquiry 245377993 Details

Comments: Per Yuriy - we have the compression tool that allows domtrader not to "Jump" plus when user selects the price the ladder will not move anymore. Marking this as Investigation complete - this has nothing to do with the software.

Number: 245377993
Title: Intended functionality interferes with user's trading.
Date Opened: 3/15/2010 10:41:30 AM
Reported By: MOLLY
Created By: MOLLY
Area: CQG Client
Sub-Area: Trade Routing
Priority: 2-By Due Date
Assigned To: MOLLY
Status: Inquiry Investigation
Sub Status: Inquiry Investigated
Description: When trading contracts or spreads with a large bid / offer spread, user would like the ladder not to move after he places his order, so that he can place multiple orders near the same price levels. Currently, the ladder will always try to show the best b/a, but if a user has scrolled under the best bid to place an order, it moves the prices around and confuses the user.

TT v. CQG (05-4811)   **PTX 0188.0003**

Exhibit F

From: Olexandr Voytsikhovskyy <olexandr@cqg.com>
Sent: Friday, October 22, 2010 9:56 AM
To: Alexey Korepanov <alexk@cqg.com>; Yuriy Shterk <yshterk@cqg.com>
Cc: Marcus Kwan <marcus@cqg.com>
Subject: RE: Domtrader responsive grid

Assigned to Accordo with TFV 8x3 General 2.

Oleksandr Voytsikhovskyy | Accordo Team | Team Lead, Process Coach
p. +380 44 590-14-54, ext. 7441
f. +380-44-590-14-55
m. +380-50-132-70-90

-----Original Message-----
From: Alexey Korepanov
Sent: Friday, October 22, 2010 4:20 PM
To: Yuriy Shterk; Olexandr Voytsikhovskyy
Cc: Marcus Kwan
Subject: RE: Domtrader responsive grid

I believe it needs up to a week of work.

I'll set TFV to 8x3 General 2.

Olexandr, can you please reassign suggestion 256543307 for implementation?

Thanks!

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Friday, October 22, 2010 5:10 PM
To: Alexey Korepanov
Cc: Marcus Kwan
Subject: Re: Domtrader responsive grid

How much of a work is it? We'd love to have it in 8x3 provided that nothing else gets broken.

Thanks.

-----Original Message-----
From: Alexey Korepanov
To: Yuriy Shterk
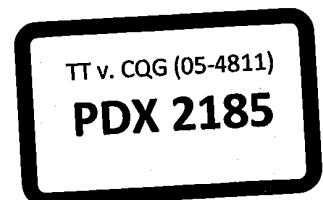
Highly Confidential - Attorneys' Eyes Only   CQG00938558

CC: Marcus Kwan
Sent: Fri Oct 22 04:44:48 2010
Subject: RE: Domtrader responsive grid

Suggestion 256543307 created.

Do we need to fix it in 8x3?

Thanks!

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Tuesday, October 19, 2010 9:18 PM
To: Alexey Korepanov
Cc: Marcus Kwan
Subject: RE: Domtrader responsive grid

We do need to fix it, the way we had before was a better way. Now we're giving argument for TT since upon single click the price grid becomes static...

Thanks.

-----Original Message-----
From: Alexey Korepanov
Sent: Tuesday, October 19, 2010 7:55 AM
To: Yuriy Shterk
Subject: RE: Domtrader responsive grid

As I remember it worked this way since DOMTrader Redesign project. We have a logic that if we have selection on the specific row, then it should not move as the price moves. Otherwise the grid might jump with the prices change and user, for example, could start dragging order from undesired price.

I'll create a defect if you believe this logic should be changed.

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Tuesday, October 19, 2010 3:29 AM
To: Alexey Korepanov
Subject: Domtrader responsive grid

Alexey,

CQG00938559

TT v. CQG (05-4811)

PTX 0189.0002

When have we made the change that once user selects the price on responsive dt the grid would stop moving completely? The way I remember spec'ing it was to try to display the market and user selected price without adding market window. In this case I would expect the selected price to move up or down on the scale until it becomes the top most or bottom most row.

Thanks.

TT v. CQG (05-4811)   **PTX 0189.0003**

Exhibit G

From: Yuriy Shterk <yshterk@cqgexchangemail.com>
Sent: Thursday, June 23, 2011 7:54 PM
To: Josef Schroeter <josef@cqg.com>
Cc: Sheila Spampinato <sheila@cqg.com>
Subject: RE: dates?

The version that introduced nonmoving selected price was released by Sheila on 6/17/09.
Version that got the prices to move even after they are selected was release on 1/24/11. Yes, it took some time for both versions to be deployed to the general user group, but it may be acceptable to look at these 18 months as period in question.

Let us know if this needs to be refined further.

Thanks.

From: Josef Schroeter
Sent: Thursday, June 23, 2011 4:22 PM
To: Yuriy Shterk
Cc: Sheila Spampinato
Subject: Re: dates?

How does this help me understand when the 8.2 version that tt thinks is an issue was in place. I am trying to determine the number of contracts that went through the issue in question

On Jun 23, 2011, at 4:03 PM, "Yuriy Shterk" <yshterk@cqg.com> wrote:

> Thanks Sheila. Joe, everything you asked for is below. Let us know if you need any more info.
>
> Thanks.
>
> ---
>
> **From:** Sheila Spampinato
> **Sent:** Thursday, June 23, 2011 3:31 PM
> **To:** Yuriy Shterk; Sheila Spampinato
> **Subject:** RE: dates?
>
> 8.1870 was never released
> 8.1872, 8.1876, 8.1880 was Alphas
> 8.1881 was Alphas but went to some spreaders – 6/17/09 was date I released it
> 8.1887 was 8x1 General 1.3 which went to wider audience. I released it on 7/7/09.
>
> 8.4811 was for Alphas only. The next release that went past Alpha was (not including DJ) 8.4819 and was released to OPS on 1/19/11 and they released to B1 on 1/24/11
>
> Let me know if you need more info.
>
> Thanks
> Sheila

EXHIBIT
2338
Schroeter 9/17/13

From: Yuriy Shterk
Sent: Thursday, June 23, 2011 2:22 PM
To: Sheila Spampinato (sheila@cqg.com)
Subject: FW: dates?

Sheila, we need the dates for 8x1870 and 8x3843 that hit production for paying users (pilot, beta, general, etc).

Thanks a lot.

From: Vitaly Kuzko
Sent: Thursday, June 23, 2011 1:41 PM
To: Yuriy Shterk
Subject: RE: dates?

Right, sorry. My check in was on 11/16/10 and went to 8x3843 and 8x4811.

From: Vitaly Kuzko
Sent: Thursday, June 23, 2011 11:58 AM
To: Yuriy Shterk
Subject: RE: dates?

A small update – I've managed to test 8x1865 and 8x1870 in the scenario described in the previous letter, and testing results confirm my initial assumptions. 8x1865's DOMTraders shift the main grid's top price, while 8x1870 won't even show the market window in this case – the market will just go off the grid and the grid remains static.

From: Vitaly Kuzko
Sent: Thursday, June 23, 2011 8:41 PM
To: Yuriy Shterk
Subject: RE: dates?

Hello Yuriy,

from what I can tell by looking through the code, the selected price and market window interaction logic was significantly changed in DOMTrader Redesign project. Before the project, we had the following case: if the not-yet-visible market window was to be shown, but the selected price fell inside the market window's price range, then we would shift the main grid's main price instead and not show the market window. I don't see this logic anymore after the project, so I strongly suspect it was removed there (the related code was heavily modified).

The project was merged on 04/21/09. The last 8x1 release version that didn't contain these changes was 8x1865; all future 8x18s (starting with 8x1870) contain DOMTrader Redesign changes.

Hope that answers your questions,
Vitaly.

Exhibit H

From: Mark Fischer <mfischer@cqgexchangemail.com>
Sent: Friday, May 27, 2011 10:49 AM
To: Josef Schroeter <josef@cqg.com>
Subject: RE: Trading Interfaces
Attach: image001.jpg

Yep

From: Josef Schroeter
Sent: Friday, May 27, 2011 9:48 AM
To: Mark Fischer
Subject: RE: Trading Interfaces

Yep.
But their price point for royalty incents us to litigate

From: Mark Fischer
Sent: Friday, May 27, 2011 9:48 AM
To: Josef Schroeter
Subject: RE: Trading Interfaces

Yep. I get it. But I agree with your assessment yesterday: "Their argument on past damages liability is stronger than we have thought."

From: Josef Schroeter
Sent: Friday, May 27, 2011 9:45 AM
To: Mark Fischer
Subject: RE: Trading Interfaces

Our story is that is it one ladder... the line simply reflects hidden prices. It is not a separate formula or logic in the code that creates a window.
It is a price hide function. Calling it a window is just a way to describe it.
The question is whether you can have a portion of a price scale static.

From: Mark Fischer
Sent: Friday, May 27, 2011 9:04 AM
To: Josef Schroeter
Subject: Trading Interfaces

Joe:

Is the argument that we have a static ladder the following:
1) CQG argues that it's ladder is not static because the inside market always stays on the screen.
2) However, what is really happening is that the inside market is just another ladder that overlays the static ladder in something CQG calls a "market window". The underlying ladder is, in fact, static. The prices in the underlying ladder only move when the user makes them move.

I have to say that I agree with you. That argument is fairly persuasive.

Here's another problem. On the Order Ticket, I've always thought that the ladder displayed is just a display of DOM and

EXHIBIT
2333
Schroeter 9/17/13

CQG5493259

a display of the user's working orders. However, once an order is placed, the user can actually use the icon representing his working order to modify that order. He can drag it up and down the scale to change the price and he can change the quantity for the working order in the same manner that you would on a DOM ladder.

I think that the ability to drag the icon representing your order up and down the scale infringes some patent claim.

☑ Description:

Mark Fischer
mfischer@cqg.com

Celebrating 30 years of reliability, performance, and innovation.
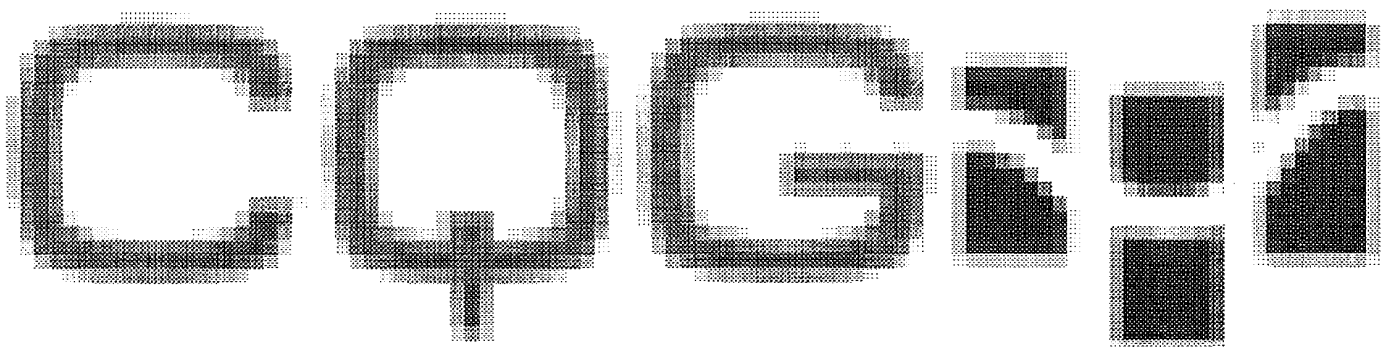
CQG5493261

Exhibit I

From: Sergey Abrosimov
To: Marcus Kwan
CC:
BCC:
Other Recipients:
Subject: FW: Emailing: 7811_ZClick_reqs.doc, 7951_ZClick_HLD.doc
Date: 2005-05-23 12:49:11.000

Attachments:
7811_ZClick_reqs.doc
7951_ZClick_HLD.doc

Marcus,

when we talked with Tim and Yuriy you asked for original DOMTrader design
and requirements.

Sending it now. Sorry for delay.

Thanks, Sergey A.

-----Original Message-----
From: Andrei Nikouline [mailto:andrei@cqg.com]
Sent: Monday, March 21, 2005 11:37 AM
To: Sergey Abrosimov
Subject: Emailing: 7811_ZClick_reqs.doc, 7951_ZClick_HLD.doc

The message is ready to be sent with the following file or link attachments:

7811_ZClick_reqs.doc
7951_ZClick_HLD.doc

Note: To protect against computer viruses, e-mail programs may prevent
sending or receiving certain types of file attachments. Check your e-mail
security settings to determine how attachments are handled.

TT v. CQG (05-4811)
PDX 2131

CQG00048737

PTX 0135.0001

CQG
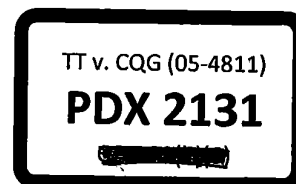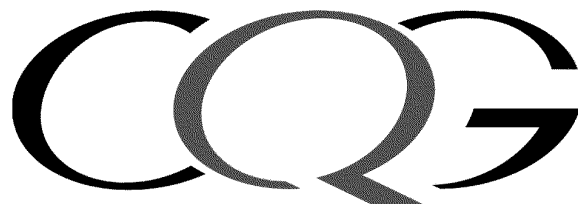
Order Window – Keyboard Trading
Functional Requirements

Version 1.009
Aug 18, 2003

CQG00048738

PTX 0135.0002

Revision History

Version	Date	Description	Author
1.001	21-Jul-2003	Initial Creation	Maxim Katin
1.002	22-Jul-2003	Evolution	Maxim Katin
1.003	23-Jul-2003	Evolution	Andrei Nikouline
1.004	28-Jul-2003	Evolution	Maxim Katin
1.005	28-Jul-2003	Evolution	Maxim Katin
1.006	30-Jul-2003	Evolution	Maxim Katin
1.007	30-Jul-2003	Evolution	Andrei Nikouline
1.008	14-Aug-2003	Personal Review	Andrei Nikouline
1.009	18-Aug-2003	Inspection Fixes	Andrei Nikouline

2

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4

CQG00048742

PTX 0135.0006

6

CQG00048743

PTX 0135.0007

Definition of terms and predefined keys

<u>Keys</u>

This is the complete list of keys that are used to interact with Z-Click window and key's default mapping to keyboard. Any key shall be able to be remapped (see Keyboard trading settings)

"Buy"	- "Right arrow" key
"Sell"	- "Left arrow" key
"Up"	- "Up arrow" key
"Down"	- "Down arrow" key
"Mod1"	- "Ctrl" key
"Mod2"	- "Shift" key
"Mod3"	- "Alt" key
"Mod4"	- "0" key on numeric pad
"plus"	- "+" key on the numerical pad
"minus"	- "-" key on the numerical pad
"Enter"	- "Enter" key
"Escape"	- "Escape" key
"Space"	- "Space" key
"PgUp"	- "PgUp" key
"PgDwn"	- "PgDown" key

<u>Terms</u>

General:

"Grid"	- Main control of Z-Click window, table representation of market data; price information, DOM data and order(s) placed arranged in rows and columns so each row has associated price.
"Cell"	- The basic structural and functional unit of the **Grid** with unique coordinate set (row, column).
"Price Cell"	- Cell of **Price column** of **Grid** with associated price information.
"Order Cell"	- Cell of **Sell column** or **Buy column** with associated order information.
"Price column"	- Column of the grid that contains vertical scale representing price information.

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"Sell column"	- Column of the grid that contains information about Sell orders.
"Buy column"	- Column of the grid that contains information about Buy orders.
"Market window"	- A control visually equal to the **Grid** control that has current market price always visible in the middle of price column. Market price row may be surrounded by number of rows. Every time price change **Market Window** re-centers market price row to be always in middle. **Market window** is read-only window. User cannot place orders in it. Only action that **Market Window** accepts is left click (see <u>User shall be able to jump to corresponding price by clicking on price cell in Market window.</u>)
"Hint area"	- Area at the bottom of main window of 2-3 rows that gives the user context specific information on what actions could be done in this particular state what result is going to be.
"Market Flow column"	- Column that displays last N prices by sequence of circles of different radius. The less recent the price, the less radius. Number of last prices of "**Market Flow"** and column visibility is configurable *(see Keyboard Trading Settings)*.
"Order Details Window"	- Tool tip window that displays order transaction history. Window disappears as mouse button is clicked, key is pressed or focus is changed. It content is equal to Order Details balloon of Order View.
"Cursor" or ***"Selection"***	- Highlighted area of the grid that represents currently selected cell(s).
"Tick Size"	- Minimal price change value, difference between two neighboring price cells. Tick Size is contract specific value.
"Stacked Orders"	- An order cell representing multiple working orders (possibly of different types) placed from one side by the same price that are displayed in one order cell. Order is visually represented with order icon (order icon of type of most recent placed order in the stack with yellow shading) and total quantity (of all orders in stack) text of black.

System modes:

"Place Order" mode	- mode when the **Price column** is active, **Price cell** is selected.
"Market" mode	- sub mode of "Place Order" mode when the cursor follows the market price every time it changes.
"Browse Order" mode	- mode when either Buy or Sell column is active, **Order cell** is selected.

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| *"Modify Order"* mode | - special sub mode of **"Browse Order"** mode when the order selected is being modified |

Order attributes:

| *"Order Price(s)"* | - Price value(s) associated with order. (Most order types has one price associated with it, Stop-Limit order has two of them: Stop price and Limit Price). |

| *"Order Quantity"* | - Number of contracts associated with the order. (Quantity cannot be less than one). |

| *"Order Type"* | - Types of orders that can be represented by Z-Click window. They are: |
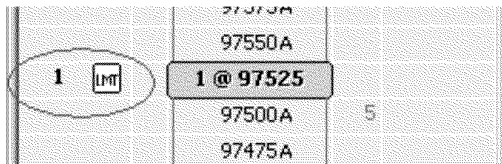
1. Limit order

2. Stop order

3. Stop limit order
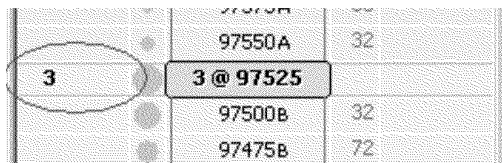
4. Market order
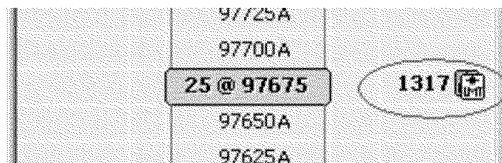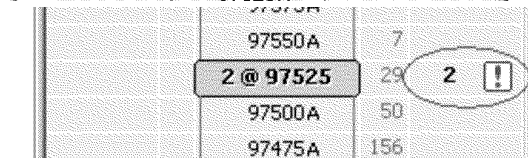
5. Stacked orders
6. **Others.** Orders that can be placed from Order View that were not listed above will be displayed as **others.** These orders cannot be neither placed nor modified with Z-Click window, they could be displayed and cancelled from here.

Order states:

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Working Order

- An order that has been sent to exchange, acknowledgement for the order has been received from the exchange
- Order is visually represented with order icon and quantity text of black.

2bModified Order

- Previously placed order with modified price or quantity before sending these modifications to the exchange.
- Order is visually represented with order icon, quantity text of black with white shading on green background and price text of black with white shading on green background.

Sent Order

- Cancelled order, brand new order that has just been sent to the exchange OR modified order after modifications has been sent before the system receives acknowledgement from the exchange.
- Order is visually represented with grayed order icon and quantity text of gray.

Filled Order

- Filled order after the system receives acknowledgement from the exchange.
- Order is visually represented with quantity text of black, "filled" label and "filled" icon and "filled" icon.

Cancelled Order

- Cancelled order after the system receives acknowledgement from the exchange.
- Order is visually represented with stricken out quantity text of red.

Rejected Order

- Rejected order after the system receives rejection from exchange or Gateway.
- Order is visually represented with

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- stricken out quantity text of red -
blinking 3 times, then fades out.

Partially Filled Orders

- Working order that is partially filled. -
- Order is visually represented with
quantity of working text of black,
quantity of filled text of gray displayed
in brackets and order Icon

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Layouts

gMenu: Price menu layout:
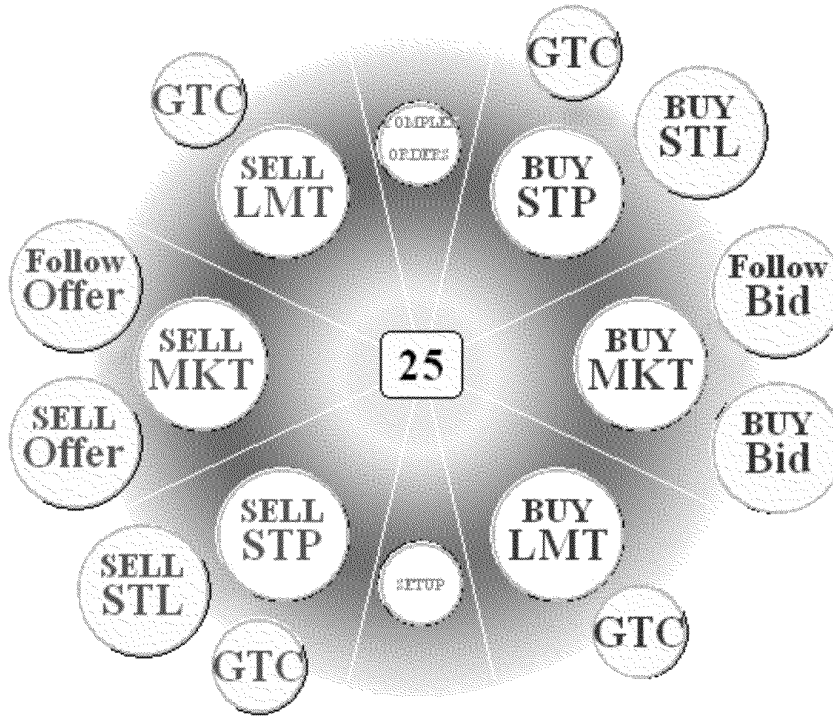
These are all possible commands available from gMenu when user right clicks on price column. Sell and Buy sides are configurable *(see Keyboard trading settings)*.

If menu item is not applicable for some cases, the item shall be disabled and displayed grayed out to visually differentiate it from enabled menu items.

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gMenu: Order menu layout:
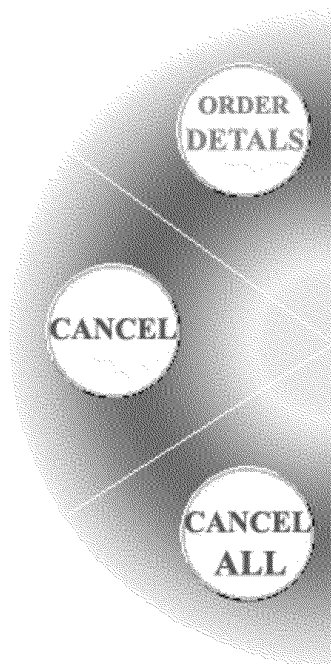
These are all possible commands available from gMenu when user right clicks on **Working Order** of Sell or Buy column. Screenshot represents gMenu for an order that is on the left side of price column. For an order on the right side the gMenu will be flipped horizontally.

"Cancel All" action will not be supported for first release. It will be displayed as disabled grayed out item.

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Z-Click Main window layout:

- Account & Symbol
- Position, OTE
- Market window
- Sell column
- Buy column
- Selected Price Cell
- Price column
- Working Order Cell
- DOM column
- Market-Flow Column
- Hint area

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Actions

Key press

-Every action initiated by key press shall happen on key down.
-Only exclusion to previous sentence is Mod key that is used as modifier for Buy & Sell keys AND as outstanding key. So Mod key shall work as modifier on key down. If at the time of key up there was no other key pressed since key down, Mod works as outstanding button.

Right click

-Every action initiated by right click shall happen on mouse down.
-Right click shall only be used for popping up gMenu.

Drag'n'Drop

-If you click a cell on the Grid and hold the mouse button down and then move the cursor around - this action is known as dragging. When you release the mouse button this is known as dropping.
-All drag'n'drop actions shall change the cursor in order to visually represent action performing. Cursor shall change at the moment of dragging and shall go back to regular cursor by the end of dropping.

Placing an Order

The pictures shows how cursor is changed during dragging the price cell in order to place Sell stop order.
The cursor shows:
  - *Future action (the order will be placed)*
  - *Direction to go (left arrow)*

-*When cursor reaches the target cell, cursor changes to represent only Future action (the order will be placed).*

-*When cursor goes off the area available for an action, it changes to represent that action is not possible there.*

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Canceling an Order

The pictures shows how cursor is *changed during the order cell off the window in order to cancel the order.*
There's no cursor change while mouse is *in the column of target order.*

-When cursor goes off the window, the cursor changes to display that order will be *cancelled once user drops the mouse.*

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PTX 0135.0017
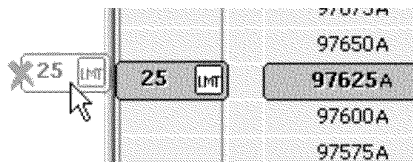
1. Place order actions

All orders placed via Z-Click window shall have day duration if not mentioned otherwise. GTC orders shall be only placed via gMenu.

1.1. User shall be able to place Market order

1.1.1. User shall be able to place Buy market order

<u>User shall be able to place Buy market order using keyboard</u>

CONDITION:	*System is in **Market** mode.*
ACTION:	*Press **Buy** key*
RESULT:	*System stays in **Market** mode. Selection doesn't change. **Sent** Buy market order appears against the **Price Cell** where the market price was at the moment of action. **Working** Buy market order appears instead after exchange acknowledgement.*
NOTE:	*The price of Working Order does not necessarily correspond to the cursor position at the time of action because the market may change before the exchange receives the order.*

<u>User shall be able to place Buy market order using gMenu</u>

CONDITION:	*none*
ACTION:	*Right click on any cell of price column and choose **BUY MKT** icon of popped up gMenu.*
RESULT:	*System goes to **Place Order** mode. **Sent** Buy market order appears against the **Price Cell** where the market price was at the moment of action. **Working** Buy market order appears instead after exchange acknowledgement. Clicked price cell becomes selected.*
NOTE:	*The price of Working **Order** does not necessarily correspond to the cursor position at the time of action because the market may change before the exchange receives the order.*

1.1.2. User shall be able to place a Sell market order

<u>User shall be able to place Sell market order using keyboard</u>

CONDITION:	*System is in **Market** mode.*

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ACTION: Press **Sell** key

RESULT: *System stays in **Market** mode. Selection doesn't change. **Sent** Sell market order appears against the **Price Cell** where the market price was at the moment of action. **Working** Sell market order appears instead after exchange acknowledgement.*

NOTE: *The price of Working **Order** does not necessarily correspond to the cursor position at the time of action because the market may change before the exchange receives the order.*

<u>User shall be able to place Sell market order using gMenu</u>

CONDITION: *none*

ACTION: *Right click on any cell of price column and choose   **SELL MKT** icon of popped up gMenu.*

RESULT: *System goes to **Place Order** mode. **Sent** Sell market order appears against the **Price Cell** where the market price was at the moment of action. **Working** Sell market order appears instead after exchange acknowledgement. Clicked price cell becomes selected.*

NOTE: *The price of **Working Order** does not necessarily correspond to the cursor position at the time of action because the market may change before the exchange receives the order.*

1.2.   **User shall be able to place a Limit order**

1.2.1.   **User shall be able to place a Buy limit order**

<u>User shall be able to place a Buy limit order using Keyboard</u>

CONDITION: *System is in **Place Order** mode, target price is selected and the price is lower or equal to the market price.*

ACTION: *Press **Buy** key*

RESULT: *System stays in **Place Order** mode. Selection doesn't change. **Sent** Buy limit order appears after action, **Working** Buy limit order appears after exchange acknowledgement.*

<u>User shall be able to place a Buy limit order using Mouse</u>

CONDITION: *System is in **Place Order** mode, target price is selected and the price is lower or equal to the market price.*

ACTION: *Drag target price cell towards **Buy** Column and drop it off in any cell of **Buy** Column. As user is dragging a price cell, mouse cursor changes to represent future order.*

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RESULT: *Selection changes to the cell which represents the target price. System goes to* **Place Order** *mode.* **Sent** *Buy limit order appears after action,* **Working** *Buy limit order appears after exchange acknowledgement. Cursor becomes regular (arrow) after dragging is over.*

NOTE: *If user releases mouse anywhere but* **Buy Column,** *order is not placed. System goes to* **Place Order** *mode, clicked price cell become selected.*

User shall be able to place a Buy limit order using gMenu

CONDITION: *none*

ACTION: *Right click on a cell of price column and choose* **BUY LMT** *icon of popped up gMenu.*

RESULT: *System goes to* **Place Order** *mode.* **Sent** *Buy limit order appears after action,* **Working** *Buy limit order appears after exchange acknowledgement. Clicked price cell becomes selected.*

1.2.2. **User shall be able to place a Sell limit order**

User shall be able to place a Sell limit order using Keyboard

CONDITION: *System is in* **Place Order** *mode, target price is selected and the price is greater or equal to the market price.*

ACTION: *Press* **Sell** *key*

RESULT: *System stays in* **Place Order** *mode. Selection doesn't change.* **Sent** *Buy limit order appears after action,* **Working** *Buy limit order appears after exchange acknowledgement.*

User shall be able to place a Sell limit order using Mouse

CONDITION: *System is in* **Place Order** *mode, target price is selected and the price is greater or equal to the market price.*

ACTION: *Drag target price cell towards* **Sell Column** *and drop it off in any cell of* **Sell Column.** *As user is dragging a price cell, mouse cursor changes to represent future order.*

RESULT: *System goes to* **Place Order** *mode. Selection changes to the cell which represents the target price.* **Sent** *Sell limit order appears after action,* **Working** *Sell limit order appears after exchange acknowledgement. Cursor becomes regular (arrow) after dragging is over.*

NOTE: *If user releases mouse anywhere but* **Sell Column,** *order is not placed. System goes to* **Place Order** *mode, clicked price cell become*

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selected

User shall be able to place a Sell limit order using gMenu

CONDITION: *none*

ACTION: *Right click on a cell of price column and choose **SELL LMT** icon of popped up gMenu.*

RESULT: *System goes to **Place Order** mode. **Sent** Sell limit order appears after action, **Working** Sell limit order appears after exchange acknowledgement. Clicked price cell becomes selected.*

1.3.   User shall be able to place a Stop order

1.3.1.   User shall be able to place a Buy stop order

User shall be able to place a Buy stop order using Keyboard

*CONDITION1: System is in **Place Order** mode, target price is selected and the price is greater then the market price. Default Stop- Stop/Limit preference is set to Stop.*

ACTION1:   *Press **Buy** key*

RESULT1:   *System stays in **Place Order** mode. Selection doesn't change. **Sent** Buy stop order appears after action, **Working** Buy stop order appears after exchange acknowledgement*

*CONDITION2: System is in **Place Order** mode, target price is selected and the price is greater then the market price. Default Stop- Stop/ Limit preference is set to Stop-Limit.*

ACTION2:   *Press **Modl + Buy** key combination*

RESULT2:   *System stays in **Place Order** mode. Selection doesn't change. **Sent** Buy stop order appears after action, **Working** Buy stop order appears after exchange acknowledgement.*

User shall be able to place a Buy stop order using Mouse

CONDITION: *System is in **Place Order** mode, target price is selected and the price is greater then the market price. Default Stop-Stop/Limit preference is set to Stop.*

ACTION: *Drag target price cell towards **Buy Column** and drop it off in any cell of **Buy Column**. As user is dragging a price cell, mouse cursor changes to represent future order.*

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RESULT: System goes to **Place Order** mode. Selection changes to the cell which represents the target price. **Sent** Buy stop order appears after action, **Working** Buy stop order appears after exchange acknowledgement. Cursor becomes regular (arrow) after dragging is over.

NOTE: If user releases mouse anywhere but **Buy Column,** order is not placed. System goes to **Place Order** mode, clicked price cell become selected.

User shall be able to place a Buy stop order using gMenu

CONDITION: Target price is greater then the market price.

ACTION: Right click on a cell of price column and choose **BUY STP** icon of popped up gMenu.

RESULT: System goes to **Place Order** mode. Selection changes to the cell which represents the target price. **Sent** Buy stop order appears after action, **Working** Buy stop order appears after exchange acknowledgement.

1.3.2. **User shall be able to place a Sell stop order**

User shall be able to place a Sell stop order using Keyboard

CONDITION1: System is in **Place Order** mode, target price is selected and the price is lower then the market price. Default Stop- Stop/Limit preference is set to Stop.

ACTION1: Press **Sell** key

RESULT1: System stays in **Place Order** mode. Selection doesn't change. **Sent** Sell stop order appears after action, **Working** Sell stop order appears after exchange acknowledgement.

CONDITION2: System is in **Place Order** mode, target price is selected and the price is lower then the market price. Default Stop- Stop/ Limit preference is set to Stop-Limit.

ACTION2: Press **Mod1 + Sell** key combination

RESULT2: System stays in **Place Order** mode. Selection doesn't change. **Sent** Sell stop order appears after action, **Working** Sell stop order appears after exchange acknowledgement.

User shall be able to place a Sell stop order using Mouse

CONDITION: System is in **Place Order** mode, target price is selected and the price

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is *lower then the market price. Default Stop-Stop/Limit preference* is *set* to *Stop.*

ACTION: Drag target price cell towards **Sell Column** *and drop* it *offin any cell of* **Sell Column.** *As user* is *dragging a price cell, mouse cursor changes* to *represent future order.*

RESULT: *System goes* to **Place Order** *mode. Selection changes to the cell which represents the target price.* **Sent** *Sell stop order appears after action,* **Working** *Sell stop order appears after exchange acknowledgement. Cursor becomes regular (arrow) after dragging* is *over.*

NOTE: *If user releases mouse anywhere but* **Sell Column,** *order* is *not placed. System goes to* **Place Order** *mode, clicked price cell become selected.*

User shall be able to place a Sell stop order using gMenu

CONDITION: *Target price is lower then the market price.*

ACTION: *Right click on a cell of price column and choose*   **SELL STP** *icon of popped up gMenu.*

RESULT: *Selection changes* to *the cell which represents the target price. System goes* to **Place Order** *mode.* **Sent** *Sell stop order appears after action,* **Working** *Sell stop order appears after exchange acknowledgement.*

1.4. **User shall be able to place a Stop-Limit order**

1.4.1. **User shall be able to place a Buy stop-limit order**

User shall be able to place a Buy stop-limit order using Keyboard

CONDITION1: *System* is *in* **Place Order** *mode, target price* is *selected and the price* is *greater then the market price. Default Stop-Stop/ Limit preference* is *set* to *Stop.*

ACTION1: *Press* **Mod1** + **Buy** *key combination*

RESULT1: *System stays in* **Place Order** *mode. Selection doesn't change.* **Sent** *Buy stop-limit order appears after action,* **Working Buy** *stop-limit order appears after exchange acknowledgement. Stop price of the order* is *equal to selected price. Offset* is *equal to default offset predefined that can be changed in settings (see Keyboard Trading Settings).*

CONDITION2: *System* is *in* **Place Order** *mode, target price* is *selected and the price*

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is *greater then the market price. Default Stop-Stop/Limit preference* is *set to Stop-Limit.*

ACTION2:   Press **Buy** *key*

RESULT2:   *System stays in* **Place Order** *mode. Selection doesn't change.* **Sent** *Buy stop-limit order appears after action,* **Working Buy** *stop-limit order appears after exchange acknowledgement. Stop price of the order* is *equal to selected price. Offset* is *equal to default offset predefined that can be changed in settings (see* Keyboard Trading Settings*).*

User shall be able to place a Buy stop-limit order using Mouse

CONDITION: *System* is *in* **Place Order** *mode, target price* is *selected and the price* is *greater then the market price. Default Stop-Stop/Limit preference* is *set to Stop-Limit.*

ACTION: *Drag target price cell towards* **Buy Column** *and drop it off in any cell of* **Buy Column.** *As user* is *dragging a price cell, mouse cursor changes to represent future order.*

RESULT: *System goes to* **Place Order** *mode. Selection changes to the cell which represents the target price.* **Sent** *Buy stop-limit order appears after action,* **Working** *Buy stop-limit order appears after exchange acknowledgement. Stop price of the order* is *equal to selected price. Offset* is *equal to default offset predefined that can be changed in settings (see* Keyboard Trading Settings*). Cursor becomes regular (arrow) after dragging* is *over.*

NOTE: *If user releases mouse anywhere but* **Buy** **Column,** *order* is *not placed. System goes to* **Place Order** *mode, clicked price cell become selected.*

User shall be able to place a Buy stop-limit order using gMenu

CONDITION: *Target price is greater then the market price.*

ACTION: *Right click on a cell of price column and choose*   **BUY STL** *icon of popped up gMenu.*

RESULT: *Selection changes to the cell which represents the target price. System goes to* **Place Order** *mode.* **Sent** *Buy stop-limit order appears after action,* **Working** *Buy stop-limit order appears after exchange acknowledgement. Stop price of the order* is *equal to selected price. Offset* is *equal to default offset predefined that can be changed in settings (see* Keyboard Trading Settings*).*

1.4.2.   **User shall be able to place a Sell stop-limit order**

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User shall be able to place a Sell stop-limit order using Keyboard

CONDITION1:*System is in **Place Order** mode, target price is selected and the price is lower then the market price. Default Stop- Stop/ Limit preference is set to Stop.*

ACTION1: *Press **Mod1** + **Sell** key combination*

RESULT1: *System stays in **Place Order** mode. Selection doesn't change. **Sent** Sell stop-limit order appears after action, **Working** Sell stop-limit order appears after exchange acknowledgement. Stop price of the order is equal to selected price. Offset is equal to default offset predefined that can be changed in settings (see Keyboard Trading Settings).*

CONDITION2:*System is in **Place Order** mode, target price is selected and the price is lower then the market price. Default Stop- Stop/ Limit preference is set to Stop-Limit.*

ACTION2: *Press **Sell** key combination*

RESULT2: *System stays in **Place Order** mode. Selection doesn't change. **Sent** Sell stop-limit order appears after action, **Working** Sell stop-limit order appears after exchange acknowledgement. Stop price of the order is equal to selected price. Offset is equal to default offset predefined that can be changed in settings (see Keyboard Trading Settings).*

User shall be able to place a Sell stop-limit order using Mouse

CONDITION: *System is in **Place Order** mode, target price is selected and the price is lower then the market price. Default Stop-Stop/Limit preference is set to Stop-Limit.*

ACTION: *Drag target price cell towards **Sell Column** and drop it off in any cell of **Sell Column.** As user is dragging a price cell, mouse cursor changes to represent future order*

RESULT: *System goes to **Place Order** mode. Selection changes to the cell which represents the target price. **Sent** Sell stop-limit order appears after action, **Working** Sell stop-limit order appears after exchange acknowledgement. Stop price of the order is equal to selected price. Offset is equal to default offset predefined that can be changed in settings (see Keyboard Trading Settings). Cursor becomes regular (arrow) after dragging is over.*

NOTE: *If user releases mouse anywhere but **Sell Column,** order is not placed. System goes to **Place Order** mode, clicked price cell become selected.*

User shall be able to place a Sell stop-limit order using gMenu

CONDITION: *Target price is lower then the market price.*

ACTION: *Right click on a cell of price column and choose **SELL STL** icon*

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of popped up gMenu.

RESULT: *System goes to **Place Order** mode. Selection changes to the cell which represents the target price. **Sent** Sell stop-limit order appears after action, **Working** Sell stop-limit order appears after exchange acknowledgement. Stop price of the stop-limit order is equal to selected price. Offset is equal to default offset predefined that can be changed in settings (see Keyboard Trading Settings)*

1.5.   User shall be able to place a Best Bid/Offer order

1.5.1.   User shall be able to place a Sell Best Offer order

<u>User shall be able to place Sell Best Offer order using Keyboard</u>

CONDITION: *System is in **Place Order** mode, target price is selected.*

ACTION: *Press **Mod3** + **Sell** key combination*

RESULT: *System stays in **Place Order** mode. Selection doesn't change. **Sent** Sell limit order appears after action, **Working** Sell limit order associated with price that represents best offer appears after exchange acknowledgement.*

NOTE: *The price associated with the limit order placed does not necessary correspond to the best offer position at the time of action because the market and DOM data may change before the exchange receives the order.*

<u>User shall be able to place Sell Best Offer order using gMenu</u>

CONDITION: *none.*

ACTION: *Right click on any cell of price column and choose **SELL OFFER** icon of popped up gMenu*

RESULT: *System goes to **Place Order** mode. **Sent** Sell limit order appears after action, **Working** Sell limit order associated with price that represents best offer appears after exchange acknowledgement. Clicked price cell becomes selected.*

NOTE: *The price associated with the limit order placed does not necessary correspond to the best offer position at the time of action because the market and DOM data may change before the exchange receives the order.*

1.5.2.   User shall be able to place a Buy Best Bid order

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<u>User shall be able to place Buy Best Bid order using Keyboard</u>

CONDITION: System is in **Place Order** mode.

ACTION: **Mod3 + Buy** key combination

RESULT: System stays in **Place Order** mode. Selection doesn't change. **Sent** Buy limit order appears after action, **Working** Buy limit order associated with price that represents best bid appears after exchange acknowledgement.

NOTE: The price associated with the limit order placed does not necessary correspond to the best bid position at the time of action because the market and DOM data may change before the exchange receives the order.

<u>User shall be able to place Buy Best Bid order using gMenu</u>

CONDITION: none.

ACTION: Right click on any cell of price column and choose **BUY BID** icon of popped up gMenu

RESULT: System goes to **Place Order** mode. **Sent** Buy limit order appears after action, **Working** Buy limit order associated with price that represents best offer appears after exchange acknowledgement. Clicked price cell becomes selected.

NOTE: The price associated with the limit order placed does not necessary correspond to the best offer position at the time of action because the market and DOM data may change before the exchange receives the order.

2. Modify order actions

2.1. User shall be able to modify working order

2.1.1. User shall be able to start modifying working Buy order

CONDITION: System is in **Browse Order** mode. Target order is **Working** Buy order.

ACTION: Press **Buy** key.

RESULT: System goes to **Modify Order** mode. Selection doesn't change. Order state changes to **2bModified Order**. Hints change (see <u>Hint Area</u>)

2.1.2. User shall be able to start modifying working Sell order

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CONDITION: System is in **Browse Order** mode. Target order is **Working** Sell order.

ACTION: Press **Sell** key.

RESULT: System goes to **Modify Order** mode. Selection doesn't change. Order state changes to **2bModified Order**. Hints change (see <u>Hint Area</u>)

2.1.3.   User shall be able to modify working order's price

<u>User shall be able to modify working order's price using keyboard</u>

CONDITION1: System is in **Modify Order**.

ACTION1:   Press **Up** key to increase the price of selected order by one tick size.

RESULT1:   System stays in **Modify Order** mode. Order moves one cell up. Selection changes to the new cell associated with new price. Selected order stays in **2bModified Order** mode.

NOTE: If desired price is outside of view, the view is scrolled up to make desired price visible. If after scroll market price gets outside of view, **Market Window** appears at the bottom of the view.

CONDITION2: System is in **Modify Order**.

ACTION2:   Press **Down** key to decrease the price of selected order by one tick size.

RESULT2:   System stays in **Modify Order** mode. Order moves one cell down. Selection changes to the new cell associated with desired price. Order state stays in **2bModified Order** mode.

NOTE: If desired price is outside of view, the view is scrolled down to make desired price visible. If after scroll market price gets outside of view, **Market Window** appears at the top of the view.

<u>User shall be able to modify working order's price using Mouse</u>

CONDITION: Desired order is **Working Order**.

ACTION: Drag the cell which represents the order towards the desired price and drop it off in **Order Cell** associated with desired price.

RESULT: As order being dragged system goes to **Modify Order** mode. Order follows the mouse cursor. Selection follows the mouse cursor.

NOTE: After order is dropped system goes to **Browse Order** mode. Selection

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*stays on the **Order Cell** associated with desired price. Order state changes to **Sent Order**. Price modifications are being sent to exchange. As system gets acknowledgement from the exchange, order state changes to **Working Order**.*

2.1.4. **User shall be able to modify working order's quantity**

<u>User shall be able to modify order's quantity using numerical pad</u>

*CONDITION1: System is in **Browse Order** mode. Target order is **Working Order**.*
*CONDITION2: System is in **Modify Order** mode.*

*ACTION: Using numerical pad enter a new quantity. If pause between two consequent key strokes exceeds 2 seconds, attempt to enter new quantity is assumed. Quantity entered cannot be less than 1 and greater then 9999. Use **Backspace** button to remove last symbol entered if needed.*

*RESULT: System goes to **Modify Order** mode. Order state changes to **2bModified Order**. New quantity is associated with the order.*

2.1.5. **User shall be able to finish modifying working order confirming changes made**

<u>User shall be able to confirm Buy order modifications</u>

*CONDITION1: Selected order is **Working** Buy order. System is in **Modify Order** mode. New price of desired order differs from order initial price.*
*CONDITION2: Selected order is **Working** Buy order. System is in **Modify Order** mode. New quantity of desired order differs from order initial quantity.*

*ACTION 1: Press **Buy** key.*
*ACTION2: Press **Enter** key.*

*RESULT 1: System goes to **Order Browse** mode. Selection doesn't change. Order state changes to **Sent Order**. Both initial and modified orders are shown as **Sent Orders**. Modifications are being sent to exchange. As system gets acknowledgement from the exchange, order state changes to **Working Order**, initial order disappears.*

<u>User shall be able to confirm Sell order modifications</u>

*CONDITION1: Selected order is **Working** Sell order. System is in **Modify Order** mode. New price of desired order differs from order initial price.*
*CONDITION2: Selected order is **Working** Sell order. System is in **Modify Order** mode. New quantity of desired order differs from order initial quantity.*

*ACTION 1: Press **Sell** key.*
*ACTION2: Press **Enter** key.*

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RESULT: *System goes to **Order Browse** mode. Selection doesn't change. Order state changes to **Sent Order.** Both initial and modified orders are shown as **Sent Orders.** Modifications are being sent to exchange. As system gets acknowledgement from the exchange, order state changes to **Working Order,** initial order disappears.*

2.1.6.   User shall be able to finish modifying order discarding changes made

CONDITION: *System is in **Modify Order** mode.*

ACTION1:   *Press **Escape** key.*
ACTION2:   *Mouse click anywhere.*

RESULT: *System goes to **Order Browse** mode. Selection goes to initial **Order Cell**. Order state changes to **Working Order**. All modifications to order are discarded.*

2.2.   User shall be able to cancel working order

User shall be able to cancel order using keyboard

CONDITION: *System is in **Browse Order** mode. Selected order is **Working Order**.*

ACTION: *Press **Delete** key*

RESULT1:   *If there is no **Working Order** available System goes to **Place Order** mode. Selection goes to a **Price Cell** with price equal to price of cancelled order. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.***

RESULT2:   *If there is a **Working Order** available System stays in **Browse Order** mode. Selection goes to nearest **Working Order** cell. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.***

User shall be able to cancel order using Mouse

CONDITION: *Target order is **Working Order**.*

ACTION: *Drag the cell which represents the order in the direction from the price column and drop it outside the **Grid** area. While user is dragging the order, the cursor is changed to reflect the action*

RESULT1:   *If there is no **Working Order** available System goes to **Place Order** mode. Selection goes to a **Price Cell** with price equal to price of*

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cancelled order. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.** Cursor becomes regular (arrow) after dragging is over.

RESULT2:   If there is a **Working Order** available System stays in **Browse Order** mode. Selection goes to nearest **Working Order** cell. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.** Cursor becomes regular (arrow) after dragging is over.

User shall be able to cancel order using gMenu

CONDITION: Target order is **Working Order**.

ACTION: Right click on the cell which represents the order and choose **CANCEL** icon of popped up gMenu.

RESULT1:   If there is no **Working Order** available System goes to **Place Order** mode. Selection goes to a **Price Cell** with price equal to price of cancelled order. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.**

RESULT2:   If there is a **Working Order** available System stays in **Browse Order** mode. Selection goes to nearest **Working Order** cell. Order state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, order state changes to **Cancelled Order.**

2.3.   **User shall be able to cancel all working orders**

CONDITION: There is at least one **Working Order**.

ACTION: Right click on the cell which represents **Working Order** and choose **CANCEL ALL** icon of popped up gMenu.

RESULT: System goes to **Place Order** mode. Selection goes to a **Price Cell** with price equal to price of clicked order. All orders' state changes to **Sent Order** until cancellation acknowledgement is received from the exchange. Once acknowledgement is received, all orders state changes to **Cancelled Order**.

NOTE: This feature will not be supported in first release of Z-Click project.

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3. Browsing Price/Order actions

3.3.1.   User shall be able to select price for future order

<u>User shall be able to select price using keyboard</u>

CONDITION1: *System is in* **Place Order** *mode.*

ACTION1:   *Press* **Up** *key to select the next price cell above the current selection.*
ACTION2:   *Press* **PgUp** *key to select a price cell that N ticks above the current selection.*

RESULT1:   *System stays in* **Place Order** *mode. Selection changes to new price cell according to performed action.*

NOTE: *If desired price is outside of view, the view is scrolled up to make desired price visible. If after scroll market price gets outside of view,* **Market Window** *appears at the bottom of the view.*

CONDITION2: *System is in* **Place Order** *mode.*

ACTION2:   *Press* **Down** *key to select the next price cell below the current selection.*
ACTION2:   *Press* **PgDwn** *key to select a price cell that N ticks below the current selection.*

RESULT2:   *System stays in* **Place Order** *mode. Selection changes to new price cell according to performed action.*

NOTE: *If desired price is outside of view, the view is scrolled down to make desired price visible. If after scroll market price gets outside of view,* **Market Window** *appears at the top of the view.*

<u>User shall be able to select price using Mouse</u>

CONDITION: *none*

ACTION: *Click on the target* **Price Cell**.

RESULT: *System goes to* **Place Order** *mode. Selection changes to clicked* **Price Cell**.

CONDITION: *System is in* **Browse Order** *mode*

ACTION1:   *Rotate mouse wheel toward to go upscale on price column*
ACTION2:   *Rotate mouse wheel backward to go downscale on price column*

RESULT: *System goes to* **Place Order** *mode. Selection changes to new price*

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cell according to mouse wheel.

3.3.2. User shall be able to modify quantity for future order

<u>User shall be able to modify quantity associated with selected price using num pad</u>

CONDITION: *System is in **Place Order** mode.*

ACTION: *Using numerical pad enter a new quantity. If pause between two consequent key strokes exceeds 2 seconds, attempt to enter new quantity is assumed. Quantity entered cannot be less than 1. Use **Backspace** button to remove last symbol entered if needed.*

RESULT: *System stays in **Place Order** mode. Selection doesn't change. New quantity is associated with order.*

3.3.3. User shall be able to go to Market mode

CONDITION1: *System is in **Place Order** mode*

ACTION 1: *Press **Home** key*
ACTION2: *Press **Mod4** key*

RESULT 1: *System goes to **Market** mode. Selection changes to the market price.*

3.3.4. User shall be able to switch between Place Order and Browse Order modes

CONDITION1: *System is in **Place Order** mode*

ACTION 1: *Press **Mod1** key.*

RESULT 1: *System goes to the **Browse Order** mode. Selection changes to the nearest Working order (if there is more than one order at the same distance from the price cursor location, the most recent working order will be chosen and finally the Buy order will have priority to be selected over the Sell one).*

CONDITION2:*System is in **Browse Order** mode*

ACTION 2: *Press **Mod1** key.*

RESULT 2: *System goes to **Place Order** mode. Selection changes to a cell with price of previously selected order.*

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3.3.5. User shall be able to browse through working orders

<u>User shall be able to select order using keyboard</u>

CONDITION1: System is in **Browse Order** mode.

ACTION1: Press **Up** key.

RESULT1: System stays in **Browse Order** mode. Selection changes to the next **Working Order** above the current selection. If no such orders are available, selection goes to bottom-most **Working Order**.

CONDITION2: System is in **Browse Order** mode.

ACTION2: Press **Down** key.

RESULT2: System stays in **Browse Order** mode. Selection changes to the next **Working Order** below the current selection. If no such orders are available, selection goes to top-most **Working Order**.

<u>User shall be able to select order using Mouse</u>

CONDITION: Target order is **Working Order**.

ACTION: Click on target **Order Cell**.

RESULT: System goes to **Browse Order** mode. Selection changes to clicked cell. If no such order is available, selection doesn't change.

NOTE: If user clicks on the cell and holds left mouse button without releasing it, the system goes to **Modify Order** mode. After releasing the button, system returns back to the **Browse Order** mode.

3.3.6. User shall b able to see order details

<u>User shall be able to call order details window using keyboard</u>

CONDITION: System is in **Browse Order** mode. Selected order is **Working Order**.

ACTION: Press **Space** key.

RESULT: System stays in **Browse Order** mode. Selection doesn't change. **Order Detail Window** pops up.

NOTE: As order detail retrieval is an asynchronous operation, initial **Order Detail Window** contains only information available at the moment of action. As order details retrieval operation gets completed and **Order Detail Window** is still up, it gets updated with incoming info.

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<u>User shall be able to call order details window using gMenu</u>

CONDITION: Target order is **Working Order.**

ACTION: Right click on the cell which represents the order and choose **DETAIL** icon of popped up gMenu

RESULT: System goes to **Browse Order** mode. Clicked order cell becomes selected. **Order Detail Window** pops up.

NOTE: As order detail retrieval is an asynchronous operation, initial **Order Detail Window** contains only information available at the moment of action. As order details retrieval operation gets completed and **Order Detail Window** is still up, it gets updated with incoming info.

3.3.7. User shall be able to switch between Buy, Sell and Price columns

CONDITION1:   System is in **Browse Order** mode. Selected order is Buy **Working Order.**

ACTION 1:   Press **Mod1** key.

RESULT 1:   System goes to **Place Order** mode. Selection goes to the **Price Cell** that was selected before system went to **Browse Order** mode.

CONDITION 2:   System is in **Browse Order** mode. Selected order is Sell **Working Order.** There's at least one Buy **Working Order.**

ACTION 2:   Press **Mod1** key.

RESULT 2:   System stays in the **Browse Order** mode. Selection changes to the nearest Buy **Working Order.** If there is more than one order at the same distance from the selected Sell order, the most recent working Buy order will have priority.

CONDITION 3:   System is in **Browse Order** mode. Selected order is Sell **Working Order.** There's no Buy **Working Order.**

ACTION 3:   Press **Mod1** key.

RESULT 3:   System goes to **Place Order** mode. Selection goes to the **Price Cell** that was selected before system went to **Browse Order** mode

CONDITION 4:   System is in **Place Order** mode. There's at least one Sell **Working Order.**

ACTION 4:   Press **Mod1** key.

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RESULT 4:   *System goes to **Browse Order** mode. Selection changes to the nearest Sell **Working Order**. If there is more than one Sell order at the same distance from the selected price cell, the most recent working Sell order will have priority to be selected.*

CONDITION 5:   *System is in **Place Order** mode. There's no Sell **Working Order**, there's at least one Buy **Working Order**.*

ACTION 5:   *Press **Mod1** key.*

RESULT 5:   *System goes to **Browse Order** mode. Selection changes to the nearest Buy **Working Order**. If there is more than one Buy order at the same distance from the selected price cell, the most recent working Buy order will have priority to be selected.*

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4. Stacked orders

4.1. *Stacked order shell be visually represented with order icon with yellow shading and total quantity (of all orders in stack) text of black.*

4.2. *User shall be able to select stacked order as single order while he/she is in order browse mode.*

4.3. *User shall be able to browse through orders in stack and select one for further modification/ cancellation*
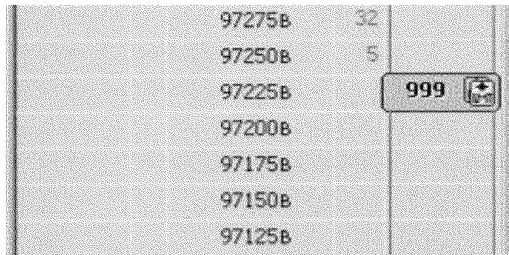
4.4 **Stacked orders** *shall be treated as one order until user expands a stack by pressing* **plus** *button on numeric pad or start modifying_it. Cancel order action for* **Stacked Order** *will cancel all orders in stack.*
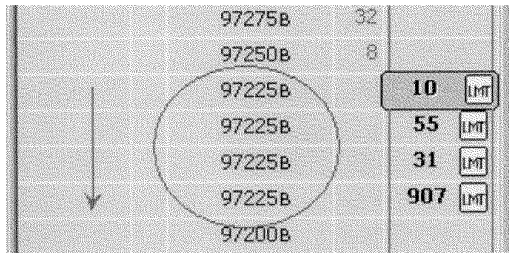
4.5 *When* **Stacked order** *gets expanded, collective order shall disappear, stack of orders shall appear instead on the* **Grid** *ascending sorted by time of placement / modification so most recent order gets a top one and it gets selected.*

4.6 *Appeared* **Price Cells** *shall be filled with the price of orders (basically meaning that there will be more than one cell for same price).*
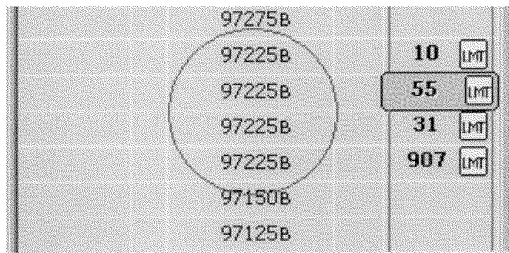
4.7 *Now every order of the stack shall be treated as separate order so user can browse through them and modify/cancel them.*
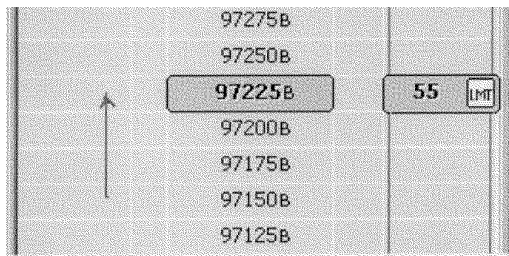
4.8 *Once user starts modifying an order, stack shall collapse becoming a* **stacked order,** *selected order shall go to* **2bModified** *mode, and the rest of stack shall disappear.*

4.9 *User shall be able to collapse a stacked order by pressing* **minus** *button of numeric keypad. Then* **stacked order** *shall get to initial state*

5. Order status change animation

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5.1.   *Filled orders shall disappear off the screen fading out in 2 sec.*

5.2.   *Cancelled order shall disappear off the screen fading out in 23 sec.*

5.3.   *Rejected orders shall flash 3 times during 2 sec and then disappear.*

5.4.   *All the rest of order status changes happen immediately with no animation.*

5.5.   *User shell shall be able to turn animation off/on and change fade-out time (see Keyboard Trading Settings)*

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6. Market window

6.1. User shall be able to see market price regardless of currently visible price range

6.1.1. **Market window** shall appear every time when market price gets out of sight of Z-Click main view while user browses through prices.

6.1.2. **Market window** auto appearance shall be configurable (see Keyboard Trading Settings).

6.1.3. **Market window** shall automatically disappear every time when market price gets back to Z-Click main view while user browses through prices.

6.2. User shall be able to jump to corresponding price by clicking on price cell in Market window.

6.3. Number of rows visible in Market Window shall be configurable via settings dialog (see Keyboard Trading Settings).

6.4. User shall be able to change the number of rows visible in Market Window by dragging the slider between Grid and Market Window.

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7. Hint Area

7.1. **Hint area shall display context specific tips to user about most used actions in this state.**

7.1.1. *If system is in* **Place Order** *mode and none of* **Mod** *keys is pressed and ...*

7.1.1.1. *...selected price is greater then market price and ...*

7.1.1.1.1. *... default STP/STL mode is STP then tips are:*

> *[Sell key]* **Sell** *[quantity] [symbol] @ [price]* **LMT**
> *[Buy key]* **Buy** *[quantity] [symbol] @ [price]* **STP**
> *[Mod4]* **MKT** *mode*

7.1.1.1.2. *... default STP/STL mode is STL then tips are:*

> *[Sell key]* **Sell** *[quantity] [symbol] @ [price]* **LMT**
> *[Buy key]* **Buy** *[quantity] [symbol] @ [price]* **STL**
> *[Mod4]* **MKT** *mode*

7.1.1.2. *...selected price is equal to market price then tips are:*

> *[Sell key]* **Sell** *[quantity] [symbol] @ [price]* **LMT**
> *[Buy key]* **Buy** *[quantity] [symbol] @ [price]* **LMT**
> *[Mod4]* **MKT** *mode*

7.1.1.3. *...selected price is less then market price and ...*

7.1.1.3.1. *... default STP/STL mode is STP then tips are:*

> *[Sell key]* **Sell** *[quantity] [symbol] @ [price]* **STP**
> *[Buy key]* **Buy** *[quantity] [symbol] @ [price]* **LMT**
> *[Mod4]* **MKT** *mode*

7.1.1.3.2. *... default STP/STL mode is STL then tips are:*

> *[Sell key]* **Sell** *[quantity] [symbol] @ [price]* **STL**
> *[Buy key]* **Buy** *[quantity] [symbol] @ [price]* **LMT**
> *[Mod4]* **MKT** *mode*

7.1.2. *If system is in* **Place Order** *mode and* **Mod1** *key is pressed and ...*

7.1.2.1. *...selected price is greater then market price then tips are:*

> *[Sell key]*
> *[Buy key]* **Buy** *[quantity] [symbol] @ [STP price]* **STP** */ [LMT price]* **LMT**
> *[Mod4]* **MKT** *mode*

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> [Sell key] **Sell** [quantity] [symbol] @ [STP price] **STP** / [LMT price] **LMT**
> [Buy key]
> [Mod4] **MKT** mode

      7.1.2.3.   *...selected price is equal to market price then tips are:*

> [Sell key]
> [Buy key]
> [Mod4] **MKT** mode

7.1.3. *If system is in **Place Order** mode and **Mod3** key is pressed and ...*
      7.1.3.1.   *...selected price is not equal to then market price then tips are:*

> [Sell key] **Sell** [quantity] [symbol] @ **Best Offer**
> [Buy key] **Buy** [quantity] [symbol] @ **Best Bid**
> [Mod4] **MKT** mode

      7.1.3.2.   *...selected price is equal to market price then tips are:*

> [Sell key] **Sell** [quantity] [symbol] @ [price] **LMT**
> [Buy key] **Buy** [quantity] [symbol] @ [price] **LMT**
> [Mod4] **MKT** mode

7.1.4. *If system is in **Market** mode and none of **Mod** keys is pressed then tips are:*

> [Sell key] **Sell** [quantity] [symbol] @ **MKT**
> [Buy key] **Buy** [quantity] [symbol] @ **MKT**
> [Up/Down] **STP/LMT** mode

7.1.5. *If system is in **Market** mode and **Mod1** keys is pressed then tips are:*

> [Sell key] **Sell** [quantity] [symbol] @ **Best Offer till Filled**
> [Buy key] **Buy** [quantity] [symbol] @ **Best Bid till Filled**
> [Up/Down] **STP/LMT** mode

7.1.6. *In requirements 7.1.1 – 7.1.5 if there is at least one **Working Order** then last tip becomes as:*

> ...
> ...
> [Mod1] **Browse** orders

7.1.7. *If system is in **Browse Order** mode and...*

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> *[Sell key] Start* **modifying** *order*
> **Num Pad:** *Type new* **quantity**
> *[Del]* **Cancel** *order*

     7.1.7.2.   *... selected order is Buy order then tips are:*

> *[Buy key] Start* **modifying** *order*
> **Num Pad:** *Type new* **quantity**
> *[Del]* **Cancel** *order*

     7.1.8. *If system is in* **Modify Order** *mode then tips are:*

> *[Up/Down] Modify* **price**
> **Num Pad:** *Type new* **quantity**
> *[Enter]* **Confirm** *changes, [Esc]* **Discard**

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8. Keyboard trading settings

Z-Click window shall startup in Market mode

8.1. **User shall be able to specify the following settings using settings dialog**

8.1.1. User shall be able to specify the contract

8.1.2. User shall be able to specify the account. If there's the only account available, account shall be chosen automatically.

8.1.3. User shall be able to specify tick offset for Stop-Limit orders for specific symbol and global offset that will apply to all symbols that don't have individual settings. Default global offset shall be equal to 5 ticks.

8.1.4. User shall be able to change the default quantity increment/decrement. Default increment/decrement quantity shall be equal to 5

*8.1.5. User shall be able to change Sell & Buy sides configuration. By default Sell is on the **left** side, Buy is on the **right**.*

*8.1.6. User shall be able to change **Grid** font. Default **Grid** font shall be Tahoma, regular, size 8.*

8.1.7. User shall be able to change color theme of Z-Click window.

8.1.8. User shall be able to change default keys for actions: "Buy", "Sell", "Up", "Down", "Mod1", "Mod2", "Mod3", "plus" , "minus", "Enter", "Escape". Default key settings described in <u>Definition of terms and predefined keys</u>.

8.1.9. User shall be able to setup what is default action for placing a Stop order: Stop or Stop-Limit. User shall be given information about which order is native for a symbol, which is synthetic.

*8.1.10. User shall be able to change the number of last prices displayed by **Market Flow** control. By default the number is 7.*

*8.1.11. User shall be able to change the visibility of **Market Flow** column By default **Market Flow** column shall be **visible**.*

*8.1.12. User shall be able to configure the number of rows visible while main window is in **collapsed** mode. Default number shall be 5.*

*8.1.13. User shall be able to configure the number of rows for **Market Window**. Default number shall be 3.*

*8.1.14. **Market window** auto appearance shall be configurable. By default **Market window** shall have auto appearance **ON**.*

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8.1.15. Visibility of **Hint Area** shall be configurable. By default **Hint Area** shall be visible.

8.2. Same dialog with settings shall be user for Order View and Z-Click
8.3. User shall be able specify a symbol for Z-Click window by typing it in.

8.3.1. Once user presses alpha-numeric keys on a keyboard (not on the numeric pad) there symbol entry window shall popup (see pix below).

8.3.2. *In order* to *accept typed in symbol user shall press* **Enter** *key.*

8.3.2.1. *If symbol is valid, then symbol entry window shall close and the symbol gets to Z-Click window.*

8.3.2.2. *If symbol is not valid, then symbol entry window shall produce a beep and stay up with whole string entered selected.*

8.3.3. *In order* to *cancel symbol entering user shall press* **Esc** *key. Symbol entry window shall disappear; symbol in Z-Click window shall not change.*

9. Main window

9.1. Main window shall provide the following "window" functionality

9.1.1. Main window shall support collapsed mode when only N rows of rice scale is visible. Number of rows for collapsed mode shall be configurable (see Keyboard Trading Settings). Feature shall be activated/deactivated by double clicking on window caption.

9.1.2. Main window shall support Pushpin AKA StayOnTop functionality that in CQG terms is called "Out of page". Feature shall be activated by Pressing pushpin button in window caption.

9.1.3. Main window shall support basic Minimize/Restore functionality. Feature is accessible through Minimize/Restore button of window caption and Minimize/Restore item of window menu.

9.1.4. Main window shall support basic Close functionality. Feature is accessible through Close button of window caption and Close item of window menu.

9.1.5. Main window shall support **vertical resizing**. Only **Grid** shall be resized, all the rest of main window layout elements shall remain their vertical size based on **Grid** font.

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Ma.ximum number of rows of the **Grid** *is not to be defined. Minimum number of rows shall be equal to the number of rows of* **Market Window** *+ 1.*

9.1.6.   **Horizontal resizing** *shall be supported by main window.* **Grid** *font shall be changed during horizontal resizing so all layout elements shall remain their horizontal proportions.*

9.2.   **Main window title shall be assembled using the following formatting string:**

"**Order: [Symbol] [Account name]: [FCM name]**"

9.3.   **Main window shall provide facilities to user to change connection settings as:**

9.3.1.   *Login to Gateway*

9.3.2.   *Logout*

9.3.3.   *Specify Gateway Server to connect*

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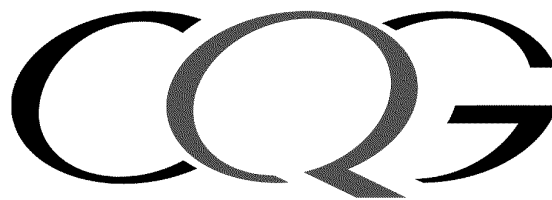
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Version 1.2

Date: 12-Sep-03

Revision History

Version	Date	Description	Author
1.0	28-Aug-03	Initial Version	Andrei Nikouline
1.1	2-Sep-03	Personal review fixes	Andrei Nikouline
1.2	12-Sep-03	Inspection Fixes	Andrei Nikouline

Table of Contents

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1. Introduction

1.1. Audience

This document is intended for developers of components of "Zero Click" project and developers of web interface for "Zero Click". This document might be useful for those who will develop gMenu usage in other parts of CQGFW application. Testers of mentioned above features might find this document useful.

1.2. Definition of Terms

Shell	Front end control that interacts with user, providing abilities for order actions and representing user's orders and market data.
gMenu	New generation of popup menu that provides basic functionality of popup menus with better ergonomics and look using *Layered Windows*.
Layered Windows	Windows 2000 introduces a new extended window style bit: WS_EX_LAYERED. When used properly, it can significantly improve performance and visual effects for a window that has a complex shape, animates, or wishes to use alpha-blending effects. The full implementation of layered windows was publicly available for the first time in Windows 2000 Beta 3 (see *Layered Window*)
ORI	*Order Routing Interface* - singleton, the central module for routing order data

1.3. Related Documents

- "Zero Click" requirements document
  http://cqgweb/proddev/all/7811.doc
- "Zero Click" diagrams
  http://dlusqa.cqgrd.com/cgi-bin/cvsweb.cgi/client/src/ZClick/Documents/Attic/Z-Click.eap
- Shell & gMenu prototypes
  http://dlusqa.cqgrd.com/cgi-bin/cvsweb.cgi/client/src/ZClick/Prototype/Attic/Transparent.exe
  http://dlusqa.cqgrd.com/cgi-bin/cvsweb.cgi/client/src/ZClick/Prototype/Attic/zer0_click_trading.exe

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1.4. Purpose

The document describes high level design for "Zero Click" project, describes components it consists of, defines interfaces and inter-component protocols. In particular the document defines ZShell, ZgMenu and ZManager classes and IZManager interface.

1.5. Functional Description

"Zero Click" project is intended to bring new look and feel to order placement interface of CQGFW and WEB clients. Based on "objects manipulation" technology it makes it extremely easier for user of any level of skills to perform order actions like placement, modification, cancellation.

"Zero Click" project consists of the following components

- ZShell   Front end control that interacts with user, providing abilities for order actions and representing user's orders and market data. ZShell is supposed to be universal UI control and be easily used outside of CQGFW client code. Basically shell translates user actions into commands to ZManager.

- ZgMenu   New generation of popup menu that provides basic functionality of popup menus with better ergonomics and look.

- ZManager   Inter-media between ZShell and CQGFW that contains all business logic beneath the shell. Manager provides ZShell with all necessary data like DOM data, real time quotes and orders' data. Besides it receives commands from ZShell and performs corresponding order actions.

1.5.1.   Use cases

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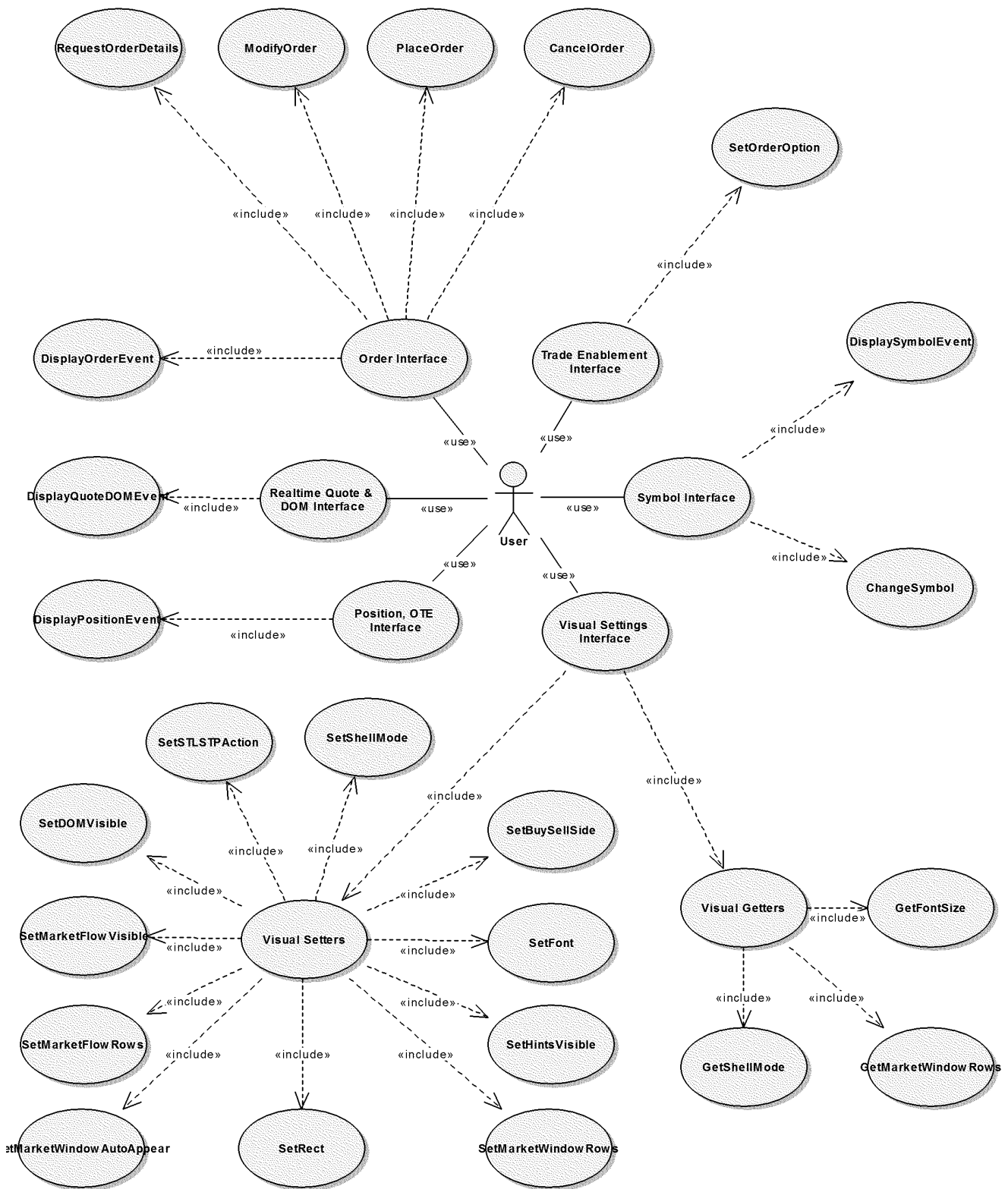
1.6. Non-Functional Issues

"Zero Click" shall be reliable as UI control correctly translating user actions into order routing commands. No extendibility is taken into consideration for now.

"Zero Click" interface shall not introduce delays of more then 10 msecs in addition to delays introduced by other components of the system such as ORI, DOM and real time quote providers. The interval shall be measured between ZManager receives notification from either ORI, DOM or real time quote providers of data change and the point when ZShell completes the redrawing.

1.7. Dependencies and Constraints

The project depends on gateway server and client functionality in particular on ORI. Market data obtainment depends on ContractInfoSpec & DOMInfoSpec. Order enablement data obtainment depends on Order Enablement Manager.

1.8. Risks and Assumptions

The main risk is caused by time frame available for the first phase of the project. There's a potential risk that some functional requirements will be taken aside due to time lack for development and testing.

Another risk is that gMenu prototype showed that there shall be many factors taken into consideration when using **Layered Windows** such as number of colors on the screen, running operating system etc. So for now we don't know all the factors. Discovering them may cause delays in development.

There's a potential risk that grid control used in ZShell will not perform at expected level of UI capabilities and performance.

1.9. Ability to change

If proven to be efficient and felicitous "Zero Click" interface will require further development. That development involves mostly extension of orders graphical representation meaning only changes to ZShell component and no changes to inter-component interfaces.

ZgMenu component might require changes after it's used in other CQGFW components like chart, order view etc. Those facts that ZgMenu perfectly matches tree-based control and it interacts with other components as context menu (sending commands to parent window) will allow perform changes without big influence to related components.

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2. Component Structure

2.1. System Overview

System layout is displayed on diagram on Figure 1. As was mentioned before ZManager obtains DOM data and real quote data via DOMInfoSpec and ContractInfoSpec from CQG Server, Orders' data via ORI and Order enablements via Order Enablement Manager from Gateway server.
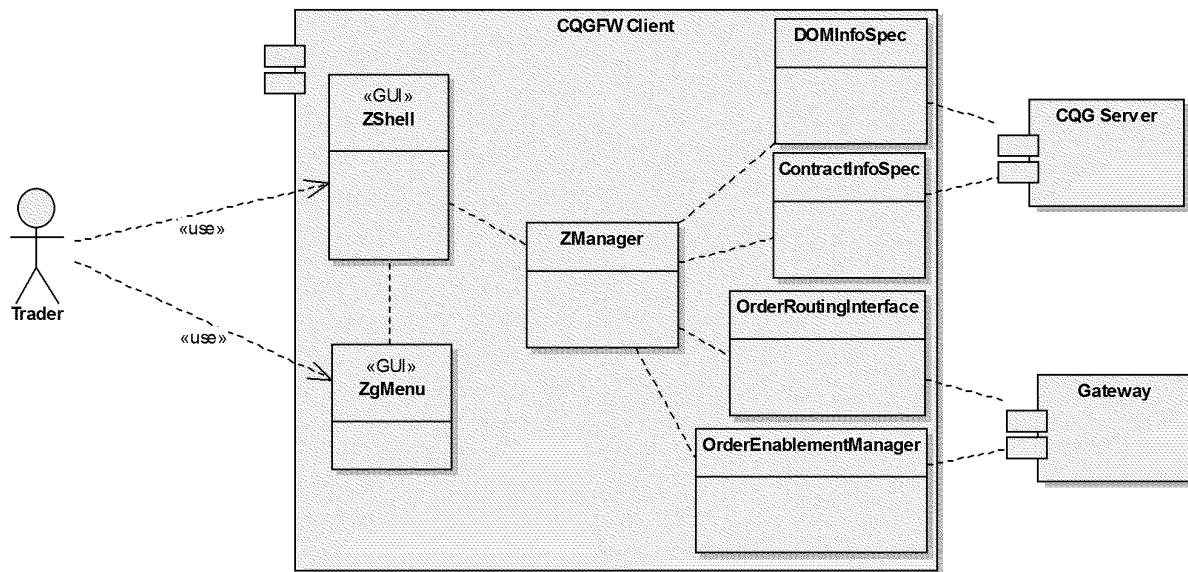
Figure 1. Major components involved in "Zero Click" and their inter-communication.

2.2. Subcomponent/Package/Class (or other relevant) Diagram(s)

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Z-Click High Level Design

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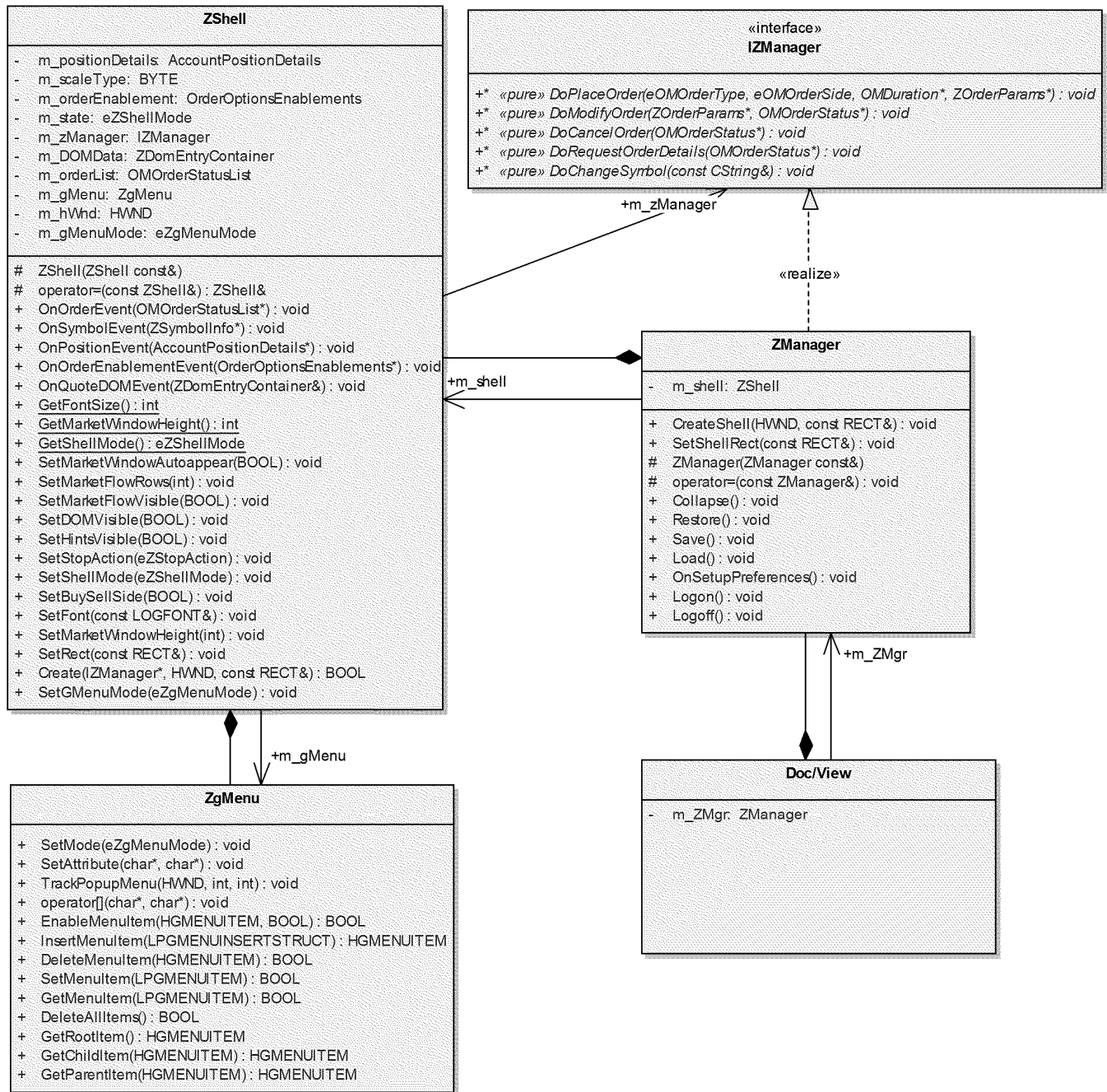
Figure 2. Classes and interfaces of "Zero Click".

2.2.1. Class ZManager

Responsibilities:

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Z-Click High Level Design

<div style="text-align: right">Version 1.2
Date: 12-Sep-03</div>

- Manages ZShell window (create, resize, destroy)
- Provides DOM data to the ZShell
- Provides real quote data to the ZShell
- Provides Orders' data to the ZShell
- Provides Order Enablement data to the ZShell
- Evaluates the data entered by user: validate symbol, account, orders placed, modified, cancelled.
- Pops up preferences dialog; saves/loads settings. Some settings could be changed by user via ZShell like rectangle, market window height, current font; other settings are available for change via preferences dialog. All settings save/load is happening to/from orderview.ini
- Dispatches of order placement commands to ORI

Uses:

- Contains object of ZShell class

Used by:

- Doc/View component

2.2.2. Class ZShell

Responsibilities:

- Accepts user input
- Translates user actions into order routing commands.
- Displays DOM, market and order data for specified symbol and account

Uses:

- Contains object of ZgMenu class

Used by:

- ZManager component

2.2.3. Class ZgMenu

Responsibilities:

- Replaces standard context popup menu, meaning is being created used as popup menu. Sends commands (WM_COMMAND messages)
- Provides quick access for order placement to all order types available for "Zero Click"

Uses:

- none

Used by:

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- ZShell component

2.2.4. *Doc/View Component*

Responsibilities:

- Provides "windows" functionality for ZShell (framing, moving, resizing, minimize/restore)
- Provides toolbar buttons for logon, logoff, server settings, user preferences.
- In caption provides information about current account, symbol and FCM
- Allows symbol and account quick change by clicking on the caption

Uses:

- Contains object of ZManager class

Used by:

- CGQFW client

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2.3. User Interface

2.3.1. Display controls

There are two components of "Zero Click" project that have UI front end.

The first is ZShell - table based representation of market data, price information, DOM data and order(s) placed arranged in rows and columns so each row has associated price. ZShell user interface consists of the following possible elements:

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"Price column"	- Column that contains vertical scale representing price information. Every cell of it is associated with particular price. Prices are sorted in ascending order.
"Sell column"	- Column that contains information about Sell orders.
"Buy column"	- Column that contains information about Buy orders.
"Market window"	- A control that has current market price always visible in the middle of price column. Market price row may be surrounded by number of rows. Every time price change **Market Window** re-centers market price row to be always in middle.
"Hint area"	- Area at the bottom of main window of 2-3 rows that gives the user context specific information on what actions could be done in this particular state what result is going to be.
"Market Flow column"	- Column that displays last N prices by sequence of circles of different radius. The more recent the price, the bigger the radius.

3.1.2.1.   gMenu

ZgMenu is gaming interface (Gaming Menu) popup menu that uses latest graphic features of Windows2000 and WindowsXP. Main benefiting features behind gMenu interface are:

- There's always the same distance between mouse pointer and any menu item (of root level). That means that every menu item can be accessed for same time.

- There's no need to aim desired menu item, mouse release in the sector of desired menu item will perform the item action.

- Since popup menu exists only short period of time it can occupy as much of display space as needed. Thus gMenu provides the user with ticket information.

- Cutting edge graphic features as gradient transparency allow the user to keep control of menu calling application by seeing through the menu.

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Z-Click High Level Design

Version 1.2
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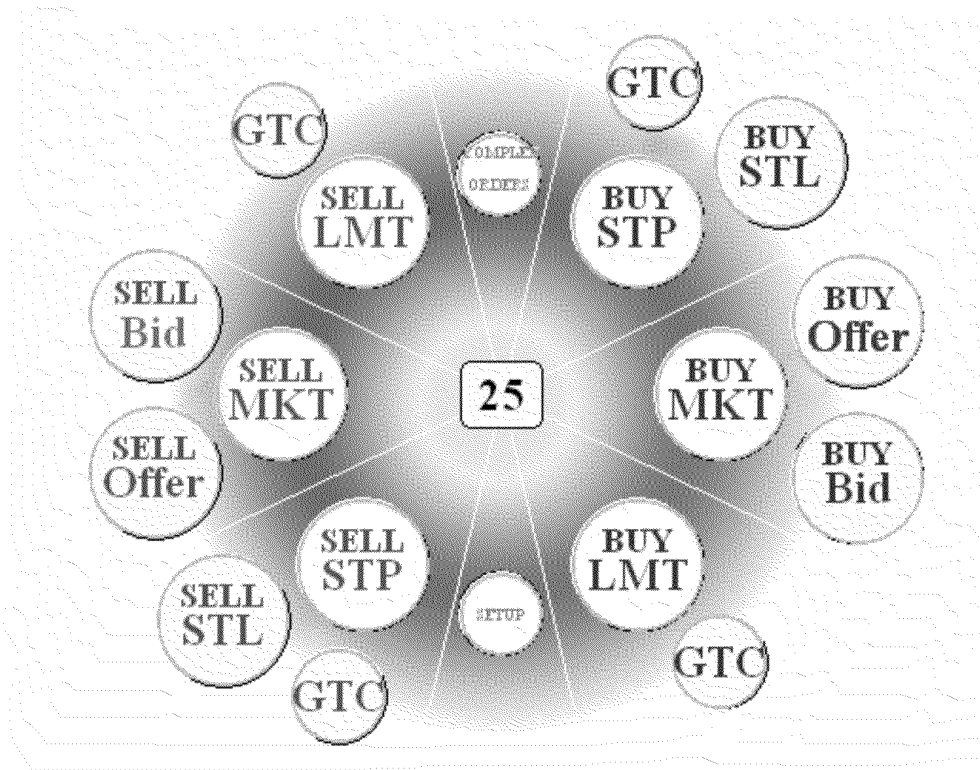
Fugure 4. gMenu layout.

2.3.2.   User actions

Key press

- Every action initiated by key press shall happen on key down.
- Only exclusion to previous sentence is Mod key that is used as modifier for Buy & Sell keys AND as outstanding key. So Mod key shall work as modifier on key down.
  If at the time of key up there was no other key pressed since key down, Mod works as outstanding button.

Right click

- Every action initiated by right click shall happen on mouse down.
- Right click shall only be used for popping up gMenu.

Drag'n'Drop

- If you click a cell on the Grid and hold the mouse button down and then move the cursor around - this action is known as *dragging*. When you release the mouse button this is known as *dropping*.
- All drag'n'drop actions shall change the cursor in order to visually represent action performing. Cursor shall change at the moment of dragging and shall go back to regular cursor by the end of dropping.

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Placing an Order

- The pictures shows how cursor is changed during dragging the price cell in order to place Sell stop order. The cursor shows:

* Future action (the order will be placed)

* Direction to go (left arrow)

- When cursor reaches the target cell, cursor changes to represent only Future action (the order will be placed).

- When cursor goes off the area available for an action, it changes to represent that action is not possible there.

Canceling and Order
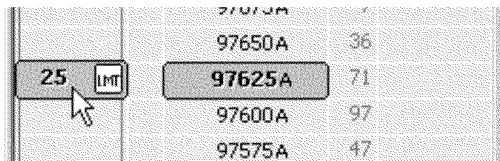
- The pictures shows how cursor is changed during the order cell off the window in order to cancel the order.
- There's no cursor change while mouse is in the column of target order.
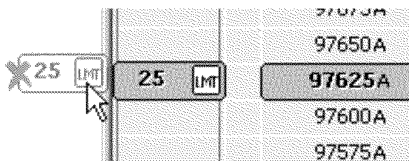
- When cursor goes off the window, the cursor changes to display that order will be cancelled once user drops the mouse.

2.4. Event Flows

Here's event flows possible for "Zero Click" project:

Data provider -> ZManager -> ZShell

This is typical situation of data update. Once data has changed, data provider notifies ZManager, it notifies ZShell, ZShell reflects changes.

User -> ZShell -> ZManager ->Data Provider

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This is typical situation when user places an order of changes a symbol. So user interacts with shell, shell translate the UI command to call to ZManager, ZManager performs corresponding action to appropriate data provider.

User -> Doc/View -> ZManager -> ZShell

This is the situation when user interacts with Doc/View component (resizing the window, collapsing/restoring the view etc.) Doc/View send corresponding commands through ZManager to shell.

User ->ZgMenu -> ZShell -> ZManager -> Data provider

This is event flow for situation when user interacts with the shell via gMenu. So ZShell handles gMenu command, resends it to ZManager, ZManager interacts with appropriate data provider in order to execute users command.

2.5. State Details

ZShell is the only of mentioned "Zero Click" components that works as state machine. State diagram of all states and transactions is very big. Its full version is available in .EAP file (see *Related Documents*). Here's simplified version of ZShell state diagram:
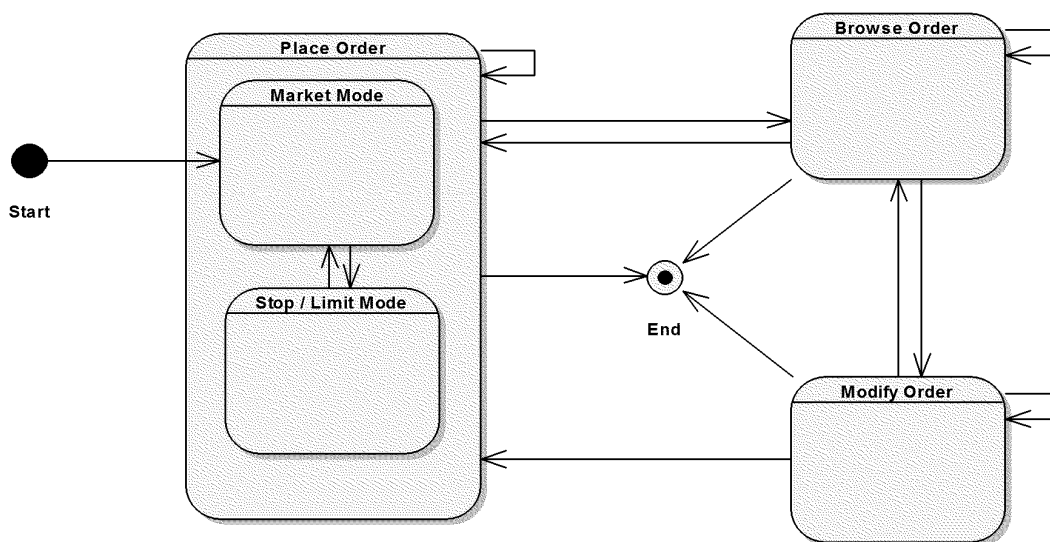
Figure 5. ZShell simplified state diagram

ZShell states are the following:

Place Order	In this state user browses through prices. Complex state that consists of two sub-states: ***Market Mode*** and ***Stop / Limit Mode.*** All order placements happens in that mode. Depending on sub-mode and selected price, placed orders are either Market, Stop or

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	Limit orders.
Browse Order	In this state user browses through placed and working orders.
Modify Order	Formally sub-state of **Browse Order** state. Being in this state ZShell lets the user modify working orders.

Note: ZShell is always starting up in **Market Mode.**

2.5.1. Initialization

Configuration can be extended and default configuration values can be changed during DD phase.

Configuration

Parameter Name	Parameter Description	Requir ed (Yes/N o)	Registry or File Name	Possible Values (underline default)
MKTWindowAutoO n	Market Window auto appearance flag	No	cqg.ini	<u>1</u>, 0
MKTFlowRows	Market Flow control rows number	No	cqg.ini	<u>7</u>
MKTFlowVisible	Market Flow column visibility flag	No	cqg.ini	<u>1</u>, 0
DOMVisible	DOM control visibility flag	No	cqg.ini	<u>1</u>, 0
HintsVisible	Hints area visibility flag	No	cqg.ini	<u>1</u>, 0
BuyIsOnLeft	Buy / Sell side flag, 1 means that Buy column is on the left side.	No	cqg.ini	<u>1</u>, 0
MKTWindowCY	Market Window height, pixels	No	cqg.ini	(natural)
Symbol	Last symbol used	No	cqg.ini	<empty>
Account	Last account used	No	cqg.ini	<empty>
Offset	Default tick offset for STL orders	No	cqg.ini	<u>5</u>
Font	Describes selected font	No	cqg.ini	<u>{Tahoma, regular, 8}</u>
CollapsedRows	Number of rows in collapsed mode	No	cqg.ini	<u>5</u>
DefaultStopAction	Default Stop – Stop-Limit action	No	cqg.ini	"STP", "STL" (default value is exchange specific)

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2.6. Failure Analysis / Error Recovery Details

2.6.1. Error Logging and Reporting

"Zero Click" as UI control will report errors regarding to user input using popup messages. All errors not concerning user input (like connection outage, order rejection etc.) will be reported by corresponding components used (not "Zero Click" components) via CQG Alerting mechanism.

2.7. Metrics

2.7.1. Performance / Management Metrics

There will be no external performance metrics produced by "Zero Click". In order to measure delays introduced by "Zero Click" components there will be internal calculations. That metrics data will be used during development and testing cycles in order to optimize "Zero Click" implementation. (See *Non-Functional Issues*)

There's build-in mechanism in ORI to produce order metrics. "Zero Click" shall provide ORI with component specific prefix for order UE name in order to differentiate orders placed from gMenu & shell for future analysis. So for orders placed from ZShell with keyboard the prefix will be **ZK**, with mouse - **ZM**, with gMenu – **ZG** instead of **GW** prefix that is being used for all orders placed from CQGGW client.

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3. Data Structure

3.1. Data Structure Details

"Zero Click" components reuse data types existing in CQGGW client code such as OMOrderStatus, OMDuration, OMOrderStatusList, AccountPositioDetails.

There are several additional data types and enumerations that will be introduced.
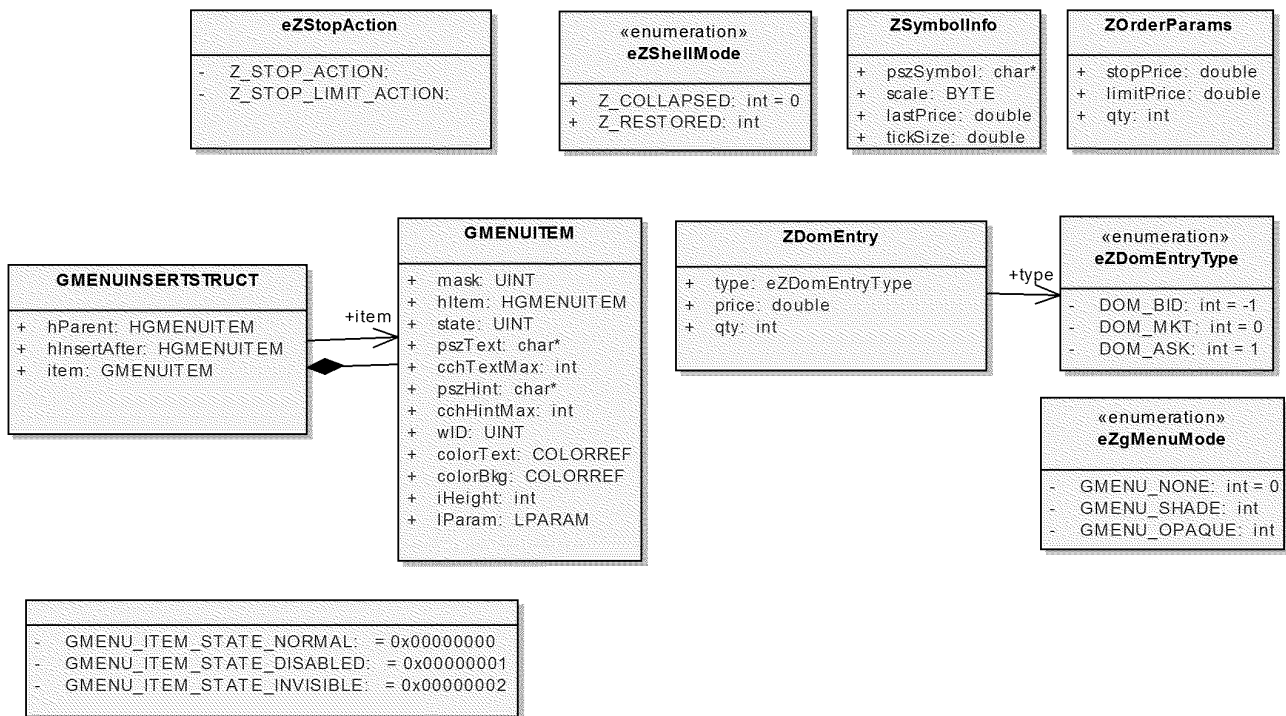
Figure 6. Data types and enumerations

Data types ZSymbolInfo and ZOrderParams are rather simple. The reason they are organized in separate types is to keep class declaration the same in case of changes to parameters needed.

Most interesting data type is **GMENUITEM**. **GMENUITEM** specifies or receives attributes of a gMenu item.

```
typedef struct tagGMENUITEM{
        UINT mask;
        ///< Array of flags that indicate which of the other structure members /

        contain valid data
```

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```
    HGMENUITEM hItem;  ///< Item to which this structure refers.

    UINT state;              ///< Menu item state.
    char* pszText;           ///< Pointer to a null-terminated string that contains the item text if /
                                  the structure specifies item attributes.
    int cchTextMax;           ///< Size of the buffer pointed to by the pszText member, in /
                                   characters
    char* pszHint;            ///< Pointer to a null-terminated string that contains the item hint /
                                  if the structure specifies item attributes
    int cchHintMax;          ///< Size of the buffer pointed to by the pszHint member, in /
                                  characters
    UINT wID;                ///< Application-defined 16-bit value that identifies the menu item
    COLORREF colorText; ///< Specifies the foreground color of the item text as an RGB color.
    int iHeight;             ///< Height index to display menu items larger or smaller
    LPARAM lParam;           ///< A value to associate with the item.


} GMENUITEM;
```

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4. Performance Structure

4.1. Performance Details

"Zero Click" interface shall not introduce delays of more then 10 msecs in addition to delays introduced by other components of the system such as ORI, DOM and real time quote providers.

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5. Operational Structure

5.1. Logging/Alarming Details

"Zero Click" components will do no logging. ORI does all needed logging on its side. ZManager will provide ORI with additional information for orders placed with "Zero Click" interface in order to differentiate them from the rest of orders for further analysis.

No alarming is assumed

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6. Testing Structure

6.1. Component Tests

"Zero Click" being mostly UI component requires manual testing. Manual testing shall confirm that "Zero Click" component satisfies its requirements (see *Related Documents*) i.e. user is able to place orders of certain types, modify orders price(s) and quantity, cancel orders, change symbol, account and other settings, see DOM and market data etc.

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7. Technology Structure

7.1. Build Details

"Zero Click" components will be plain C++ classes as part of CQGGW client code. No special build procedures required.

7.2. Technology Details

"Zero Click" project in general doesn't have OS specific requirements. Although ZgMenu gradient transparency feature is only supported in Windows2000 and later. That means that ZgMenu component will be platform dependant and basically will provide two looks: one for Win2000 and later and another for the rest of Windows OSs.

OS: Windows ME and later, Windows NT 4.0 and later

Compiler: MS Visual C++ 6.0 with the SDK platform

Location in CVS:

client/src/ZClick (development branch is br_dev_gw_zclick)

client/src/GMenu (development branch is br_dev_gw_zclick)

File structure (development):

client/src/ZClick/*

client/src/GMenu/*

File structure (deployable):

Client executable

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Exhibit J

Activities

Created Server Time	Activity Type	Created By	Description	Completed	Assigned To	Due Date	Note/Request	System	Amount	Date Assigned	Acct. Name	Acct. Location	ARNum	Last Name	First Name	CSR/ISR	Defect/Suggestion Num.	Project	Requirement	Overdue	Priority	Date Completed	Start Time	Duration	End Time	Todo
11/26/2010 5:56:10 AM	Status Change	GOUCHINE	Defect sub-status change to: Resolved	N													257694701									
11/26/2010 5:39:48 AM	Email - Outbound	VKUZKO	Sent message to: Oleg Gouchine. (see Comment for message body.)	N			Comments: Hello Oleg, you've put this suggestion into Open/Assigned state without any notification; could you please explain why?.If it has failed testing, please describe exactly how and provide STRs. Thanks, Vitaly. Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Assigned To: VKUZKO Status: Open Sub Status: Assigned Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear.										257694701							0		
11/24/2010 8:13:41 AM	Status Change	GOUCHINE	Defect sub-status change to: Assigned	N													257694701									
11/16/2010 11:25:30 AM	Status Change	NOSKOV	Defect sub-status change to: Ready to Test	N													257694701									
11/16/2010 6:29:20 AM	Email - Outbound	VKUZKO	Sent message to: Alexey Coolnev. (see Comment for message body.)	N			Comments: Defect was injected with alexeyc_092506_223857, so set as injected by C/S Performance team. Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Assigned To: VKUZKO Status: Test Pending Sub Status: Test Pending Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear.										257694701							0		
11/16/2010 6:25:17 AM	Status Change	VKUZKO	Defect sub-status change to: Test Pending	N													257694701									
							The following Defect has been set to Test Pending/Test Pending: Comments:																			

TT v. CQG (05-4811)

PDX 2171

Shterk 1-24-2013

CQG00145729

TT v. CQG (05-4811)

PTX 0175.0001

Date	Type	User	Message	N			Description				Number		
11/16/2010 6:24:47 AM	Email - Outbound	VKUZKO	Sent message to: Alexey Korepanov; Yuriy Shterk; Olexandr Voytsikhovskyy; Vitaly Kuzko; Sheila Sp...	N			Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Assigned To: VKUZKO Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Status: Test Pending Sub Status: Test Pending Target Fix Version: 8x3 General 2 Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear.				257694701		0
11/16/2010 4:49:12 AM	Status Change	VKUZKO	Defect sub-status change to: Inspection Pending	N							257694701		
11/15/2010 4:35:07 AM	Email - Outbound	VKUZKO	Sent message to: Alexey Korepanov; Yuriy Shterk; Olexandr Voytsikhovskyy; Vitaly Kuzko. (see Com...	N			Comments: Hello Yuriy, this defect was injected about 4 years ago during what appears to be 7x4 maintenance (defects 141694901, 158652104) but also seems to be related to work done in scope of "TRI refactoring" project (checked-in right after br_7x4_TRI_Refact merge to trunk). The behavior in question is intentional - the code checks whether the market window will have more rows that the grid has, and if so, doesn't show the market window, which fixes some problems with DOMTrader scrolling according to check-in description. I'm going to fix it by making the Market Window to be one row smaller than the total number of rows we show (and ensuring we don't show less than two rows). Another option is resetting the Market Window size to default (two) but then the DOMTrader's grid will have to be at least three rows high all the time. I'll send you a corresponding requirement for approval. Thanks, Vitaly. Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Assigned To: VKUZKO Status: Open Sub Status: Assigned Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mod...				257694701		0

Date	Action	User	Description	Flag				Comments			Number				
11/15/2010 2:32:53 AM	Reassigned	OLEXANDR	Defect reassigned to: VKUZKO	N								257694701			
11/15/2010 2:32:22 AM	Email – Outbound	OLEXANDR	Sent message to: Alexey Korepanov; Yuriy Shterk; Olexandr Voytsikhovskyy; Vitaly Kuzko. (see Com...	N				The following Defect has been assigned to VKUZKO: --------- Comments: --------- Per Yuriy Shterk this is P1 for 8x3. See e-mail attached. Please fix ASAP. --------- Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Assigned To: VKUZKO Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear. Status: Open Sub Status: Assigned Target Fix Version: 8x3 General 2			257694701			0	
11/14/2010 11:02:16 PM	Email – Outbound	ALEXK	Sent message to: Olexandr Voytsikhovskyy; Alexey Korepanov; Yuriy Shterk; Sheila Spampinato. (se...	N				The following Defect has been assigned to OLEXANDR: --------- Comments: --------- Per Yuriy Shterk this is P1 for 8x3. See e-mail attached. Olexandr, please reassign to developer. Thanks! --------- Number: 257694701 Title: Market window doesn't show up if it's higher than DOMTrader height. Date Opened: 11/13/2010 8:33:49 PM Reported By: YSHTERK Created By: ALEXK Assigned To: OLEXANDR Area: CQG Client Sub-Area: Trade Routing Priority: 1-Immediately Description: Market window doesn't show up if it's higher than DOMTrader height. STR: Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear. Status: Open Sub Status: Assigned Target Fix Version: 8x3 General 2			257694701			0	
11/14/2010 11:01:15 PM	Reassigned	ALEXK	Defect reassigned to: OLEXANDR	N								257694701			
11/14/2010 11:01:15 PM	Priority Change	ALEXK	Defect Priority change to: 1-Immediately	N								257694701			
11/14/2010 11:00:09 PM	Status Change	ALEXK	Defect sub-status change to: Assigned	N								257694701			
			Defect Target												

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TT v. CQG (05-4811)

PTX 0175.0003

| 11/14/2010 11:00:05 PM | Target Fix Change | ALEXK | Fix Version change to: 8x3 General 2 | N | | | | | | | | | 257694701 | | | | | | | | |

Exhibit K

From:	Yuriy Shterk <yshterk@cqgexchangemail.com>
Sent:	Friday, May 8, 2009 5:26 PM
To:	Jai Dandekar <jaid@cqg.com>; Alexey Korepanov <alexk@cqg.com>; Marcus Kwan <marcus@cqg.com>; UX <UX@cqg.com>
Subject:	RE: Suggestion 194620201, displayed below, has been escalated.

It will guys, this is a good point, I just wonder how it behaves when the market window is smaller than the DT height.

Lets play with it on Monday and we'll have an answer for Alexey by Tuesday.

From: Jai Dandekar
Sent: Friday, May 08, 2009 3:28 PM
To: Yuriy Shterk; Alexey Korepanov; Marcus Kwan; UX
Subject: Re: Suggestion 194620201, displayed below, has been escalated.

Hello Yuriy,

When I make the DOMTrader window smaller in height, there is a certain amount of scrolling time within the inside market split where I cannot see either the best bid or best ask. In this area, there is no split pane present either. Right clicking on the DOM Grid won't do anything either because the height of the window is shorter than the height of the inside market split.

As I increase the height of the DOMTrader window, depending on the height of the inside market split, will reveal either the best bid or best ask (depends on which direction I scroll in).

Question: When the window height of the DOMTrader is shorter than the height of the market split, would it make sense to have the right click on the DOMGrid show the user a split pane view with either the Best Bid or Best Ask revealed?

Thanks.

~ Jai ~

On 5/8/09 6:20 AM, "Yuriy Shterk" <yshterk@cqg.com> wrote:

So Jai, what will happen if you make market window small, will it solve the problem?

Thanks.

-----Original Message-----
From: Alexey Korepanov
To: Yuriy Shterk; Marcus Kwan; UX
Sent: Fri May 08 00:54:44 2009
Subject: RE: Suggestion 194620201, displayed below, has been escalated.

Fix should take 1-2 dev.days.

TT v. CQG (05-4811)
PDX 2186

I changed suggestion priority.
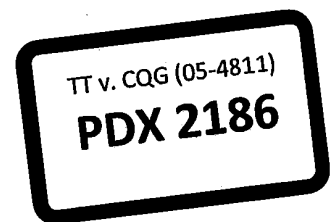
I think the reason why market window is not shown here is because its height is higher than DOM grid height. So if you resize DOMTrader vertically (make it higher) then market window will appear.

I think we can set market window height to the half of DOM grid height in this case so market window will appear.

Thanks!

<http://www.cqg.com/>
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From: Yuriy Shterk
Sent: Friday, May 08, 2009 7:15 AM
To: Marcus Kwan; Alexey Korepanov; UX
Subject: RE: Suggestion 194620201, displayed below, has been escalated.

Agree, we need to correct it. Alexey, please set it as p2 for general 1.

How difficult will it be to fix?

Thanks.

From: Marcus Kwan
Sent: Thu 5/7/2009 2:54 PM
To: Marcus Kwan; Yuriy Shterk; Alexey Korepanov; UX
Subject: Suggestion 194620201, displayed below, has been escalated.

Yuriy, Shiela, I'm escalating this one. It was set to P4.

This is what I see: no best bid or offer. I think that's why we did the work for the market window....

CQG00812091

TT v. CQG (05-4811)

PTX 0190.0002

Comments:

Number: 194620201

Title: BBA not showing correctly; market window is not working

Date Opened: 3/24/2009 2:28:08 PM

Created By: MARCUS

Escalated By: MARCUS

Escalation Reason: BD Requesting Info

Escalation Comment: Converted to suggestion because this functionality exists in 7x9 and earlier. Needs BD approval to set TFV and priority.

Priority: 4-Low Priority

Difficulty:

Target Fix Version:

Assigned To:

Status: Open

Sub Status: New

Description:

this is actually in 8.1234

  * Only best bid or offer is showing for ET-QO and HOEK

  * Market window should show BB or BA

http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#BBA_not_showing_correctly_Defect

ALEXK: This happens when market window is bigger that DOMTrader. In this case market window is not shown.

Exhibit L

	A	B	C	D	E	F	G	H	I	J
1	Type	Number	Priority	Assigned To	Owner Manager	Dependent On	Occurrence	Severity/Importance	Reported By	Status
2	Suggestion	102985207	5-Tracking				2-Limited	2-Functional Impairment	TWOOD	Open
3	Suggestion	105676302	3-When Possible	MMALISHK	SERGEYG		2-Limited	2-Functional Impairment	MARCUS	Closed
4	Suggestion	105676305		SERGEYA			2-Limited	2-Functional Impairment	MARCUS	Closed
5	Suggestion	10728811	1-Immediately	ALEX	MMALISHK		(not entered)	2-Functional Impairment	YSHTERK	Closed
6	Suggestion	108399001	2-By Due Date	KARNYGIN			2-Limited	2-Functional Impairment	TIM	Closed
7	Suggestion	108580509	3-When Possible	AVAKHOV			2-Limited	2-Functional Impairment	ALEKSEYK	Closed
8	Suggestion	108794201	2-By Due Date	KISHIKV			2-Limited	2-Functional Impairment	MARCUS	Closed
9	Suggestion	11065901	3-When Possible	ILYA			(not entered)	1-Catastrophic	DMITRYM	Closed
10	Suggestion	115037701	2-By Due Date	ILDAR	MMALISHK			2-Functional Impairment	JAEHA	Closed
11	Suggestion	115037709					1-Widespread	2-Functional Impairment	JAEHA	Open
12	Suggestion	115124201	2-By Due Date	SERGEYG	JOSEF		1-Widespread	2-Functional Impairment	JAEHA	Closed
13	Suggestion	115133801	4-Low Priority				1-Widespread	2-Functional Impairment	JAEHA	Open
14	Suggestion	115150201	4-Low Priority				1-Widespread	2-Functional Impairment	JAEHA	Open
15	Suggestion	117725118	3-When Possible	NINA	MFISCHER		1-Widespread	3-Minor Error	GUS	Closed
16	Suggestion	117731306	1-Immediately	DMITRYN	IAN		1-Widespread	3-Minor Error	NINA	Closed
17	Suggestion	118328601	2-By Due Date	ARSENS	HENDRICK		1-Widespread	2-Functional Impairment	SEDREEV	Closed
18	Suggestion	118396401	2-By Due Date	ALEXK	MAXIM				YSHTERK	Closed

TT v. CQG (05-4811)

PDX 2187

CQG00073993

	K	L	M	N	O
1	Sub-Status	Requirements Needed	Event Pending Description	Pending Date	Found Version
2	New	Discuss			7.3856
3	Canceled	No			7.386
4	Duplicate	No			7.386
5	Resolved				1.1xx
6	Resolved	Yes			7.386
7	Resolved	Yes			7.4208
8	Resolved	Yes			
9	Canceled				
10	Resolved	No			
11	New				
12	Fixed Later Version	No			
13	New	Discuss			
14	New				
15	Canceled	No			
16	Duplicate	No			1
17	Resolved	Yes			unknown
18	Resolved	Discuss			

CQG00073994

TT v. CQG (05-4811)

PTX 0191.0002

	P	Q	R	S	T	U	V
1	Checkin Tag Id	Target Fix Version	Branch 1	Branch 2	Reproducible	Difficulty	Risk
2							
3		7x6 Beta 1 - 7.6812					
4							
5							
6	karnygin_032806_122117	7x3 General 1 - 4/7/06					
7	avakhov_071106_190356	7x4 Beta 1					
8	kishikv_050606_175803	7x4 Beta 1				3-Hard	
9							
10	ildar_063006_155350	7x4 Beta 1					
11							
12		7x4 Alpha 3					
13							
14							
15							
16							
17	arsens_052406_105727	InternalRelease15					
18	alexk_041006_151501	7x3 General 1 - 4/7/06					

	W	X	Y	Z	AA	AB
1	Injected By Team	Defect Type	Injected By	Area	Sub-Area	Element
2				CQG Client	Trade Routing	
3				CQG Client	Trade Routing	ChartTrader
4				CQG Client	Trade Routing	ChartTrader
5				CQG Client		
6				CQG Client	Trade Routing	ChartTrader
7				CQG Client	Trade Routing	Order Ticket
8				CQG Client	Trade Routing	DOMTrader
9				CQG Client		
10				CQG Client	Trade Routing	
11				CQG Client	Trade Routing	
12				CQG Client	Trade Routing	
13				CQG Client	Trade Routing	
14				CQG Client	Trade Routing	
15				Data Factory Online	Extration	
16				Data Factory Online	Logging	
17				CQG New Client	Parsers	
18				CQG Client	Trade Routing	General

CQG00073996

TT v. CQG (05-4811)

PTX 0191.0004

	AC
1	Summary
2	Have a Cancel all choice on the DOM instead of only on CQG when DOM is being used.
3	Study labels should not scale with size of trading UI
4	When ChartTrader is turned on, there should be an account dropdown in the headerbar of the window
5	Add ability to test for memory leaks in DOM server
6	Horizontal line on buy/sell cell hover in CT
7	Implement <Tab> and <Shift+Tab> shortcuts for switching between contract tabs
8	change tick chart to TradeFlow in DOMTrader
9	DOM server - WinDim connection testing
10	change DOM gridlines
11	Change table colors for DOM trader
12	Change all DOM values to red or gree
13	Change the A/B next to the price on DOM Trader to red/green
14	Change up/down arrow in snake of DOM Trader to circle
15	Add session ID, contributor ID, and salesconditions to DOM extract.
16	We need to know what FTP files are accessed, how often and by whom
17	Ops console shall be able to resend DOM book
18	DOMTrader and OrderTicked should be displayed in minimal font on first start.

CQG00073997

TT v. CQG (05-4811)

PTX 0191.0005

	AD
1	Description
2	Have a Cancel all choice on the DOM instead of only on CQG when DOM is being used. One idea would be when right clicking on the position we have the liquidate all function but don't have the cancel all. We could do something similar. This allows the user to hide his buttons and still have access to the cancel all function. CSR is linked.
3	Project: CHART TRADER scaling the DOM window in ChartTrader, the study values, labels, and cursorbox fonts get larger, but should not. see attached screenshot.
4	When ChartTrader is turned on, we need to show the trading account with the ability to right-click and change, just like in DOMTrader. see attached screenshot.
5	We need to add an ability to test for memory leaks in DOM server compiled in release mode. The memory leak testing mechanism should be consistent with other applications.
6	Un-parked horizontal line shall be displayed at corresponding price when buy/sell or DOM cells are hovered.
7	It should implement switching between contract tabs in Order Ticket and DOM Trader by using <Tab> and <Shift+Tab> shortcuts like in all Windows application
8	Original intent for DOMTrader in dynamic mode was to replace tick chart with Tradeflow chart. Tickchart needs to be replaced with Tradeflow.
9	We have to have possibility to test WinDim connection in DOM server
10	Please change DOM gridlines to (255,255,255) for light themes and (39,39,39) for dark themes. Propogate to all relevant interfaces. See attached.
11	Please change theme colors for DOM trader table. Propogate to all relevant interfaces. See attached.
12	Please change the color of the DOM values in DOM Trader to all red and green (no grey). Light themes: (204,0,0), (0,128,0). Dark themes: (255,0,0), (0,200,0). Propogate to all relevant interfaces. See attached.
13	Please change the A/B next to the price in the DOM Trader to red for "A" and green for "B". Light themes: (204,0,0), (128,0,0) Increase the font size to .9x. Only one of the two should be present at any time. Propogate to all relevant interfaces. See attached.
14	Please change the up/down arrow in the snake of the DOM Trader to a red or green circle. Light themes: (204,0,0), (0,128,0). Dark themes: (255,0,0),(0,200,0). Propogate to all relevant interfaces. See attached.
15	To make DOM and EOD consistent with each other, please add session ID, CID, and salesconditions to dompr. I also suggest trying to get the sequence of columns consistent.
16	With addition of DOM data samples (and down the line, possibly other samples), we need to know which files on ftp are accessed, how often and (if possible) by whom. Tim's request.
17	Ops console shall be able to resend DOM book on those parsers where DOM book is available. The resend should be done either for all instruments maintained by parser of by instrument id. The resend should be throttled.
18	When first started, DOMTrader and OrderTicked should have minimal fonts.

	AE	AF	AG
1	Impact to Customer	Update Test Plan	Feature Number
2	Would allow the user to hide the buttons and still access the cancel all.		
3	odd behavior		MSM15240D
4	no ability to see which account or switch accounts to trade from		
5	(not entered)		
6	Clearer indication of price		
7	Usability improvement		ZZZ428D
8	better sense of the market	No Change Needed	
9	(not entered)		
10	high	No Change Needed	
11	high		
12	high		
13	high		
14			
15	Additional information; is already present in EOD format.		
16	We know him better		
17	Customer could have wrong DOM book picture when data was lost		
18	UI		

CQG00073999

TT v. CQG (05-4811)

PTX 0191.0007

	AH	AI	AJ	AK	AL
1	Test Plan	Created By	Escalated By	Escalated?	Escalation Comment
2		TWOOD		N	
3		MARCUS	SERGEYG	N	We believe it is intended behavior as it is.
4		MARCUS		N	
5		YSHTERK			
6		SERGEYG		N	
7	Order Ticket	ALEKSEYK		N	
8		MARCUS	MAMAYEV	N	Please move the due date. The feature shall be complete June 9.
9		DMITRYM			
10		JAEHA		N	
11		JAEHA		N	
12		JAEHA		N	
13		JAEHA		N	
14		JAEHA		N	
15		GUS		N	
16		NINA		N	
17		SEDREEV		N	
18		ALEXK		N	

CQG00074000

TT v. CQG (05-4811)

PTX 0191.0008

	AM	AN	AO	AP	AQ
1	Escalation Reason	Discovered By Group	Discovered During	Fixed Versions	Test Pending Server Time
2		General Cust	General		
3	Other	CQG Employee	General		
4		CQG Employee	General		
5		Developers			
6		CQG Employee	System Testing	7.3198	3/28/2006 2:48
7		Testing	System Testing	7.4138	7/11/2006 11:01
8	Target Fix Change	CQG Employee	General	7.4128	
9					
10		CQG Employee	Alpha	7.4134	6/30/2006 6:40
11		CQG Employee	Alpha		
12		CQG Employee	Alpha		
13		CQG Employee	Alpha		
14		CQG Employee	Alpha		
15		MDO	General		
16		CQG Employee	General		
17		Developers	Integration Testing		
18		CQG Employee		7.3199	4/10/2006 8:33

CQG00074001

TT v. CQG (05-4811)

PTX 0191.0009

	AR	AS	AT	AU
1	What Was Fixed	Created Server Time	Due Date	Failed Testing Date
2		3/21/2006 15:20		
3		3/24/2006 9:39	8/3/2007	
4		3/24/2006 9:46		
5		7/6/2001 11:58		
6	Horizontal line on buy/sell cell hovers in ChartTrder	3/27/2006 0:38	4/7/2006	
7		3/27/2006 7:21	7/21/2006	
8	Tst - TF chart is added	3/27/2006 11:07	7/14/2006	
9		7/13/2001 17:35		
10	Dom gridlines are white on light themes and black for dark themes	4/3/2006 11:35	7/14/2006	
11		4/3/2006 13:37		
12		4/3/2006 13:49	6/23/2006	
13		4/3/2006 14:15		
14		4/3/2006 14:23		
15		4/6/2006 15:01		
16		4/6/2006 12:45		
17		4/7/2006 0:59	6/9/2006	
18	DOM Trader and Order Ticket have minimal font size while CQG Client starts for first time	4/7/2006 2:43	4/10/2006	

CQG00074002

TT v. CQG (05-4811)

PTX 0191.0010

	AV	AW	AX	AY
1	Work Around	Closed Server Time	Initial Assign Server Time	Time of Defect
2				
3		7/17/2007 14:00	3/24/2006 11:01	
4		3/27/2006 16:01	3/24/2006 11:01	
5		10/25/2001 13:14	7/6/2001 11:58	
6		4/12/2006 6:10	3/27/2006 0:36	
7		7/24/2006 9:13	5/23/2006 21:30	
8		3/12/2007 3:44	3/27/2006 11:05	
9		2/14/2002 8:39	7/13/2001 17:35	
10		7/24/2006 15:00	5/23/2006 21:41	
11				
12		5/24/2006 7:42	5/23/2006 21:41	
13			5/23/2006 21:42	
14				
15		11/28/2006 21:21	4/6/2006 15:32	
16		4/6/2006 12:45	4/6/2006 10:08	
17		6/22/2006 4:31	4/7/2006 8:17	
18		4/28/2006 6:59	4/7/2006 14:25	

CQG00074003

TT v. CQG (05-4811)

PTX 0191.0011

	AZ	BA	BB	BC	BD
1	Times Reopened	Times Failed Testing	Times Pending Info	Failed Testing Flag	Last Updated By
2	0	0		N	
3	0	0		N	
4	0	0		N	
5					
6	0	0		N	
7	0	0	1	N	
8	5	0	1	N	
9					
10	0	0	1	N	
11	0	0		N	
12	0	0		N	
13	0	0		N	
14	0	0		N	
15	0	0		N	
16	0	0		N	
17	0	0		N	
18	0	0		N	

CQG00074004

TT v. CQG (05-4811)

PTX 0191.0012

	BE
1	Email CC List
2	twood@cqg.com
3	marcus@cqg.com; sergeyg@cqg.com; sheila@cqg.com; sergey@cqg.com; mmalishk@cqg.com
4	marcus@cqg.com; sergeya@cqg.com; mglista@cqg.com
5	yshterk@cqg.com; ilya@cqg.com; alex@cqg.com; dmitrym@cqg.com
6	sergeyg@cqg.com; sergeya@cqg.com; mamayev@cqg.com; karnygin@cqg.com
7	alekseyk@cqg.com; sergeyg@cqg.com; mamayev@cqg.com; avakhov@cqg.com; marcus@cqg.com; jaeha@cqg.com;
8	marcus@cqg.com; sergeya@cqg.com; yshterk@cqg.com; sergeyg@cqg.com; mamayev@cqg.com; kishikv@cqg.com
9	dmitrym@cqg.com; ilya@cqg.com; yshterk@cqg.com
10	jaeha@cqg.com; sergeya@cqg.com; yshterk@cqg.com; sergeyg@cqg.com; ildar@cqg.com; marcus@cqg.com
11	jaeha@cqg.com; sergeya@cqg.com; sergeyg@cqg.com; yshterk@cqg.com
12	jaeha@cqg.com; sergeya@cqg.com; sergeyg@cqg.com; yshterk@cqg.com
13	jaeha@cqg.com; sergeya@cqg.com; sergeyg@cqg.com; yshterk@cqg.com
14	jaeha@cqg.com; sergeya@cqg.com; sergeyg@cqg.com; yshterk@cqg.com
15	gus@cqg.com; nina@cqg.com
16	nina@cqg.com; dmitryn@cqg.com; gus@cqg.com
17	pdopscon@cqg.com; dmitrym@cqg.com; sedreev@cqg.com; maximp@cqg.com; arsens@cqg.com
18	alexk@cqg.com; ildar@cqg.com; sergeyg@cqg.com;

CQG00074005

TT v. CQG (05-4811)

PTX 0191.0013

	A	B	C	D	E	F	G	H	I	J
19	Suggestion	124116401	2-By Due Date	STEPANY			2-Limited	2-Functional Impairment	STEPANY	Closed
20	Suggestion	124148807	4-Low Priority				3-Rare	2-Functional Impairment	TWOOD	Open
21	Suggestion	124732302	2-By Due Date	TARASR			1-Widespread	2-Functional Impairment	GASKOVD	Closed
22	Suggestion	124815505	4-Low Priority	NIKOLAY	SERGEYG		1-Widespread	2-Functional Impairment	TRUSOVS	Open
23	Suggestion	127533927	4-Low Priority				1-Widespread	2-Functional Impairment	ALEKSEYK	Open
24	Suggestion	129202601	2-By Due Date	THARTLE	ROD		2-Limited	2-Functional Impairment	SERGEYA	Closed
25	Suggestion	129202603		MICHELLE	ROD		2-Limited	2-Functional Impairment	SERGEYA	Closed
26	Suggestion	129202607	4-Low Priority	MICHELLE	ROD		2-Limited	2-Functional Impairment	SERGEYA	Closed
27	Suggestion	129202620	2-By Due Date	KARNYGIN			2-Limited	2-Functional Impairment	TIM	Closed
28	Suggestion	129498506	4-Low Priority	SERGEYG	JOSEF		1-Widespread	2-Functional Impairment	PAULA	Closed

	K	L	M	N	O
19	Resolved	Discuss			unknown
20	New	Discuss			7.3863
21	Resolved	No			
22	Assigned	No			7.4115
23	New	Yes			7.3863
24	Not Tested	No			
25	Fixed Later Version				
26	Not Tested	No			
27	Resolved	No			
28	Canceled	Discuss			unknown

CQG00074007

TT v. CQG (05-4811)

PTX 0191.0015

	P	Q	R	S	T	U	V
19	stepany_063006_150707	InternalRelease17					
20							
21	tarasr_042706_184539	InternalRelease13 - 4/28/06					
22					Yes		
23					Yes		
24	thartle_061906_082507	7x3 General 2					
25							
26							
27	karnygin_051506_185014	7x4 Alpha 1					
28					Yes		

	W	X	Y	Z	AA	AB
19				CQG New Client	General	
20				CQG Client	Trade Routing	DOMTrader
21				CQG New Client	CQG Basic	
22		Requirements		CQGGW	CAST	Accounts
23				CQG Client	Trade Routing	DOMTrader
24	Project: SQA-Documentation	Code		CQG Client	Help	
25				CQG Client	Help	
26				CQG Client	Help	
27				CQG Client	Trade Routing	
28				CQG Trader	DomTrader	

CQG00074009

TT v. CQG (05-4811)

PTX 0191.0017

	AC
19	Locks in PriceVolumeList perhaps could be removed. This will speed up operations with it.
20	Separate the Trade pref per replicated DOM.
21	ColorTextButton shall allow to set a different font for different substrings in text.
22	Exists the possibility to change the order, under forbid on trade data by goods.
23	Market window with default size (5 rows) doesn't appear in DOM Trader with reduced height
24	DOMTrader: Trade Volumes in DOMTrader
25	DOMTrader: Canceling all Active Orders
26	DOMTrader: Placing an Order from the DOMTrader window using the Mouse
27	Right click on selected price shall deselect it and switch DOMTrader to the market mode.
28	CQG Trader, be able to remove the thermometer on DOM tabs

TT v. CQG (05-4811)

PTX 0191.0018

	AD
19	Locks in priceVolumeList could be removed or SingleThreaded/MultiThreaded version could be implemented and used. At least in parsers there is no need to use multithreaded version as the only place of it's usage are DOM/DomBook and the only place they can be used from different threads is ParserDOM which is already synchronized too. Server side is under question. Proposed change will speed up DOM operations approx by 20%.
20	Separate the Trade pref per replicated DOM. User suggesting this would like to have fast click on one DOM and not the other. CSR linked.
21	ColorTextButton control shall allow to set a different font for different substrings in text. Now it doesn't allow to set text in different font for number of orders (like in the DOM Trader) in cancel buttons for the Order Ticket.
22	Exists the possibility to change the order(in Orders and Positions), under forbid on trade data by goods. Reproducing: 1. RunCQGClient 7.4115, In DOM place LMT order on DD. 2. Open CAST/Accounts/Allowable Markets. For this account we forbid trade fo DD(on EUREX). 3. Try place Order for DD. We have PopUp about forbid trade. 4. Open Orders and Positions and change orders(QTY and price). Order is modify. In DOM we see the new order.
23	Market window with default size (5 rows) doesn't appear in DOM Trader with reduced height. Steps to reproduce: 1. Be sure that market window size in DOM Trader is set by default (5 rows) 2. Open DOM Trader 3. Reduce height of DOM Trader so it shows less than 5 rows in Price/Data grid 4. Select price and scroll price scale well down or up 5. Market window doesn't appear (see attached screenshot) In such case customer can lose tracking of market if he/she didn't customized market window height before. The iquiry should be discussed
24	Trade Volumes in DOMTrader: now we only show actual (exchange) volume.
25	Canceling all Active Orders: it's also possible to cancel all or just buy or just sell orders directly from DOMTrader using cancel buttons at the bottom.
26	Placing an Order from the DOMTrader window using the Mouse: 1. We don't allow to place orders clicking on DOM or on volume columns. 2. There is no info on how to place STP/STPLMT orders using fast click.
27	Right click on selected price shall deselect it and switch DOMTrader to the market mode. This applies to both DT and OT.
28	In CQG Trader, I suggest that we be able to view/not view the thermometer on the DOM tabs. If we don't change this, then we should provide an explanation as to what the thermometer is.

CQG00074011

TT v. CQG (05-4811)

PTX 0191.0019

	AE	AF	AG
19	faster processing. faster studies.		
20	Would allow users to set different pref per DOM.		
21	.		
22	Confusion		
23	Customer can lose tracking of current market conditions		
24	bad		
25			
26			
27		No Change Needed	
28	More customization ability		

CQG00074012

TT v. CQG (05-4811)

PTX 0191.0020

	AH	AI	AJ	AK	AL
19		STEPANY	STEPANY	N	Needs architectural decision from server team.
20		TWOOD		N	
21		GASKOVD		N	
22	Exploratory Testing	TRUSOVS		N	
23	Exploratory Testing	ALEKSEYK		N	
24		SERGEYA	SERGEYA	N	re-assign or change TFV
25		SERGEYA		N	
26		SERGEYA		N	
27		SERGEYA		N	
28		PAULA	VAL	N	suggestion triage - consider for basic?

CQG00074013

TT v. CQG (05-4811)

PTX 0191.0021

	AM	AN	AO	AP	AQ
19	Owner Change	Developers	Integration Testing		6/30/2006 4:12
20		General Cust	General		
21		Developers			4/27/2006 13:07
22		Testing	System Testing		
23		Testing	System Testing		
24	Target Fix Change	Developers	Alpha		6/22/2006 14:49
25		Developers	Alpha		
26		Developers	Alpha		6/14/2008 16:39
27		Developers	Alpha	7.412	5/15/2006 9:02
28	Priority Change	CQG Employee	General		

CQG00074014

TT v. CQG (05-4811)

PTX 0191.0022

	AR	AS	AT	AU
19		4/13/2006 9:06	7/21/2006	
20		4/13/2006 10:30		
21		4/14/2006 1:35	4/28/2006	
22		4/14/2006 7:02		4/25/2008 11:41
23		4/17/2006 8:12		
24		4/19/2006 0:41	6/9/2006	
25		4/19/2006 0:44		
26		4/19/2006 0:56		
27	R-click on selected price deselects price and switches to market mode	4/19/2006 5:40	5/26/2006	
28		4/19/2006 10:04		

CQG00074015

TT v. CQG (05-4811)

PTX 0191.0023

	AV	AW	AX	AY
19		9/26/2006 7:08	4/17/2006 8:32	
20			6/9/2006 14:06	
21		9/22/2006 2:46	4/17/2006 8:36	
22		4/14/2006 9:17	4/14/2006 9:15	
23			4/18/2006 8:33	
24		1/26/2007 14:57	5/2/2006 3:01	
25		8/21/2007 11:38	8/21/2007 11:36	
26		2/22/2010 11:49	8/21/2007 11:37	
27		7/13/2006 20:24	4/19/2006 6:38	
28		3/7/2012 8:28	4/24/2006 11:04	

CQG00074016

TT v. CQG (05-4811)

PTX 0191.0024

	AZ	BA	BB	BC	BD
19	0	0	1	N	
20	0	0	1	N	
21	0	0		N	
22	1	1		Y	
23	0	0		N	
24	0	0		N	
25	0	0		N	
26	0	0		N	
27	0	0		N	
28	0	0	1	N	

CQG00074017

TT v. CQG (05-4811)

PTX 0191.0025

	BE
19	stepany@cqg.com; pdparser@cqg.com; sedreev@cqg.com; tedg@cqg.com; darryl@cqg.com; lavender@cqg.com
20	twood@cqg.com; sergeyg@cqg.com; avakhov@cqg.com; mamayev@cqg.com;; karnygin@cqg.com; yuriy@cqg.com; yshterk@cqg.com
21	gaskovd@cqg.com; deniso@cqg.com; tarasr@cqg.com
22	trusovs@cqg.com; sheila@cqg.com; nikolay@cqg.com;
23	alekseyk@cqg.com; sergeyg@cqg.com; yshterk@cqg.com
24	sergeya@cqg.com;sergeyg@cqg.com; dianeb@cqg.com; thartle@cqg.com
25	sergeyg@cqg.com; michelle@cqg.com
26	michelle@cqg.com
27	sergeya@cqg.com;sergeyg@cqg.com; karnygin@cqg.com;mmamayev@cqg.com
28	paula@cqg.com; sheila@cqg.com; val@cqg.com; grigoryb@cqg.com; andrei@cqg.com; marcus@cqg.com; sergeyg@cqg.com;eml2dsi@cqg.com

TT v. CQG (05-4811)

PTX 0191.0026

	A	B	C	D	E	F	G	H	I	J
402	Suggestion	194569107	2-By Due Date	MIKHAILS	STAS		2-Limited	2-Functional Impairment	MARCUS	Closed
403	Suggestion	194569601	2-By Due Date	ALEXK	MAXIM		1-Widespread	1-Catastrophic	MARCUS	Closed
404	Suggestion	194577314	4-Low Priority				2-Limited	2-Functional Impairment	KERRYG	Open
405	Suggestion	194592503	2-By Due Date	MIKHAILS	STAS		2-Limited	2-Functional Impairment	JAID	Closed
406	Suggestion	194620201	2-By Due Date	DMITRYB	ALEXK		2-Limited	2-Functional Impairment	MARCUS	Closed
407	Suggestion	194620203	4-Low Priority				2-Limited	2-Functional Impairment	MARCUS	Open
408	Suggestion	194645705	4-Low Priority	COSETTEG			1-Widespread	3-Minor Error	PAVELCH	Closed

CQG00074669

TT v. CQG (05-4811)

PTX 0191.0027

	K	L	M	N	O
402	Resolved	Discuss			8.1233
403	Created in Error	Discuss			8.1233
404	New				8.1847
405	Resolved	Yes			8.1234
406	Resolved	Discuss			8.1234
407	New	Discuss			8.1234
408	Fixed Later Version				8.1148

CQG00074670

TT v. CQG (05-4811)

PTX 0191.0028

	P	Q	R	S	T	U	V
402	mikhails_050409_143912	Project - DOM Trader Redesign					
403		Project - DOM Trader Redesign					
404							
405	mikhails_033109_185604	Project - DOM Trader Redesign					
406	dmitryb_060309_132540	8x1G1 - DOM Trader Redesign					
407							
408					Yes		

TT v. CQG (05-4811)

PTX 0191.0029

	W	X	Y	Z	AA	AB
402				CQG Client	Trade Routing	
403				CQG Client	Trade Routing	
404				CQG Client	Trade Routing	DOMTrader
405				CQG Client	Trade Routing	
406				CQG Client	Trade Routing	
407				CQG Client	Trade Routing	Synthetic Spread Trading
408				CQG Client	Trade Routing	Synthetic Spread Trading

CQG00074672

TT v. CQG (05-4811)

PTX 0191.0030

	AC
402	Cleanup Position Line when logging in
403	Inside Market DOM disappearing
404	Ability to remove "Stop" drop down menu if default stop type is already set
405	Displaying Combined DOM In DOM Column Has Incorrect Background Color
406	BBA not showing correctly; market window is not working
407	setup trading parameters dialog is ugly
408	Net change in DOMTrader becomes indistiguishable for some spread colors, and other UI problems

CQG00074673

TT v. CQG (05-4811)

PTX 0191.0031

	AD
	* can we just skip or hide the state of No account selected? user doesn't need to see that state in this case... just go to the waiting state. * after logged in, Position and OTE blink
402	http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#Cleanup_Position_Line_when_loggi
403	http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#Inside_Market_DOM_disappearing_ D
404	Beta tester requests ability to remove "Stop" drop down menu if a user has set their default stop type and doesn't wish to see the drop down any more. They'd like to still see the other aspects of that area of the DOMTrader so hiding that whole line is not an option.
405	In the CQG IC build 8x1234, when the user has set the trading preferences to display combined DOM in the DOM column, the background color of the cells do not match the background color of the price column and volume column http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#Displaying_Combined_DOM_In_DO M_C

406	this is actually in 8.1234
	  * Only best bid or offer is showing for ET-QO and HOEK
	  * Market window should show BB or BA
	http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#BBA_not_showing_correctly_Defect
	ALEXK: This happens when market window is bigger that DOMTrader. In this case market window is not shown.

407	actually in 8.1234
	
	Set Up trading parameters dialog is silly: Suggestion 194620203
	
	  * All controls are not resizing, checkboxes are still small, dropdown thumbs are still small
	  * Controls are bottom aligned which makes the table look bad.
	  * redraw error around borders
	  * why was this prioritized over Suggestion 189650003 eliminating the empty/wasted space???
	
	http://cqgiki.denver.cqg/bin/view/Projects/UXDesign/DomTraderCleanup#Set_Up_trading_parameters_dialog

408	Net change in DOMTrader becomes almost indistiguishable with the background for some spread colors. See attached image. Instead it shall be made of opposite color or something. Other elements such as order size sometimes have same problems. Also standard gray controls that were not affected by spread color in DT/OT look really bad. So probably we might need not a set of spread colors, but rather a set of spread themes with matching colors for all DT/OT controls. So the impression of Spreader will be better.

TT v. CQG (05-4811)

PTX 0191.0032

	AE	AF	AG
402	weird		A1K23722S
403	wrong		
404	.		
405	Displaying Combined DOM In DOM Column Has Incorrect Background Color		A1K23722S
406	broken		
407	ugly		
408	eye strain		

CQG00074675

TT v. CQG (05-4811)

PTX 0191.0033

	AH	AI	AJ	AK	AL
402		MARCUS		N	
403		MARCUS		N	
404		KERRYG		N	
405		JAID	IGORA	N	requires BD consideration and approval
406		MARCUS	MARCUS	N	Converted to suggestion because this functionality exists in 7x9 and earlier. Needs BD approval to set TFV and priority.
407		MARCUS	IGORA	N	requires BD consideration and approval
408		PAVELCH		N	

CQG00074676

TT v. CQG (05-4811)

PTX 0191.0034

	AM	AN	AO	AP	AQ
402		UX	System Testing	8.1169	5/4/2009 3:46
403		UX	System Testing		
404		Beta Cust	Beta		
405	Other	UX	System Testing	8.1236	3/31/2009 7:58
406	BD Requesting Info	UX	System Testing	8.1879	6/3/2009 2:25
407	Other	UX	System Testing		
408		Developers	Release Testing		

CQG00074677

TT v. CQG (05-4811)

PTX 0191.0035

	AR	AS	AT	AU
402	suggestion is done	3/20/2009 16:02		
403		3/20/2009 16:07		
404		3/23/2009 12:08		
405		3/23/2009 13:18		
406	Market window shows BB or BA, default height = 2, can be resized, size is maintained on DT reopening.	3/24/2009 14:31	6/5/2009	
407		3/24/2009 15:06		
408		3/25/2009 11:34		

CQG00074678

TT v. CQG (05-4811)

PTX 0191.0036

	AV	AW	AX	AY
402		5/6/2009 5:05	3/20/2009 16:00	
403		3/31/2009 3:07	3/20/2009 16:05	
404				
405		4/7/2009 6:54	3/27/2009 5:27	
406		6/15/2009 6:33	3/25/2009 6:44	
407				
408		10/2/2009 16:14	10/2/2009 16:12	

TT v. CQG (05-4811)

PTX 0191.0037

	AZ	BA	BB	BC	BD
402	0	0		N	
403	0	0		N	
404	0	0		N	
405	0	0		N	
406	0	0	2	N	
407	0	0		N	
408	0	0		N	

TT v. CQG (05-4811)

PTX 0191.0038

	BE
402	marcus@cqg.com; alexk@cqg.com; yshterk@cqg.com; ux@cqg.com; josephk@cqg.com; agneta@cqg.com; mikhails@cqg.com
403	marcus@cqg.com; alexk@cqg.com; yshterk@cqg.com; josephk@cqg.com; ux@cqg.com
404	kerryg@cqg.com
405	jaid@cqg.com; marcus@cqg.com; yshterk@cqg.com; alexk@cqg.com;; mikhails@cqg.com
406	marcus@cqg.com; yshterk@cqg.com; alexk@cqg.com; ux@cqg.com; dmitryb@cqg.com
407	marcus@cqg.com; yshterk@cqg.com; alexk@cqg.com; ux@cqg.com
408	pavelch@cqg.com; ux@cqg.com; spreader@cqg.com; alexk@cqg.com; prokudin@cqg.com; cosetteg@cqg.com

CQG00074681

TT v. CQG (05-4811)

PTX 0191.0039

Exhibit M

From:	Yuriy Shterk <yshterk@cqgexchangemail.com>
From:	Yuriy Shterk <yshterk@cqgexchangemail.com>
Sent:	Wednesday, November 17, 2010 5:32 PM
To:	Alexey Korepanov <alexk@cqg.com>
Cc:	Olexandr Voytsikhovskyy <olexandr@cqg.com>; Vitaly Kuzko <vkuzko@cqg.com>
Subject:	RE: Defect 257694701 Details

Hmmmm, we have their patents. There is a lot of them and they are boring. I can probably talk to you and explain it in some detail. The gist of it is - no static latter. No matter what - the latter of prices cannot freeze for long period of time.

Thanks.

-----Original Message-----
From: Alexey Korepanov
Sent: Wednesday, November 17, 2010 9:23 AM
To: Yuriy Shterk
Cc: Olexandr Voytsikhovskyy; Vitaly Kuzko
Subject: RE: Defect 257694701 Details

Yuriy, do we have any documents describing what we shouldn't implement in order not to get sued by TT or any other company? I can take a look at it and try to convert to requirements.

Thanks!

Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com

-----Original Message-----
From: Yuriy Shterk
Sent: Monday, November 15, 2010 5:29 PM
To: Alexey Korepanov
Cc: Olexandr Voytsikhovskyy; Vitaly Kuzko
Subject: Re: Defect 257694701 Details

Absolutely no opposition from me. How do we go about it?

Thanks.

-----Original Message-----
From: Alexey Korepanov
To: Yuriy Shterk
CC: Olexandr Voytsikhovskyy; Vitaly Kuzko
Sent: Mon Nov 15 07:27:16 2010
Subject: RE: Defect 257694701 Details

Hi Yuriy,

I agree with Vitaly here. It would be great if we could describe the patent limitation with some requirements which can be used by developers. It might help to prevent such problems in the future (and problems with static DOM grid when price is selected – suggestion 256543307).

TT v. CQG (05-4811)
PDX 2190

CQG00944740

Thanks!

<http://www.cqg.com/>
Alexey Korepanov | Software Developer
p. +7-(846)-269-6815 ext. 7213
alexk@cqg.com <mailto:alexk@cqg.com>

From: Vitaly Kuzko
Sent: Monday, November 15, 2010 5:09 PM
To: Yuriy Shterk; Alexey Korepanov; Olexandr Voytsikhovskyy
Subject: RE: Defect 257694701 Details

Hello Yuriy,

>> So, the behavior described below can ONLY happen when user makes market window to be the same size as the main DomTrader grid?

There's also a case when we have no market data for a contract (no DOM/BB/BA/Last Price). In this case the grid shows nothing but a price scale, but a user can scroll up and down with no Market Window appearing. If this is also a problem, then we can show Market Window centered around 0 price under these conditions.

Other than that, the only known case when this behavior manifests is when Market Window is larger or equal to the main DOM grid. I will review the code during the fix and will try to find other possible situations.

>> Do you guys remember any defect or set of logs you looked at when someone was using domtrader in this setup?

This situation is not logged, so it's hard to detect (we will need users' pages and settings – cqg.ini and zclickview.sav - to be able to tell whether it happens or not).

>> P.S. Vitaly, any idea how long this change is going to take? Once it is done - we need it in 8x3, so check it in as soon as it is ready to go.

I'm planning to have the code ready today, so with inspections I should be ready to check-in tomorrow.

And since this defect is not the first one related to DOM grid patents (see 256543307 for example), I think it will be a good idea to acquaint someone in PD with patent details. The Majestic team guys are good candidates since they are also owners of ZClick code and thus get a chance to inspect all DOM Grid-related changes. Just a thought to help prevent this kind of stuff on PD level.

Thanks,

Vitaly.

From: Yuriy Shterk
Sent: Monday, November 15, 2010 3:22 PM
To: Vitaly Kuzko; Alexey Korepanov; Olexandr Voytsikhovskyy
Subject: RE: Defect 257694701 Details

Thanks Vitaly, your solution seems acceptable.

So, the behavior described below can ONLY happen when user makes market window to be the same size as the main DomTrader grid? Do you guys remember any defect or set of logs you looked at when someone was using domtrader in this setup?

Thanks a lot.

P.S. Vitaly, any idea how long this change is going to take? Once it is done - we need it in 8x3, so check it in as soon as it is ready to go.

Thanks.

From: Vitaly Kuzko
Sent: Mon 11/15/2010 4:35 AM
To: Alexey Korepanov; Yuriy Shterk; Olexandr Voytsikhovskyy; Vitaly Kuzko
Subject: Defect 257694701 Details

Comments: Hello Yuriy,

this defect was injected about 4 years ago during what appears to be 7x4 maintenance (defects 141694901, 158652104) but also seems to be related to work done in scope of "TRI refactoring" project (checked-in right after br_7x4_TRI_Refact merge to trunk). The behavior in question is intentional - the code checks whether the market window will have more rows that the grid has, and if so, doesn't show the market window, which fixes some problems with DOMTrader scrolling according to check-in description.

I'm going to fix it by making the Market Window to be one row smaller than the total number of rows we show (and ensuring we don't show less than two rows). Another option is resetting the Market Window size to default (two) but then the DOMTrader's grid will have to be at least three rows high all the time. I'll send you a corresponding requirement for approval.

Thanks,
Vitaly.

Number: 257694701

TT v. CQG (05-4811)   **PTX 0194.0003**

Title: Market window doesn't show up if it's higher than DOMTrader height.
Date Opened: 11/13/2010 8:33:49 PM
Reported By: YSHTERK
Created By: ALEXK
Area: CQG Client
Sub-Area: Trade Routing
Priority: 1-Immediately
Assigned To: VKUZKO
Status: Open
Sub Status: Assigned
Description: Market window doesn't show up if it's higher than DOMTrader height.
STR:
Open DOMTrader. Make market window, say, 20 rows in height, then move to market mode and resize the DOMTrader to make is smaller than 20 rows. Now you can scroll away from BB/BA and market window will not appear.

CQG00944743

TT v. CQG (05-4811)

PTX 0194.0004

Exhibit N

From: Mike Glista
To: Sergey Gorelov; gouchine@cqg.com; mmalishk@cqg.com; sergeya@cqg.com; solomin@cqg.com; Yuriy Shterk
CC: Jaeha Yoo; Marcus Kwan; Mike Glista
BCC:
Other Recipients:
Subject: RE: Inspection Key: SG5914S. Name: IN_79_REQS_DynamicDOM
Date: 2005-09-08 15:16:57.000

Attachments:

When does the static view change back to dynamic if no action is taken by
the user? Could I click on a price and have the system become static? When I
hover over a price the price becomes static not the price display.
What about canceling stacked orders with the mouse along with modifying with
the mouse?
Is the dynamic dom to support the bid offer aggressor study?

mike

-----Original Message-----
From: Sergey Gorelov [mailto:sergeyg@cqg.com]
Sent: Tuesday, September 06, 2005 4:52 AM
To: gouchine@cqg.com; mmalishk@cqg.com; sergeya@cqg.com; sergeyg@cqg.com;
solomin@cqg.com; yshterk@cqg.com
Cc: Jaeha Yoo; Marcus Kwan; Mike Glista
Subject: Inspection Key: SG5914S. Name: IN_79_REQS_DynamicDOM

COMMENT: Please inspect high-level requirements for Dynamic DOMTrader
project. You can log issues in Tracker or send directly via email.

Thanks!

INSPECTION KEY: SG5914S
INSPECTION NAME: IN_79_REQS_DynamicDOM
PROJECT: TRCQGFW
PROJECT ELEMENT: CQGFW
MEETING DEADLINE DATE: 07.09.2005 0:00:00
ISSUE RESOLUTION DATE:
PRODUCT SIZE: 28 requirements
PRODUCTS:
reqs
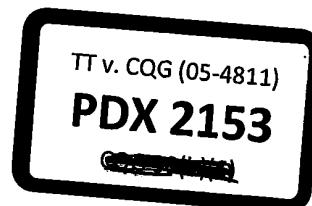
TT v. CQG (05-4811)
PDX 2153

CQG00049564

TT v. CQG (05-4811)

PTX 0157.0001

INSPECTION TEAM:
sergeyg - Moderator
solomin - Inspector
sergeya - Inspector
yshterk - Inspector
mmalishk - Inspector
gouchine - Inspector

PLANNING METRICS
CHECKING RATE: 30 requirements/hr
AVERAGE CHECKING TIME (MINS): 56
ISSUES: 7
DEFECTS: 2,1
DEFECTS/ISSUE: 0,3
ISSUE DENSITY: 250 issues/requirements
DEFECT DENSITY: 75 defects/requirements

POSTMORTEM METRICS
CHECKING RATE: 0 requirements/hr
AVERAGE CHECKING TIME (MINS): 0
ISSUES: 0
DEFECTS: 0
DEFECTS/ISSUE: 0
ISSUE DENSITY: 0 issues/requirements
DEFECT DENSITY: 0 defects/requirements

TT v. CQG (05-4811)

PTX 0157.0002

Exhibit O

CQG USER GUIDE

ORDER EXECUTION

TT v. CQG (05-4811)
PDX 2026
Stavros 30(b)(6)
12/12/2012

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CQG00000594

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DOMTrader   3-1

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The CQG Order Entry Feature

What Does the CQG Order Entry Feature Do?

Order Entry enables you to quickly and easily enter orders to an exchange directly from *CQG*. Additionally, it allows you to easily track working and filled orders.
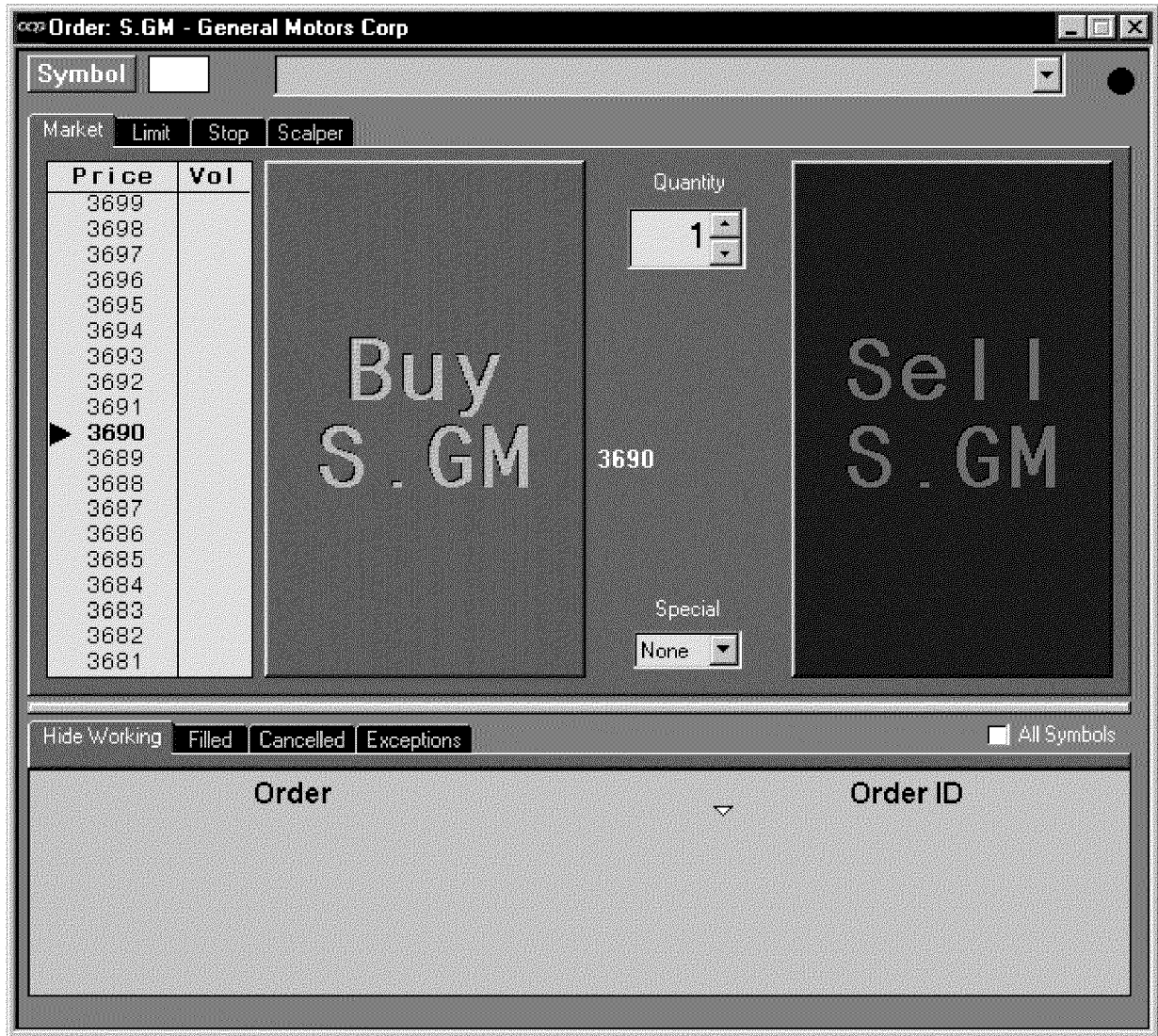
Adding an Order Entry Window

| Order |

Left click on the **Order** button to launch the Order Entry feature.

If the Order button is not displayed on the application toolbar, you can add it by doing the following:

Left click on the **Setup** button

Select Customize Toolbar
> This displays the ***Toolbar Manager*** dialog

Select the >>> button in the **Add/Remove column** of the **Chart, Quote, News...** row.

Select **Order** in the button column.

Left click on the **Close** buttons on the ***Customize Application Toolbar*** and ***Toolbar Manager*** dialogs.

Left click on the **Order** button to launch the order application.

Right click on the **Order** button to either close any open order windows or open another Order window.

The Order Entry Toolbar

| Logon |
| Logoff |
| Cleanup |
| OrdPos |
| OPO |
| Cancel All |
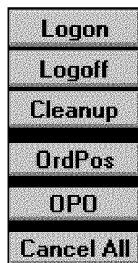
The order entry toolbar consists of the following buttons:

Logon button. See "Logging on to Order Entry" on page 1-3
Logoff button. See "Logging Off of Order Entry" on page 1-36
Cleanup button. See "Clearing Bold Text in a Tab" on page 1-21
OrdPos button. See Placing an Order Places Order (OPO) Order On Page 1-19
OPO button. See "Placing an Order Places Order (OPO) Order" on page 1-19.
Cancel All button. See Canceling Multiple Orders on page 1-21.

Logging on to Order Entry
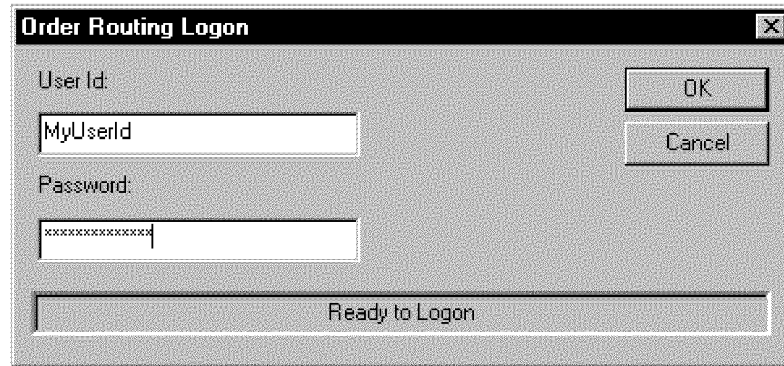
| Logon |

To begin using the ***CQG*** order entry feature, you must have an ID and a password supplied by your FCM.

Left click on the **Order** button in the application toolbar.

Left click on the **Logon** button to display the ***Order Routing Logon*** dialog.

Using the Order Routing Logon Dialog
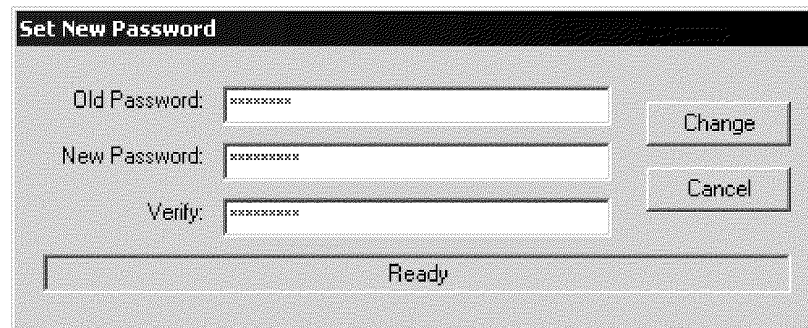
Enter the following information:

- User ID
- Password

Left click on the **OK** button.
When the system is ready to begin taking orders, the sphere in the top right corner of the order window turns from red to green.

Changing Your Order Entry Password

You can easily change their order entry password.

To change you order entry password:
Left click on the **Setup** button.
Select Change Password.
Enter your old password.
Enter your new password.
Verify (re-enter) your new password.
Left click on change to effectuate the password change and close the *Set New Password* dialog.
You will receive notification of a successful password change.

Or

Left click on the **Cancel** button to have the system ignore any new changes and close the *Set New Password* dialog.

How Does the CQG Order Routing Feature Work

Orders entered by FCM customers follow the following path:

Orders,
cancellations,
modifications,
queries

Acknowledgments,
fills, messages

CQG/FW

CQG/FW

CQG/FW

CQG
Server

Database

FCM

FCM

FCM

CQG provides the most
robust connection possible
to the server using SSL
encryption to secure your
trading information.

A secure, high speed,
private line to the FCM.

High-speed, secure,
redundant database saves
ordering information and
maps CQG users to their
accounts at different FCMs.

CQG provides the necessary data management to connect each user
to his accounts at different FCMs. Symbols are translated
automatically by the database and messages are formatted to each
FCM's requirements. As a result, users have one order routing
interface to master for all their on-line trading requirements.

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Order Routing Security

All communications related to customer orders occur on a secured socket layer (SSL) to preclude unauthorized access to customer information. Additionally, *CQG* maintains layers of authority so no single individual can gain access to customer data. Each transfer of information is marked with a time stamp, facilitating easy resolution of any problems.

Entering Orders

You can enter Market orders, Limit orders, Stop orders and Scalper orders from the CQG Order feature.

In addition, you can place Order Places Order (OPO), also known as Contingent orders.

Note:	Items stay in each tab for only one day. However, you can view past activity through the CQG Order Tracker feature.

You can enter the following types of orders from the *CQG* Order feature:

Market. See "Entering Orders from the Market Tab" on page 1-9

Limit. See "Entering Orders from the Limit Tab" on page 1-12

Stop. See "Entering Orders from the Stop Tab" on page 1-15

Scalper. See "Entering orders from the Scalper Tab" on page 1-18

Note:	Items stay in each tab for only one day. However, you can view past activity through the *CQG* Order Tracker feature.

Types of Orders Supported by CQG and the Exchanges

CQG offers limit, stop, market and stop limit orders. However, as the table below shows, only some types of orders are accepted by each exchange.

Order Types Supported by *CQG* and the Exchanges:

	Market	Limit	Stop	Stop/Limit
Eurex	Y	Y	Y	N
Globex	Y	Y	N	Y
Matif	Y	Y	Y	Y
Ace	Y	Y	Y	N
Liffe	Y	Y	N	N

Types of Fills Supported by CQG and the Exchanges

CQG supports Market, Limit, Fill and Kill (also called Immediate or Cancel) and Fill or Kill (also called All or None). However to successfully enter an order the exchange where the order is entered must accept that type of order. The chart below shows the types of order accepted by the various exchanges.

	Market	Limit	FAK	FOK
Eurex	Y	Y	N	N
Globex	Y	Y	Y	Y
Matif	Y	Y	Y	Y
Ace	Y	Y	N	N
Liffe	Y	Y	Y	Y

Durations of Orders Accepted by CQG

CQG accepts 3 order durations: Good till Cancelled, Good till Date and Day.

Note: For order durations other than day, the duration will be indicated on the order button, so you won't inadvertently enter the wrong type of order. Not every exchange accepts all 3 order duration types. If the order is not accepted, you will receive a rejection indication.

Synchronizing Symbols

The same functionality you have used to synchronize symbols in *Time and Sales* windows and *Charts* is now applicable to and available from the *Order* view.

To synchronize symbols in currently open Time and Sales, Chart and Order windows:

In one of the windows (Time and Sales, Chart, or Order) display the symbol you want to show in the other windows.

Make sure the *Order* window is In-Page, if it is one of the pages to be synchronized

Press **Ctrl+Enter.**
The currently open Time and Sales, Chart and Order windows display information for the same symbol.

The Market Tab
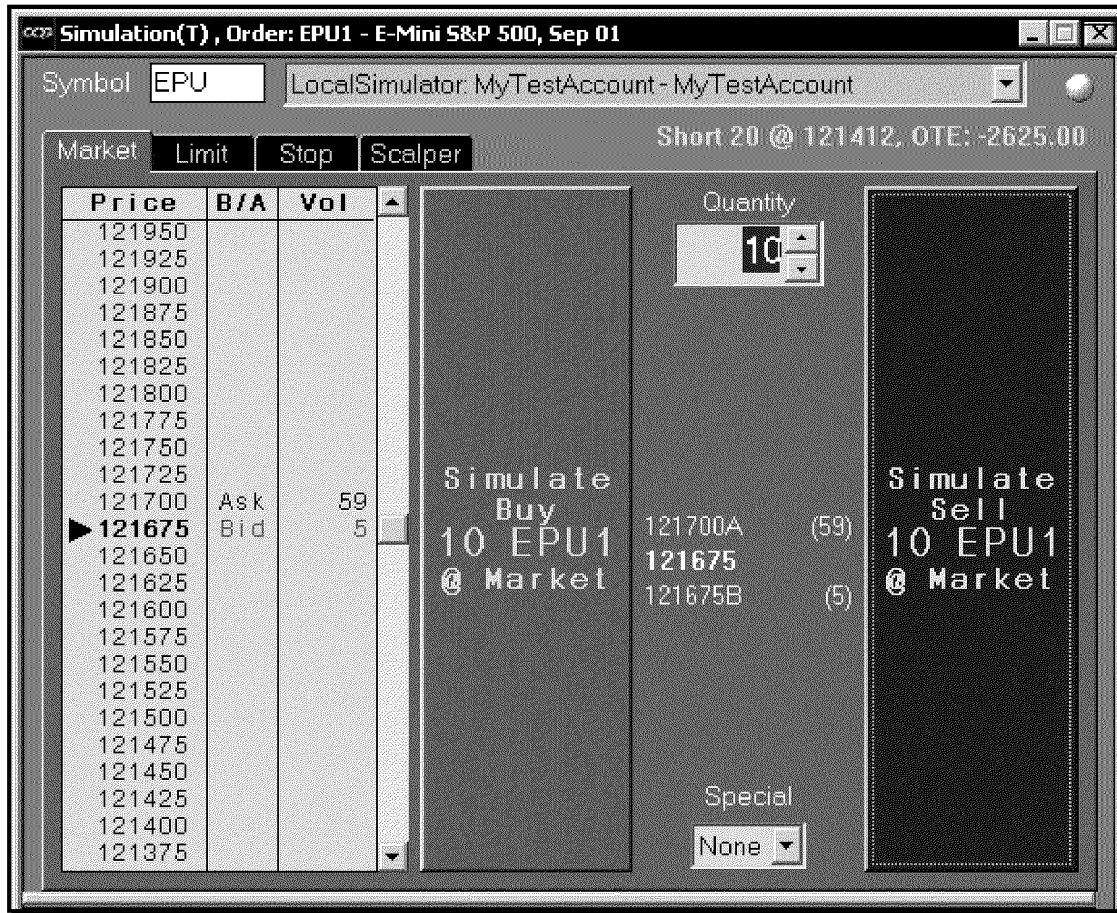
The **Market tab** displays current market information and allows you to enter market orders.

The information displayed in the market tab includes:

- The selected symbol (on the buy and sell buttons). Click here for a list of futures symbols or stock symbols.
  For a list of futures symbols, see the online help.

- The FCM, account number and account name for the selected account.

- The current position in the selected instrument with the average price paid or received for the current position in the selected instrument (to the right of the tabs' labels).

- The Depth Of Market Grid (shown in the illustration above as the gray columns on the left side of the window) displays the Price, Bid/Offer, Volume, Cumulative, and Average columns. You can select which of these columns you want to see on all the tabs using the **Order Preferences** dialog.
  For more information about changing the Depth Of Market settings see, "The CQG Order Entry Feature" on page 1-1.

- The most current bid (indicated by the letter B next to the price) and offer (indicated by the letter A next to the price) (during trading hours).

- The last trade price indicated by an arrow and bold numbers.

- During trading hours, the size of the current bid (in parenthesis to the right of the current bid price) and offer (in parenthesis to the right of the current bid price).

Note: When the selected market is not open, the last sale is displayed in lieu of the most current bid and offer and their sizes.

- Whether Special characteristics (None, All or None (AON), or Fill and Kill (FAK)) have been applied to this bid.

Entering Orders from the Market Tab
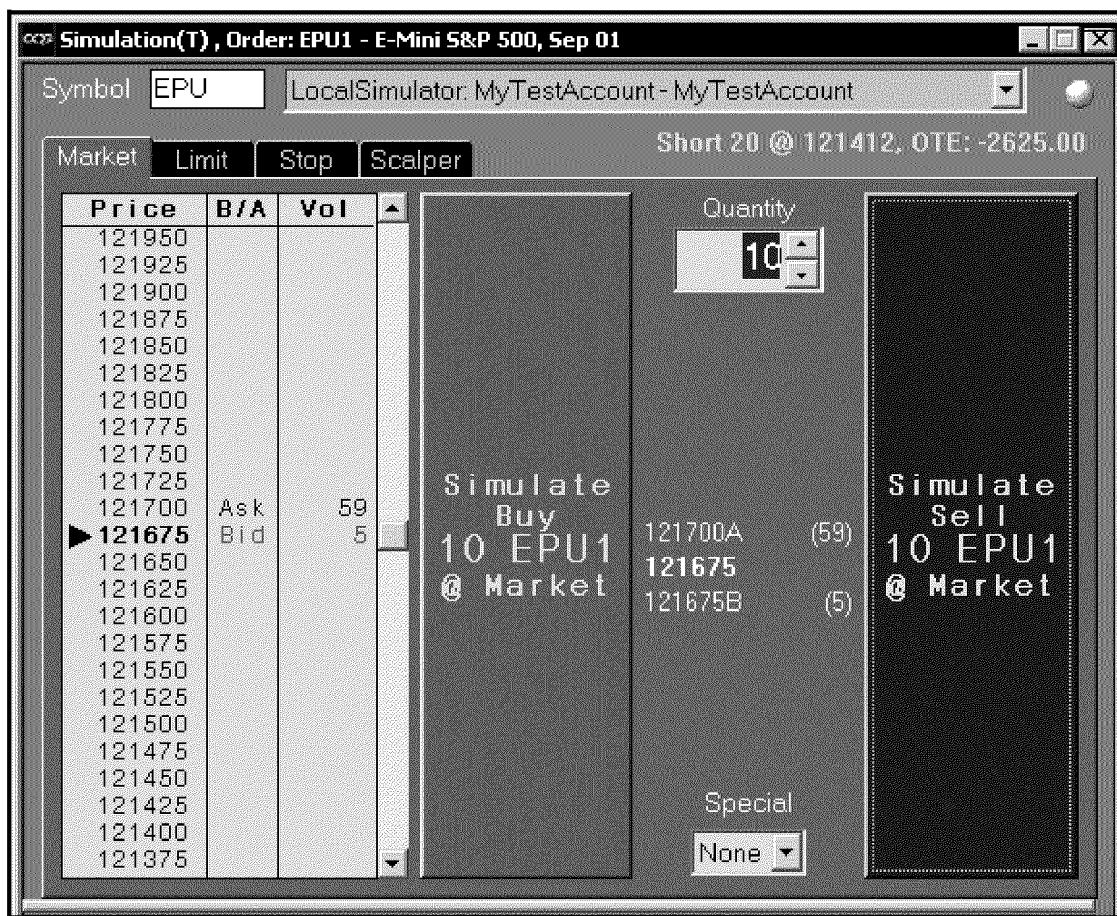
In addition to viewing market information, you can enter market orders from the **Market tab**.

Note: The green sphere in the upper right corner indicates the system is ready to receive orders. When the system is not ready to take orders, a red sphere is displayed.

Entering a market order involves the following easy steps:

Left click on the Market tab.

Enter the symbol in the symbol box, or select a symbol from the history list by right clicking on the Symbol box and selecting the symbol.

For a list of futures symbols, see the online help.

Select the Account from the drop-down list.
CQG maintains a list of all users' accounts within a single, or among multiple, FCMs, facilitating the accumulation of customer positions in the Order Tracker and Position Tracker views.
For information about the Order Tracker and Positions Tracker applications, see those chapters in the *CQG/OTTO* volume of the *User's Guide*.

Left click on the **Market tab**.

Enter the volume of the trade in the **Quantity box**.

Select any desired special characteristics.
Choices include: *None*, *AON (All or None)*, or *FAK (Fill and Kill)*.

Left click on the green button for buy orders.

Or

Left click on the red button for sell orders.

The Limit Tab
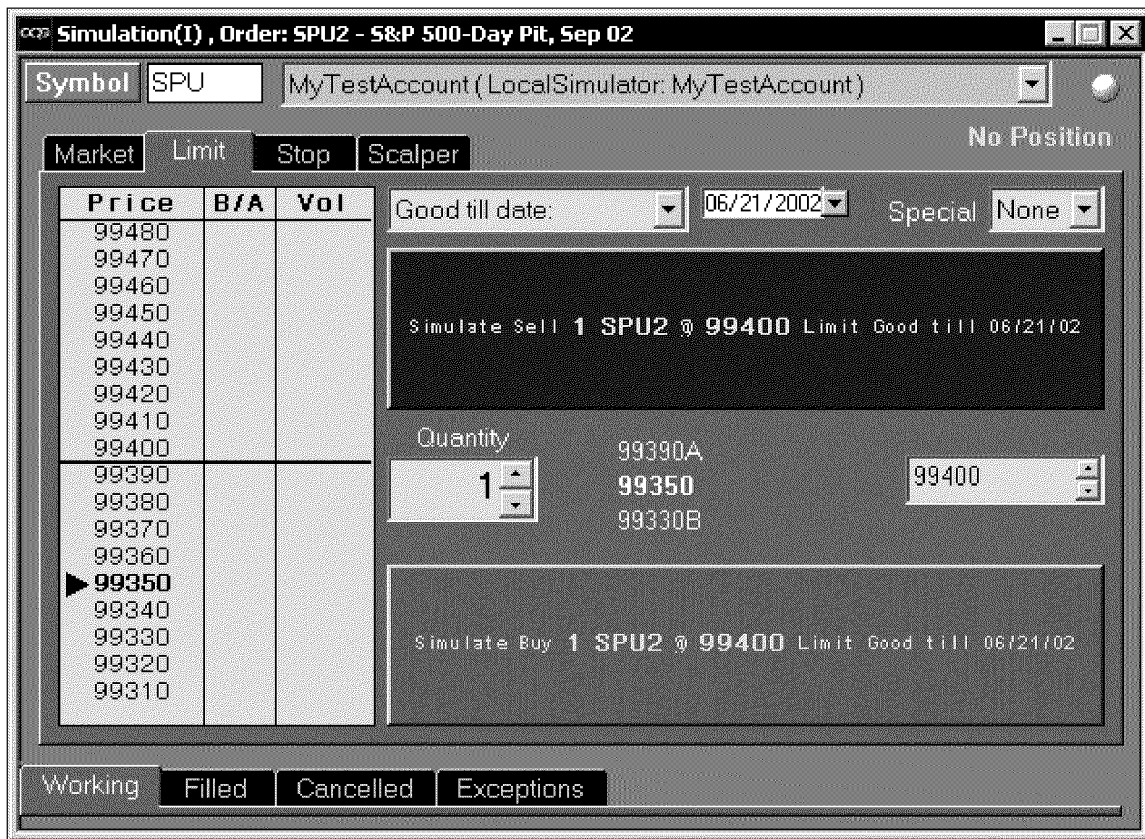
The **Limit tab** displays the selected symbol, account information, possible tick values for the selected instrument, current market information and order information needed to enter a limit order.

In addition, the Limit tab displays:

The selected symbol (on the Buy and Sell buttons).
For a list of futures symbols, see the online help.

- The FCM, account number and account name for the selected account.

- The current position in the selected instrument with the average price paid or received for the current position in the selected instrument for the displayed account.

- The Depth Of Market (DOM) Grid (shown in the illustration above as the gray columns on the left side of the window showing Price, Bid/Offer, and Volume) displays the Price, Bid/Offer, Volume, Cumulative, and Average columns. You can select which of these columns you want to see on all the tabs using the **Order Preferences** dialog. For more information about changing the Depth Of Market settings see, "The CQG Order Entry Feature" on page 1-1.

- During trading hours, the most current bid (indicated by the letter B next to the price) and offer (indicated by the letter A next to the price).

- The last trade price indicated by an arrow and bold numbers.
- During trading hours, the size of the current bid (in parenthesis to the right of the current bid price) and offer (in parenthesis to the right of the current bid price).
- Several user-input fields.

Note: When the selected market is not open, the last sale is displayed in lieu of the most current bid and offer and their sizes.

Entering Orders from the Limit Tab

In addition to viewing market information, you can enter limit orders from the **Limit tab**.

Note: The green sphere in the top right-hand corner indicates the system is ready to receive orders. When the system is not ready to take orders a red sphere is displayed.

To enter a limit order:

Left click on the **Limit tab.**

Enter the symbol in the symbol box, or select a symbol from the history list by right clicking on the Symbol box and selecting the symbol.

Example **USAH**

For a list of futures symbols, see the online help.

Select the Account Name from the drop-down list.
> *CQG* maintains a list of all users' accounts within a single, or among multiple, FCMs, facilitating the accumulation of customer positions in the Order Tracker and Position Tracker views.
> For information about the Order Tracker and Positions Tracker applications, see those chapters in the *CQG/OTTO* volume of the *User's Guide.*

Select the type of order from the drop-down list.
> Choices include: *Day Order, Good-Till-Cancelled* or *Good-Till-Date.*

Enter the date of expiration (for Good till Date orders only)

Select any desired special characteristics.
> Choices include: *None, AON (All or None)*, or *FAK (Fill and Kill).*

Enter the volume of the trade in the **Quantity box**.

Enter the price at which the Limit order should be executed, either manually, using the arrows in the price window, or by selecting a price from the box on the left side or the window. The selected price will be underlined, whether it was selected there or in the Price window.

> **You can get rid of the underlining by either:**
> > *Left clicking* on it
> > Or
> > Pressing the **Esc** key.

Left click on the **green button** for buy orders.

Or

Left click on the **red button** for sell orders.

The Stop Tab
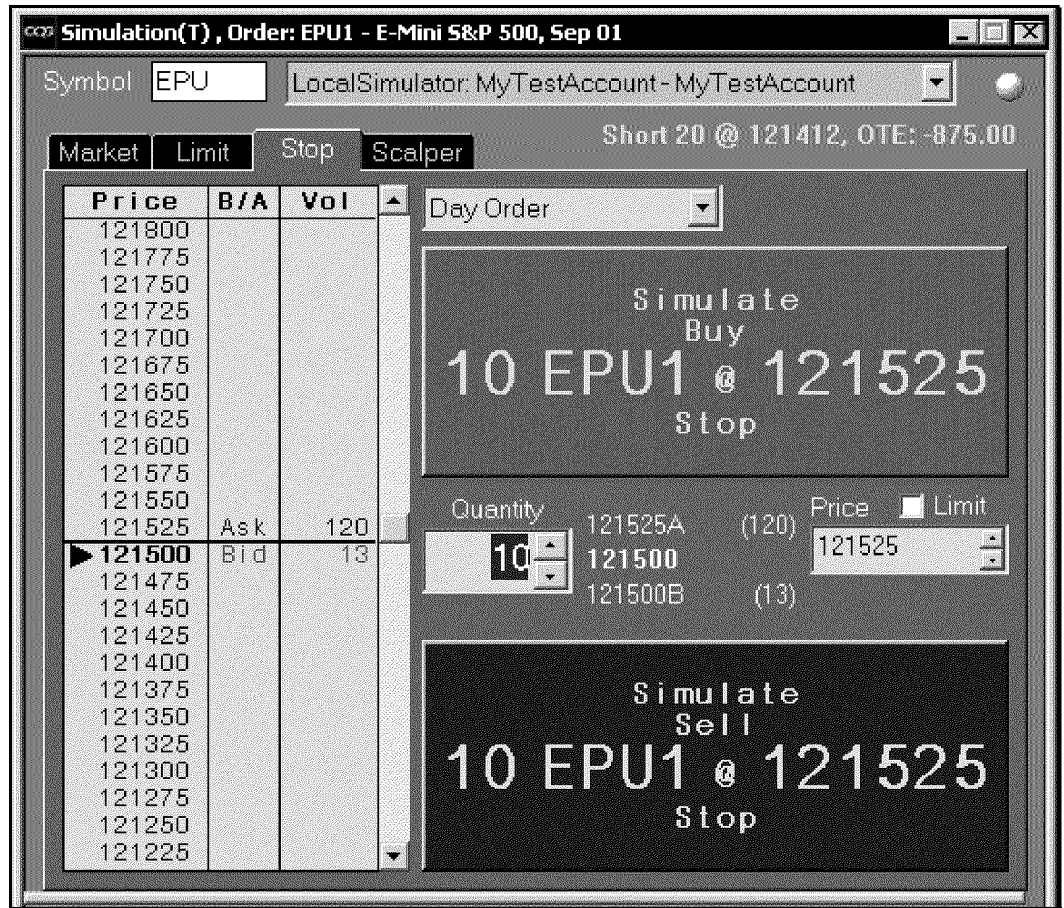
The **Stop tab** allows you to enter buy stop and sell stop orders, in addition to including a limit price with the stop.

The information initially displayed in the Stop tab includes:

The selected symbol (on the Buy and Sell buttons).   For a list of futures symbols, see the online help.

- The FCM, account number and account name for the selected account.

- Various prices for the selected symbol (in the box on the left side of the window).

- The current position in the selected instrument with the average price paid or received for the current position in the selected instrument.

- The DOM Grid (shown in the illustration above with Price, Bid/Offer, and Volume shown) displays the Price, Bid/Offer, Volume, Cumulative, and Average columns. You can select which of these columns you want to see on all the tabs using the **Order Preferences** dialog.
  For more information about changing the Depth Of Market settings see, "The CQG Order Entry Feature" on page 1-1.

- During trading hours, the most current bid (indicated by the letter B next to the price) and offer (indicated by the letter A next to the price).

- The last trade price indicated by an arrow and bold numbers.
- During trading hours, the size of the current bid (in parenthesis to the right of the current bid price) and offer (in parenthesis to the right of the current bid price).
- Several user-input fields.

Note: When the selected market is not open, the last sale is displayed in lieu of the most current bid and offer and their sizes.

Entering Orders from the Stop Tab

In addition to viewing market information, you can enter stop orders from the **Stop tab**.

Note: The green sphere in the top right corner indicates the system is ready to receive orders. When the system is not ready to take orders a red sphere is displayed.

TT v. CQG (05-4811)   **PTX 0031.0021**

To enter a Stop order:

Left click on the **Stop tab**.

Enter the symbol in the symbol box, or select a symbol from the history list by right clicking on the Symbol box and selecting the symbol.

Example   USAH

For a list of futures symbols, see the online help.

Select the Account Name from the drop-down list.
> *CQG* maintains a list of all users' accounts within a single, or among multiple, FCMs, facilitating the accumulation of customer positions in the Order Tracker and Position Tracker views.
> For information about the Order Tracker and Positions Tracker applications, see those chapters in the *CQG/OTTO* volume of the *User's Guide*.

Select the type of order from the drop-down list.
> Choices include: *Day Order, Good-Till-Cancelled* or *Good-Till-Date.*

Select any desired special characteristics.
> Choices include: *None, AON (All or None)*, or *FAK (Fill and Kill).*

Enter the volume of the trade in the **Quantity box**.

Enter the price, either manually, using the arrows in the price window or selecting a price from the box on the left side or the window. This value is immediately copied to both the **Buy** and **Sell** buttons.

Select the **Lmt check box** (if desired) and *enter* a stop limit price in the Limit Price box that .is displayed when the **Lmt check box** is selected. The value in the Price box is automatically copied to the Limit price box when the **Lmt check box** is selected, but then you can change it. This price is copied to the **Buy** and **Sell** buttons.

Left click on the **green button** for buy orders.

Or

Left click on the **red button** for sell orders.

The Scalper Tab
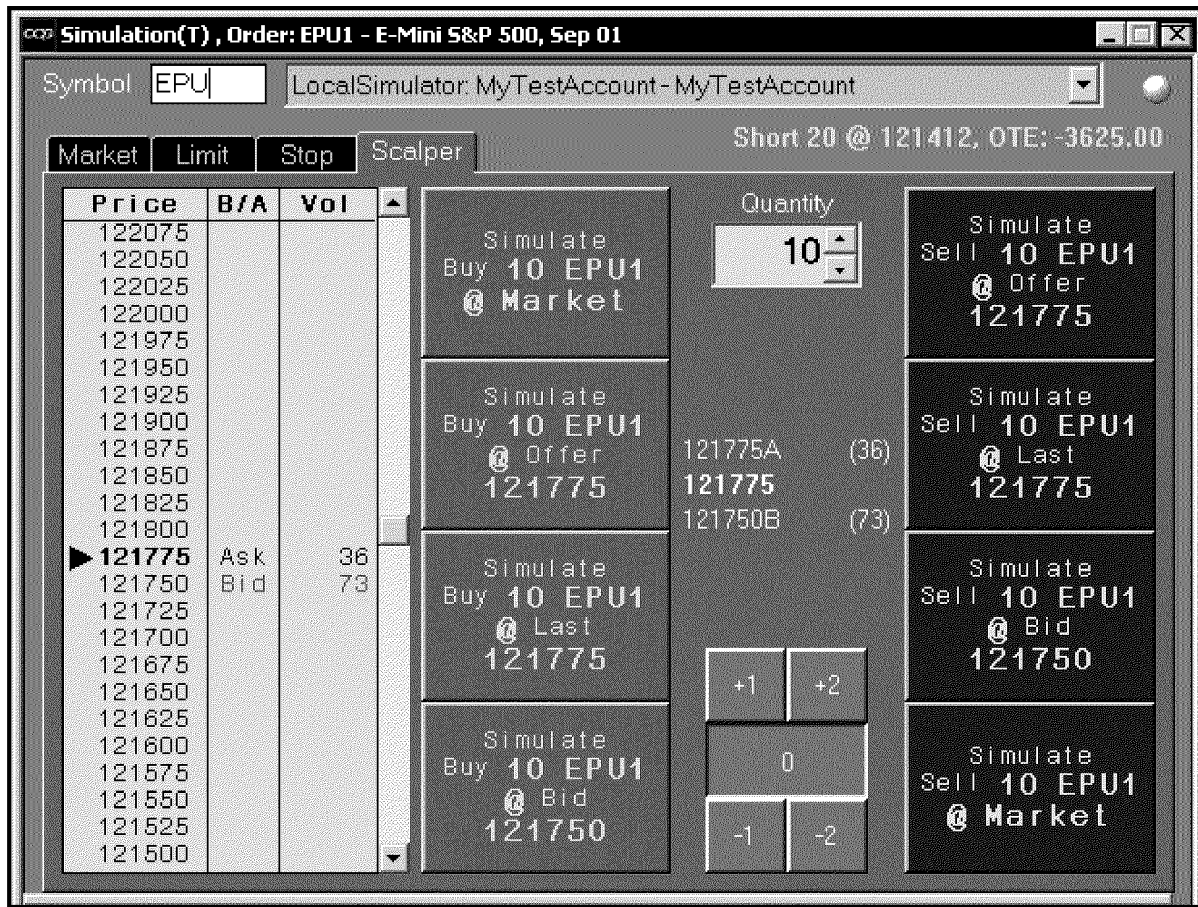
The **Scalper tab** allows you to easily enter orders at or near the current market, current bid or current offer.

The information initially displayed in the Scalper tab includes:

- Various prices for the selected symbol.

- The most current bid and offer (during trading hours).

- The last trade price indicated by an arrow and bold numbers.

- The size of the current bid and offer (during trading hours).

- The DOM Grid (shown in the illustration above with Price, Bid/Offer, and Volume shown)) displays the Price, Bid/Offer, Volume, Cumulative, and Average columns. You can select which of these columns you want to see on all the tabs using the **Order Preferences** dialog. For more information about changing the Depth Of Market settings see, "The CQG Order Entry Feature" on page 1-1.

- A Quantity field (entered by the user).

- The average price paid or received for the current position in the selected instrument.

- Several buttons used to easily enter prices.

Note: When the selected market is not open, the last sale is displayed in lieu of the most current bid and offer and their sizes.

Entering orders from the Scalper Tab
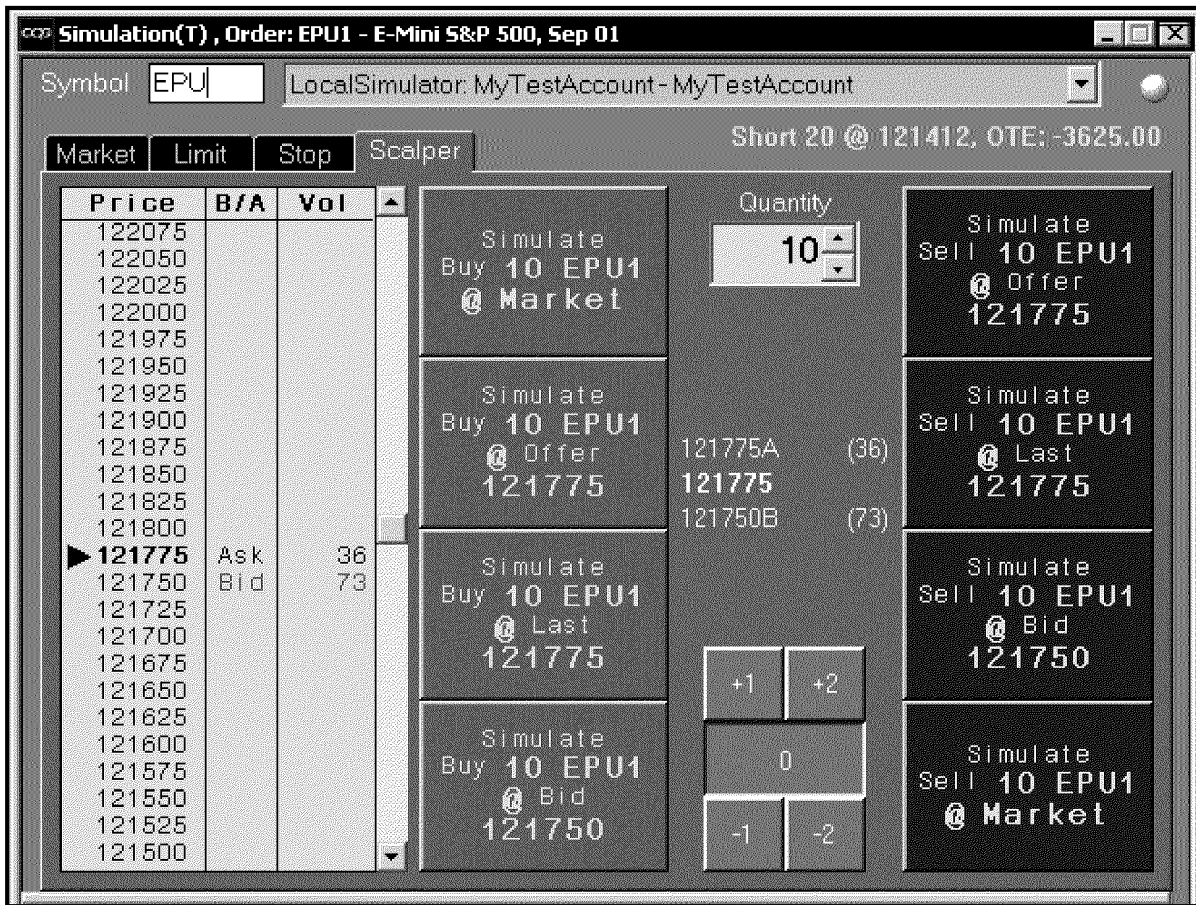
Left click on the **Scalper tab**.

Enter the symbol in the symbol box, or select a symbol from the history list by right clicking on the Symbol box and selecting the symbol.

Example **USAH**

For a list of futures symbols, see the online help.

Select the Account Name from the drop-down list.

    CQG maintains a list of all users' accounts within a single, or among multiple, FCMs, facilitating the accumulation of customer positions in the Order Tracker and Position Tracker views.

    For information about the Order Tracker and Positions Tracker applications, see those chapters in the *CQG/OTTO* volume of the *User's Guide*.

TT v. CQG (05-4811)   **PTX 0031.0024**

Enter the volume of the trade in the **Quantity box,** either manually or using the
arrows.

Select one of the tick adjuster buttons.
The blue tick adjuster buttons, −2, -1, 0, +1 or +2, adjust the selected buy or
sell price.

Select one of the green buttons to buy at the bid, offer, last or market price.

Or

Select one of the red buttons to sell at the bid, offer, last or market price.

Example: *Selecting* the **Buy @ Bid** button and the **+2** tick adjuster button will
enter a buy order at 2 ticks above the current bid price, i.e., better than
the current bid. Likewise, selecting the **Sell @ Offer** and the **+2** tick
adjuster button will enter a sell order two ticks higher than the current
offer, i.e., worse than the current offer.

Placing an Order Places Order (OPO) Order
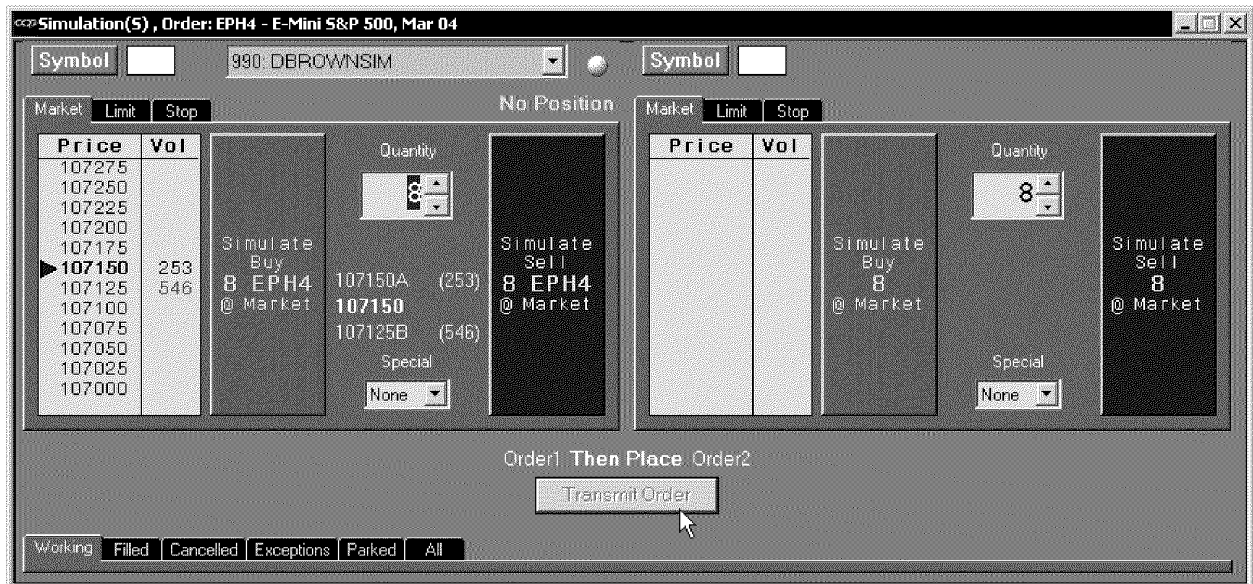
To place a pair of orders where the second order will only be placed after the first one
is filled, you'll use the **OPO** button.

Left click the **OPO** button.

The ***Order Place Order*** dialog appears. It is very similar to the Order Entry view
for a single order, but it displays two order entry sections side-by-side. The entry
section on the left side displays information for the first order. The entry section on
the right is the contingent order information. It is not placed until the first order is
filled. In the sample shown above, the first order has not yet been filled. The second
order will not display the price or volume information until after the first order is
filled.

The OPO orders' progress is tracked in the tabs at the bottom of the window, just like
other orders.

Changing the Order Symbol From Another *CQG* Application

CQG offers 2 ways to directly change the symbol in an order window from another *CQG* application: *left clicking* over or *right clicking*.

Changing an Order Symbol Using the Left Click Feature

From the Chart, Quote Board, Quote Spreadsheet, Market Watch, Last Net Change and Snap Quote applications, you can enter an order using the following steps::

Left click on the symbol in one of the above applications.

Left click on the **Symbol** button on the **Order** window.
> This will change the symbol on the buy and sell buttons to the symbol selected in the Chart, Quote Board, Quote Spreadsheet, Market Watch, Last Net Change and Snap Quote application, enabling you to enter an order quickly and easily.

Note: If you are running *CQG* on a dual monitor system, the Chart, Quote or Snap Quote application will need to be tiled on the same page as the Order view.

Changing an Order Symbol Using the Right Click Functionality

From a Chart, Options or Quote application window, you can easily change the Order view symbol.

To do this:

Right click on an entry in the Options or Quote window or anywhere in a Chart window.

Select Order or *Buy/Sell* when clicking on a horizontal line value box in a Chart window.
> This will bring up the order window with the Buy and Sell button ready to enter an order at the last price of the selected instrument or the selected price if the order is entered from a horizontal chart line.

Viewing Order Statuses (The Tab Section)

The **tab section** consists of 4 order status types: **Working, Filled, Cancelled** and **Exceptions**. The entries accumulate in the tabs until the symbol is changed, the account is changed or the order view is shut down.

When a tab is selected, the title of the tab changes to **Hide** and the lettering changes colors. When new entries are added to the tab since the last time the tab was viewed, the system bolds the tab lettering, puts a green checkmark in the tab's label (or a red "x" on the Cancelled tab's label) and indicates how many new entries have been made in the tab since it was last opened. New tab entries appear in bold at the top of the list.

Right click on the order. A pop-up balloon displays transaction information for the selected order.

For an explanation of the information included in the pop-up, see "Viewing Transaction History" in the in the *Order Tracker* chapter of this volume of *the CQG User's Guide*.

To reveal column headings, pause the mouse over the top row of the tab. A pop-up displays, showing the column name. If that column can be used to sort the orders, the balloon includes the words, "Sort by." The current "sort by" column has an arrow (triangle) above it.

If the arrow is pointing up, the sort order is ascending (A-Z or 1-XX). If the arrow is pointing down, the sort order is descending (Z-A or XX-1).

To select a different column to sort by:
Left click the column heading row above the column you want to sort by.
The sorting arrow above that column turns white and the list is sorted on that column, in the direction of the sorting arrow.

To select the opposite sorting order:
Select the current "sorted by" column heading.
Left click on the column heading again to change the sort order.

Clearing Bold Text in a Tab

Cleanup

Left click on the **Cleanup** button to remove the bold formatting from an entry. Otherwise, entries will stay bold until the user leaves the tab.

Canceling Multiple Orders

Cancel All

The Cancel All button allows you to cancel mulitple working orders with a single click. You select the settings for this button using the Cancel All Orders dialog, and after they are selected, the button repeats the selected action until you change the selections again in the dialog.

Setting the Cancel All Orders selections:
Right click on the **Cancel All** button.
The *Cancel All Orders* dialog appears.
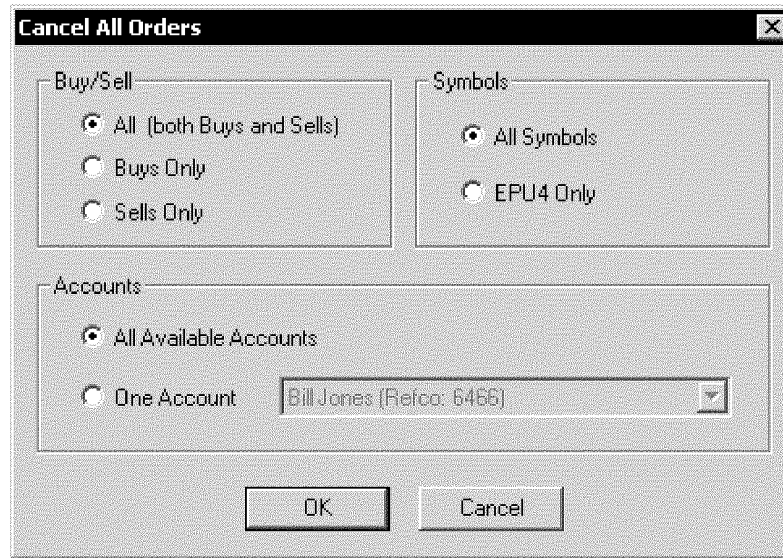
Select the options you want in all three groups.

Left click **OK**.
> The dialog closes, and all selections are saved and will be applied each time you click on the Cancel All button until you change these settings again.

The Working Tab

The **Working tab** shows all the orders that have been entered and have not been either filled or cancelled. This tab will also show all partial executions.

From the **Working tab** you can cancel or cancel and replace a working order. In addition, you can change a stop or limit order to a Market Order, if you selected ***Show the GoMKT*** button on the ***Order Preferences*** dialog.

Canceling a Working Order

Left click on the **Working tab**.

Select the order to be cancelled.

Left click on the **CXL** button
> The order briefly displays in yellow and then is moved and displayed in gray in the **Cancelled tab**.

Replacing a Working Order

Left click on the **Working tab**.

Left click on the element to be changed.

You can only change quantity and price for market or scalper orders. For limit and stop orders you can also change the duration: *Day*, *Good Till Cancelled* or *Good Till Date*, of the order.

Enter the desired change.

Left click on the **RPL** button associated with the order to be cancel/replaced.

You can also make price changes by:

Selecting a price from the left side of the of the order window

Left clicking on the **RPL** button for the order whose price is to be changed.

Note: A stop limit order can only be replaced with another stop limit order. Anytime a change is made without entering a new price, the system assumes that the new price will be the price indicated on the buy and sell buttons. Therefore, you must be careful to manually enter a difference or be sure the price showing on the buttons is, in fact, the price you want.

Changing an existing Stop or Limit order to a Market Order

Make sure the **Show the Go Mkt button** check box is selected in the *Order Preferences* dialog.

Left click on the **Working** Tab.

Select the order you want to change to a Market Order.

Left click on the **Go Mkt** button.

In the **Working tab**, the order type changes to **Mkt** and the record is marked "in transit" until it is "sent." When it is filled, the order is moved to the **Filled tab**.

The Filled Tab

The **Filled tab** shows all orders, including partials that have been filled. This screen shows the quantity of the fill, the instrument symbol, the fill price, time of the fill and the order number. Additionally, for any order that have multiple fills, an average fill price is given. Orders remain on the **Filled tab** until the start of trading the following day. However, working (GTC) and cancelled orders remain displayed until the contract expires.

The Cancelled Tab

The **Cancelled tab** shows all orders for that day that have been cancelled.

To cancel a working order:
Left click on the **Working tab**.
Select the order to be cancelled.
Left click on the **CXL** button
      The order will briefly display and then will be moved and displayed in the **Cancelled tab**.

The Exceptions Tab

The **Exceptions tab** lists orders that were rejected by the trade routing server. These rejections result when the trade routing server is unable to process the order.

Designating the Order Preferences

From the **Order Preferences** dialog, you can designate the display properties, actions undertaken when an order is placed or filled, and various order size properties.

To display the Order Preferences dialog:
Left click on the **Setup** button.
Select Order Preferences.
Select the **Display tab.** See "Designating the Display Properties" on page 1-25,
      Actions tab See "Indicating Actions for Order Placement and Fills" on page 1-28,
      Limits tab. See "Designating Order Limits" on page 1-31 or
      Depth of Market tab. See "Understanding the DOM Grid" on page 1-33.

Designating the Display Properties
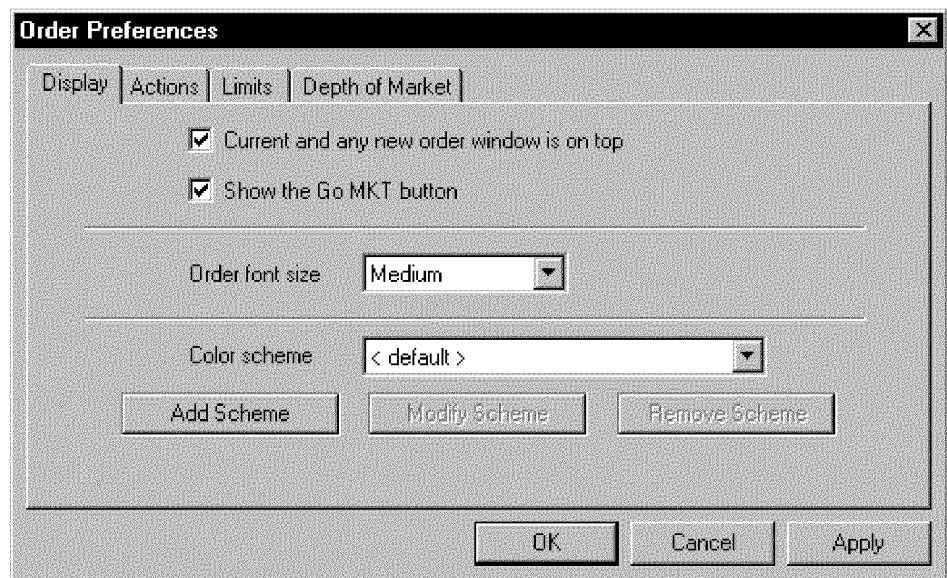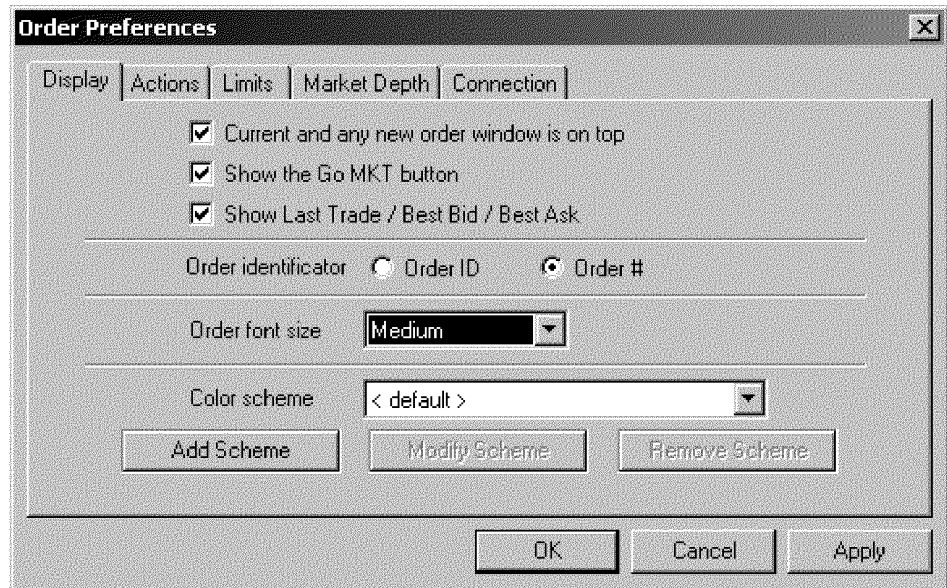
The **Display tab** contains 2 check boxes. You can leave them both blank, or select either or both the check boxes.

Current and any new order window is always on top check box

When selected, the order window will appear on top of other *CQG* applications.

Show the GoMKT button check box

This selection turns on and off the **Go MKT** button in the **Working tab**. The **Go MKT** button allows you to quickly change a stop or limit order into a market order.

Selecting the Font Size for the Order Entry Window

You can easily change the font sizes in the active window by selecting from the drop-down list. Choices include: *Small, Medium* and *Large*.

Creating a Color Scheme for the Order window
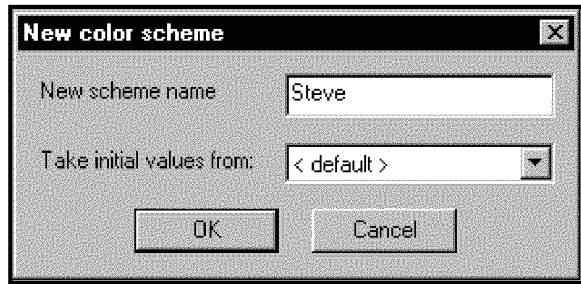
You can create new color schemes or modify existing color schemes for the Order window from the **Display tab**.

To create a new color scheme:

Left click on the **Add Scheme** button.
This displays the *New Color Scheme* dialog.

Enter a name for the new color scheme.

Select an old scheme to use as a basis for the new scheme.
Initially, the *default* scheme will be the only one available.

Left click on the **OK** button to close the *New Color Scheme* dialog and return to the display tab of the *Order Preferences* dialog.

Left click on the **Modify Scheme** button.
This displays the *Modify Scheme...*dialog, allowing you to select colors for various parts of the *Order Entry* display.

Using the Modify Scheme... Dialog
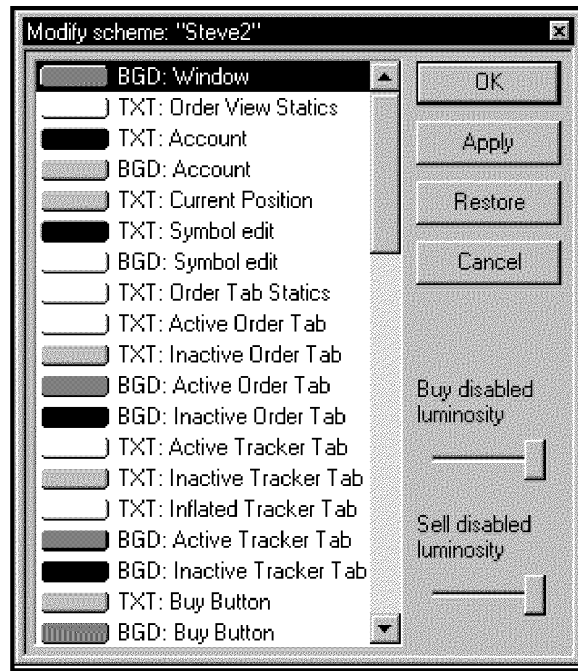
Left click on the element to be changed.
This displays the color palette

Select the desired color from the color palette.

Select the luminosity (brightness) of the buy and sell buttons using the **buy... luminosity** and **sell... luminosity** slider controls.

Left click on the **OK** button to apply the changes and close the *Modify Scheme...* dialog.

Or

Left click on the **Apply** button to apply the changes without closing the *Modifying Scheme...* dialog.

Or

Left click on the **Restore** button to revert the colors in the in the *Modify Scheme* dialog to their prior state, but since the **Apply** button was selected, without closing the *Modify Scheme...* dialog.

Or

Left click on the **Cancel** button to close the dialog without applying any changes, returning you to the *Order Preferences* dialog.

Reverting to a Previously Used Scheme

To change the current color scheme to a previously used scheme:

Left click on the **Color Scheme** arrow in the *Order Preferences* dialog.

Select the desired color scheme.

Modifying a Previously Used Scheme

Select the scheme to be modified from the drop-down list in the **Display tab** of the *Order Preferences* dialog.

Left click on the **Modify Scheme** button.
This displays the *Modify Scheme...* dialog.

Left click on the elements to be modified.

Select the new color for the indicated element.

Select the luminosity (brightness) of the buy and sell buttons using the **buy...
luminosity** and **sell... luminosity** slider controls.

Left click on the **OK** button to enact the changes and close the *Modify Scheme...*
dialog.

Or

Left click on the **Apply** button to enact the changes without closing the *Modifying
Scheme...* dialog.

Or

Left click on the **Restore** button to revert the colors in the in the *Modify Scheme*
dialog to their prior state, to the last colors that were applied, without closing
the *Modify Scheme...* dialog.

Or

Left click on the **Cancel** button close the dialog without enacting any changes.

Indicating Actions for Order Placement and Fills
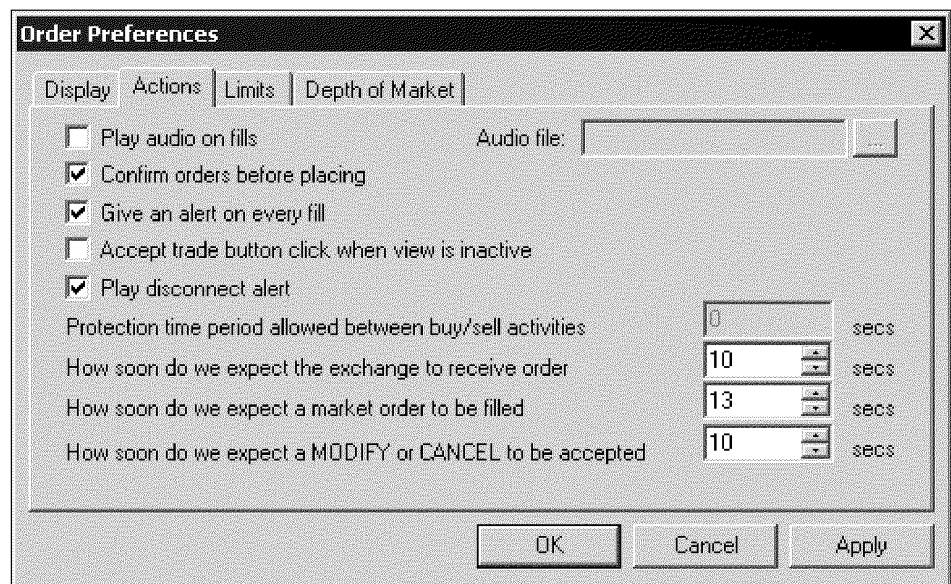
From the Actions tab, you can select any or all of the following actions:

- Play a designated audio file when an order is filled.

- Display a confirmation dialog before orders are placed.

- Trigger the designated Alert action when an order fills.

- **Accept trade button click when view is inactive.** This allows you to
  enter orders faster when switching from another *CQG* application.

- **Play disconnect alert** warns you when your connection to the trade routing server has been lost.

Additionally, you can designate an acceptable time interval for the following activities:

- Protection time period between buy/sell activities before an alert will be given.

In other words, you can specify the minimum time between consecutive orders. This prevents you from inadvertently double clicking and entering a double order.

- How soon the exchange should receive an order before an alert will be given.

- How soon a market order should be filled before an alert will be given.

- How soon a modify or cancel should be accepted before an alert will be given.

Left click on the **OK** button to enact the changes and close the *Order Preferences* dialog.

Or

Left click on the **Apply** button to enact the changes without closing the *Order Preferences* dialog.

Or

Left click on the **Restore** button to revert the colors in the in the *Order Preferences* dialog to the colors last applied, without closing the *Order Preferences* dialog.

Or

Left click on the **Cancel** button to close the dialog without applying any changes.

Playing an Audio File When an Order Fills
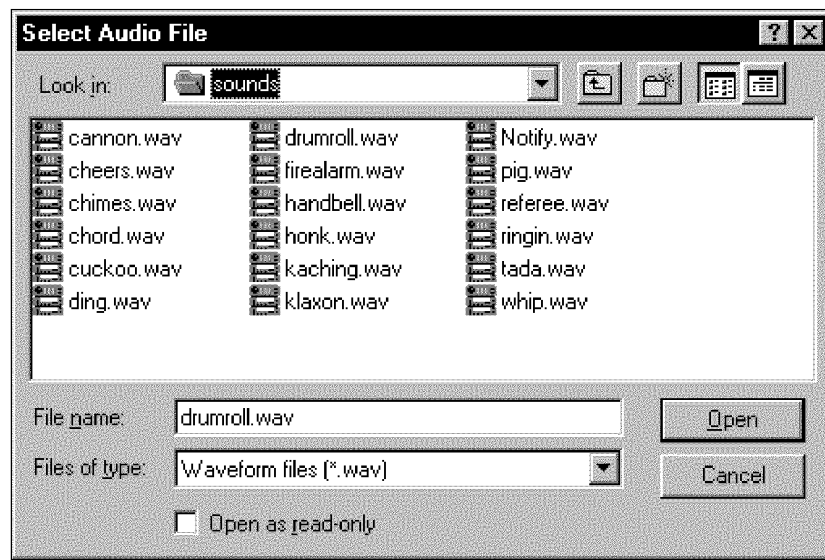
To select an audio file:

Select the **Play audio on fills check box.**

Select the **...** button.

This displays the sound files available for use with the running version of **CQG**.

Select the desired audio file.
The .wav file name will appear in the **Audio file box** of the **Order Preferences** dialog. This sound file will play whenever an order is filled.

The Confirm Dialog
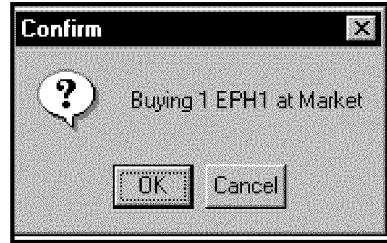
If you have selected the **Confirm orders before placing check box** from the **Order Preferences** dialog, the **Confirm** dialog will appear each time the **Sell** or **Buy** button is pressed.

Left click on the **OK** button to enter the order.

Or

Left click on the **Cancel** button to cancel the order.

Displaying an Alert when an Order Fills

If you have selected the **Give an Alert on Every Fill check box** from the **Order Preferences** dialog, the **Order Filled at ...** dialog will appear each time an order is either fully or partially executed.

The **Order Filled at ...** dialog displays the time the order was filled, the type of order (buy or sell), the symbol, the type of order (mkt, lmt, etc.), the order number, and the price at which it was filled.

Left click on the **Silence** button to turn off the audio signal for alerts.

The **Reset** button doesn't affect the Alerts that are generated in Order Entry. If you click **Reset** on an Order Entry alert, the only thing that happens is that the system displays a "reset failed" message.

Left click the **History** button to display the recently cleared orders.

Left-click on the **Close** button to acknowledge the alert and close the dialog.

Note:	If you have not selected any of the three check boxes, any orders placed and/or filled will still be displayed in either the **Working** or **Filled** tabs.

Designating Order Limits

From the Limits tab you can designate the following for the displayed commodity, as well as for all non-specifically specified commodities (in the Global column):

Display	Description
Default Quantity for Trading	Sets the quantity that is first displayed when you try to enter an order.
Maximum Quantity for Trading (warning if exceeded)	This will warn you with the message "Quantity out of Range" if you have entered an order greater than the maximum quantity specified.
Default Quantity Increment	This value indicates the amount the Quantity changes each time the up or down arrow is clicked. **Note:** The first value is always one, then the increment value, then 2x increment value, etc.
Maximum Position (warning if exceeded)	Warns you if your total position has exceeded the value indicated.
Range (ticks) around current price to allow both buy & sell limit order (warning if price is outside the range)	This sets the threshold (in number of ticks) for a warning which will be given if buy orders are placed above the current market or sell orders are placed below the market. **Example:** If TBonds last traded at 10600 and you set your range value at 5, the system would warn you for buy orders placed above 10605 or sell orders placed below 10527.
Retain tick slippage between Stop and Limit prices.	The checkbox turns on or off the retention of tick slippage between Stop and Limit Prices. The value box sets the amount of slippage to allow. This feature allows you to retain the number of ticks between stop and limit prices on stop limit orders, so you can reuse the setting without having to re-enter the information. Tick Slippage only applies to the current symbol. It is not applied globally.

Input the desired values.

Or

Use the up or down arrows to set greater or lesser values.

Left click on the **OK** button to apply the changes and close the *Modify Scheme...* dialog.

Or

Left click on the **Apply** button to apply the changes without closing the Modifying Scheme... dialog.

Or

Left click on the **Restore** button to revert the colors in the in the *Modify Scheme* dialog to the last settings that were applied, without closing the *Modify Scheme...* dialog.

Or

Left click on the **Cancel** button to close the dialog without enacting any changes.

Understanding the DOM Grid

Price	B/A	Vol	Cumulative	Avg.
114325				
114300				
114275				
114250				
114225				
114200				
114175				
114150				
114125	Ask	182	861	114078
114100	Ask	206	679	114066
114075	Ask	158	473	114051
114050	Ask	172	315	114039
114025	Ask	143	143	114025
▶ **114000**	Bid	19	19	114000
113975	Bid	180	199	113977
113950	Bid	257	456	113962
113925	Bid	220	676	113950
113900	Bid	196	872	113939
113875				
113850				
113825				
113800				
113775				
113750				

Tabs: Market, Limit, Stop, Scalper

The Depth of Market area displays information about the current state of existing orders in a particular commodity. The exact elements displayed in the DOM grid are set in the *Order Preferences* dialog. These settings apply to all the tabs (Market, Limit, Stop, and Scalper) in the Order Entry window.

Selecting the DOM Grid Settings
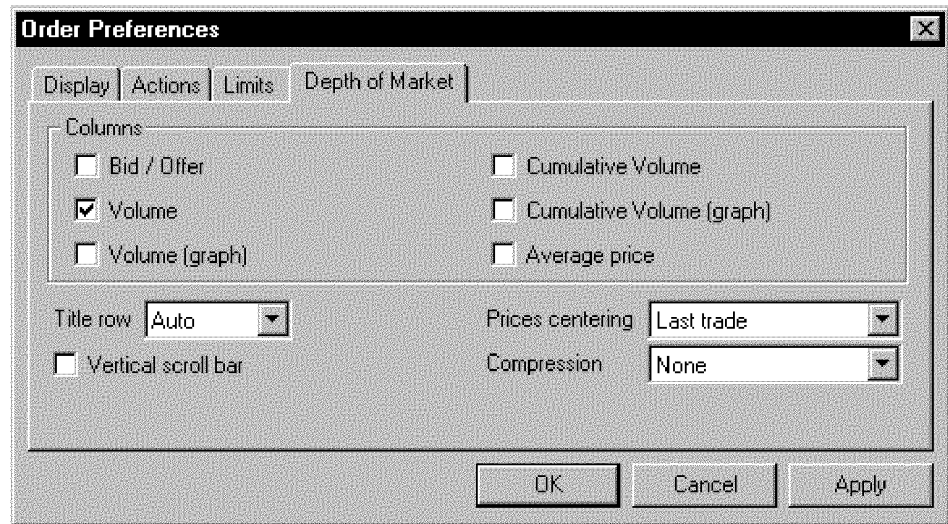
From the top half of the DOM grid tab you can select which columns you want to see in the DOM grid. If you clear all the check boxes on this tab, only the price information will be displayed in the DOM area. You can select any combination of columns. The available column choices are: **Bid/Offer, Volume, Volume (graph), Cumulative Volume, Cumulative Volume (graph)** and **Average price**.

Additionally, you can select various other display properties of the DOM display from the **Order Preferences** dialog. The chart below explains each of the elements of the DOM grid and customizations available.

Formatting the DOM Grid

Column Header	Definition
Bid/Offer Checkbox	Displays the most current bid or offer. **Note:** When the last price matches the bid/offer it is colored like the bid/offer.
Volume Checkbox	Displays the size of the most current bid and offer.
Volume Graph Checkbox	Displays a zoomed-in version of the volume, which may show small, but crucial, differences.
Cumulative Volume Checkbox	Displays a cumulative value at each price for buys above the current price or sells below the current price.
Cumulative Volume (graph) Checkbox	Displays a zoomed-in version of the cumulative volume, enabling users to easily see small, but crucial, differences.
Average Price Checkbox	Calculates the weighted average price for buys and the weighted average price for sells.
Title Row selection	Allows you to select how the columns headings are treated.
>>>Always ON	Column headings are always displayed.
>>>Always OFF	Column headings never display.
>>>Auto	Column headings only display if you have selected at least one column in the **Columns** area. If only Price is displayed, the column heading is not displayed.
Vertical Scroll Bar Checkbox	Places and removes vertical scrollbar in the tab section.
Price Centering Checkbox	Allows you to determine the center value of the display, when no price is selected. Choices include: **Last Trade** or **Best Bid & Ask**.
Compression	Allows you to determine the level of detail in the DOM grid. Choices include: **Auto, Manual** or **None**. **Auto** - Data is compressed so all Depth of Market information fits on one screen. **Manual** - Allows users to select the number of ticks between entries by entering a number in the box. **None** - No compression is applied, and every tick is visible in the DOM grid.

*   When *Auto* compression is selected, the **Follow market checkbox**
becomes available. When the **Follow Market checkbox** is selected, the
DOM data will be scaled so it all fits within one window without scrolling.
When the **Follow Market checkbox** is not selected the last trade will
be centered but all the DOM data may not fit on one screen.

Note: Even if no columns are selected, the price column is always displayed.

Logging Off of Order Entry

Logoff

Left click on the **Logoff** button to disable the order entry feature.
        When you are not logged on, the sphere in the upper right corner will be red.

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The CQG Orders and Positions View

What is the CQG Orders and Positions View?

The **Orders and Positions** view allows you to set up accounts and keep track of all your outstanding and filled orders in one place. It combines, expands and improves the old **CQG** Order Tracker and Position Tracker. The **Orders and Positions** view automatically keeps track of orders entered through the **CQG** order interface. The **Orders and Positions** view is divided into 4 separate panes: **Account Selection**, **Purchase & Sales**, **Summary**, and **Account Tree**.

The **Orders, Purchase & Sales** panes are permanently displayed. The **Summary** and **Account Tree** panes can be hidden or displayed by clicking the **Summary** button and **Account** buttons on the Orders and Positions toolbar.

Order Execution

Account Tree Pane

The Account Tree pane displays a hierarchical view of your accounts by symbol, trade system, or date. Accounts and subaccounts are displayed as folders.

Account Selection Pane

This pane is where you select the information you want to view. In this pane you can select the account, and FCM, then select from the symbols, dates, and trade systems associated with that account to display. If you use the defaults, you will see all the current activity for the selected account.

Orders, Purchase & Sales Pane

The Orders, Purchase & Sales pane has two tabs. The **Orders** tab displays information about orders that were placed for the selected account. The **Purchase & Sales** tab displays details about Purchases and Sales on the selected account and a transaction log that tracks cash adjustments for the account.

Summary Pane

The three tabs in this pane display different summaries of information about the selected account, including open positions and margin requirements.

Adding an Orders and Positions View with the OrdPos Button

Left click on the **OrdPos** button to launch an *Orders and Positions* view.

If the **OrdPos** button is not displayed on the application toolbar, you can add it by doing the following:

Left click on the **Setup** button.

Select Customize Toolbar.
    This displays the *Toolbar Manager* dialog.

Left click the >>> button in the **Add/Remove column** in the **Chart, Quote, News...** row.

Select **OrdPos** in the button column.

Left click on the **Close** buttons on the *Customize Application Toolbar* and *Toolbar Manager* dialogs.

Left click on the **OrdPos** button to open the *Orders and Positions* view.

The Orders and Positions Toolbar

The Orders and Positions Toolbar consists of 11 buttons. This toolbar is only displayed if the Orders and Positions view is the active window. Depending on what is selected in the view, an account or an FCM, some buttons appear dimmed, indicating that function is not available.

Accounts. See "Showing and Hiding the Account Tree Pane" on page 2-5.
Summary. See "Showing and Hiding the Summary Pane" on page 2-5.
Logon. See "Logging On to Order Entry" on page 2-5
Logoff. See "Logging Off from Order Entry " on page 2-5
DelFCM. See "Deleting an FCM" on page 2-6.
EditAcct. See "Editing Accounts" on page 2-6
DelAcct. See "Deleting Accounts" on page 2-6.
Cancel All. See "Canceling all Active Orders " on page 2-6

For instructions on customizing toolbars, see "Customizing Toolbars" in the *Main* chapter of the *CQG Basics* volume of the ***CQG** User's Guide*.

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Showing and Hiding the Account Tree Pane

The account tree is located in the far left pane of the window by default, but it can be moved to the right side of the window.

It contains the **by Symbol, by Trade System, and by Date** tabs. These tabs present the same data, sorted on different criteria. When a contract is about to expire, folders in the account tree that contain open positions for that contract will be red, instead of yellow.

To show or hide the Account Tree pane:
Left-click on the **Accounts** button to show or hide the **Account Tree** pane.

To move the Account Tree pane:
Right click on the **Accounts** button.
Select Show at Left or *Show at Right.*

Showing and Hiding the Summary Pane

The **Summary** pane is on the bottom of the *Orders and Positions* view by default, but you can move it to the top. It includes the **Account Summary**, **Open Position Summary**, and **Margin Requirements** tabs.

To show or hide the Summary pane:
Left-click on the **Summary** button to show or hide the **Summary** pane.

To move the Summary pane:
Right click on the **Summary** button.
Select Show on top or *Show on bottom.*

Logging On to Order Entry

To begin using the CQG order entry feature, you must have an ID and a password supplied by your FCM.
Left click on the **Logon** button to display the Order Routing Logon dialog.

Logging Off from Order Entry

Left click on the **Logoff** button to disable the order entry feature.
This will not log you out of CQG.

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Deleting an FCM

DelFCM

To remove a local FCM from your Orders and Positions view:
Select the FCM.
Left click the **DelFCM** button.

FCMs that are in the CQG Order Execution System can be temporarily deleted from the view, but they will reappear in the view the next time you log in to the CQG Trade Routing System.

Editing Accounts

EditAcct

Even after you have set up your accounts, you can change the account characteristics.

To change account characteristics:
Left click on the **Edit** account button.
> This displays the ***Account Setup*** dialog allowing you to edit the Global, Commission and Currency characteristics of the selected account.

You can also access the Account Setup dialog by:
Left clicking on the **Setup** button.
Selecting **Account Preferences**.

Or

Selecting an account folder in the Account Tree Pane.
Right-clicking the account folder.

Select **Edit** from the menu.

Canceling all Active Orders

Cancel All

The **Cancel All** button allows you to cancel all active orders with a single click.

To do this:
Left click on the **Cancel All** button.
Left click **Yes** on the ***Confirm*** dialog.

Displaying the Account Setup Dialog

The Account Setup dialog gives you access to three tabs for setting:

Global characteristics such as Order matching type and the ability to show Purchase and Sales information as Entries and Exits;

Currency settings;

Settings for Expiration Alert and Position Checking, which are on the Events tab.

To display the Account Setup Dialog:

Left click on the **Setup** button.

Select *Account Preferences.*
> The *Account Setup* dialog appears with the **Global** tab active.

Selecting Global Characteristics
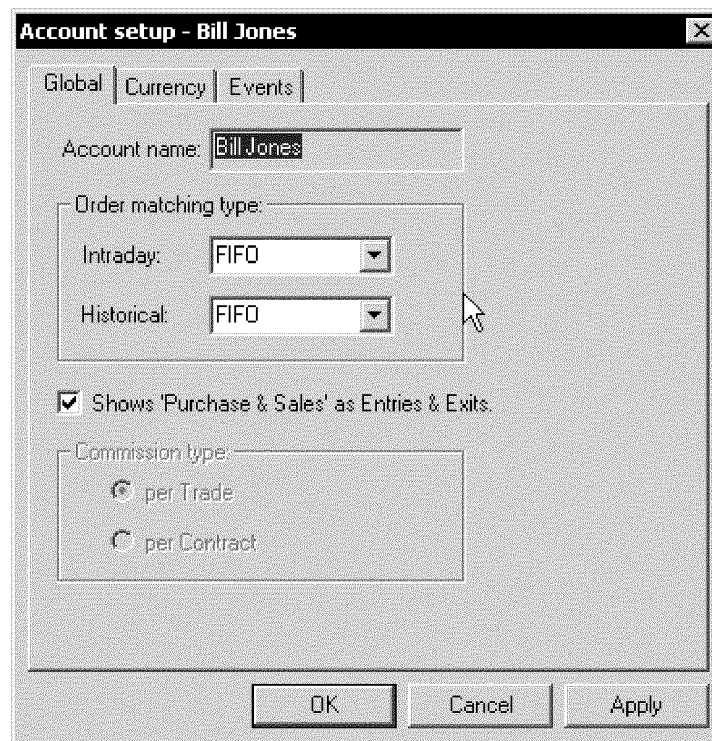
From the *Account Setup* dialog's **Global** tab you select several characteristics for the Account.

To do this:

Left click on the **Setup** button.

Select *Account Preferences.*
> The *Account Setup* dialog appears with the **Global** tab active.

Select the **Order matching type**.

The matching type determines which orders will be closed when an offsetting buy or sell order is executed. Select one of the following:

FIFO: First In, First Out. The first order filled will be the first order offset when an order on the opposite side of the market is executed.

LIFO: Last In, First Out. The last order filled will be the first order offset when an order on the opposite side of the market is executed.

HBHS: High Buy, High Sell. The Highest Buy is matched with the Highest Sell. You must select both an intraday and historical (daily or longer) matching scheme.

Select or clear the **Shows Purchases and Sales as Entries and Exits** checkbox.

Selecting the Currency for the Account
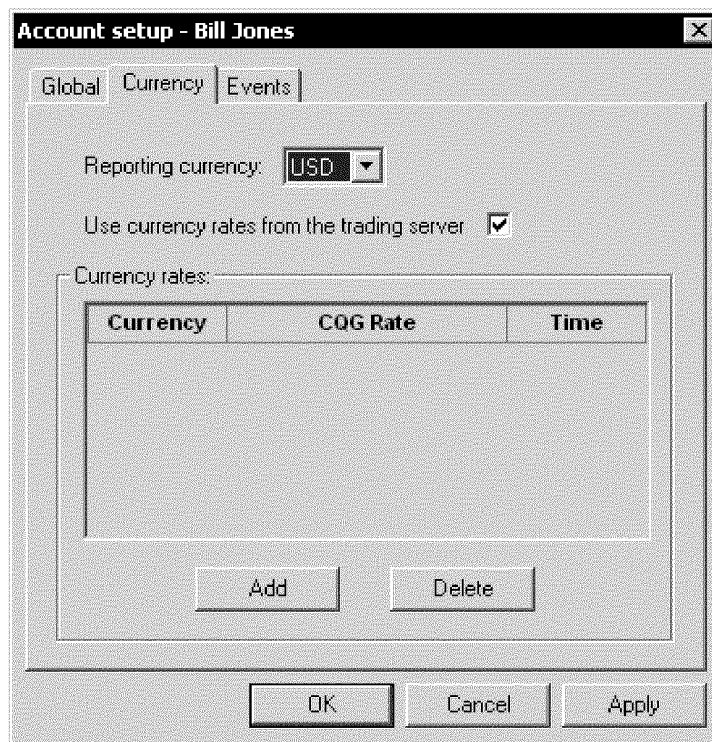
The **Orders and Positions** view allows you to easily show your profits or losses in different currencies, rather than always showing these in the reporting currency (the currency indicated in the **Commission** dialog). The Currency dialog is where you make this selection.

To show account values in a different currency:

Left click the **Setup** button.

Select Account Preferences.

Select the **Currency** tab.

Left click the **Add** button.
This displays the **Currency Rates Setup dialog**.
Complete the **Currency Rates Setup** dialog.

Left click on the **Apply** button to complete the account setup.

Entering Currency Rates

The **Currency Rates Setup Dialog** allows you to convert trades and account values expressed in another currency to the reporting currency as expressed in the **Commission** dialog.

To do this:

Enter the currency that you want to convert into the reporting currency.
> The default **CQG** conversion formula will appear. However, you may edit this value, if necessary.

Enter the time the conversion will occur.
> The default time will initially appear.

Left click on the **OK** button to apply the choices and close the **Currency Rates Setup** dialog and return to the **Currency** dialog.

Or

Left click on the **Cancel** button to ignore any new inputs and close the **Currency Rates Setup** dialog, which will return you to the **Currency** dialog.

Select the **Reporting currency** to use with this Account.

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Setting Expiration Alert and Position Checking Options
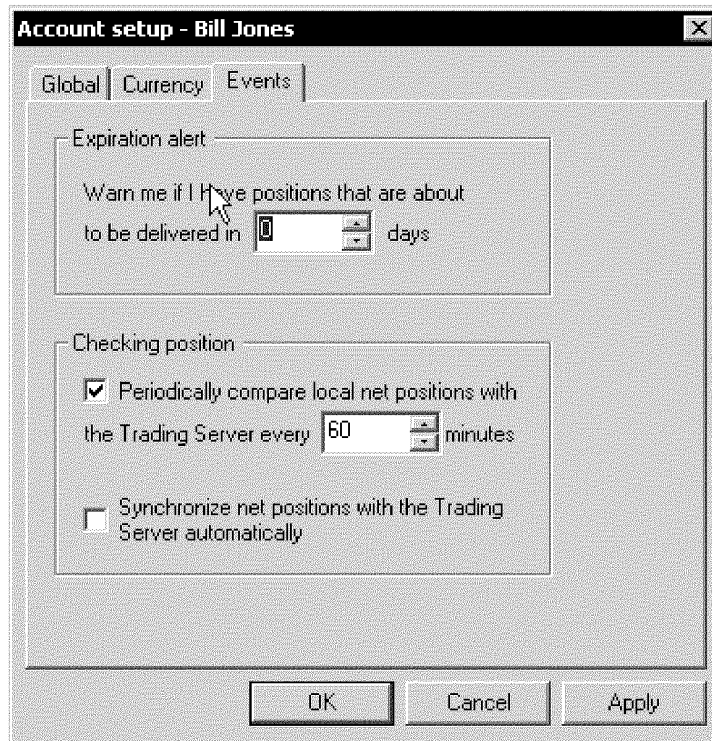
The **Events** tab on the *Account setup* dialog allows you to setup Expiration Alert notices and Position Checking and Notification settings.

Each time you logon to the Order Gateway, positions are checked against the server. If discrepancies are found, a dialog is displayed so you can synchronize your accounts with the server.

You can check your position on a regular basis if you want to, and elect to have net positions synchronized with the trading server automatically.

To display the Account Setup dialog's Event tab:
Left click the **Setup** button.
Select Account Preferences.
Select the **Events** tab.

To have CQG display an alert if an active order is about to expire:
Enter the number of days ahead of expiration you wish to be notified.

To Set Position Checking and Synchronization settings:
Select or *clear* the first check box in **Checking Positions**.
If you select the check box, *enter* a number for the frequency (in minutes) you want CQG to check your positions.
Select or *clear* the second check box in **Checking Positions** to turn off or on automatic synchronization with the Trading Server.

The Account Selector Pane

The **Account Selector Pane** displays the criteria used to determine what is displayed in the rest of the view. In this pane, you can also select specifically what you want to see in the **Purchase & Sales Pane** and **Account Summary Pane**.

Left click on the **FCM** drop down button to select an FCM.
> The list displayed includes all FCMs used by the current login.

Left click on the Account drop-down button to select the account to view.
> The list will consist of all accounts under the selected FCM.

Left click on the drop down list buttons to display a calendar that you can use to select the from and to dates to include in the display.

Or

Left click on the **Today** button to display the Positions and Orders for today's activity only.
> By default all symbols and all trading systems will initially be selected. However, you can change those selections using the drop-down lists to select the desired symbols and trading systems.

Left click on the Symbol drop-down button to select the symbol to view.
> The list of symbols will include all the instruments traded by the selected account during the indicated time frame.

Select the trading system. The **Purchase & Sales** and **Account Summary** panes update to reflect the selections.

If you make selections from the **Account Tree**, the **Account Selection** pane is updated.

The Account Tree Pane

The **Account Tree** displays a list of accounts in a view that is similar to the Windows Explorer display of folders and subfolders. Besides selecting the account from the account selector pane, you can use the **Account Tree** to select an account. The account tree, located on the left pane of the *Orders and Positions* view by default, shows all the accounts set up under the username and password currently logged in, arranged first by FCM. You can display the order activity and positions in these accounts sorted by **Symbol**, **Trade System** or **Date**.

Left click on the **Accounts** button to show or hide the **Account Tree**.

Showing Accounts Sorted by Symbol
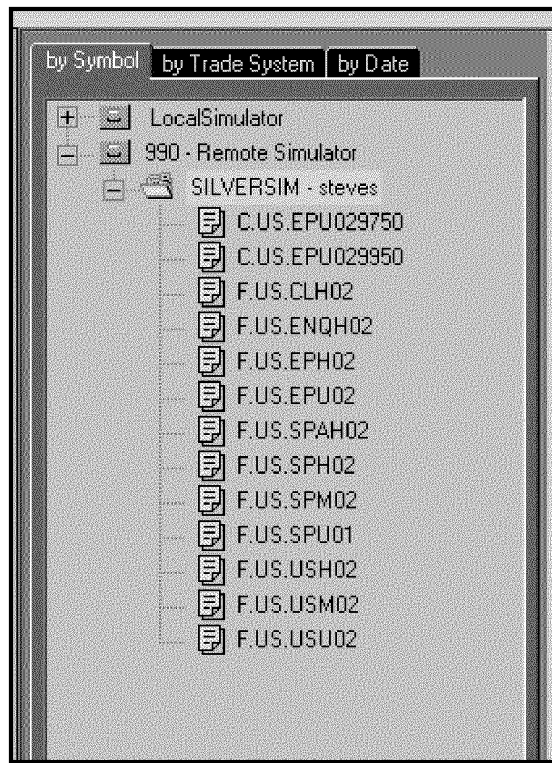
The **By Symbol tab** sorts the orders that appear in the **Position** and **Order tabs** by account, and, within the account, by the type or instrument, future, call, stock, etc., then by symbol. If an account has an order for a contract that is about to expire, the folders in the account tree will be red, instead of yellow

Showing Accounts Sorted by Trading System
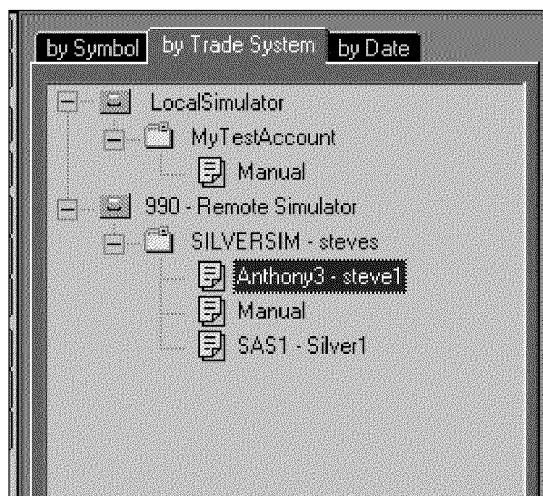
The **By Trade System tab** shows orders sorted by account and, within each account, by the Auto Trader name (if any) or Manual, then by the name of the trading system used by the auto trader.

Showing Accounts Sorted by Date
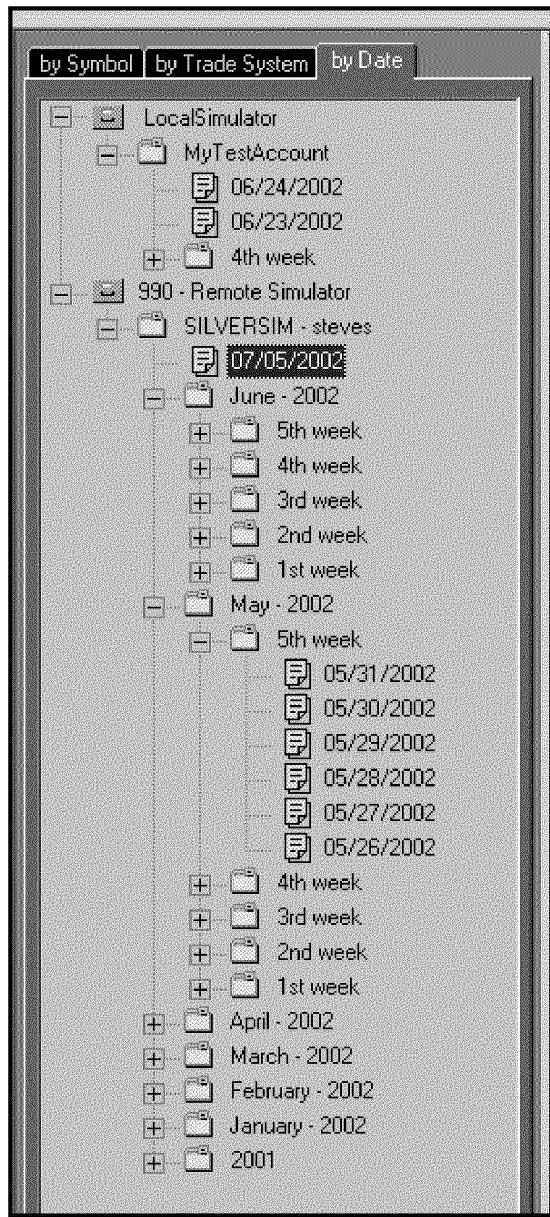
The **by Date tab** sorts the groups of orders in each account by year, then by month, then by week, and finally, by day.

Sorting Data in Grid Displays

In the **Orders** and **Purchase & Sales** panes of the ***Orders and Positions*** view, information is displayed in a grid of columns and rows. You can change the order in which the information appears, although some columns cannot be used to determine sort order. If the list has been sorted, the column header that was used for the sort will have a triangle under the column name. One point of the triangle points either up or down, telling you whether the list is sorted in Ascending A-Z order (indicated by pointing up) or Descending Z-A order (indicated by pointing down.)

To determine whether you can sort on a column:

Pause the mouse over the column header until the Tooltip appears.

If the column can be used to sort the list, the Tooltip will say, "Sort by [Column Name] and a triangle indicating the sort order (up or down) will appear.

To sort data in a grid display:

Left click on the column header.
A triangle appears, indicating whether the column is sorted in ascending order (one point of the triangle is pointing up) or descending order (one point of the triangle is pointing down).

Left click again on the column header to change the order.

You only sort the rows on one column at a time. The order of the columns cannot be changed.

Changing Column Width in Grid Displays

Drag the boundary on the right side of the column heading until the column is the width you want.

To make the column width fit the contents, ***double-click*** the boundary to the right of the column heading.

Selecting Cells on the Orders Tabs

Left click on the top left cell in the grid to select all the cells.
Left click in a row to select the whole row.
Left click in a row and drag the mouse up or down to select several adjacent rows.
Select a row, and then press the **Shift** key and left click on a non-adjacent row.
The first and last rows selected and every row in between them are selected.
Select a row, then press the **Ctrl** key and select a non-adjacent row to select both non-adjacent rows.

Copying Information To Excel

You can copy information from any grid display in the *Orders and Positions* view.

You can copy just rows that you select, or all the rows in the selected grid. Buttons (such as **CXL, RPL, GoMKT**) are not copied.

Each row in the *Orders and Positions* view is copied as a separate row in Excel. Columns that are not displayed are not copied.

To copy selected rows to Excel:

Select the rows you want to copy.

Right click on a selected row.

The *Edit* popup menu opens.

Select Copy Selection to copy only the selected rows.

Open an Excel spreadsheet.

Press **Ctrl+V** to paste the data into Excel.

To copy all rows in the selected grid display:

Select at least one row in the grid display.

Right click on the selected row.

The *Edit* popup menu opens.

Select Copy All to copy the entire grid.

Open an Excel spreadsheet.

Press **CTRL+V** to paste the data into Excel.

The Orders, Purchase & Sales Pane

The **Orders, Purchase & Sales** pane displays information about orders and their status, and about purchases and sales.

Viewing Order Activity in the Orders Tab

The **Orders** tab contains 5 tabs: **Working, Filled, Cancelled, Exceptions** and **All**. Under each tab, bold items indicate those actions that were executed since the last time you viewed the data in the selected tab.

The **Orders** tab displays information about existing orders organized into categories that make it easy to see what is happening with the orders you've placed.

- The **Working** tab shows pending orders that have not yet been filled or canceled.

- The **Filled** tab shows orders that have been executed during the time frame indicated in the **Account Selection Pane**.

- The **Cancelled** tab contains orders that have been cancelled during the time frame indicated in the **Account Selection Pane**.

- The **Exceptions** tab lists orders that were rejected by the FCM, the CQG Order Execution system, or the exchange.

- The **All** tab combines the other 4 tabs, showing all Working, Filled, Cancelled and Exception orders under the same tab.

The Working Tab
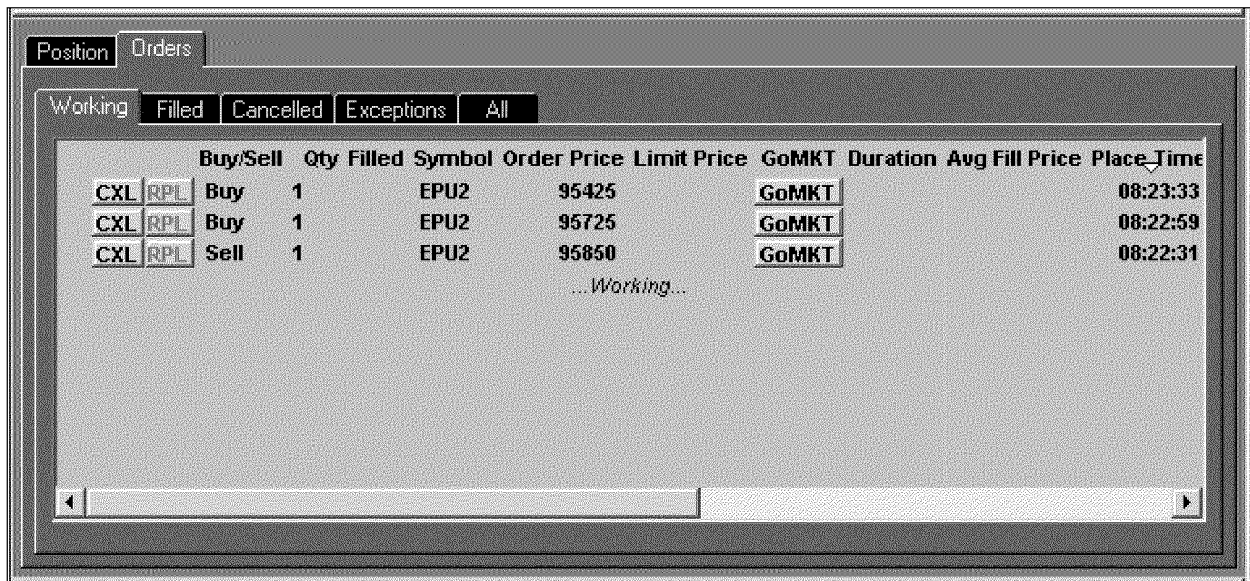
Besides the columns selected by the user from the *Select Filled Order Display Columns* dialog, the **Working tab** contains a **CXL** and a **RPL** button, allowing users to cancel or cancel/replace an order.

Note: Orders that have been partially filled will appear in both the **Working** and **Filled tabs**.

Canceling an Order

To cancel an order:

Left click on the **CXL** button associated with the order.
 The unfilled portion of the order will be cancelled and moved to the **Cancelled** tab.

Replacing an Order

To replace an order:

Select the order to be replaced from the **Working tab**.

Left click on the order.
 The selected order will be underlined.

Select the element to be changed.

Make the desired changes.
 These changes will appear in red and the **RPL** button will become active.

Left click on the **RPL** button
 A confirmation dialog will appear indicating your changes, if you have selected the **Confirm orders before placing checkbox** in the **Actions tab** in the Order application.

Left click on **OK** to accept the changes as stated in the *Confirm* dialog.

Or

Left click on **Cancel** to close the ***Confirm*** dialog and revert the display to its state prior to any changes being made.

Changing a Limit, Stop, or Stop Limit Order to a Market Order

To change a limit, stop, or stop limit order to a market order:

Select the order to be changed from the **Working tab**.

Left click on the **GoMkt** button.

This doesn't really change the order. The system cancels the current limit, stop, or stop limit order and places a new market order.

Color Coding for Working Orders

CQG colors working orders yellow to indicate that the order doesn't belong in the **Working tab** and will soon be moving to another tab. For example, working orders that have just been filled will be yellow for 3 seconds in the **Working tab**, then they will be moved to the **Filled tab**. ***CQG*** colors completed orders (those that are cancelled, filled or exceptions) and working orders gray.

The Filled Tab

The **Filled tab** contains orders that have been executed during the time frame indicated in the **Account Selector Pane**. It contains the columns indicated by the user in the ***Select Filled Order Display Columns*** dialog.

Left click on the **triangle** in the **time column** to reverse the order of the items displayed, either latest to earliest or vice versa.

Note: Orders that have been partially filled appear in both the **Working** and **Filled tabs**. Additionally, partially filled orders will contain a plus sign at the far left and an **Average Fill Price** column, indicating the average execution price for the entire order.

The Cancelled Tab

The **Cancelled tab** contains orders that have been cancelled during the time frame indicated in the **Activity Selection Pane**. It contains the columns indicated by the user in the *Select Filled Order Display Columns* dialog

Left click on the **triangle** in the **time column** to reverse the order of the items displayed, either latest to earliest or vice versa.

The Exceptions Tab

Position	Orders

Working [1]	Filled	Cancelled	Exceptions	All

Buy/Sell	Qty	Filled	Symbol	Order Price	Limit Price	GoMKT	Duration	Avg Fill Price	Place Time
Sell	500		ENQU2	99400					12:31:50
Sell	500		ENQU2	99050					12:31:08

The **Exceptions tab** contains the columns indicated by the user in the ***Select Filled Order Display Columns*** dialog. It lists orders that were rejected by either the FCM or the CQG Order Execution system. This might happen for several reasons including:

- A bad symbol. For example, a symbol that might be valid within ***CQG*** but is not valid for the indicated exchange or for the indicated account.

- An order type not supported by the indicated exchange.

- A limit price that is not favorable (a buy above the market or a sell below the market) by the time it reaches the exchange.

The All Tab

GoMKT	Avg Fill Price	Place Time	Order #	Unfilled	Status	Price	User	Sys ID	FCM	Account
GoMKT		12:32:50	TR221	500	Working	99400	steves	46283	990	SILVERSIM
		12:31:50	TR220	500	RejectFCM	99400	steves	46283	990	SILVERSIM
		12:31:08	TR219	500	RejectFCM	99050	steves	46283	990	SILVERSIM
		12:25:02	TR218	500	Cancelled	99050	steves	46283	990	SILVERSIM
	98450	11:34:42	TR217		Filled	98450	steves	46283	990	SILVERSIM
	98500	11:33:41	TR216		Filled	98500	steves	46283	990	SILVERSIM
	98550	11:25:40	TR215		Filled	98550	steves	46283	990	SILVERSIM
	98550									
	98550									
	98550									

As the name implies, the **All tab** combines the other 4 tabs, showing all Working, Filled, Cancelled and Exception orders under the same tab. It contains the columns indicated by the user in the ***Select Filled Order Display Columns*** dialog.

Customizing the Columns in the Order Tabs
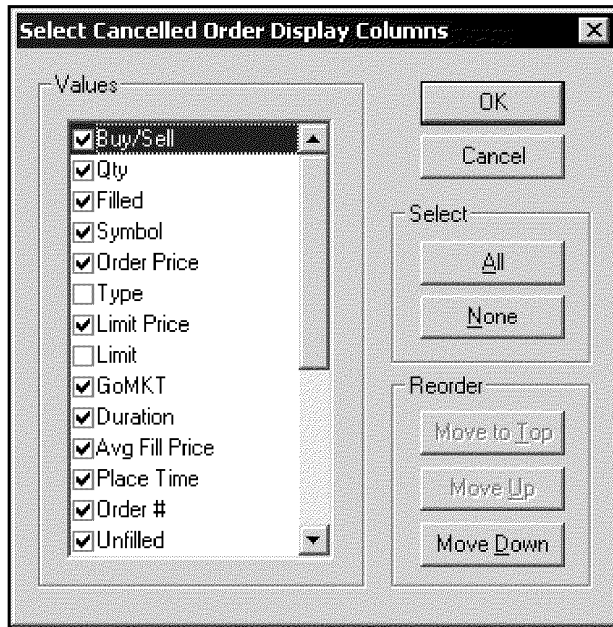
The columns in each of the Order tabs can be customized separately using the Select...*Order Display Columns* dialog.

To display the Select...Order Display Columns dialog:

With the Orders pane active and a sub-tab selected, *left click* on the **Setup** button. *Select Order Preferences.*

You can change the order of the displayed columns using the **Move to Top**, **Move Up** and **Move Down** buttons in the *Select Order Display Columns* dialog.

The following columns are available, and are listed in alphabetical order.

Column	Description
Account	Name on the account at the FCM.
Avg Fill Price	Indicates the average execution price for orders that have partial fills.
Buy/Sell	Indicates whether the order was entered as a buy or a sell.
CXL Time	The time the Cancel was submitted to the exchange.
Duration	The order duration. Displays **GTC**, **GTD**, or **Day.**
FCM	The name of the user's broker.
Fill Time	The time the order was filled. For partial fills, the time of the first fill is reported as the overall fill time. Each partial fill time is also reported.
Filled	Shows a check mark if the order is completely filled or indicates the amount of each partial fill.
GoMkt	Converts a limit, or a stop, or a stop/limit order to a market order.
Limit	Displays "LMT" in a separate column for the stop limit price.
Limit Price	The price specified in a limit order.
Order #	A number created by the CQG Trade Routing Server that is unique for this client.
Order ID	A number created by the CQG Trade Routing Server that is unique to this order.
Order Price	For Limit orders: The Limit price For Stop orders: The Stop price For Stop Limit orders: The Stop price is in the Order Price Column. The Limit Price is in the limit Column. For Market Orders: Displays a Blank Cell

Column	Description
Place Time	The time the order was received by the exchange.
Price	Filled Price
Qty	The number of contracts or shares in the order.
Status	Reports what is happening with the order. Possibilities include: **Filled, Rejected, Cancelled, Sent to FCM, Received by Trade Routing Server, Working, In Cancel, In Modify, Sent to Server, Parked, Expired or Error.**
Symbol	The instrument's CQG symbol.
Sys ID	The user's CQG system number.
Type	The type of order. Choices include: **Limit, Stop, Stop Limit** and **Market.**
Type/Dur	A combination column showing order type and order duration.
Unfilled	The number of contracts or shares left to be filled to complete the order.
User	The name used to log into the trade routing server

Viewing Purchase and Sales Activity

The **Purchase & Sales** tab shows the following for each of the trades for the account, time frame, symbol and trade system selected in the Summary Pane:
Date
Symbol
Long
Short
Price
Currency
Profit/Loss

In addition, a list of transactions (actions accomplished with the **CASHADJ** button) is listed in this tab.

Note: These columns are not customizable.

The Summary Pane

The **Summary Pane** displays the financial position of the overall account and the current position for the selected instrument for the displayed account.

The Account Summary Tab

Account Summary	Open Position Summary	Margin Requirements			
			EUR	GBP	USD	Total(USD)

	EUR	GBP	USD	Total(USD)
Account Balance:	0.00	0.00	118,459.23	invalid
Open Trade Equity for Futures:	0.00	0.00	(9,570.00)	invalid
Unrealized Profit/Loss for Options:	0.00	0.00	0.00	invalid
Collateral on Deposit:	0.00	0.00	0.00	0.00
Net Liquidity Value:	0.00	0.00	108,889.23	invalid
Market Value of Options:	0.00	0.00	0.00	invalid
Cash Excess:	0.00	0.00	78,889.23	invalid
Net Change:	527.50	0.00	629,398.60	invalid
Conversion Rates to the Reporting Currency:				
	?	?	1	

The **Account Summary** tab contains the following:

Display Part	Description
Account Balance	The value of the account, netting all debits and credits.
Open Trade Equity	The value of your open position minus any margin debt for those positions.
Total Open Trade Equity	The value of the securities in the account, assuming that the account is liquidated at the going price. In the context of a brokerage account, it is the net value of the account, that is, the value of securities in the account less any margin.
Collateral on Deposit	Assets pledged to secure margin and subject to seizure in the event of default.
Net Liquidity Value	Open Trade Equity plus cash balance.
Market Value of Options	The money you would make or lose if you closed all open positions at the most recent market price.
Cash Excess	The amount of cash you can actually remove from the account.
Net Change	The amount of Profit or Loss for the selected instrument and time frame set in the Account Selector Pane.

The Open Position Summary Tab

Date	Symbol	Long	Short	Price	Currency	OTE
	Account Summary	Open Position Summary	Margin Requirements			
12/23/03	F.US.ENQH04		2	144650	USD	(4,020.00)
01/05/04	F.US.ENQH04		1	147700	USD	(1,400.00)
01/05/04	F.US.ENQH04		1	147750	USD	(1,390.00)
01/06/04	F.US.ENQH04		2	149650	USD	(2,020.00)
01/09/04	F.US.ENQH04		2	152850	USD	(740.00)
		Last Price:		154700	USD	
-	F.US.ENQH04		8*	148719*	USD	(9,570.00)

The Open Position Summary tab displays: the date of each trade, the symbol for the instrument involved in the trade, whether the trade was a buy or a sell, the price of each trade, the currency used for the account and the Open Trade Equity associated with the trade. Individual trades are shaded yellow, totals are shaded white and most recent prices are colored gray.

The Margin Requirements Tab

	Account Summary	Open Position Summary	Margin Requirements		
		EUR	GBP	USD	Total(USD)
Initial:		0.00	0.00	30,000.00	invalid
Maintenance:		0.00	0.00	24,000.00	invalid
Cash Excess:		0.00	0.00	78,889.23	invalid
Posted:		N/A	N/A	N/A	invalid

The **Margin Requirements** tab tracks the balance in your margin account.

Using the Print Button

Left clicking on the **Print** button does not have any effect.

Right click on the **Print** button to display the print menu.
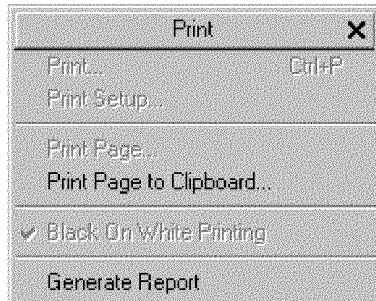
Elements of the Print Menu

Menu Item	Description
Print Page to Clipboard...	Prints the selected display to clipboard, allowing it to be pasted elsewhere.
Generate Report	Creates a report of account activity.

Generating a Report
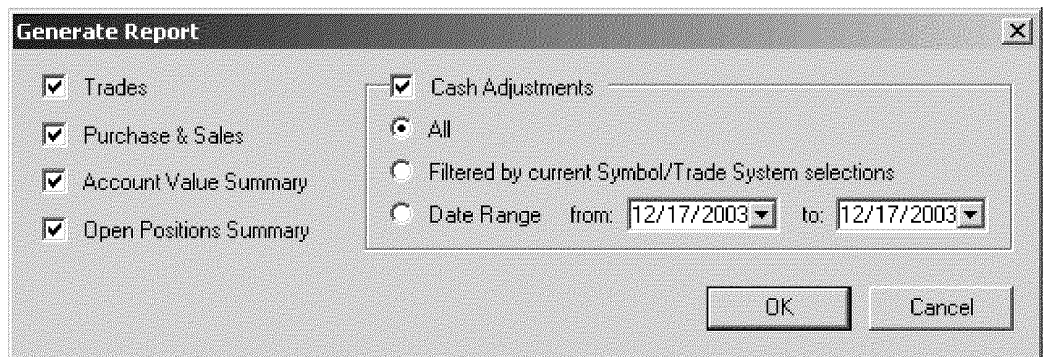
The **Orders and Positions** view allows you to generate a report of your account activity. The report consists of 6 sections: Selection recap, Futures Confirmation, Purchase and Sales Activity, Open Position Summary, Account Value Summary and Cash Adjustments.

To make the report selections:

Left click on the **Setup** button.

Select *Generate Report*.
>   This displays the **Generate Report** dialog.

Select the items to include in the report from the left side of the dialog.
>   Choices are: *Trades, Positions, Account Value Summary* and *Open Positions Summary*. You may choose as many as you want.

Select whether you want to include Cash Adjustments in the report.
If there is a checkmark in the **Cash Adjustments** box, you'll need to make an additional selection.
Select **All** to include all cash adjustments in the report,
Select **Filtered by current Symbol/Trade System selections** to only include cash adjustments for the current Symbol or Trade System, or
Select **Date Range** and set the dates to include only those cash adjustments that occurred between the **from:** and **to:** dates.

The report displays in a browser window. The following is a sample report.

The Reconciliation Report

The Reconciliation Report - Microsoft Internet Explorer

File   Edit   View   Favorites   Tools   Help

← Back ▾ → ▾ ⊗ ⊡ ⊿ | ⊛Search ⊞Favorites ⊛Media ⊛ | ⊟▾ ⊜ ⊠ ▾ ⊟ ⊌

The Reconciliation Report

Account: Skylar_Refco (12345)   **FCM:**   Refco (1)
Date: 2004-01-21

Orders Confirmation

Date	Long	Short	Contract	Price	Currency	Status
all confirmed						

Open Position

Date	Long	Short	Contract	Price	Currency	Status
2004-01-21		2	F.US.ENQH04	1446.50	USD	EXTRA TRADE
2004-01-21		1	F.US.ENQH04	1477.00	USD	EXTRA TRADE
2004-01-21		1	F.US.ENQH04	1477.50	USD	EXTRA TRADE
2004-01-21		2	F.US.ENQH04	1496.50	USD	EXTRA TRADE
2004-01-21		2	F.US.ENQH04	1528.50	USD	EXTRA TRADE

Adjustments and Commisions

Date	Amount	Currency	Type	Status
all confirmed				

Account Balance

Currency	Local Amount	Trading Server Amount
USD	0.00	118459.23

The reconciliation report is available if your FCM sends daily statement data to CQG. Your daily reconciliation reports will be similar to the one above, but the exact layout and information included may vary slightly, depending on the FCM and the data they send.

To view the report, you must display the **Account Pane** with the **by Date** tab selected. If a reconciliation report is available, a checkmark appears on the document icon.

Reconciliation
Report Available
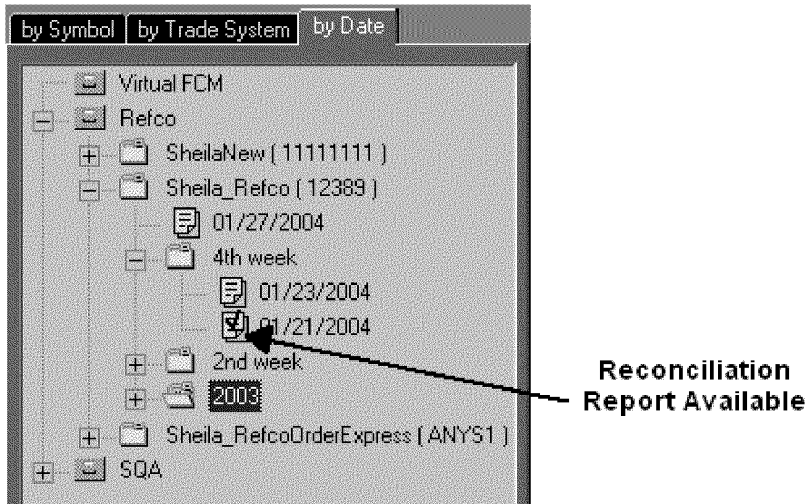
To display the report:

Right click on the date next to the check marked icon.

From the dropdown menu that appears, select ***Reconciliation Info***.

The reconciliation report is displayed in a browser window.

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DOMTrader

The DOMTrader Window

The DOMTrader window brings a new look and feel to CQG, adding two user interfaces for placing orders: the main DOMTrader window and the HeadsUp display. The DOMTrader window provides more than one way to place an order. You can use just the keyboard, just the mouse, or use a combination of both of them. You can still place orders using the Order window or from a Chart menu using the Place Order selection in the right menu.

Opening DOMTrader with the DOMTrd Button

DOMTrd

Left click on the **DOMTrd** button to launch the DOMTrader.

Right click on the **DOMTrd** button to either close a DOMTrader window or to launch another DOMTrader window.

If the **DOMTrd** button is not displayed on the application toolbar, you can add it by doing the following:

Left click on the **Setup** button.

Select Customize Toolbar.
        This displays the *Toolbar Manager* dialog.

Select the >>> button in the **Add/Remove column** in the **Chart, Quote, News...** row.

Select **DOMTrd** in the button column.

Left click on the **Close** buttons on the *Customize Application Toolbar* and *Toolbar Manager* dialogs.

Left click on the **DOMTrd** button to display the DOMTrader..

Understanding the DOMTrader Window
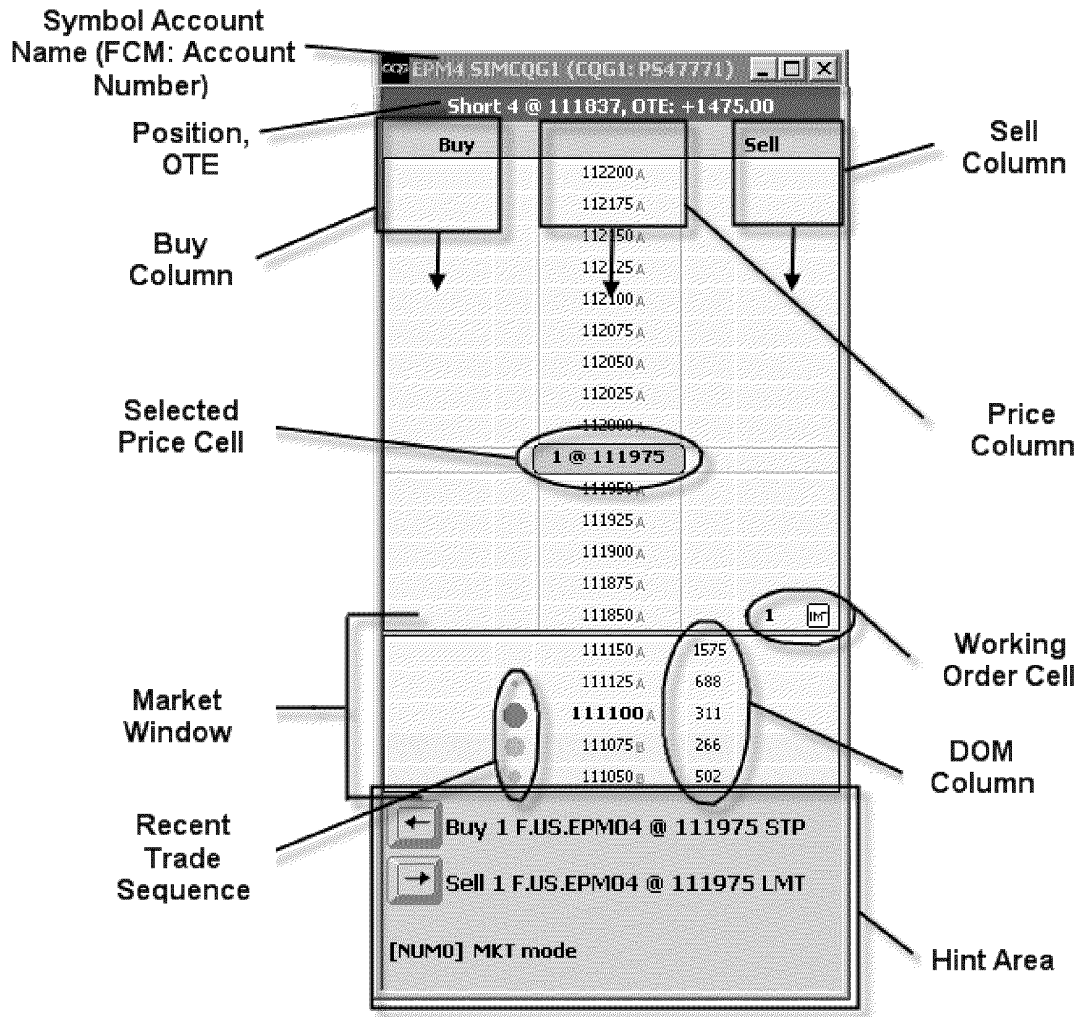
The items in the illustration above are described in order from top to bottom:

Symbol Account Name (FCM: Account Number)

The DOMTrader Title bar displays the current Symbol and account name, and in parenthesis, the FCM: Account Number.

Position, OTE

DOMTrader displays the current position and Open Trade Equity (OTE) for the selected symbol and account just below the DOMTrader window title bar. If there is no position for this account yet, the display says, "No position."

Sell Column

The **Sell** column is one of the outside columns on the DOMTrader window. You set whether the **Sell** column is on the left or right side of the Price column using the Trading Preferences dialog box. The **left** or **right arrow** key in the **Hint Area** that is labeled **Sell** points toward the Sell column.

Buy Column

The **Buy** column is one of the outside columns on the DOMTrader window. You set whether the **Buy** column is on the left or right side of the **Price** column using the Trading Preferences dialog box.. The **left** or **right** arrow key in the **Hint Area** that is labeled **Buy** points toward the Buy column.

Price Column

The middle column of the DOMTrader window contains price information, and indicates whether the most recent activity at that price was a Ask (A) or Bid (B).

Selected Price Cell

The price cell that is currently selected is the Selected Price cell. DOMTrader indicates the Selected Price Cell by placing a large, round-cornered rectangle over the price cell. The selected price cell also displays the current default quantity for the order and an @ sign.

Working Order Cell

When an order has been sent to an exchange from DOMTrader, and DOMTrader has received acknowledgement for the order from the exchange, but it has not been filled yet, the order information (the quantity and an icon representing the type of order) is displayed in the Buy or Sell column. That cell is called the Working Order Cell. You may have several working order cells at a time in the DOMTrader window.

Market Window

When you scroll to a price that is far enough from the current market value that the current market value would normally scroll off the screen, DOMTrader displays the Market Window above or below the selected price. Every time the current market price changes, the Market Window re-centers the market price row so it is always in the middle of this window. You cannot place orders in this portion of the DOMTrader window, but you can left-click on a price cell in the Market window to immediately jump to that price, and close the Market Window.

DOM Column

In the column immediately to the right of the price column, DOMTrader displays the Depth of Market for the price.

Recent Trade Sequence

The column to the immediate left of the Price column is the Market Flow column. It displays circles of varying size that indicate which prices have been most recently active. The most recently active price has the largest circle next to it, and is the darkest color. As the circles get smaller, they mark prices that were active further in the past.

Hint Area

At the bottom of the DOMTrader window, DOMTrader displays 2 or 3 rows of context-specific information about the actions that are possible in this particular mode, and what the result might be. For example, **[Num 0] MKT Mode** indicates that if you press the **0** key on the numeric keypad, you'll put DOMTrader in Market Mode.

Understanding System Modes in DOMTrader

It is important to pay attention to the mode your DOMTrader is in when you place an order because it affects how an order is filled.

Market Mode – When DOMTrader is in Market Mode, the cursor moves up or down as the market moves up and down in a liquid market. You can put DOMTrader into market mode by pressing the **0** key on the numeric keypad. This moves the price selector to the current market price. When DOMTrader is in Market Mode the hint area shows you what would happen if you pressed the **Sell** or **Buy** key. If you press the **Sell** key or **Buy** key, you would place a market order that will be filled with the best Bid or Ask price.

Place Order Mode - DOMTrader is in Place Order mode when the Price column is active and selected, and the selected price is higher or lower than the current market price. The hint area displays information about what will happen if you press the **Sell** key or **Buy** key -- you would place a limit or stop order. The **[NUM0] MKT** mode message is a reminder to press the **0** key on the numeric keypad to return the price selection to the current market value and place the DOMTrader in Market Mode.

Browse Order Mode –In Browse Order Mode, you can browse through the working orders in DOMTrader. Place DOMTrader in Browse order by mode pressing the **CTRL** key . The cursor moves to the nearest Working Order. Press the UP or Down arrow to move to the next nearest Working Order. While in Browse Order mode, press the **Space** bar to view the order details window. To close the order details window, move the mouse.

Modify Order Mode – When DOMTrader is in Modify Order mode, you can change the quantity and symbol for a working order. This is a sub-mode of Browse Order Mode that is active only while you are modifying an order. If you select the Buy or Sell cell for an existing order and then enter a new quantity using the numeric keypad, the price selector and rectangle around the Send Order symbol changes color.

Setting DOMTrader Preferences

You can customize the DOMTrader to look and behave like you want it to using the Trading Preferences dialog. You can select the Buy key, enable Fast Click Mode, specify settings for each symbol, specify sound files to notify you of events, set expected timings for activities, change the font, and view help for Key Actions.

To set DOMTrader Preferences:

You must have the ***DOMTrader*** window open and selected.

Left click the **Setup** button.

Choose ***DOMTrader Preferences***.

The ***Trading Preferences*** dialog appears.

This dialog has 4 tabs: **Order Position settings**, **Notifications, Display Configuration**, and **Key Action Help**.

Order Position Settings
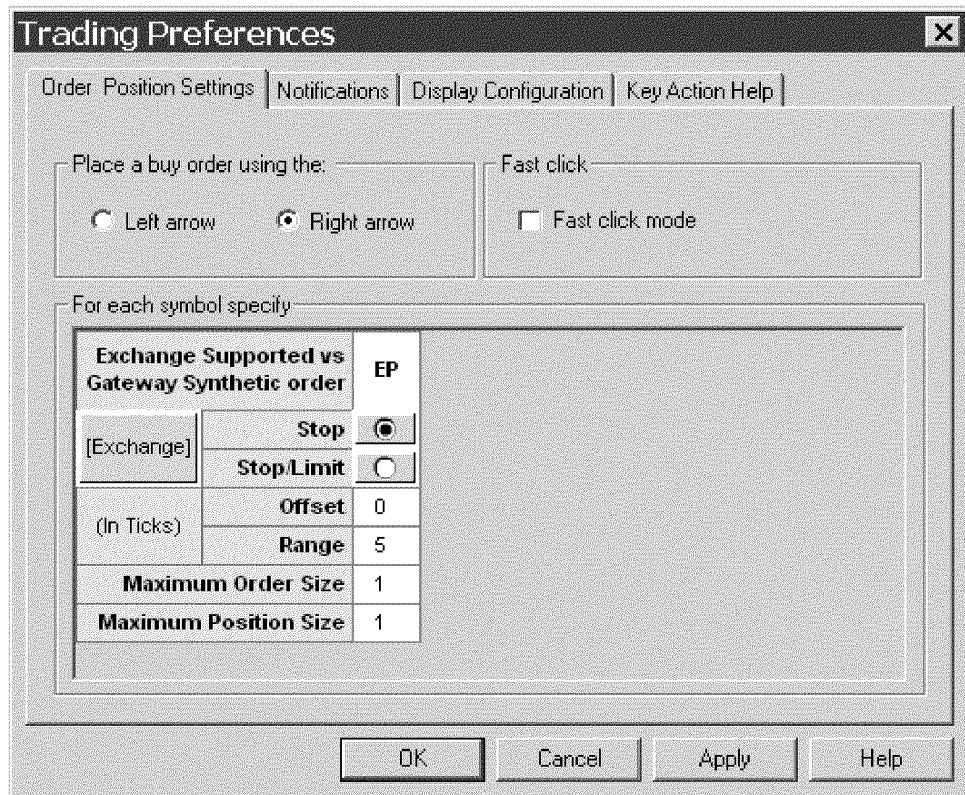
The Order Position Settings allows you to select the buy and sell order keys in DOMTrader, turn on or off the Fast Click Mode, and define settings for each symbol.

Select either **Left arrow** or **Right arrow** to act as the **Buy** button in DOMTrader. By default, the **Right arrow** key places a buy order, and the **Left arrow** key places a sell order.

When the **Fast Click Mode** checkbox is selected, the ability to place a Limit order with a single click is turned on.

In the **For Each Symbol box**, you can change the default settings for each symbol you trade. Even if an exchange does not support Stop or Stop/Limit orders, the CQG gateway can create those order types. In the **For each symbol specify box**, order types that are accepted by the exchange for a given symbol display a peach rectangle round the selection button. If the button is displayed against a white rectangle, it is not supported by the exchange, and a synthetic order will be used to place that type of order on this exchange.

Exchange

Select **Stop** or **Stop/Limit** for each symbol listed. This sets the default action when you use the keyboard to place a buy or sell order.

Once the default is set, you can still place the order type you did not select by pressing **ALT+ Left** or **Right Arrow** key.

In Ticks

Offset - sets the number of ticks between the stop and limit prices on stop limit orders.

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Range – Sets the threshold in number of ticks for a warning which will be given if orders are placed above the current market, or sell orders are placed below the market.

Notifications
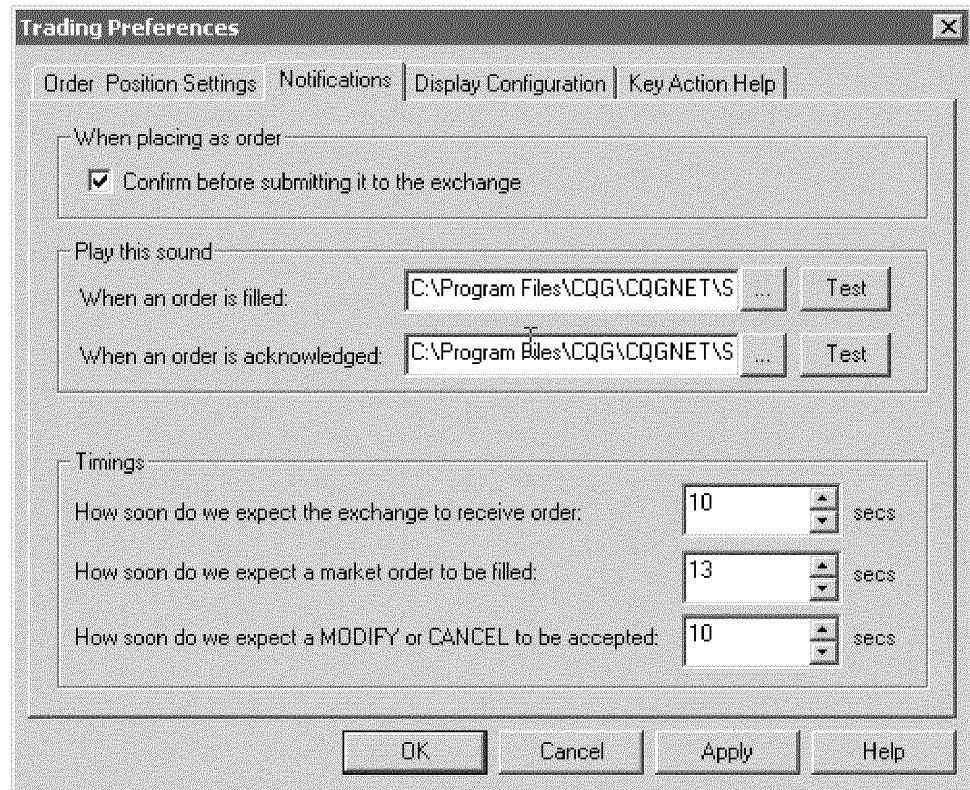
The Notifications dialog allows you to select the interactions you want to have with DOMTrader when orders are placed, filled, and acknowledged. You can also set the expected timings for orders to be received, filled, modified, or cancelled.

To show a confirmation dialog before an order is submitted to the exchange, be sure there's a check mark in the **Confirm before submitting it to the exchange** check box. If you don't want to see the confirmation dialog, clear the check box.

DOMTrader can notify you when an order is filled or acknowledged by playing a sound, if you wish. You can select different sounds for each event, set a sound file for only one event, or leave both blank. Several sound (.wav) files are included with CQG, or you may select a .wav file from another source.

To select sound files for DOMTrader to play when an order is filled or when an order is acknowledged:

Left click on the **...** button that is next to the text box for the event you want to be notified about.
The Select Audio File dialog is displayed, with the sound files that are installed with CQG displayed.

Select a .wav file.

Left click the **Open** button.

Left click the **Test** button to hear the sound file.

This dialog also allows you to set the Timings for events. (Why would you need to do this?)The default values are filled in when you first open the dialog.

To change the values for Timings:

Type the new numbers in or scroll to the new number by clicking on the up or down arrows.

Display Configuration
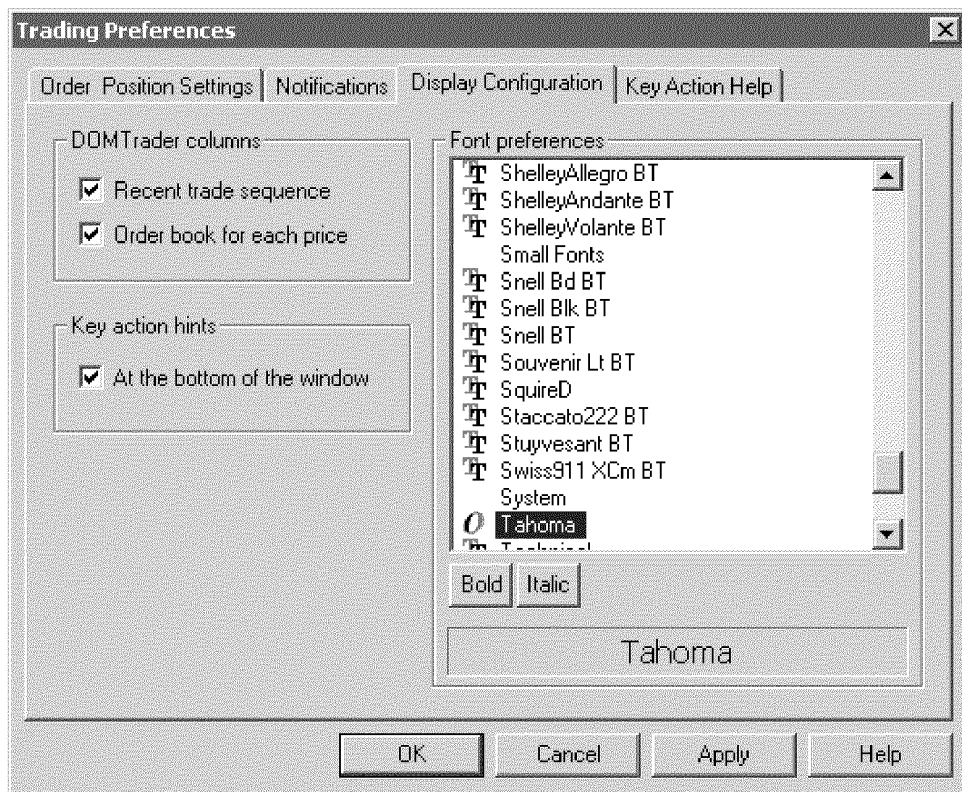
DOMTrader Columns turns on or off the display of the circles that represent the recent trade sequence, and the Depth of Market for each price based on the order book . In addition, you can set your font preferences in this tab.

To display the recent trade sequence circles in your DOMTrader window:
Select the **Recent trade sequence** checkbox.

To display the Depth of Market for each price, based on the order book:
Select the **Order book for each price** checkbox.

To display the key action hints in the Hint Area of the DOMTrader window:
Select the **At the bottom of the window** checkbox.

To change the font preference and font style (Bold or Italic):
Select the **Font** you want to see in the DOMTrader window.
Left click the **Bold** button to change the font style to bold.

Left click the **Italic** button to change the font style to italic.

The font can be both bold and italic. A sample of the font you've selected and the style(s) you've applied is displayed beneath the **Bold** and **Italic** buttons.

Key Action Help
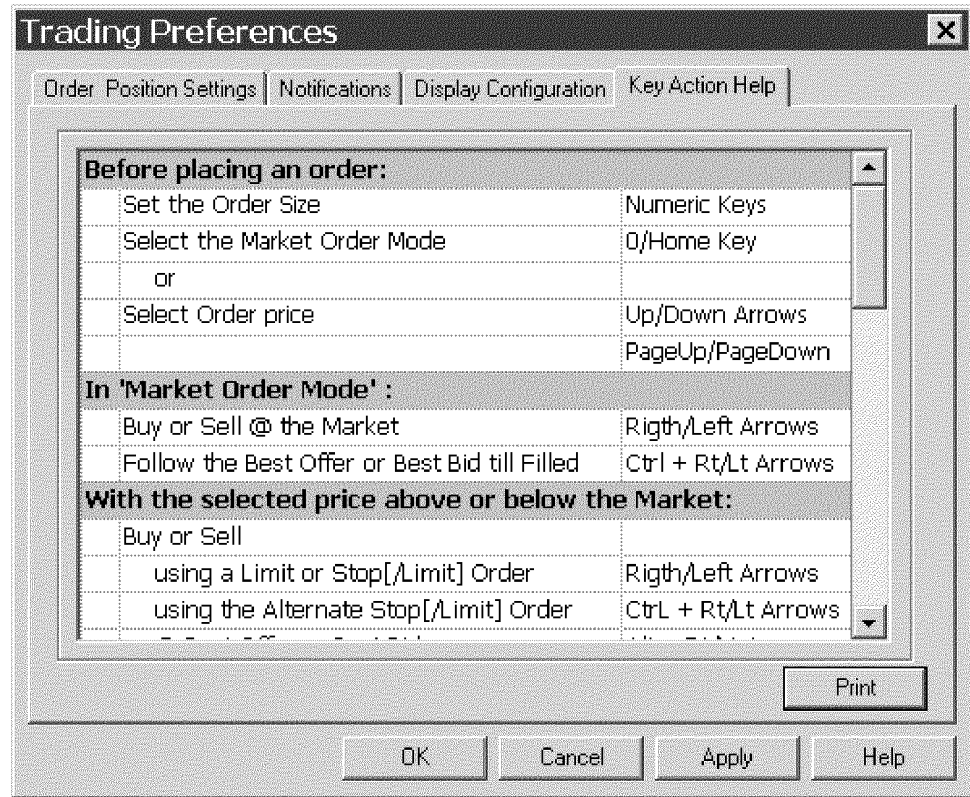
The Key Action Help tab displays information about the keyboard actions available in the DOMTrader.

To print the contents of this tab, *left click* on the **Print** button.

The *Print* dialog appears, giving you the option to select a printer, save the contents to a file, and so forth.

Placing an Order using the DOMTrader Window

The DOMTrader window provides more than one way to place an order. You can use just the keyboard, just use the mouse, or use a combination of both of them. All orders placed using the DOMTrader window have day duration. GTC orders can be placed using the HeadsUp display.

Generally, the process of placing an order in DOMTrader is:

- *Select* the Account.

  - Right click on the Account in the title bar of DOMTrader or in the Trade Value Box on the chart.

  - *Select* the account from the drop down list.

- *Select* the contract.

  - Change the symbol on the current chart, or In DOMTrader, type new symbol while DOMTrader window is active.
- Set the order size by typing a quantity on the numeric keypad.
- Place DOMTrader in Market Order Mode (press **o** on the numeric keypad) to place a market order, or *left click* on a price to select it as your order price.
- Place the order using the keyboard, HeadsUp Display, or single click.

Detailed instructions for each method appear in separate topics.

Changing the account on the DOMTrader Window
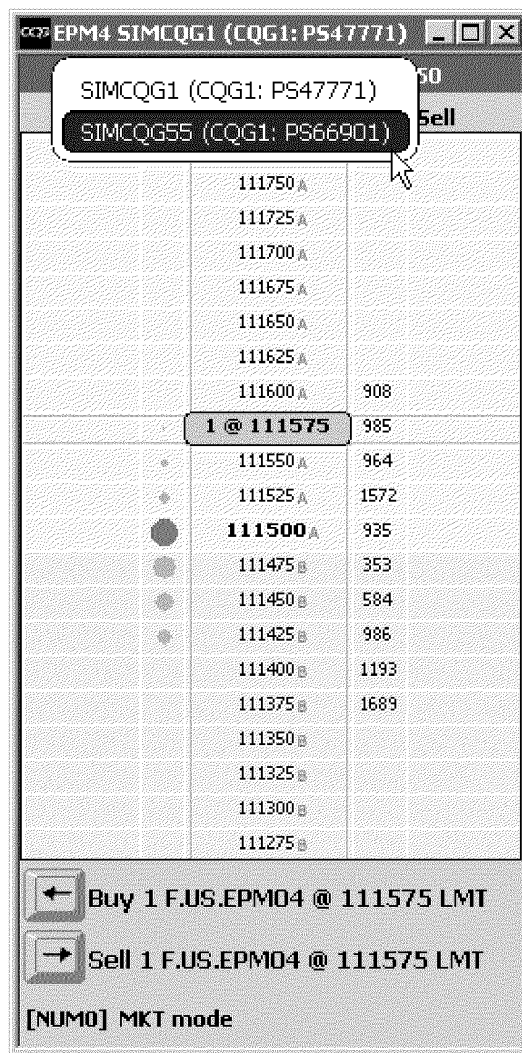
To change the account on the DOMTrader window:

Right click on the current account information in the DOMTrader window's title bar.
All the accounts for the current login are displayed in a dropdown list.

Select the account by dragging the mouse until the account is selected.

When you release the mouse button, the selected account is displayed in the title bar.

Placing an Order from the DOMTrader window using drag and drop

Placing an order using the mouse is as easy as dragging and dropping a price:

Set the quantity using the number keypad on your computer.

The number appears on the selected price indicator.

Left click on the price you want and *drag* it to the buy or sell column.

The **Hint** area displays the selected price next to the buy and sell buttons.

Drop the item when the cursor is in the buy or sell column.

If the order information is correct, and you want to proceed with placing the order,
left click **OK**.

The dialog closes, and the working order icon is placed in the buy or sell column, indicating the order is being processed.

The location of the price you select relative to the market value, combined with the column into which you drop the price, determines the type of order DOMTrader will submit, as described in the following table.

Note: The price of a working order does not necessarily correspond to the cursor position at the time of the action, because the market may change before the exchange receives the order.

Selected Price is	Dropped in Sell Column	Dropped in Buy Column
Equal to Market Price	DOMTrader submits a Sell Market Order	DOMTrader submits a Buy Market Order.
Higher than Market Price	DOMTrader submits a Sell Limit Order	DOMTrader submits a Buy Stop or Stop/Limit Order (depending on the setting in the Trading Preferences dialog).
Lower than Market Price	DOMTrader submits a Sell Stop Order	DOMTrader submits a Buy Limit Order (depending on the setting in the Trading Preferences dialog).

Watch the cursor as you move it around the DOMTrader window. As you drag it toward a column, it changes to an arrow, indicating the current direction it's moving, and the future action that it would create. When you drop the price in the buy or sell column, the quantity and order type icon appear in the buy or sell column.

Placing an Order from the DOMTrader window using a Single Click

In the DOMTrader main window, you can place orders with just a single click if Fast Click is activated in the Trading Preferences dialog.

To activate Fast click:

You must be logged into the CQG Gateway.

With the ***DOMTrader window*** active, ***left click*** on the **Setup** button.

Select DOMTrader Preferences.

Select Fast click mode on the **Order Position Settings** tab.

To Place a Limit Buy order:

Left click on the Buy Column.
>If the Buy cell is not empty, the existing order is selected, and no new order is placed.

Left click on **OK** to place the order.
>The order is placed and the price selection moves to the price at which the order was placed.
>Or

Left click on the column that is next to the Buy column (depending on your setup, this will be either the DOM or Market Flow column).

Left click on **OK** to place the order.
>The order is placed and the price selection moves to the price at which the order was placed.

To place a Limit Sell Order:

Left click on the Sell column.
>If the Sell cell is not empty, the existing order is selected, and no new order is placed

Left click on **OK** to place the order.
>The mode is switched to browse mode.
>Or

Left click on the column that is next to the Sell column (depending on your setup, this will be either the DOM or Market Flow column).

Left click on **OK** to place the order.
>The mode is switched to browse mode.

Placing an Order from the DOMTrader Window using the Keyboard

The general process for placing an order in the DOMTrader is:

After an order is placed, the **Sent Order Symbol** appears in the **Sell** or **Buy** column. The symbol changes to **Working** after the exchange acknowledges the order. When the order is filled, the **Working Order** symbol is replaced by the **Filled Order** symbol.

Placing Buy Orders

Note:	The price associated with the order placed does not necessarily correspond to the best bid position at the time of action because the market and DOM data may change before the exchange receives the order.

To Place this Type of Order	With these conditions	Press Keys (Default Key Mapping)
Buy Market Order	System is in Market Mode	Buy Key (Right Arrow Key)
Buy Limit Order	System is in Place Order Mode, target price is selected, and it is lower than or equal to the market price.	Buy Key (Right Arrow Key)
Buy Stop Order	System is in Place Order Mode, target price is selected, and it is greater than the market price.	Buy Key (Right Arrow Key)
Buy Stop-Limit Order	System is in Place Order mode, target price is selected, and the price is greater than the market price.	Mod1+Buy Key (CTRL+Right Arrow Key)
Buy Best Offer Order	System is in Place Order mode, target price is selected.	Mod3+Buy Key (Alt+Right Arrow Key)

Placing Sell Orders

NOTE: The price associated with the order placed does not necessarily correspond to the best ask position at the time of action because the market and DOM data may change before the exchange receives the order.

To Place this Type of Order	With these conditions	Press Keys (Default Key Mapping)
Sell Market Order	System is in Market Mode.	Sell Key (Left Arrow Key)
Sell Limit Order	System is in Place Order Mode, target price is selected, and it is greater than or equal to the market price.	Sell Key (Left Arrow Key)
Sell Stop Order	System is in Place Order Mode, and the selected price is lower than the market price.	Sell Key (Left Arrow Key)
Sell Stop-Limit Order	System is in Place Order mode, target price is selected, and the price is lower than the market price.	Mod1+Sell Key (CTRL+Left Arrow Key)
Sell Best Offer Order	System is in Place Order mode, target price is selected.	Mod3+Sell Key (Alt+Left Arrow Key)

Understanding DOMTrader Order Symbols

The main DOMTrader window uses graphics to help you keep track of orders. The DOMTrader symbols are shown and described in the topics, below.

Limit Order Symbol

The symbol for a Limit Order is a white rectangle with black letters LMT.

Stop Order Symbol

The symbol for a Stop Order is a red stop sign with the white letters STP.

Stop Limit Order Symbol

The symbol for a Stop Limit Order is a white rectangle that contains a red stop sign.

Market Order Symbol

For a Market Order, there is no symbol in the buy or sell column. You just see the quantity displayed in black text in the appropriate column.

Stacked Orders Symbol

Stacked orders are multiple working orders (possibly of different types) placed on the same side of the market for the same price. The symbol for stacked orders is the order icon of the type of order most recently placed at this price with yellow shading, showing the total quantity of all orders in the stack in black text. The most recent order placed in the example was a limit order, so that's what's showing on top of this stack.

To view the orders that make up the stack:

Select the orders' price.

Press the **Plus (+)** key on your numeric keypad.

The unstacked orders are displayed, like this.

To re-stack the orders:
Press the **Minus (—)** key on your numeric keypad.

Working Order Symbol
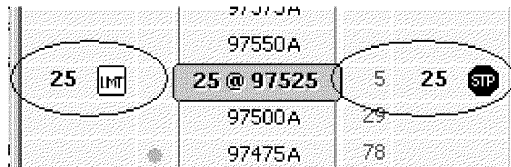
A Working Order is an order that has been sent to the exchange, and is being placed in the Exchange book. The order is visually represented with the appropriate order icon and the quantity text in black.

Modified Order Symbol

A Modified Order is an order that was placed earlier, but now the price or quantity is being modified. Before the change is sent to the exchange, the order is visually represented by the appropriate order icon, and the quantity text is black with white shading on a green background and price text is black with white shading on a green background.

Sent Order Symbol
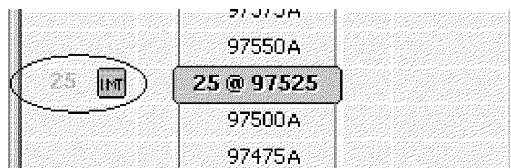
This symbol represents a Sent Order, which may be a canceled order, a brand new order that has just been sent to the exchange, or a modified order after modifications have been sent, but before the CQG client receives acknowledgement from the exchange. A Sent Order is visually represented by a grayed order icon and quantity text is gray.

Filled Order Symbol

An order becomes a Filled Order after the CQG Server receives notification from the exchange that the order has been filled. A Filled Order is visually represented by the quantity text in black, followed by the word "filled" and the checkmark icon.

Canceled Order Symbol

An order becomes a Canceled Order after the CQG Client receives acknowledgement from the exchange following a cancel order. A Canceled Order is visually represented by the quantity text in red with a strikethrough effect.

Rejected Order Symbol

An order becomes a Rejected Order after the CQG Client receives a rejection from the exchange or from the order entry system. A Rejected Order is visually represented by red strikethrough quantity text that blinks 3 times, and then fades out.

Partially Filled Order Symbol

A Partially Filled Order is a Working Order with only some of the requested quantity filled. This is visually represented by black quantity text for the working orders and gray text in parenthesis for the filled quantity followed by the order Icon

Modifying Working Orders

You can modify a working order's price or quantity.

To change a Working Order's quantity:

Left click on a **Working Order Symbol** in the Buy or Sell column.
    Notice that the Hint area indicates you can use the number pad to enter a new quantity, or press the **Delete** key to cancel the order.

Enter a quantity using the numeric keypad.
    The DOMTrader is in Modified Order mode, as indicated by the different color (green, by default) rectangles around the price and Working Order symbol.

Press **Enter** to apply the change, or press **ESC** to **cancel** the change.

Left click **OK** to place the order.

To modify a working order's price:

Left click on a working order's symbol.

Press **CTRL**.
> The DOMTrader is in Modified Order mode, as indicated by the different color (green, by default) rectangles around the price and Working Order symbol.

Drag it to the new price and drop it.

The *Confirm* dialog appears.

Left click on **OK** to apply the change.

Canceling Working Orders in DOMTrader

There are several ways to cancel working orders in DOMTrader.

Canceling Working Orders Using the Mouse

Select the working order cell.

Drag the order cell off the window.
> When the cursor goes off the window, the cursor changes to indicate that if the order is dropped, the order will be canceled.

Canceling Working Orders Using the Keyboard

Left click on the cell that represents a working order.

Press the **Del** or **Delete** key.
> The canceled order appears, and then fades out in 2 to 3 seconds.

What is the HeadsUp display?

The HeadsUp display is a new user interface you can use to place orders from a chart, or from the DOMTrader main window. The HeadsUp display gives you a fast, easy way to place orders from a Chart or DOMTrader window, if you are authorized to trade in CQG. Using the HeadsUp display, you can place GTC orders. (In the DOMTrader window, you can place only day orders.)

Trading is allowed from all chart types except the Percent Bar and Yield, due to price scale. If more than one contract was specified for a chart, trading will not be allowed. You will be allowed to use the HeadsUp display on a chart with an analog study applied if the foreground contract is a single symbol. In that case, the foreground symbol will be used.

The transparent HeadsUp display is overlaid on the DOMTrader main window, or on a chart. It uses the same color-coding conventions as the buttons in the Order window – by default, Sell actions are red, and Buy actions are green. The HeadsUp display submenu options are shown as smaller circles connected to the main menu circles for order types that offer additional choices.
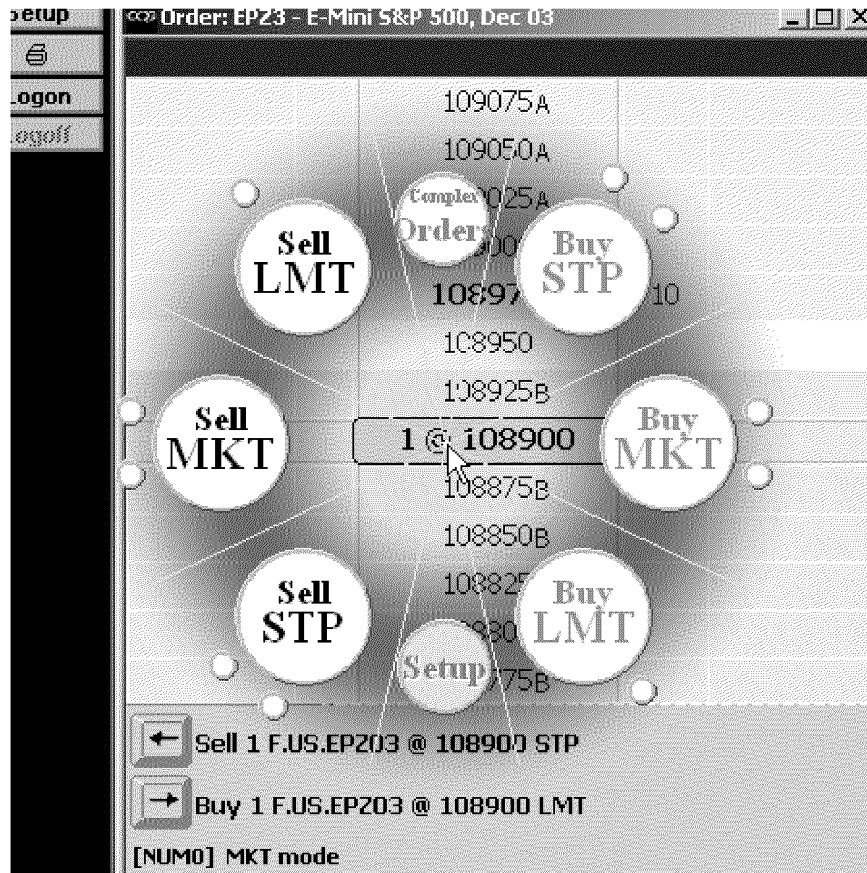
Displaying the HeadsUp Menu

The *HeadsUp* display is a transparent menu that is displayed on top of the DOMTrader main window or on top of a chart. Using the HeadsUp display, you can place orders for the selected account without leaving the chart window. Sell actions are indicated by their red color. Buy actions are colored green. Complex orders and Setup actions are blue.

To display the HeadsUp display from the DOMTrader window:

Right click on a cell in the price column. The HeadsUp display will appear as long as you hold the mouse button down.

To display the HeadsUp display from a Chart window:

You must have the **H** button on your Chart toolbar, and it must be on. After the first time you log in to the Order Gateway, you will automatically have the HdsUp On/Off button on the Chart toolbar.

> **If the HdsUp On/Off button is not on your chart toolbar:**
>
> Log in to the Order Gateway. (Login in from the Order window, or in the DOMTrader window.)
>
> *Left click* on the **HdsUp On/Off button** to activate it.

The **Trading Value Box** is displayed on the chart.

CQG00000686

Enter the quantity for the order in the **Command Entry** box. (**Do not press Enter**, or you will change the interval of the chart.)

Right click anywhere in the chart.

The HeadsUp display appears.

If the chart window does not have any horizontal lines or horizontal cursors, a special *HeadsUp* display for price-independent orders is displayed. (One example of a price-independent order is a market order.) If a Horizontal Line is displayed on the chart, the HeadsUp display uses the price marked by the Horizontal Line closest to the current cursor as the price.

The Trading Value box
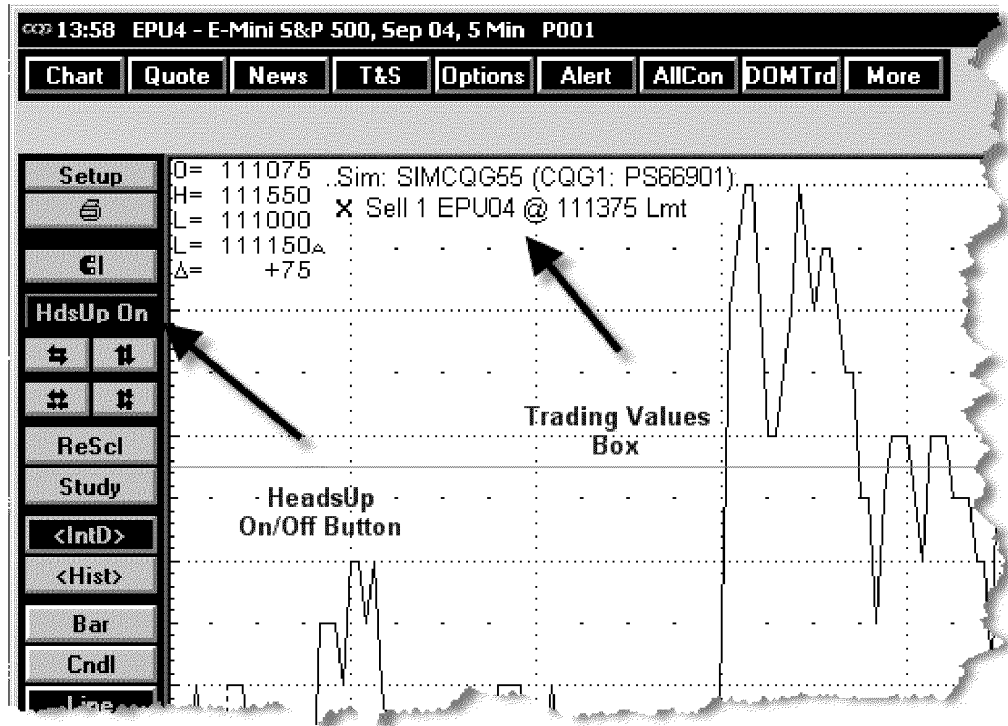
You can move the Trading Value box by clicking on it and dragging it to its new location. The Trading Value box cannot be resized manually. By default the box is displayed in the upper left corner of the chart window. If the daily value box is displayed, the Trading Value Box is displayed just to the right of it.

The Trading Value box displays the account name and account number, FCM name, and after a working order has been acknowledged by the exchange, working order information is displayed in this box. If there are no working orders, the message "No working orders" is displayed.

To change the account in the Trading Value box, and therefore, change **the account that will be used by HeadsUp:**

Right click on the account name in the Trading Value box.

Select the account you want to use from the list that is displayed.

The Trading Value box updates the information with the selected account information.

Placing an Order using the HeadsUp display
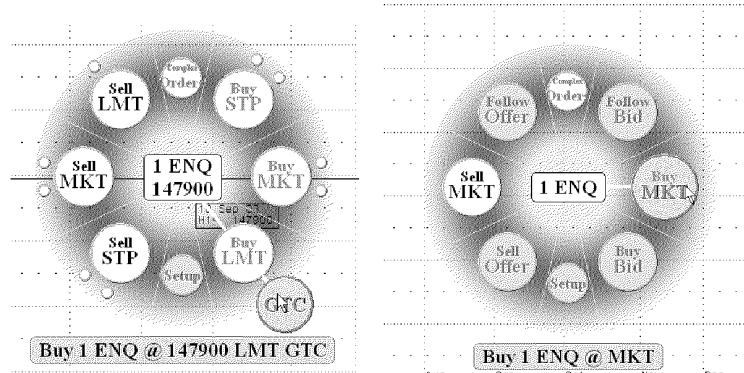
HeadsUp Displays selected from Chart with horizontal lines(left) and without horizontal lines (right).

The HeadsUp Display provides a very easy way to place an order. Once you've selected the symbol and quantity for your order, you right click to display the HeadsUp display, decide which order action you want to take, drag the mouse to the circle that represents that action, and release the mouse button.

To select the instrument and quantity.

In a *Chart* window, display a chart for the symbol and enter the quantity in the command entry box.

In a *DOMTrader* window, type in the symbol and use the numeric keypad to enter the quantity.

Opening *HeadsUp*

You can display the HeadsUp display from a chart or from the *DOMTrader* window.

To open HeadsUp from a Chart:

Make sure the **HdsUp On/Off button** is pressed in.

Right click on the chart and log into the Order Entry system, if you are not already logged in.

Right click on the chart and continue to hold the mouse button down.
The HeadsUp display appears.
If there is a horizontal cursor on your chart, the price shown in the HeadsUp Display will reflect that price, and will be used in the order you place.

If there is no horizontal cursor on the chart, but there is at least one horizontal line, the price from the horizontal line closest to the mouse when you right click will be used.

If there are no horizontal lines or cursors on your chart, a special HeadsUp display with no price is shown. This "price-independent" menu only allows you to place market orders, or you can select "complex orders" to open the Order window to place another order type.

When the *HeadsUp Display* first appears, the cursor is in the middle of the menu. If you release the mouse button, the HeadsUp display closes.

To open *HeadsUp* from DOMTrader:

Right click on the price and continue to hold the mouse button down.
    The HeadsUp display appears with the cursor in its center.

To Place an Order using HeadsUp:

Left click and drag the cursor towards the circle that represents the type of order
    you want to place.
    Some order types have submenu choices. If there are additional circles
    outside the main circles in the HeadsUp display, those are submenu choices.

Continue holding the mouse button down and drag the cursor onto the submenu
    circle.

Drag the cursor to the circle that describes the kind of order you want to place.
    For example, the Buy and Sell STP menu items have submenus for selecting
    Stop Limit orders.

To select a submenu option, drag the cursor to the submenu choice and release the
    mouse button.

Left click OK in the confirmation window to place the order.

Placing an Order from a Chart

You can place orders from a chart using the DOMTrader if you have working orders
listed in the Trading Value box. You can place orders from the HeadsUp display
whether you have working orders or not.

To display the DOMTrader window from a chart:

Left double click on a working order in the Trading Value box.
    The DOMTrader is launched with the same account name as in Trading Value
    box and the same symbol as the selected working order.

Place the order, as described in Placing an Order using the DOMTrader Window on
    page 3-11.

Canceling An Order from a Chart

You can cancel an order from a chart if the Trading Value box is visible on the chart
and you have working orders listed there. Working orders are listed in the Trading
Value box with a red 'x' symbol next to them.

Left click on the 'x' next to the order you want to cancel the order.
    The working order is removed from the Trading Value box.
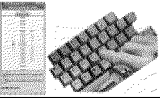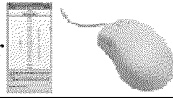
Order Placement Quick Reference

In DOMTrader, you have several different ways to place each type of order. You can:

• use the keyboard,

• use the mouse to drag and drop a price,

• if Fast Click is turned on, click on a column to place a Limit order, or

• right click to activate the HeadsUp display.

Quick Reference Table

DomTrader Order Placement Reference

Place this order type using	DomTrader + Keyboard	DomTrader + Mouse
Buy Market Order	Press 0 on the numeric keypad to place the DOMTrader in Market Mode. Press Buy.	N/A
Buy Limit Order	Select price <= market price. Press Buy.	Select price <= market price. Drag and drop price in Buy column. Or if Fast Click is turned on: Left click on an emtpy Buy column cell or in the cell next to the Buy column.
Buy Stop Order	Trading Preferences Order Position set to Stop. Select price > market price. Press Buy.	Select price > market price. Drag the price to the Buy column and drop it.
Buy Stop/Limit Order	SelecTrading Preferences Order Position set to Stop/Limit. Select a Price > market price. Press Buy.	Select a Price > market price. Drag the price to the Buy column and drop it.
Sell Market Order	Press 0 on the numeric keypad to place the DOMTrader in Market Mode. Press Sell.	N/A
Sell Limit Order	Trading Preferences Order Position set to Stop. Select price >= market price. Press Sell	Select price >= market price. Drag and drop price in Sell column. Or if Fast Click is turned on: Left click on an empty Sell column cell or on the cell next to the Sell column.
Sell Stop Order	Select price < market price. Press Sell.	Select price < market price. Drag the price to the Sell column and drop it.
Sell Stop/Limit Order	Select a Price < market price. Press Sell.	Select price < market price. Drag the price to the Sell column and drop it

Use the **CTRL** button when you press the Buy or **Sell** key to reverse the current Gateway Synthetic Order setting. For example, if the current setting is Stop/Limit, you can place a Buy Stop order by pressing **CTRL+Right Arrow**. You can set the **Left** or **Right** arrow to place Buy orders, so both keys are shown in the table. If you print out this table, highlight the correct arrow key on your machine for each function shown here.

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Exhibit P

Trading Tech v CQG

📁 **Vancil, Brian (Vol. 01) - 12/19/2012**　　　　　　　　　　　　　　　　　**1 CLIP (RUNNING 00:16:11.250)**

🎬 Vancil TT Affirmative Designations_02

　　BV-TT-AFF_02　　　　　　　**17 SEGMENTS (RUNNING 00:16:11.250)**　　　　　|||||||||||||||||||||||||||||

1. PAGE 10:05 TO 11:06 (RUNNING 00:02:02.897)

```
        05      Q     Okay.  I remember that language well.  Can
        06  you tell me what you -- can you describe for me your
        07  work history at CQG.
        08      A     I started as the controller for CQG in
        09  1986.  In 1988 I moved to London to help start the
        10  first international offices of CQG.  I headed up
        11  international operations while living in London for
        12  -- through -- through 1999.  I moved back to our
        13  headquarters in Denver in early 2000, and since then
        14  I've been responsible for relationships with
        15  financial exchanges, business relationships, and also
        16  for contracts with most of our customers and some
        17  suppliers.
        18      Q     When you moved back to Denver in 2000,
        19  what was your position at that time?
        20      A     At that time I was vice -- still vice
        21  president for international operations.
        22      Q     And has your title changed since you moved
        23  back?
        24      A     Yes.  About a year later we had a
        25  reorganization and that position was eliminated, so I
 00011:01  was -- I took over the roles I just described.
        02      Q     And was there a title associated with --
        03  with your position at that point?
        04      A     Vice president of exchange relations.
        05      Q     Do you still hold that position today?
        06      A     Yes.
```

2. PAGE 52:21 TO 53:03 (RUNNING 00:00:25.162)

```
        21      Q     Are there -- strike that.  Let me mark as
        22  Exhibit 2054 a document having production numbers CQG
        23  00002827 through 2838.
        24          (Exhibit Number PDX_CQG 30(b)(6)2054 was
        25          marked.)
 00053:01      Q     (BY MR. CARDEN)  I'd ask you to take a
        02  look at this document, Mr. Vancil, and tell me if you
        03  recognize it.
```

3. PAGE 53:04 TO 53:24 (RUNNING 00:00:59.143)

```
        04      A     Okay.  It's our standard CQG services
        05  agreement.  Which -- which version, I wouldn't be
        06  able to tell you without some investigation, but I do
        07  recognize that.
        08      Q     Okay.  And for the record, there's a cover
        09  -- a cover e-mail from a Maria Rodriguez to you; is
        10  that correct?
        11      A     Yes.
        12      Q     And dated 2002, 1/20 -- or January 25,
        13  2002, correct?
        14      A     Correct.
        15      Q     And any reason to believe you did not
        16  receive this document?
        17      A     Well, I don't recognize the e-mail format.
        18  I -- so I can't say whether I received it or not,
```

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　page 1

Trading Tech v CQG

```
19  but . . .
20      Q     Do you have any reason to believe that you
21  wouldn't have received an e-mail that was provided to
22  us by counsel as part of this litigation that has
23  your name on it?
24      A     Oh, I see what you mean.  No.
```

4. PAGE 56:10 TO 57:16 (RUNNING 00:02:17.935)

```
10      Q     (BY MR. CARDEN)  If you could look at
11  the -- the first paragraph of the agreement, and it
12  states, "This agreement dated as of the date executed
13  by the last party to execute this agreement is made
14  by and between CQG, Inc." and there's an address in
15  Denver "and the undersigned customer."
16          Is it CQG's standard practice to have the
17  services agreement between CQG, Inc. and the
18  customer?
19      A     It depends on the product that the
20  customer is subscribing to.  This -- this agreement
21  is normally used for the Integrated -- CQG Integrated
22  Client and its derivatives, and we have another
23  agreement, a CQG order routing services broker
24  agreement, that's used to establish a relationship
25  with an FCM for them to use our trading
00057:01  infrastructure for their customers.
02          And then for an end user who wishes to use
03  the CQGTrader application, we don't have a direct
04  relationship with them.  They -- so they simply click
05  on an agreement that we have built into our software.
06      Q     Okay.  For the purposes of the order
07  routing services broker agreement, is that the same
08  thing you referred to earlier as the FCM agreement?
09      A     That's correct.
10      Q     And what's the standard practice as to
11  which entity -- which CQG entity is a participant in
12  the order routing services broker agreement?
13      A     That's CQGT, LLC.
14      Q     And can you tell me what your
15  understanding of what CQGT, LLC is?
16      A     It's an entity that operates our --
```

5. PAGE 57:18 TO 57:20 (RUNNING 00:00:08.880)

```
18      A     -- order routing business.
19      Q     (BY MR. CARDEN)  Operates the order
20  routing business specifically with respect to FCMs?
```

6. PAGE 57:22 TO 58:03 (RUNNING 00:00:25.424)

```
22      A     Certainly with -- certainly with FCMs
23  and -- yeah.
24      Q     (BY MR. CARDEN)  Why -- why is the
25  services agreement we're looking at in Exhibit 2054
00058:01  with CQG, Inc. and the order routing services or FCM
02  agreement you referred to, why does that have CQGT as
03  a party instead?
```

7. PAGE 58:05 TO 58:13 (RUNNING 00:00:20.802)

```
05      A     Well, CQ -- CQG -- I'm sorry, say that --
06  please say it again.
07      Q     (BY MR. CARDEN)  Sure.  And let's just set
08  it up.  So you had stated that the CQG services
09  agreement is typically with CQG, Inc.
10      A     Right.
11      Q     The FCM agreement is typically with CQGT.
12      A     Right.
13      Q     Why is there that distinction?
```

page 2

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8. PAGE 58:15 TO 59:08 (RUNNING 00:01:31.984)

```
15      A       Well, the services agreement is
16  historically a document for the Integrated Client,
17  and before we had Trading products it was our
18  standard agreement for our market data services.  So
19  that agreement has carried on for market data
20  services, people who buy the Integrated Client
21  product, which is -- a significant portion of those
22  people are only interested in market data and have no
23  interest in trading, so we continue to use that
24  agreement.  And it's -- that's -- that product is run
25  by, for want of a better term, CQG, Inc.
00059:01          Then with the order routing side of the
02  business, we use CQGT, LLC or CQGT, LLC operates that
03  side, so we -- when we offer those services, CQGT is
04  a contractual party.
05      Q       Is CQGT also headquartered in Denver?
06      A       Yes.
07      Q       And do you have an understanding as to the
08  relationship between CQG, Inc. and CQGT, LLC?
```

9. PAGE 59:10 TO 59:22 (RUNNING 00:00:27.697)

```
10      A       CQGT is a wholly owned subsidiary of CQG,
11  Inc.
12      Q       (BY MR. CARDEN)  Now, you said the end
13  user wishing to use CQGTrader has no direct
14  relationship but enters through essentially a click
15  wrap agreement.
16      A       Correct.
17      Q       And is there a party -- a CQG party
18  identified in the click wrap agreement?
19      A       It's CQGT.
20      Q       Are you familiar with CQGI, Limited?
21      A       Yes.
22      Q       And what is CQGI, Limited?
```

10. PAGE 59:24 TO 60:01 (RUNNING 00:00:14.892)

```
24      A       It was set up in the late '80s to be the
25  entity that would operate our international
00060:01  operations, hence the letter I.
```

11. PAGE 96:24 TO 97:20 (RUNNING 00:01:19.186)

```
24      Q       And the preamble.  This is an agreement
25  between CQG, Inc., and the Caisse de Depot et
00097:01  Placement du Quebec, who is the customer.
02      A       Yes.
03      Q       Do you have knowledge as to where that
04  customer is actually located?
05      A       Well, it would be a wild guess to say
06  Quebec, but . . .
07      Q       Would it have been standard practice at
08  CQG at this time in 2003 for agreements with
09  customers in Canada to have gone through CQG, Inc. in
10  Denver?
11      A       Yes.
12      Q       And is it standard practice today for
13  agreements with customers in Canada to be with CQG,
14  Inc. in Denver?
15      A       Yes, for the -- these agreements, CQG
16  services agreements, that's right.
17      Q       Are there services agreements today that
18  are not with CQG, Inc. in Denver?
19      A       Yes, agreements that are with customers
20  outside of North America.
```

TT v. CQG (05-4811)   **PTX 2868.0003**

Trading Tech v CQG

12. PAGE 98:12 TO 98:19 (RUNNING 00:00:22.592)

```
12      Q      What about for Latin America and South
13 America?
14      A      We have very few customers there.  I
15 believe it's CQGI.  It could be CQG, Inc.  I'm not
16 quite sure.
17             THE REPORTER:  It could be what?
18      A      It could be either CQGI, Limited or CQG,
19 Inc. I'm not -- I'm not positive.
```

13. PAGE 100:03 TO 100:18 (RUNNING 00:00:53.022)

```
03      Q      (BY MR. CARDEN)  To the extent that any of
04 the agreements shown in Exhibit 2057 were actually
05 executed, you would expect them to be in Filebound?
06      A      Yes.
07      Q      Are the agreements that are executed
08 between the foreign entities and foreign customers
09 maintained in Filebound as well?
10      A      Yes.
11      Q      Let's mark as Exhibit 32 -- I'm sorry --
12 2058 a document having production numbers CQG 3258
13 through 3274.
14             (Exhibit Number PDX_CQG 30(b)(6)2058 was
15             marked.)
16      Q      (BY MR. CARDEN)  I'll ask you if you
17 recognize that document, Mr. Vancil.  And I think
18 we'll finish this one up and then we can break.
```

14. PAGE 100:19 TO 102:09 (RUNNING 00:02:12.310)

```
19      A      Okay.
20      Q      Do you recognize this document?
21      A      I don't recognize the e-mail.  The other
22 documents are standard documents and I recognize
23 them.
24      Q      You don't have any reason to believe that
25 on or about April 6, 2004, you sent the e-mail and
00101:01 the attachments?
02      A      No reason to believe that.
03      Q      And do you understand the remainder of
04 this document to be attachments that are referenced
05 on the first page in the e-mail?
06      A      Yes.
07      Q      Can you tell me what the -- what you
08 understand the document beginning on 3259 to be?
09      A      That's the CQG order routing service
10 broker agreement that we also called the FCM
11 agreement.
12      Q      And on the introductory e-mail you
13 reference it also has the standard Gateway agreement.
14 Is that additional terminology for this type of
15 agreement?
16      A      Yes.
17      Q      Now, in the order routing service broker
18 agreement starting on 3259, both CQG, Inc. and CQGI,
19 Limited are listed as parties.
20      A      Correct.
21      Q      Was that standard practice in 2004?
22      A      I believe so, yes.
23      Q      Is it standard practice today?
24      A      No.
25      Q      How -- tell me how the practice of which
00102:01 parties are listed in the preamble has evolved since
02 2004.
03      A      Well, sometime after this document, after
04 April of 2004 it was decided to form an entity of
```

Trading Tech v CQG

```
05  CQGT, LLC to operate the order routing business of
06  CQG.  And when that happened, the agreement was
07  changed so that CQGT was the contracting party rather
08  than CQG, Inc. and CQGI, Limited.
09       Q     And why was that decision made?
```

15. PAGE 102:11 TO 103:02 (RUNNING 00:00:34.212)

```
11       A     I don't know.  I wasn't involved in the
12  decision.
13       Q     (BY MR. CARDEN)  Is CQGT a party to all
14  order routing service broker agreements, at least
15  since it was instituted irrespective of the location
16  of the FCM?
17       A     Yes.
18       Q     And so where is CQGT located?
19       A     In Denver.
20       Q     Does it share offices with CQG, Inc.?
21       A     Yes.
22       Q     Does it share officers with CQG, Inc.?
23       A     I'm sorry?
24       Q     Does it share officers with CQG?
25       A     Officers?  I don't know.
00103:01      Q     Do you know who the officers of CQGT, LLC,
02  are?
```

16. PAGE 103:04 TO 103:14 (RUNNING 00:00:36.091)

```
04       A     I don't.
05       Q     (BY MR. CARDEN)  If you could look at the
06  page that begins on Page 3263, and that is titled
07  Schedule A Fee Schedule to CQG Order Routing Service
08  Broker Agreement.
09       A     Yes.
10       Q     Do you recognize that page?
11       A     Yes.
12       Q     And do you recognize that to be the terms
13  -- standard terms for CQG in the two thousand and --
14  or at least in the time frame of this agreement?
```

17. PAGE 103:16 TO 104:04 (RUNNING 00:01:19.021)

```
16       A     Yeah.  I -- I don't remember those terms,
17  but I have no reason to believe they were not
18  standard terms.
19       Q     (BY MR. CARDEN)  Do you have any
20  understanding as to how those -- that fee schedule
21  has evolved since 2004?
22       A     Well, I know it's evolved significantly.
23  Let's see.  So certainly the -- the fee schedule is
24  quite different -- or somewhat different today.  We
25  have -- we no longer have an ASP charge.  We just
00104:01  have a connection fee.  We have per user charges of
02  $25.  We have transaction charges of 25 cents a side
03  and so on.  I'm sure you have access to the current
04  fee schedules.
```

TOTAL: 1 CLIP FROM 1 DEPOSITION (RUNNING 00:16:11.250)

Exhibit Q

From: Josef Schroeter
To: Brian Vancil
CC: Tim Mather
BCC:
Other Recipients:
Subject: FW: TT patent applications
Date: 2003-05-02 20:49:32.000

Attachments:
United States Patent Application 20030023542.zip/United States Patent Application 20030023542.doc

Hi:

Here are the applications. This is a very serious threat to us if they are granted. We just found out about them.
Could you please set up a conference call with the patent attorney for next week. Particularly I am interested in

* what we can do at this point of the application process to dispute their patents; and
* the potential that these patents could be granted; and
* knowing what we could do to start our own application process to take an offensive approach to this issue

Please set something up asap.

Joe
-----Original Message-----
From: Ernie Popke
Sent: Friday, May 02, 2003 1:26 PM
To: Josef Schroeter
Subject: FW: TT patent applications

FYI

Ernie Popke
ep@cqg.com
-----Original Message-----
From: Ernie Popke [mailto:epopke@attbi.com]
Sent: Tuesday, April 29, 2003 8:10 PM
To: Ernie Popke
Subject: TT patent applications

TT v. CQG (05-4811)
PDX 2277
9/12/2013
Mather, Timothy
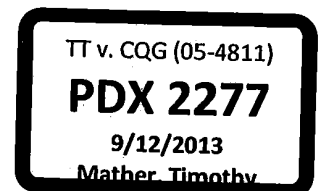
CQG00577959

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PTX 0280.0001

US Patent & Trademark Office
Patent Application Full Text and Image Database

United States Patent Application	20030023542
Kind Code	A1
Kemp, Gary Allan II ; et al.	January 30, 2003

Click based *trading* with intuitive grid display of *market depth*

Abstract

A method and system for reducing the time it takes for a trader to place a trade when electronically *trading* on an exchange, thus increasing the likelihood that the trader will have orders filled at desirable prices and quantities. The "Mercury" display and *trading* method of the present invention ensure fast and accurate execution of trades by displaying *market depth* on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently.

Inventors:	Kemp, Gary Allan II; *(Winnetka, IL)* ; Schluetter, Jens-Uwe; *(Evanston, IL)* ; Brumfield, Harris; *(Chicago, IL)*
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Assignee Name and Adress:	*Trading Technologies* International, Inc.
Serial No.:	237131
Series Code:	10
Filed:	September 9, 2002

U.S. Current Class:	705/37
U.S. Class at Publication:	705/37
Intern'l Class:	G06F 017/60

Claims

We claim:

1. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a

market, said method comprising: dynamically displaying a plurality of bids in the market for said commodity; dynamically displaying of a plurality of asks in the market for said commodity; and statically displaying prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

2. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, wherein said bids and asks are oriented vertically.

3. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, wherein said bids and asks are oriented horizontally.

4. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, wherein a plurality of said displayed bids and asks in the market include bid and ask quantities of the commodity.

5. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, wherein said bids and asks are displayed in different colors.

6. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, re-centering said prices corresponding to the bids and asks about an inside market price upon receipt of a re-centering instruction.

7. A method of displaying, on an electronic display device, the *market depth* of a commodity traded in a market according to claim 1, further comprising dynamically displaying entered and working orders in alignment with the prices corresponding thereto.

8. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market, comprising: a first program code for dynamically displaying a plurality of bids in the market for said commodity; a second program code for dynamically displaying of a plurality of asks in the market for said commodity; and a third program code for statically displaying prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

9. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed bids, asks and prices are oriented vertically.

10. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed bids, asks and prices are oriented horizontally.

11. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code to ensure that a plurality of bids and asks in the market include bid and ask quantities of the commodity.

12. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code to ensure that bids and asks are displayed in different colors.

13. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed prices corresponding to the bids and asks are re-centered about an inside market price upon receipt of a re-centering instruction.

14. A computer readable medium having program code recorded thereon for execution on a computer for displaying the *market depth* of a commodity traded in a market according to claim 8, further comprising program code for dynamically displaying entered and working orders in alignment with the prices corresponding thereto.

15. A graphical user interface for displaying the *market depth* of a commodity traded in a market, comprising: a dynamic display of a plurality of bids in the market for said commodity; a dynamic display of a plurality of asks in the market for said commodity; and a static display of prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

16. A graphical user interface according to claim 15, wherein said displays are oriented vertically.

17. A graphical user interface according to claim 15, wherein said displays are oriented horizontally.

18. A graphical user interface according to claim 15, wherein said displays of the pluralities of bids and asks in the market include bid and ask quantities of the commodity.

19. A graphical user interface according to claim 15, wherein said displays are displayed in different colors.

20. A graphical user interface according to claim 15, wherein said display of prices corresponding to the bids and asks is re-centered about an inside market price upon re-centering instruction from a user.

21. A graphical user interface according to claim 15, further comprising a display of entered and working orders displayed in alignment with the prices corresponding thereto.

22. A method of placing a trade order for a commodity on an electronic exchange, using a graphical user interface and a user input device and having preset parameters for trade orders, said method comprising: displaying the *market depth* of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; and initiating placement of a trade order of the commodity through a single action of the user input device initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks; wherein the contents of the trade order are based in part upon the preset parameters and the position of the pointer at the time of said single action.

23. A method of placing a trade order according to claim 22, wherein said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and wherein said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

24. A method of placing a trade order according to claim 23, wherein the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

25. A method of placing a trade order according to claim 23, wherein the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

26. A method of placing a trade order according to claim 23, wherein the trade order is for a quantity equal to a pre-determined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

CQG00577963

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PTX 0280.0005

27. A method of placing a trade order according to claim 26, wherein said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second pre-determined value if a single action of a second type is taken.

28. A method of placing a trade order according to claim 22, further comprising canceling said trade order in response to a subsequent single action of the user input device.

29. A computer readable medium having program code recorded thereon, for execution on a computer having a graphical user interface and a user input device and having preset parameters for trade orders, to place a trade order for a commodity on an electronic exchange, comprising: a first program code displaying the *market depth* of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; a second program code for initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks; and a third program code for setting characteristics of the trade order based in part upon the preset parameters and the position of the pointer at the time of said single action.

30. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 29, further comprising program code for establishing that said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and that said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

31. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

32. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

33. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a quantity equal to a pre-determined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

34. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 33, further comprising program code for establishing that said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second pre-determined value if a single action of a second type is taken.

35. A client system for placing a trade order for a commodity on an electronic exchange, the system comprising: a display device for displaying the *market depth* of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; a user input device for positioning a pointer thereof over an area in said dynamic displays of bids and asks and for initiating placement of a trade order of the commodity through a single action of the user input device; and a trade order characteristics setting component for setting characteristics of the trade order based in part upon preset parameters and the position of the pointer at the time of said single action.

36. A client system for placing a trade order for a commodity according to claim 35, wherein said trade

order characteristics setting component establishes that said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and that said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

37. A client system for placing a trade order for a commodity according to claim 36, wherein said trade order characteristics setting component establishes that the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

38. A client system for placing a trade order for a commodity according to claim 36, wherein said trade order characteristics setting component establishes that the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

39. A client system for placing a trade order for a commodity according to claim 36, wherein said trade order characteristics setting component establishes that the trade order is for a quantity equal to a pre-determined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

40. A client system for placing a trade order for a commodity according to claim 39, wherein said trade order characteristics setting component establishes that said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second pre-determined value if a single action of a second type is taken.

Description

PRIORITY

[0001] The present application claims priority to a U.S. Provisional Patent Application entitled "*Market Depth* Display Click Based *Trading* and Mercury Display" filed Mar. 2, 2000, the contents of which are incorporated herein by reference.

FIELD OF INVENTION

[0002] The present invention is directed to the electronic *trading* of commodities. Specifically, the invention provides a trader with a versatile and efficient tool for executing trades. It facilitates the display of and the rapid placement of trade orders within the market *trading* depth of a commodity, where a commodity includes anything that can be traded with quantities and/or prices.

BACKGROUND OF THE INVENTION

[0003] At least 60 exchanges throughout the world utilize electronic *trading* in varying degrees to trade stocks, bonds, futures, options and other products. These electronic exchanges are based on three components: mainframe computers (host), communications servers, and the exchange participants' computers (client). The host forms the electronic heart of the fully computerized electronic *trading* system. The system's operations cover order-matching, maintaining order books and positions, price information, and managing and updating the database for the online *trading* day as well as nightly batch runs. The host is also equipped with external interfaces that maintain uninterrupted online contact to quote vendors and other price information systems.

[0004] Traders can link to the host through three types of structures: high speed data lines, high speed communications servers and the Internet. High speed data lines establish direct connections between the client and the host. Another connection can be established by configuring high speed networks or

communications servers at strategic access points worldwide in locations where traders physically are located. Data is transmitted in both directions between traders and exchanges via dedicated high speed communication lines. Most exchange participants install two lines between the exchange and the client site or between the communication server and the client site as a safety measure against potential failures. An exchange's internal computer system is also often installed with backups as a redundant measure to secure system availability. The third connection utilizes the Internet. Here, the exchange and the traders communicate back and forth through high speed data lines, which are connected to the Internet. This allows traders to be located anywhere they can establish a connection to the Internet.

[0005] Irrespective of the way in which a connection is established, the exchange participants' computers allow traders to participate in the market. They use software that creates specialized interactive *trading* screens on the traders' desktops. The *trading* screens enable traders to enter and execute orders, obtain market quotes, and monitor positions. The range and. quality of features available to traders on their screens varies according to the specific software application being run. The installation of open interfaces in the development of an exchange's electronic strategy means users can choose, depending on their *trading* style and internal requirements, the means by which they will access the exchange.

[0006] The world's stock, bond, futures and options exchanges have volatile products with prices that move rapidly. To profit in these markets, traders must be able to react quickly. A skilled trader with the quickest software, the fastest communications, and the most sophisticated analytics can significantly improve his own or his firm's bottom line. The slightest speed advantage can generate significant returns in a fast moving market. In today's securities markets, a trader lacking a technologically advanced interface is at a severe competitive disadvantage.

[0007] Irrespective of what interface a trader uses to enter orders in the market, each market supplies and requires the same information to and from every trader. The bids and asks in the market make up the market data and everyone logged on to trade can receive this information if the exchange provides it. Similarly, every exchange requires that certain information be included in each order. For example, traders must supply information like the name of the commodity, quantity, restrictions, price and multiple other variables. Without all of this information, the market will not accept the order. This input and output of information is the same for every trader.

[0008] With these variables being constant, a competitive speed advantage must come from other aspects of the *trading* cycle. When analyzing the time it takes to place a trade order for a given commodity, various steps contribute in different amounts to the total time required. Approximately 8% of the total time it takes to enter an order elapses between the moment the host generates the price for the commodity and the moment the client receives the price. The time it takes for the client application to display the price to the trader amounts to approximately 4%. The time it takes for a trade order to be transmitted to the host amounts to approximately 8%. The remainder of the total time it takes to place an order, approximately 80%, is attributable to the time required for the trader to read the prices displayed and to enter a trade order. The present invention provides a significant advantage during the slowest portion of the *trading* cycle— while the trader manually enters his order. Traders recognize that the value of time savings in this portion may amount to millions of dollars annually.

[0009] In existing systems, multiple elements of an order must be entered prior to an order being sent to market, which is time consuming for the trader. Such elements include the commodity symbol, the desired price, the quantity and whether a buy or a sell order is desired. The more time a trader takes entering an order, the more likely the price on which he wanted to bid or offer will change or not be available in the market. The market is fluid as many traders are sending orders to the market simultaneously. It fact, successful markets strive to have such a high volume of *trading* that any trader who wishes to enter an order will find a match and have the order filled quickly, if not immediately. In such liquid markets, the prices of the commodities fluctuate rapidly. On a *trading* screen, this results in rapid changes in the price and quantity fields within the market grid. If a trader intends to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars. The faster a trader can trade, the less likely it will be that he will miss

his price and the more likely he will make money.

SUMMARY OF THE INVENTION

[0010] The inventors have developed the present invention which overcomes the drawbacks of the existing *trading* systems and dramatically reduces the time it takes for a trader to place a trade when electronically *trading* on an exchange. This, in turn, increases the likelihood that the trader will have orders filled at desirable prices and quantities.

[0011] The "Mercury" display and *trading* method of the present invention ensure fast and accurate execution of trades by displaying *market depth* on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently.

[0012] Specifically, the present invention is directed to a graphical user interface for displaying the *market depth* of a commodity traded in a market, including a dynamic display for a plurality of bids and for a plurality of asks in the market for the commodity and a static display of prices corresponding to the plurality of bids and asks. In this embodiment the pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto. Also described herein is a method and system for placing trade orders using such displays.

[0013] These embodiments, and others described in greater detail herein, provide the trader with improved efficiency and versatility in placing, and thus executing, trade orders for commodities in an electronic exchange. Other features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description. It should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 illustrates the network connections between multiple exchanges and client sites;

[0015] FIG. 2 illustrates screen display showing the inside market and the *market depth* of a given commodity being traded;

[0016] FIG. 3 illustrates the Mercury display of the present invention;

[0017] FIG. 4 illustrates the Mercury display at a later time showing the movement of values when compared to FIG. 3;

[0018] FIG. 5 illustrates a Mercury display with parameters set in order to exemplify the Mercury *trading* method; and

[0019] FIG. 6 is a flowchart illustrating the process for Mercury display and *trading*.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] As described with reference to the accompanying figures, the present invention provides a display and *trading* method to ensure fast and accurate execution of trades by displaying *market depth* on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to place trade orders quickly and efficiently. A commodity's *market depth* is the current bid and ask prices and quantities in the market. The display and *trading* method of the invention increase the likelihood that the trader will be able to execute orders at desirable prices and

quantities.

[0021] In the preferred embodiment, the present invention is implemented on a computer or electronic terminal. The computer is able to communicate either directly or indirectly (using intermediate devices) with the exchange to receive and transmit market, commodity, and *trading* order information. It is able to interact with the trader and to generate contents and characteristics of a trade order to be sent to the exchange. It is envisioned that the system of the present invention can be implemented on any existing or future terminal or device with the processing capability to perform the functions described herein. The scope of the present invention is not limited by the type of terminal or device used. Further, the specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While this describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.

[0022] The system can be configured to allow for *trading* in a single or in multiple exchanges simultaneously. Connection of the system of the present invention with multiple exchanges is illustrated in FIG. 1. This figure shows multiple host exchanges 101-103 connected through routers 104-106 to gateways 107-109. Multiple client terminals 110-116 for use as *trading* stations can then trade in the multiple exchanges through their connection to the gateways 107-109. When the system is configured to receive data from multiple exchanges, then the preferred implementation is to translate the data from various exchanges into a simple format. This "translation" function is described below with reference to FIG. 1. An applications program interface ("TT API" as depicted in the figure) translates the incoming data formats from the different exchanges to a simple preferred data format. This translation function may be disposed anywhere in the network, for example, at the gateway server, at the individual workstations or at both. In addition, the storage at gateway servers and at the client workstations, and/or other external storage cache historical data such as order books which list the client's active orders in the market; that is, those orders that have neither been filled nor cancelled. Information from different exchanges can be displayed at one or in multiple windows at the client workstation. Accordingly, while reference is made through the remainder of the specification to a single exchange to which a *trading* terminal is connected, the scope of the invention includes the ability to trade, in accordance with the *trading* methods described herein, in multiple exchanges using a single *trading* terminal.

[0023] The preferred embodiments of the present invention include the display of "*Market Depth*" and allow traders to view the *market depth* of a commodity and to execute trades within the *market depth* with a single click of a computer mouse button. *Market Depth* represents the order book with the current bid and ask prices and quantities in the market. In other words, *Market Depth* is each bid and ask that was entered into the market, subject to the limits noted below, in addition to the inside market. For a commodity being traded, the "inside market" is the highest bid price and the lowest ask price.

[0024] The exchange sends the price, order and fill information to each trader on the exchange. The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program or any other comparable mapping technique for mapping data to a screen. The physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art. The present invention is not limited by the method used to map the data to the screen display.

[0025] How far into the *market depth* the present invention can display depends on how much of the *market depth* the exchange provides. Some exchanges supply an infinite *market depth,* while others provide no *market depth* or only a few orders away from the inside market. The user of the present invention can also chose how far into the *market depth* to display on his screen.

[0026] FIG. 2 illustrates a screen display of an invention described in a commonly owned co-pending application entitled "Click Based *Trading with Market Depth* Display" Ser. No. _____, filed on _____, the contents of which are incorporated herein by reference. This display shows the inside market and the

market depth of a given commodity being traded. Row 1 represents the "inside market" for the commodity being traded which is the best (highest) bid price and quantity and the best (lowest) ask price and quantity. Rows 2-5 represent the "*market depth*" for the commodity being traded. In the preferred embodiment of the present invention, the display of *market depth* (rows 2-5) lists the available next-best bids, in column 203, and asks, in column 204. The working bid and ask quantity for each price level is also displayed in columns 202 and 205 respectively (inside market--row 1). Prices and quantities for the inside market and *market depth* update dynamically on a real time basis as such information is relayed from the market.

[0027] In the screen display shown in FIG. 2, the commodity (contract) being traded is represented in row 1 by the character string "CDHO". The Depth column 208 will inform the trader of a status by displaying different colors. Yellow indicates that the program application is waiting for data. Red indicates that the *Market Depth* has failed to receive the data from the server and has "timed out." Green indicates that the data has just been updated. The other column headings in this and all of the other figures, are defined as follows. BidQty (Bid Quantity): the quantity for each working bid, BidPrc (Bid Price): the price for each working bid, AskPrc (Ask Price): the price for each working ask, AskQty (Ask Quantity): the quantity for each working ask, LastPrc (Last Price): the price for the last bid and ask that were matched in the market and LastQty (Last Quantity): the quantity traded at the last price. Total represents the total quantity traded of the given commodity.

[0028] The configuration of the screen display itself informs the user in a more convenient and efficient manner than existing systems. Traders gain a significant advantage by seeing the *market depth* because they can see trends in the orders in the market. The *market depth* display shows the trader the interest the market has in a given commodity at different price levels. If a large amount of bids or asks are in the market near the trader's position, he may feel he should sell or buy before the inside market reaches the morass of orders. A lack of orders above or below the inside market might prompt a trader to enter orders near the inside market. Without seeing the *market depth,* no such strategies could be utilized. Having the dynamic *market depth,* including the bid and ask quantities and prices of a traded commodity aligned with and displayed below the current inside market of the commodity conveys the information to the user in a more intuitive and easily understandable manner. Trends in the *trading* of the commodity and other relevant characteristics are more easily identifiable by the user through the use of the present invention.

[0029] Various abbreviations are used in the screen displays, and specifically, in the column headings of the screen displays reproduced herein. Some abbreviations have been discussed above. A list of common abbreviations and their meanings is provided in Table 1.

1TABLE I Abbreviations COLUMN DESCRIPTION COLUMN DESCRIPTION Month Expiration Month/Year TheoBid Theoretical Bid Price Bid Mbr.sub.(1) Bid Member ID TheoAsk Theoretical Ask Price WrkBuys.sub.(2) Working Buys for entire Group QAct Quote Action (Sends ID individual quotes) BidQty Bid Quantity BQQ Test Bid Quote Quantity ThrshBid.sub.(6) Threshold Bid Price BQP Test Bid Quote Price BidPrc Bid Price Mkt BQQ Market Bid Quote Quantity Bid Qty Accum Accumulated Bid Quantity Mkt BQP Market Bid Quote Price BidPrc Avg Bid Price Average Quote Checkbox activates/deactivates contract for quoting AskPrc Avg Ask Price Average Mkt AQQ Market Ask Quote Quantity AskQty Accum Accumulated Ask Quantity Mkt AQP Market Ask Quote Price AskPrc Ask Price AQP Ask Quote Price ThrshAsk.sub.(6) Threshold Ask Price AQQ Ask Quote Quantity AskQty Ask Quantity Imp BidQty.sub.(5) Implied Bid Quantity WrkSells.sub.(2) Working Sells for entire Group Imp BidPrc.sub.(5) Implied Bid Price ID Ask Mbr.sub.(1) Ask Member ID Imp AskQty.sub.(5) Implied Ask Quantity NetPos Net Position Imp AskPrc.sub.(5) Implied Ask Price FFNetPos Fast Fill Net Position Gamma.sub.(3) Change in Delta given 1 pt change in underlying LastPrc Last Price Delta.sub.(3) Change in price given 1 pt change in underlying LastQty Last Quantity Vola.sub.(3) Percent volatility Total Total Traded Quantity Vega.sub.(3) Price change given 1% change in Vola High High Price Rho.sub.(3) Price change given 1% change in interest rate Low Low Price Theta.sub.(3) Price change for every day that elapses Open Opening Price Click Trd Activate/deactivate click *trading* by contract Close Closing Price S (Status) Auction, Closed, FastMkt, Not Tradable, Pre-*trading,* Tradable, S = post-*trading* Chng Last Price-Last Close Expiry Expiration Month/Year TheoPrc Theoretical Price

[0030] As described herein, the display and *trading* method of the present invention provide the user with certain advantages over systems in which a display of *market depth,* as shown in FIG. 2, is used. The Mercury display and *trading* method of the present invention ensure fast and accurate execution of trades by displaying *market depth* on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently. An example of such a Mercury display is illustrated in the screen display of FIG. 3.

[0031] The display of *market depth* and the manner in which traders trade within the *market depth* can be effected in different manners, which many traders will find materially better, faster and more accurate. In addition, some traders may find the display of *market depth* to be difficult to follow. In the display shown in FIG. 2, the *market depth* is displayed vertically so that both Bid and Ask prices descend the grid. The Bid prices descend the market grid as the prices decrease. Ask prices also descend the market grid as these prices actually increase. This combination may be considered counterintuitive and difficult to follow by some traders.

[0032] The Mercury display overcomes this problem in an innovative and logical manner. Mercury also provides an order entry system, market grid, fill window and summary of market orders in one simple window. Such a condensed display materially simplifies the *trading* system by entering and tracking trades in an extremely efficient manner. Mercury displays *market depth* in a logical, vertical fashion or horizontally or at some other convenient angle or configuration. A vertical field is shown in the figures and described for convenience, but the field could be horizontal or at an angle. In turn, Mercury further increases the speed of *trading* and the likelihood of entering orders at desired prices with desired quantities. In the preferred embodiment of the invention, the Mercury display is a static vertical column of prices with the bid and ask quantities displayed in vertical columns to the side of the price column and aligned with the corresponding bid and ask prices. An example of this display is shown in FIG. 3.

[0033] Bid quantities are in the column 1003 labeled BidQ and ask quantities are in column 1004 labeled AskQ. The representative ticks from prices for the given commodity are shown in column 1005. The column does not list the whole prices (e.g. 95.89), but rather, just the last two digits (e.g. 89). In the example shown, the inside market, cells 1020, is 18 (best bid quantity) at 89 (best bid price) and 20 (best ask quantity) at 90 (best ask price). In the preferred embodiment of the invention, these three columns are shown in different colors so that the trader can quickly distinguish between them.

[0034] The values in the price column are static; that is, they do not normally change positions unless a re-centering command is received (discussed in detail later). The values in the Bid and Ask columns however, are dynamic; that is, they move up and down (in the vertical example) to reflect the *market depth* for the given commodity. The LTQ column 1006 shows the last traded quantity of the commodity. The relative position of the quantity value with respect to the Price values reflects the price at which that quantity was traded. Column 1001 labeled E/W (entered/working) displays the current status of the trader's orders. The status of each order is displayed in the price row where it was entered. For example, in cells 1007, the number next to S indicates the number of the trader's ordered lots that have been sold at the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order. Blanks in this column indicate that orders are entered or working at that price. In cells 1008, the number next to B indicates the number of the trader's ordered lots that have been bought at the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order.

[0035] Various parameters are set and information is provided in column 1002. For example, "10:48:44" in cell 1009 shows the actual time of day. The L and R fields in cell 1010 indicate a quantity value, which may be added to the order quantity entered. This process is explained below with respect to *trading* under Mercury. Below the L and R fields, in cell 1011, a number appears which represents the current market volume. This is the number of lots that have been traded for the chosen contract. Cell 1012, "X 10", displays the Net Quantity, the current position of the trader on the chosen contract. The number "10" represents the trader's buys minus sells. Cell 1013 is the "Current Quantity"; this field represents the

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quantity for the next order that the trader will send to market. This can be adjusted with right and left clicks (up and down) or by clicking the buttons which appear below the Current Quantity in cells 1014. These buttons increase the current quantity by the indicated amount; for example, "10" will increase it by 10; "1H" will increase it by 100; "1K" will increase it by 1000. Cell 1015 is the Clear button; clicking this button will clear the Current Quantity field. Cell 1016 is the Quantity Description; this is a pull down menu allowing the trader to chose from three Quantity Descriptions. The pull down menu is displayed when the arrow button in the window is clicked. The window includes NetPos, Offset and a field allowing the trader to enter numbers. Placing a number in this field will set a default buy or sell quantity. Choosing "Offset" in this field will enable the L/R buttons of cell 1010. Choosing "NetPos" in this field will set the current Net Quantity (trader's net position) as the trader's quantity for his next trade. Cell 1017 are +/-buttons; these buttons will alter the size of the screen-either larger (+) or smaller (-). Cell 1018 is used to invoke Net 0; clicking this button will reset the Net Quantity (cell 1011) to zero. Cell 1019 is used to invoke Net Real; clicking this button will reset the Net Quantity (cell 1011) to its actual position.

[0036] The inside market and *market depth* ascend and descend as prices in the market increase and decrease. For example, FIG. 4 shows a screen displaying the same market as that of FIG. 3 but at a later interval where the inside market, cells 1101, has risen three ticks. Here, the inside market for the commodity is 43 (best bid quantity) at 92 (best bid price) and 63 (best ask quantity) at 93 (best ask price). In comparing FIGS. 3 and 4, it can be seen that the price column remained static, but the corresponding bids and asks rose up the price column. *Market Depth* similarly ascends and descends the price column, leaving a vertical history of the market.

[0037] As the market ascends or descends the price column, the inside market might go above or below the price column displayed on a trader's screen. Usually a trader will want to be able to see the inside market to assess future trades. The system of the present invention addresses this problem with a one click centering feature. With a single click at any point within the gray area, 1021, below the "Net Real" button, the system will re-center the inside market on the trader's screen. Also, when using a three-button mouse, a click of the middle mouse button, irrespective of the location of the mouse pointer, will re-center the inside market on the trader's screen.

[0038] The same information and features can be displayed and enabled in a horizontal fashion. Just as the market ascends and descends the vertical Mercury display shown in FIGS. 3 and 4, the market will move left and right in the horizontal Mercury display. The same data and the same information gleaned from the dynamical display of the data is provided. It is envisioned that other orientations can be used to dynamically display the data and such orientations are intended to come within the scope of the present invention.

[0039] Next, *trading* commodities, and specifically, the placement of trade orders using the Mercury display is described. Using the Mercury display and *trading* method, a trader would first designate the desired commodity and, if applicable, the default quantities. Then he can trade with single clicks of the right or left mouse button. The following equations are used by the system to generate trade orders and to determine the quantity and price to be associated with the trade order. The following abbreviations are used in these formulas: P=Price value of row clicked, R=Value in R field, L=Value in L field, Q=Current Quantity, $Q.sub.a$=Total of all quantities in AskQ column at an equal or better price than P, $Q.sub.b$=Total of all quantities in BidQ column at an equal or better price than P, N=Current Net Position, Bo=Buy order sent to market and So=Sell order sent to market.

[0040] Any Order Entered Using Right Mouse Button

[0041] $Bo=(Q.sub.a+R)P$ (Eq. 1) If BidQ field clicked.

[0042] $So=(Q.sub.b+R)P$ (Eq. 2) If AskQ field clicked.

[0043] Orders Entered Using the Left Mouse Button

[0044] If "Offset" mode chosen in Quantity Description field then:

[0045] Bo=(Q.sub.a+L)P (Eq. 3) If BidQ field clicked.

[0046] So=(Q.sub.b+L)P (Eq. 4) If AskQ field clicked.

[0047] If "number" mode chosen in Quantity Description field then:

[0048] Bo=QP (Eq. 5)

[0049] So=QP (Eq. 6)

[0050] If "NetPos" mode chosen in Quantity Description field then:

[0051] Bo=NP (Eq. 7)

[0052] So=NP (Eq. 8)

[0053] Orders can also be sent to market for quantities that vary according to the quantities available in the market; quantities preset by the trader; and which mouse button the trader clicks. Using this feature, a trader can buy or sell all of the bids or asks in the market at or better than a chosen price with one click. The trader could also add or subtract a preset quantity from the quantities outstanding in the market. If the trader clicks in a *trading* cell--i.e. in the BidQ or AskQ column, he will enter an order in the market. The parameters of the order depend on which mouse button he clicks and what preset values he set.

[0054] Using the screen display and values from FIG. 5, the placement of trade orders using the Mercury display and *trading* method is now described using examples. A left click on the 18 in the BidQ column 1201 will send an order to market to sell 17 lots (quantity # chosen on the Quantity Description pull down menu cell 1204) of the commodity at a price of 89 (the corresponding price in the Prc column 1203). Similarly, a left click on the 20 in the AskQ column 1202 will send an order to market to buy 17 lots at a price of 90.

[0055] Using the right mouse button, an order would be sent to market at the price that corresponds to the row clicked for the total quantity of orders in the market that equal or better the price in that row plus the quantity in the R field 1205. Thus, a right click in the AskQ column 1202 in the 87 price row will send a sell order to market at a price of 87 and a quantity of 150. 150 is the sum of all the quantities 30, 97, 18 and 5. 30, 97 and 18 are all of the quantities in the market that would meet or better the trader's sell order price of 87. These quantities are displayed in the BidQ column 1201 because this column represents the orders outstanding in the market to purchase the commodity at each corresponding price. The quantity 5 is the quantity pre-set in the R field 1205.

[0056] Similarly, a right click in the BidQ column 1201 at the same price level of 87 would send a buy limit order to market for a quantity of 5 at a price of 87. The quantity is determined in the same manner as above. In this example, though, there are no orders in the market that equal or better the chosen price--there are no quantities in the AskQ column 1202 that equal or better this price. Therefore, the sum of the equal or better quantities is zero ("0"). The total order entered by the trader will be the value in the R field, which is 5.

[0057] An order entered with the left mouse button and the "Offset" option chosen in the quantity description field 1204 will be calculated in the same way as above, but the quantity in the L field 1206 will be added instead of the quantity in the R field 1205. Thus, a left click in the BidQ column 1201 in the 92 price row will send a buy order to market at a price of 92 and a quantity of 96. 96 is the sum of all the quantities 45, 28, 20 and 3. 45, 28 and 20 are all quantities in the market that would meet or better the trader's buy order price of 92. These quantities are displayed in the AskQ column 1202 because this column represents the orders outstanding in the market to sell the commodity at each corresponding price. The

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quantity 3 is the quantity pre-set in the L field 1206.

[0058] The values in the L or R fields may be negative numbers. This would effectively decrease the total quantity sent to market. In other words, in the example of a right click in the AskQ column 1202 in the 87 price row, if the R field was -5, the total quantity sent to market would be 140 (30+97+18+(-5)).

[0059] If a trader chose the "NetPos" option in the quantity description field 1204, a right click would still work as explained above. A left click would enter an order with a price corresponding to the price row clicked and a quantity equal to the current Net position of the trader. The Net position of the trader is the the trader's current position on the chosen contract. In other words, if the trader has bought 10 more contracts than he has sold, this value would be 10. NetPos would not affect the quantity of an order sent with a right click.

[0060] If the trader chose a number value in the quantity description, a left click would send an order to market for the current quantity chosen by the trader. The default value of the current quantity will be the number entered in the quantity description field, but it could be changed by adjusting the figure in the current quantity field 1204.

[0061] This embodiment of the invention also allows a trader to delete all of his working trades with a single click of either the right or left mouse button anywhere in the last traded quantity (LTQ) column 1207. This allows a trader to exit the market immediately. Traders will use this feature when they are losing money and want to stop the losses from pilling up. Traders may also use this feature to quickly exit the market upon making a desired profit. The invention also allows a trader to delete all of his orders from the market at a particular price level. A click with either mouse button in the Entered/Working (E/W) column 1208 will delete all working orders in the cell that was clicked. Thus, if a trader believes that previously sent orders at a particular price that have not been filled would be poor trades, he can delete these orders with a single click.

[0062] The process for placing trade orders using the Mercury display and *trading* method of the present invention as described above is shown in the flowchart of FIG. 6. First, in step 1301, the trader has the Mercury display on the *trading* terminal screen showing the market for a given commodity. In step 1302, the parameters are set in the appropriate fields, such as the L and R fields and the Current Quantity, NetPos or Offset fields from the pull down menu. In step 1303, the mouse pointer is positioned and clicked over a cell in the Mercury display by the trader. In step 1304, the system determines whether the cell clicked is a tradeable cell (i.e. in the AskQ column or BidQ column). If not, then in step 1305, no trade order is created or sent and, rather, other quantities are adjusted or functions are performed based upon the cell selected. Otherwise, in step 1306, the system determines whether it was the left or the right button of the mouse that was clicked. If it was the right, then in step 1307, the system will use the quantity in the R field when it determines the total quantity of the order in step 1310. If the left button was clicked, then in step 1308, the system determines which quantity description was chosen: Offset, NetPos or an actual number.

[0063] If Offset was chosen, then the system, in step 1309, will use the quantity in the L field when it determines the total quantity of the order in step 1310. If NetPos was chosen, then the system, in step 1312, will determine that the total quantity for the trade order will be current NetPos value, i.e. the net position of the trader in the given commodity. If an actual number was used as the quantity description, then, in step 1311, the system will determine that the total quantity for the trade order will be the current quantity entered. In step 1310, the system will determine that the total quantity for the trade order will be the value of the R field (if step 1307 was taken) or the value of the L field (if step 1309 was taken) plus all quantities in the market for prices better than or equal to the price in the row clicked. This will add up the quantities for each order in the market that will fill the order being entered by the trader (plus the L or R value).

[0064] After either steps 1310, 1311 or 1312, the system, in step 1313, determines which column was clicked, BidQ or AskQ. If AskQ was clicked, then, in step 1314, the system sends a sell limit order to the market at the price corresponding to the row for the total quantity as already determined. If BidQ was clicked, then, in step 1315, the system sends a buy limit order to the market at the price corresponding to

the row for the total quantity as already determined.

[0065] It should be understood that the above description of the invention and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the present invention includes all such changes and modifications.

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Electronic spread trading tool

Abstract

A versatile and efficient electronic spread trading tool to be used when buying and selling comparable commodities either simultaneously or in conjunction with one another. The spread trading tool involves a method of displaying, on an electronic display device, the market depth of a plurality of commodities including an anchor commodity and a non-anchor commodity, where the method includes dynamically displaying a plurality of bids and asks in the market for the commodities, statically displaying prices corresponding to those plurality of bids and asks, where the bids and asks are displayed in alignment with the prices corresponding thereto, displaying an anchor visual indicator corresponding to and in alignment with a desired price level of the anchor commodity, displaying a price level indicator corresponding to and in alignment with a price level of the non-anchor commodity. Based on an unhedged position, and taking into account the parameters and spread price point values, as determined by the trader, price level indicators are calculated and displayed, which provide a visual representation of where the trader should buy and sell the applicable commodities. The price level for the price level indicator in the non-anchor commodity is determined based upon said desired price level of the anchor commodity. The price level indicator also includes a first visual indicator corresponding to and in alignment with a first price level of the non-anchor commodity and a second visual indicator corresponding to and in alignment with a second price level of the non-anchor commodity.

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Claims

What is claimed is:

1. A method of displaying, on an electronic display device, the market depth of a plurality of commodities including an anchor commodity and a non-anchor commodity, said method comprising: dynamically displaying a plurality of bids and asks in the market for said commodities; statically displaying prices corresponding to said plurality of bids and asks, wherein said plurality of bids and asks are displayed in alignment with the prices corresponding thereto; displaying an anchor visual indicator corresponding to and in alignment with a desired price level of said anchor commodity; displaying a price level indicator corresponding to and in alignment with a price level of said non-anchor commodity determined based upon said desired price level of said anchor commodity.

2. A method according to claim 1, wherein said price level indicator comprises a first visual indicator corresponding to and in alignment with a first price level of said non-anchor commodity and a second visual indicator corresponding to and in alignment with a second price level of said non-anchor commodity.

3. A method according to claim 1, wherein said price level indicator is of the same color as said anchor visual indicator.

4. A method according to claim 2, wherein said price level indicator is displayed in correspondence with said plurality of asks in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of bids in the market for said anchor commodity.

5. A method according to claim 2, wherein said price level indicator is displayed in correspondence with said plurality of bids in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of asks in the market for said anchor commodity.

6. A method according to claim 2, wherein said desired price level of said anchor commodity is the best bid or ask price in the market for said anchor commodity.

7. A method according to claim 2, wherein said desired price level of said anchor commodity is the best bid or ask price for said anchor commodity at which there are currently working orders for the user.

8. A method according to claim 2, wherein said desired price level of said anchor commodity is the bid or ask price for said anchor commodity as selected by a user.

9. A method according to claim 2, wherein said desired price level of said anchor commodity is a weighted average of price levels of a user's unhedged filled orders of said anchor commodity.

10. A method according to claim 2, wherein said first and second price levels of said non-anchor commodity are determined based on a predetermined anchor commodity to non-anchor commodity ratio and on predetermined spread price point values in conjunction with said desired price level for said anchor commodity and a settlement price for said anchor commodity.

11. A method according to claim 2, wherein said first and second price levels of said non-anchor commodity are determined based on two or more of the following factors: a predetermined anchor commodity to non-anchor commodity ratio, predetermined spread price point values, said desired price level for said anchor commodity and a settlement price for said anchor commodity.

12. A method according to claim 10, wherein at least one of said first and second price levels of said non-

anchor commodity is determined by adding a settlement price of said non-anchor commodity to a price level indicator offset calculated in accordance with the following equation: Non-Anchor Price Level Indicator=(Spread Price Point Value-(Anchor Leg Ratio*Anchor Leg Net Change))/Non-Anchor Leg Ratio, where Net Change=Theoretical Last Traded (Current) price-Settlement Price of said anchor commodity.

13. A method according to claim 2, wherein at least one of said first and second price levels of said non-anchor commodity is determined based on manual positioning of the corresponding first or second visual indicator by a user.

14. A method according to claim 1, wherein at least some of said statically displayed prices corresponding to the bids and asks are displayed in a plurality of colors, each color representing a subgroup of said prices where the trades for a given commodity at prices within the subgroup combine to account for a predetermined percentage of total volume of trades for said given commodity over a determinable period of time.

15. A method according to claim 1, further comprising the step of displaying a spread market display comprising a display of market depth of price spreads between the anchor commodity and the non-anchor commodity.

16. A method according to claim 1, further comprising the display of traded spread including the display of a plurality of price spreads between the anchor commodity and the non-anchor commodity in alignment with the quantities traded at the respective price spreads over a determinable period of time.

17. A method according to claim 1 wherein said statically displayed prices are displayed in at least one direction in numerical order.

18. A computer readable medium having machine readable program code recorded thereon for execution on a computer for displaying the market depth of a plurality of commodities including an anchor commodity and a non-anchor commodity, comprising program code for performing the following method steps: dynamically displaying a plurality of bids and asks in the market for said commodities; statically displaying prices corresponding to said plurality of bids and asks, wherein said plurality of bids and asks are displayed in alignment with the prices corresponding thereto; displaying an anchor visual indicator corresponding to and in alignment with a desired price level of said anchor commodity; displaying a price level indicator corresponding to and in alignment with a price level of said non-anchor commodity determined based upon said desired price level of said anchor commodity.

19. A computer readable medium according to claim 18, wherein said program code contains code to display a first visual indicator corresponding to and in alignment with a first price level of said non-anchor commodity and a second visual indicator corresponding to and in alignment with a second price level of said non-anchor commodity.

20. A computer readable medium according to claim 18, wherein said program code includes code to ensure that said price level indicator is of the same color as said anchor visual indicator.

21. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said price level indicator is displayed in correspondence with said plurality of asks in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of bids in the market for said anchor commodity.

22. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said price level indicator is displayed in correspondence with said plurality of bids in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of asks in the market for said anchor commodity.

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23. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said desired price level of said anchor commodity is the best bid or ask price in the market for said anchor commodity.

24. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said desired price level of said anchor commodity is the best bid or ask price for said anchor commodity at which there are currently working orders for the user.

25. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said desired price level of said anchor commodity is the bid or ask price for said anchor commodity as selected by a user.

26. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said desired price level of said anchor commodity is a weighted average of price levels of a user's unhedged filled orders of said anchor commodity.

27. A computer readable medium according to claim 19, wherein said program code includes code to ensure that said first and second price levels of said non-anchor commodity are determined based on a predetermined anchor commodity to non-anchor commodity ratio and on predetermined spread price point values in conjunction with said desired price level for said anchor commodity and a settlement price for said anchor commodity.

28. A computer readable medium according to claim 27, wherein said program code includes code to ensure that at least one of said first and second price levels of said non-anchor commodity is determined by adding a settlement price of said non-anchor commodity to a price level indicator offset calculated in accordance with the following equation: Non-Anchor Price Level Indicator=(Spread Price Point Value-(Anchor Leg Ratio*Anchor Leg Net Change))/Non-Anchor Leg Ratio, where Net Change=Theoretical Last Traded (Current) price-Settlement Price of said anchor commodity.

29. A computer readable medium according to claim 19, wherein said program code includes code to ensure that at least one of said first and second price levels of said non-anchor commodity is determined based on manual positioning of the corresponding first or second visual indicator by a user.

30. A computer readable medium according to claim 19, wherein said program code includes code to ensure that at least some of said statically displayed prices corresponding to the bids and asks are displayed in a plurality of colors, each color representing a subgroup of said prices where the trades for a given commodity at prices within the subgroup combine to account for a predetermined percentage of total volume of trades for said given commodity over a determinable period of time.

31. A computer readable medium according to claim 18, further comprising program code for displaying a spread market display comprising a display of market depth of price spreads between the anchor commodity and the non-anchor commodity.

32. A computer readable medium according to claim 18, further comprising program code for displaying traded spread including the display of a plurality of price spreads between the anchor commodity and the non-anchor commodity in alignment with the quantities traded at the respective price spreads over a determinable period of time.

33. A method of facilitating spread trading among a plurality of commodities, including an anchor commodity and a non-anchor commodity, using a graphical user interface and a user input device, said method comprising: displaying the market depth of said commodities traded in a market, through a dynamic display of a plurality of bids and asks for said commodities, including the bid and ask quantities of the commodities, aligned with static displays of prices corresponding thereto; determining a desired price level for said anchor commodity; displaying an anchor visual indicator corresponding to and in alignment with said desired price level of said anchor commodity; determining a price level for said non-anchor

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commodity based upon said desired price level for said anchor commodity; displaying a price level indicator corresponding to and in alignment with said determined price level of said non-anchor commodity; allowing the placement of a trade order of said anchor commodity through a single action of the user device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks in the market for said anchor commodity; allowing the placement of a trade order of said non-anchor commodity through a single action of the user device with a pointer of the user device positioned over an area in said dynamic displays of bids and asks in the market for said non-anchor commodity, wherein said single action made when the pointer is positioned at the location of said price level indicator allows for the placement of a spread trade.

34. A method according to claim 33, wherein said price level for said non-anchor commodity includes a first price level and a second price level and wherein said price level indicator comprises a first visual indicator displayed corresponding to and in alignment with said first price level of said non-anchor commodity and a second visual indicator displayed corresponding to and in alignment with said second price level of said non-anchor commodity.

35. A method according to claim 33 wherein said price level indicator is displayed in the same color as said anchor visual indicator.

36. A method according to claim 34, wherein said price level indicator is displayed in correspondence with said plurality of asks in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of bids in the market for said anchor commodity.

37. A method according to claim 34, wherein said price level indicator is displayed in correspondence with said plurality of bids in the market for said non-anchor commodity when said anchor visual indicator is displayed in correspondence with said plurality of asks in the market for said anchor commodity.

38. A method according to claim 34, wherein said desired price level of said anchor commodity is the best bid or ask price in the market for said anchor commodity.

39. A method according to claim 34, wherein said desired price level of said anchor commodity is the best bid or ask price for said anchor commodity at which there are currently working orders for the user.

40. A method according to claim 34, wherein said desired price level of said anchor commodity is the bid or ask price for said anchor commodity as selected by a user.

41. A method according to claim 34, wherein said desired price level of said anchor commodity is a weighted average of price levels of a user's unhedged filled orders of said anchor commodity.

42. A method according to claim 34, wherein said first and second price levels of said non-anchor commodity are determined based on a predetermined anchor commodity to non-anchor commodity ratio and on predetermined spread price point levels in conjunction with said desired price level for said anchor commodity and a settlement price for said anchor commodity.

43. A method according to claim 34, wherein said first and second price levels of said non-anchor commodity are determined based on two or more of the following factors: a predetermined anchor commodity to non-anchor commodity ratio, predetermined spread price point values, said desired price level for said anchor commodity and a settlement price for said anchor commodity.

44. A method according to claim 42, wherein at least one of said first and second price levels of said non-anchor commodity is determined by adding a settlement price of said non-anchor commodity to a price level indicator offset calculated in accordance with the following equation: Non-Anchor Price Level Indicator=(Spread Price Point Value-(Anchor Leg Ratio*Anchor Leg Net Change))/Non-Anchor Leg Ratio, where Net Change=Theoretical Last Traded (Current) price-Settlement Price of said anchor commodity.

45. A method according to claim 34, wherein at least one of said first and second price levels of said non-anchor commodity is determined based on manual positioning of the corresponding first or second visual indicator by a user.

46. A method according to claim 33 wherein at least some of said statically displayed prices corresponding to the bids and asks are displayed in a plurality of colors, each color representing a subgroup of said prices where the trades for a given commodity at prices within the subgroup combine to account for a predetermined percentage of total volume of trades for said given commodity over a determinable period of time.

47. A method according to claim 33, further comprising the step of displaying a spread market display comprising a display of market depth of price spreads between the anchor commodity and the non-anchor commodity.

48. A method according to claim 33, further comprising the display of traded spread including the display of a plurality of price spreads between the anchor commodity and the non-anchor commodity in alignment with the quantities traded at the respective price spreads over a determinable period of time.

49. A method according to claim 33, wherein the quantity of the trade order allowed to be placed in said non-anchor commodity is set automatically based on a user's net position in said anchor commodity and on a predetermined anchor commodity to non-anchor commodity ratio.

50. A method according to claim 33 wherein said statically displayed prices are displayed in at least one direction in numerical order.

51. A computer readable medium having machine readable program code recorded thereon for execution on a computer for facilitating spread trading among a plurality of commodities, including an anchor commodity and a non-anchor commodity, using a graphical user interface and a user input device, comprising program code for performing the following method steps: displaying the market depth of said commodities traded in a market, through a dynamic display of a plurality of bids and asks for said commodities, including the bid and ask quantities of the commodities, aligned with static displays of prices corresponding thereto; determining a desired price level for said anchor commodity; displaying an anchor visual indicator corresponding to and in alignment with said desired price level of said anchor commodity; determining a price level for said non-anchor commodity based upon said desired price level for said anchor commodity; displaying a price level indicator corresponding to and in alignment with said determined price level of said non-anchor commodity; allowing the placement of a trade order of said anchor commodity through a single action of the user device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks in the market for said anchor commodity; allowing the placement of a trade order of said non-anchor commodity through a single action of the user device with a pointer of the user device positioned over an area in said dynamic displays of bids and asks in the market for said non-anchor commodity, wherein said single action made when the pointer is positioned at the location of said price level indicator allows for the placement of a spread trade.

52. A computer readable medium having machine readable program code recorded thereon for execution on a computer according to claim 51, wherein said program code contains code to display a first visual indicator corresponding to and in alignment with a first price level of said non-anchor commodity and a second visual indicator corresponding to and in alignment with a second price level of said non-anchor commodity.

53. A client system for facilitating spread trading among a plurality of commodities, including an anchor commodity and a non-anchor commodity, said system comprising: a display device for displaying the market depth of said commodities traded in a market, through a dynamic display of a plurality of bids and asks for said commodities, including the bid and ask quantities of the commodities, aligned with static displays of prices corresponding thereto, for displaying an anchor visual indicator corresponding to and in

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alignment with a desired price level of said anchor commodity and for displaying a price level indicator corresponding to and in alignment with a determined price level of said non-anchor commodity; a processor for determining said desired price level for said anchor commodity and said determined price level for said non-anchor commodity based upon said desired price level for said anchor commodity; a user input device for allowing the placement of a trade order of said anchor commodity through a single action of the user device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks in the market for said anchor commodity and for allowing the placement of a trade order of said non-anchor commodity through a single action of the user device with a pointer of the user device positioned over an area in said dynamic displays of bids and asks in the market for said non-anchor commodity, wherein said single action made when the pointer is positioned at the location of said price level indicator allows for the placement of a spread trade.

54. A client system according to claim 53, wherein said price level for said non-anchor commodity includes a first price level and a second price level and wherein said price level indicator comprises a first visual indicator displayed corresponding to and in alignment with said first price level of said non-anchor commodity and a second visual indicator displayed corresponding to and in alignment with said second price level of said non-anchor commodity.

Description

BACKGROUND OF THE INVENTION

[0001] A. Field of the Invention

[0002] The present invention is generally directed to the electronic trading of commodities, where a commodity includes anything that can be traded with quantities and/or prices. Specifically, the invention provides a trader with a versatile and efficient electronic spread trading tool to be used when buying and selling commodities of the same or similar class either simultaneously or in conjunction with one another.

[0003] B. Description of the Related Art

[0004] As the world's exchanges shift from open outcry to electronic trading, more and more traders participate in the market via a computer. Electronic exchanges have expanded direct access by allowing anyone with a computer and a connection to an exchange to trade directly in the exchange. Traders are now using software that creates specialized interactive trading screens on their desktops. The range and quality of features available to traders on their screens varies according to the specific software application being run. The installation of open interfaces in the development of an exchange's electronic strategy means users can choose, depending on their trading style and internal requirements, the means by which they will access the exchange. The electronic trading screens enable traders to enter and execute orders, obtain market quotes, and create and monitor positions while implementing various trading strategies previously used on the floor of an exchange. Such strategies incorporated into an electronic marketplace improve the speed, accuracy, and ultimately the profitability of trading electronically. One such trading strategy is spread trading.

[0005] A spread is simply the simultaneous buying of one commodity and the selling of another. To be a true spread, however, there must be some reason to believe that the conditions that will cause price movement in one contract will also cause price movement in the other. Spread trading is the process of protecting a position where an investment is made by taking an offsetting position in a related product in order to reduce the risk of adverse price movements. For example, a trader might simultaneously buy and sell two options of the same class at different strike prices and/or expiration dates. Typically, spread trading is used to describe a "short" position taken to offset a "long" position in the market. A long position is one where a trader has purchased a commodity at a specific price with the intent of selling that commodity at a higher price. A short position is one where the trader has effectively sold the commodity first with the

intent of buying it later at a lower price. When trading stocks, the trader would take a short position by borrowing the stocks and selling them first. Later he would buy the same stocks back (hopefully at a lower price) to replace the ones he sold earlier. If trading futures, the short position could effectively entail a promise to sell a commodity (e.g. corn, soy beans, futures contracts themselves, etc.) at a certain (high) price and buying the same or comparable commodity at a given (lower) price.

[0006] Often traders will utilize spread trading to trade the yield curve for bonds or other debt securities. Typically, as the term of a security increases, the yield increases proportionately. This phenomenon can be charted on two axes (Price or Yield and Time) to create the "yield curve." The yield curve often starts with the yield rates for the shortest term securities and extends towards longer term securities. It reflects the market's views about implied inflation/deflation, liquidity, economic and financial activity and other market forces. When the actual yield curve is disproportionate, traders may take long and short positions on different maturity dates to take advantage and manage their risk. The yield curve plots current yields of fixed interest securities against their times to redemption (maturity), and enables investors to compare the yields of short, medium, and long term securities at a given time. If short-term rates are lower than long-term, it is called a positive yield curve. If short-term rates are higher, it is called a negative, or inverted yield curve. If there is little difference, it is called a flat yield curve.

SUMMARY OF THE INVENTION

[0007] The present invention can be summarized as a method of displaying, on an electronic display device, the market depth of a plurality of commodities including an anchor commodity and a non-anchor commodity, where the method includes dynamically displaying a plurality of bids and asks in the market for the commodities, statically displaying prices corresponding to those plurality of bids and asks, where the bids and asks are displayed in alignment with the prices corresponding thereto, displaying an anchor visual indicator corresponding to and in alignment with a desired price level of the anchor commodity, displaying a price level indicator corresponding to and in alignment with a price level of the non-anchor commodity. The price level for the price level indicator in the non-anchor commodity is determined based upon said desired price level of the anchor commodity.

[0008] In a further embodiment of the invention, the price level indicator also includes a first visual indicator corresponding to and in alignment with a first price level of the non-anchor commodity and a second visual indicator corresponding to and in alignment with a second price level of the non-anchor commodity.

[0009] Also, the invention includes a method of facilitating spread trading among a plurality of commodities, including an anchor commodity and a non-anchor commodity, using a graphical user interface and a user input device, where the method includes: displaying the market depth of those commodities traded in a market, through a dynamic display of a plurality of bids and asks for the commodities, including the bid and ask quantities of the commodities, aligned with static displays of prices corresponding thereto, determining a desired price level for the anchor commodity, displaying an anchor visual indicator corresponding to and in alignment with the desired price level of the anchor commodity, determining a price level for the non-anchor commodity based upon the desired price level for the anchor commodity, displaying a price level indicator corresponding to and in alignment with the determined price level of the non-anchor commodity, allowing the placement of a trade order of the anchor commodity through a single action of the user device with a pointer of the user input device positioned over an area in the dynamic displays of bids and asks in the market for the anchor commodity, allowing the placement of a trade order of the non-anchor commodity through a single action of the user device with a pointer of the user device positioned over an area in the dynamic displays of bids and asks in the market for the non-anchor commodity. Making the single action when the pointer is positioned at the location of the price level indicator allows for the placement of a spread trade.

[0010] These embodiments, and others described in greater detail herein, provide the trader with improved efficiency and versatility in placing, and thus executing, trade orders for commodities in an electronic exchange. Other features and advantages of the present invention will become apparent to those skilled in

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the art from the following detailed description. It should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The foregoing advantages and features of the invention will become apparent upon reference to the following detailed description and the accompanying drawings, of which:

[0012] FIG. 1 illustrates two Mercury Display panes used in the preferred embodiment of the present invention;

[0013] FIG. 2 illustrates two additional display panes used in the present invention for allowing user input of various parameters;

[0014] FIG. 3 illustrates a common pane used for additional display and input of parameters;

[0015] FIG. 4 is a flowchart illustrating the method of using the present invention;

[0016] FIG. 5 illustrates a complete display of the preferred embodiment of the present invention;

[0017] FIG. 6 illustrates the range indicators feature of the present invention;

[0018] FIG. 7 illustrates examples calculations of price spreads between an anchor and a non-anchor commodity;

[0019] FIG. 8 illustrates a spread market display in accordance with a feature of the present invention;

[0020] FIG. 9 illustrates a portion of the market depth of two commodities;

[0021] FIG. 10 illustrates a portion of the trade amount and traded price of two commodities; and

[0022] FIG. 11 illustrates a traded spread display in accordance with a feature of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0023] The present invention ("Spread Tool") builds on the innovations of a prior invention submitted by the owner as U.S. patent application Ser. No. 09/590,692 ("*Click Based Trading* With Intuitive Grid Display of Market Depth") filed on Jun. 9, 2000, the contents of which are incorporated by reference herein. As set forth in the aforementioned application, the preferred embodiment of the intuitive grid display (also known as the "Mercury Display") is a static vertical column of prices for a given commodity with the bid and ask quantities dynamically displayed in vertical columns to the side of the price column and aligned with the corresponding bid and ask prices. The application also describes a method and system for placing trade orders using such displays.

[0024] As described with reference to the accompanying figures, the present invention provides methods for displaying and trading that better facilitate spread trading among a plurality of commodities in the market. The spread trading tool of the present invention works with a variety of trading displays, and is particularly suitable for use with the Mercury Display which displays market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates.

[0025] The Spread Tool utilizes the graphic user interface described therein (the Mercury Display), and

adds new features to facilitate spread trading. The Spread Tool enables traders to define and manage trading opportunities in the pricing of products for one or more markets. This feature will place two Mercury Display style panes side by side, with each pane serving as a leg in a spread. By showing market depth and market movements for both legs of the trader's spread, it will display opportunities that the trader can act upon. The Spread Tool is based on the daily net change differential between the legs, and maintains the same functionality that is currently available in the Mercury Display window, while adding market columns that are used to indicate price points.

[0026] In one aspect, the present invention overcomes the drawbacks of the existing trading systems and simultaneously displays the buy and sell opportunities of related commodities. A spread trade forms a position comparing two parts, each of which may profit from opposite directional price moves. As orders, these parts are entered and can be executed simultaneously in the hope of (1) limiting risk, or (2) benefiting from a change in the price relationship by legging (the separate execution of component parts of an entire position) at prices better than the prevailing spread market price.

[0027] Spread trading, as described herein, enables a trader to hedge against market losses should the market move against that trader's position. Essentially, hedging is an investment that is made in order to reduce the risk of adverse price movement by taking an offsetting position in a related commodity. Spread trading in general is a style of trading that allows traders to limit the risk of the positions they take in commodities by trading comparable commodities at comparable levels. A spread is intended to limit the amount of potential loss that a trader may incur. However, by simultaneously trading (buying and selling) similar commodities, and therefore offsetting a long position with a short position or vice versa, a trader may also limit their profitability (the maximum amount to be made).

[0028] The present electronic spread trading tool uses various settings, selected by the trader, to calculate a range (spread) that the trader can use in the simultaneous purchase and/or sale of related commodities by showing him where (at what prices) an order should be submitted. The settings that are used in the calculation of a spread within the preset invention include: Ratio, Anchor, Price Points On, Multiplier, Settlement, and Spread Price Point values (2 Buy and 2 Sell). The trader must designate one commodity as the "anchor" contract, which is the contract upon which the buy and sell levels are based. The trader then needs to select one option from a `Price Points On` display and also a Ratio between the prices of each commodity. In addition, he needs to set the Spread Price Point values for his desired spread position. The present invention will then automatically place indicators (markers) on the Mercury Display by the appropriate price rows for each commodity in order to guide the trader's entry into in the market. The pre-determined ratio and values, entered by a trader, determine where the price markers are placed. The price markers give the trader a visual display of his intended positions, and based on where he entered the market in the anchor, he is shown where he should place an order(s) for the non-anchor in order to achieve his desired spread.

[0029] Although traders may trade more than two commodities at a time to conduct spread trades, and the present invention will allow for infinite numbers of commodities to be traded in a spread trade, for consistency and ease of reading, we will limit our examples and descriptions to spread trades involving two commodities. In addition, although the preferred embodiment of the invention calls for a vertical display of the prices in the market, they also could be displayed horizontally or in other ways, just as the Mercury display may be displayed in multiple ways.

[0030] In the preferred embodiment, when the spread tool is first invoked, a window composed of five panes will display on the trader's workstation. A typical display according to the present invention is shown in FIG. 5.

[0031] In the preferred embodiment, the present invention is implemented on a computer or electronic terminal. The computer is able to communicate either directly or indirectly (using intermediate devices) with the exchange to receive and transmit market, commodity, and trading order information. It is able to interact with the trader and to generate contents and characteristics of a trade order to be sent to the exchange. It is envisioned that the system of the present invention can be implemented on any existing or

future terminal or device with the processing capability to perform the functions described herein. The scope of the present invention is not limited by the type of terminal or device used. Further, in the context of placing trade orders, a single click of a mouse as a means for user input and interaction with the terminal display is an example of a single action of the user. While a mouse click describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, such as a keyboard, light pen, or a variety of other means, is considered a single action of the user for the purposes of the present invention.

[0032] The present invention includes the display of "market depth" and allows traders to view the market depth of one or more commodities and to execute trades within the market depth of the commodities. Market depth is defined as the order book with the current bid and ask prices and quantities in the market. In other words, market depth is each bid and ask that was entered into the market in addition to the inside market. For a commodity being traded, the "inside market" is the highest bid price and the lowest ask price.

[0033] The exchange sends the price, order and fill information to each trader on the exchange. The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program or using any other comparable mapping technique for mapping data to a screen. The physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art. The present invention is not limited by the method used to map the data to the screen display.

[0034] How far into the market depth the present invention can display depends on how much of the market depth the exchange provides. Some exchanges supply an infinite market depth, while others provide no market depth or only a few orders away from the inside market. The user of the present invention can also choose how far into the market depth to display on his screen.

[0035] In the preferred embodiment of the invention, the spread tool window is composed of five panes. These are illustrated as FIGS. 1-3. Two of the panes (one for each leg) mirror the Mercury Display screen, two more panes serve as an attachment to the Mercury Display panes and contain various input fields, and the fifth pane, displayed as a common header pane, contains user input fields that pertain to the spread as a whole. The following section will provide an explanation and illustration of these input fields (settings).

[0036] To activate the present invention and begin spread trading, a trader would select comparable commodities (e.g. FGBM and FGBL) for which the working orders that are currently in the market at the selected exchange would be displayed on two parallel Mercury display panes 101 and 102 within the spread tool window. Each pane constitutes one leg of the spread and comprises a Bid column 111,112, an Ask column 131,132, a Price column 121,122, a column for the last traded quantity 141,142, and columns for designating the trader's current bid 151, current offer 161, and the price level indicators 152,162. The price level indicators, which are calculated by the present invention using data that is input by the trader, will provide the trader with a visual representation of where he should trade based on his specified ratio. In addition, on each leg there is a column 171,172 containing miscellaneous information such as the Net Position 175,176 and the Order Quantity 173,174. The Order Quantity is the quantity that will be used when the next order for that leg is entered. The non-anchor quantity can be entered manually or autoloaded and calculated as follows: (anchor leg's net position/anchor leg's ratio).times.(non-anchor ratio)-(net position of non-anchored leg). The Net Position is the difference between the total number of securities owned (long) and owed (short).

[0037] The two panes (one for each leg) 201,202 attached to the Mercury Display panes (FIG. 2) provide input fields that are used in the calculation of the price level indicators. The aforementioned input fields include Anchor 203,204, Ratio 205,206, Multiplier 207,208, Change 209,210, Close 211,212, Settlement 213,214, and product designations 215,216. A trader operating the present invention has the option of choosing either leg as the anchor contract by simply checking one of the two mutually exclusive anchor check boxes 203,204. The buy and sell levels will be based upon the anchor contract and the location of the

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spread point indicators will be calculated for the non-anchored contract. In the preferred embodiment, when the spread tool is first invoked, the contract that is displayed on the left side of the window will default to the anchor contract. The present invention contains two text boxes 205,206 for entering the Ratio for the spread. Of the two values, one applies to each separate leg. For example, if the user enters 5 for the first leg and 3 for the second leg, then the ratio is 5-3. The ratio applies to the net position for each leg. For example, if a trader wants to maintain the ratio, and is currently long 5 contracts for the first leg, then that trader should be short 3 contracts for the second leg. A trader wants to identify a quantity ratio that he believes captures the volatility relationship between the two products. The tendency of a product's price to rise or fall sharply within a short period is its volatility. The trader will want to tip the ratio in favor of the least volatile product.

[0038] A trader identifies a Multiplier 207,208 in order to homogenize the products in terms of tick and currency differentials. For example, if one product is in Euros and another product is in U.S. Dollars, the Multiplier feature would be used to convert the two products into a uniform currency (e.g. both in U.S. Dollars). The Settlement text box 213,214 displays the price of the last transaction for a given product at the end of a given trading session. If a Settlement value is not provided by an exchange, then the Close value 211,212 will be used and will appear in the Close text box on each leg. The Change text box 209,210 of the present invention displays the net change for each leg of the spread, and is calculated by subtracting the Settlement price from the Last Traded (Current) price.

[0039] The Common Pane 301, as shown in FIG. 3, contains several user input fields that assist in determining the location of the spread's price indicators. These fields include Price Points On 310, Autoload 320, Current 350, and Spread Price Point values 330 for the Spread. The Price Points On field is applied to the anchored contract and allows a trader to choose the pricing method that will be used to determine the price points for the other leg. The Price Points On 310 options include Best Bid/Offer 311 (from the market), Best Working 312 (uses the trader's best working orders from the anchor contract to determine the buy and sell price points for the opposite leg), and Manual 313 (the user manually selects the buy and/or sell price points for the anchor contract). The Spread Price Point values 330 indicate the range at which the trader is willing to buy and sell the spread. Two of the text boxes 331,332 are for buy points, and two boxes 333,334 are for sell points. As an example, the buy price level might be -15 and -1, whereas the sell price level might be set to 6 and 21. The -15 and -1 price level indicates that ideally the trader would like to buy the spread when the spread price point value is -15, but is willing to buy the spread at -1. Buying the spread in the present context means to purchase the anchor leg. Likewise, the 6 and 21 price level indicates that ideally the trader would like to sell the spread when the spread price point value is 21, but is willing to sell the spread at 6. Selling the spread in the present context means selling the anchor leg.

[0040] The Autoload feature of the present invention will automatically update the order quantity of the non-anchor leg based on a change in the net position. The Current 350 feature of the Common Pane 301 is a product of the spread and is calculated using the Current information from each of the two legs. The Current value of the spread is based on the net change of the two legs and is calculated by adding the ratio of leg 1 multiplied by the net change of leg 1 to the ratio of leg 2 multiplied by the net change of leg 2. Current Spread Price Point Value=(leg 1 ratio*leg 1 net change)+(leg 2 ratio*leg 2 net change).

[0041] Calculating the Spread

[0042] The present invention facilitates spread trading by calculating a spread in the market that in turn is used by a trader to buy one contract and sell another. By calculating and then displaying price level indicators, the present invention provides a trader with an illustration of where he should trade based on his specified ratio. The calculation of the price level indicators is based on various data that is input by the trader and includes the Net Change, the Spread Price Point values and the Ratio. The following equations and examples serve to illustrate the process by which placement of the price level indicators in the present invention is calculated.

[0043] One of several values that factor into the calculation of the price level indicators is Net Change. Net Change is calculated by subtracting the Settlement price of a leg from the Theoretical Last Traded Price of

that leg. The Theoretical Last Traded Price is equivalent to the price at which the `Price Points On` indicator is located. In selecting from the `Price Points On` options (Best Bid/Offer, Best Working, Manual), which results in the display of the anchor leg indicators, the trader is essentially asking the question "(theoretically) if I traded at this price on the anchor leg, then where would I want to trade on the corresponding leg?" Using the prices from FIGS. 1-3, and assuming the trader is entering the market on the Bid side of the anchor commodity, the Settlement price of 9224 would be subtracted from the Theoretical Last Traded Price 180 (in the Bid column 111) for the leg of 9220 to total a net change of -4. The equation would appear as follows:

Net Change for a leg=Theoretical Last Traded Price of the leg-Settlement price of the leg [Eq. 1]

[0044] The calculations of the Bid and Offer price level indicators are each two-part processes based on the Spread Price Point values. Referring again to FIG. 1, the trader is entered in the market with a Current price of 9220. When a trader enters the market on the Bid side of the anchor leg, the present invention will calculate the price level indicators for the Offer/Ask side on the non-anchor leg. There are a variety of formulas that can be used to calculate the non-anchor price level indicator. Typically, such formulas would include one or more of the factors described in Equation 2 below. In the preferred embodiment of the invention, the Spread Price Point value (331-334) would be subtracted from the anchor leg's ratio (205) multiplied by the anchor leg's net change (see Eq. 1). This total would then be divided by the non-anchor leg's ratio (206). The equation would appear as follows:

Non-Anchor Price Level Indicator=(Spread Price Point Value-(Anchor Leg Ratio*Anchor Leg Net Change))/Non-Anchor Leg Ratio [Eq. 2].

[0045] The actual price, at which the indicator is displayed, is calculated by adding the Price Level Indicator Value, as determined by the above equation, to the Settlement Price of the leg. Thus, in the above example, (-15-(5*-4))/(-3)=-1.6666 (rounded to -2). Note: decimals will be rounded (e.g. 1.6666 is rounded to 2).

[0046] The first price level indicator, appearing as a colored marker (185), would then appear on the non-anchor leg next to the appropriate price level. In this case, since the calculation equaled -2, the price level indicator (185) would appear at 9865, 2 less than the Settlement price on the non-anchor leg.

[0047] The second price level indicator (186) is calculated in the same way with the one exception being that the `Buy` spread price point value of -1 (332) would be used in place of the -15 (331) spread price point value. The calculations for this second price level indicator would appear as follows:

(-1-(5*-4))/-3=-6.3333 (rounded to -6).

[0048] As with the first price level indicator, the second indicator would appear as a colored marker (186) on the second leg at 9861, 6 less than the Settlement price (214) on the non-anchor leg. The range would therefore be between 9865 and 9861 as shown in column 162 of FIG. 1.

[0049] To calculate the range for the Bid side of the non-anchor leg, the same calculations would apply as those used above except that the `Sell` Spread Price Point values of 21 (333) and 6 (334) would replace the `Buy` Spread Price Point values of -15 and -1 in the equations, and the Net Change would be calculated using the Theoretical Last Traded Price 181 from the offer column 131 of the anchor leg, which in the above example is 9221. As shown in FIG. 1, column 152, this results in a range on the Bid side of the Non-anchor commodity of 9860 (183) to 9855 (184).

[0050] The electronic spread trading tool, as developed by the inventors, aids in the process by which a trader protects a position where an investment is made by taking an offsetting position in a related product in order to reduce the risk of adverse price movements. The spread trading process, as defined by the present invention, is shown in FIG. 4. It begins when the spread tool is invoked and the trader has the market displayed on his monitor (step 402). As dictated by the present invention, the trader should have at

least two related trading panes displayed within the spread tool application's window. The relation between the panes may be the display of comparable commodities, the display of identical commodities but from different exchanges, or some other relation.

[0051] To begin spread trading, in step 404, a trader would designate one leg (order) as the 'anchor' commodity. Next, in step 406, the trader would input a ratio representing the relationship between the commodities, where the numerator represents the anchor commodity and the denominator represents the second commodity (the other leg of the spread trade).

[0052] Referring again to FIG. 4, the trader would then select one option from the 'Price Points On' category in step 410 (the autoload blocks 428, 430 and 408 will be discussed later), which would place colored markers in separate columns of the anchor leg (151,161 in FIG. 1) corresponding to particular prices in the market depending upon the option chosen by the trader. If Best Bid/Offer were selected (step 412), the markers would appear next to the best bid currently in the market and the best offer currently in the market (step 422). Referring back to FIG. 1, the 'best bid' would be 9220 and the 'best offer' would be 9221. If Best Working were selected (step 414), and if the trader is determined to have working orders in step 420, then the markers would appear next to the best current bid and offer (step 424), which that particular trader currently had in the market. If there were no working orders determined (step 420), then the markers would be placed at the Best Bid/Offer (step 422). The Manual option (step 416), which is available if the best working is not selected in 414, allows a trader to place a marker next to any of the price levels available in the market (step 426). If the Autoload feature, described in more detail herein, is activated (step 428), then, in step 430, the non-anchored leg's quantity will be automatically updated. If it is not activated, then the user's input values will be used.

[0053] After selecting from the Price Point On options, the method proceeds to step 432 wherein the trader would enter values into the 'Spread Price Point value' boxes 330. There are four boxes in all, with two being designated as 'Buy' points 331, 332 and two as 'Sell' points 333, 334. In addition to Price Points On (Step 410) and Spread Price Point values step 432, the trader may also select whether or not to activate the Autoload option, which is shown as step 408 but could be activated at any time.

[0054] As discussed above, the Multiplier in step 434 functions to equalize products traded in different currencies (e.g. Euros and U.S. Dollars) or different tick values by converting the two products to a uniform currency (e.g. both in U.S. Dollars) or identical tick value. This function is embedded in the Multiplier and therefore does not require intervention or input from the trader, although it can be implemented manually as well as automatically. Just as the Multiplier has an automatic input feature, so do the Settlement 213, 214, Close 211, 212, and Change functions 209, 210. The Settlement feature is the price of the last transaction at the end of a given trading session, and is provided by the exchange. If the settlement is not provided by a specific exchange, then the Close price (closing price from the previous day) is used. The Change (Net Change) is also automatically calculated by as described above.

[0055] Once the input fields of the common pane (FIG. 1) and the two panes (FIGS. 2 and 3) attached to the Mercury Display are filled, it is then possible for the present invention to calculate the price level indicators. The present invention in step 438 would incorporate the parameters from the three panes described above to calculate the price level indicators for the buy and/or sell side of the commodity available in the second leg. The price level indicators would appear in the non-anchored leg, and would be displayed as two colored markers, much like those used to designate the Price Points On selection. The two indicators (markers) would represent the range of prices that the user should target when the user is attempting to trade the second, non-anchored, leg. These markers are simply guides, and the user has no restrictions on his ability to trade at price levels outside of the indicated levels.

[0056] Autoload

[0057] The 'Autoload' feature, as developed by the inventors, is initiated after a trader enters the market with a number of contracts (that he decides upon), and then attempts to buy or sell a specific amount of those contracts. The invention will automatically set the order quantity for the non-anchor contract (on the

second leg) 174 when the user's net position in the anchor 175 contract changes. Based on the spread ratio (205,206) specified by the trader and the current positions, the present innovation will calculate and populate the order quantity field 174 of the non-anchored leg. The Net Position of the trader is the trader's current position (in terms of the quantity of contracts purchased) on the chosen commodity. In other words, if a trader bought 10 more contracts of a commodity than he sold, the value of his Net Position would be 10. Similarly, if that same trader sold 10 contracts more than what he purchased, his Net Position would be valued at -10.

[0058] Reference is now made to FIG. 5, which illustrates all five display panes of the spread trading tool mentioned above and includes the elements listed with respect to FIGS. 1-3. To illustrate the present Autoload feature, consider a trader who is attempting to purchase 100 FGBM contracts shown as element 510. FGBL 216 is a related commodity serving as a non-anchor commodity to the trader's anchor in FGBM 215. FGBM/FGBL spread is currently set at a ratio of 5:3 shown in elements 205 and 206, and the trader holds no position in either contract. If 50 of the 100 desired contracts are matched in the market and filled (hit; see element 173), the system will calculate an FGBL quantity to maintain the ratio of 5:3 set in 205 and 206 and in this case, automatically set to 30 (see element 174), thus saving the trader critical time in making his next non-anchored leg trade, because the quantity for that trade does not need to be manually set and the user can place his order with just a single mouse click. If the remaining 50 FGBM contracts were to be filled, the present innovation would then automatically change the order quantity of the FGBL from 30 to 60, thereby preparing the user to offset the long 100 FGBM position, and satisfying the 5:3 ratio spread after his next non-anchor order.

[0059] The Autoload feature will also load partial quantities in the non-anchor order quantity. These partial quantities are quantities that are not an integer multiple of the ratio for the anchor side. This helps lead the trader to obtain an eventual full-on spread. A full-on spread is one in which the desired ratio is perfectly in tact. A full-on spread occurs when a trader accumulates a full ratio quantity rather than a partial quantity. For example, when the desired ratio is 5:3, a full-on spread would be 50 long:30 short or 25 long:15 short. If the Autoload feature were to wait for the trader to accumulate a full ratio quantity on the anchor side, this might cause the trader to miss his chance to hedge his position. By providing a trader with more immediate amounts, it will help him to hedge his position a little at a time.

[0060] For example, if a trader enters numbers in ratio boxes 205 and 206 to effect a ratio of 4:3, the Autoload innovation will not require that the trader obtain a net position of 4 for the anchor contract before populating the non-anchor order quantity. If the trader was working four contracts on the anchor, but was filled on a quantity of three, the present innovation would not require that the one additional order be filled, but rather it would calculate the non-anchor's order quantity and populate the window 174 by a proportionate amount based on the three fills in the anchor. Table 1 illustrates how the non-anchored order quantity would be filled when a partial fill occurs in the anchor contract. As is shown, the non-anchor order quantity is proportionate to the current net position in the anchor commodity in accordance with the set ratio, and is revised to the nearest integer.

1TABLE 1 Current (Net) Position for Anchor Autoload Quantity for Non-Anchor 1 1 (1*3/4) 2 2 (2*3/4) 3 2 (3*3/4) 4 3 (4*3/4) 5 4 (5*3/4) 6 5 (6*3/4) 7 5 (7*3/4) 8 6 (8*3/4)

[0061] In the present feature of the invention, trades do not necessarily occur in the second leg, and orders are not automatically sent to the market. Instead, the order quantity for each leg of the spread is merely calculated and placed into the Order Quantity window 174. For an actual order (at the calculated quantity) to be sent to market, the trader would use the order entry functionality of the Mercury Display application.

[0062] Price Level Indicators

[0063] The `Price Level Indicators` feature, as developed by the inventors, provides a means by which a trader can set buy and sell price points for the spread. Referring again to FIG. 5, the price level indicators are displayed as colored markers 511-516 and appear in each contract in columns separate from the `Bid` 111, 112, `Offer` 131, 132, and `Price` 121, 122 columns. The position of the marker in the anchored

contract helps to determine the placement of the markers in the non-anchor contract (leg). Their exact location is based on the 'Price Points On' 310 that is selected. If the Best Bid/Offer mode 311 is selected, and orders in the market continue to change as new orders are placed and filled, the markers 511, 512 will track or move with the Best Bid/Offer price(s). If Best Working 312 is selected, the markers 511, 512 on the anchor leg will remain at the trader's best working bid and offer that are in the market. If Manual 313 is selected, the user will be able to manually select the buy and sell price points of his choice. Regardless of the method, the present invention will use the anchor price points corresponding to the markers 511 and 512 to calculate the price level indicators' locations 513-516 in the non-anchored contract. For example, if the trader selects Best Working 310 and enters the market, and gets filled on the bid side 151 of the anchor leg, a marker 511 will be displayed both at the price where he was filled and at each end of the calculated price level indicator prices 515 or 516 on the ask (offer) side 162 of the corresponding leg. Similarly, if the trader enters the market on the ask (offer) side 161 of one leg, markers will be displayed at both the point in which he entered the market 512 and at each spread price 513 or 514 point on the bid side 152 of the corresponding contract.

[0064] The location of the Price Level Indicators, as based on the 'Price Points On' 310 option that is selected by the trader, is dependent on the trader having, or not having, a fully hedged position on the anchor leg. In other words, the price level indicator will only remain at the Best Bid/Offer 311, Best Working 312, or Manual price 313 if the trader's designated ratio is maintained. For example, if a trader has a ratio of 5:3 set in 205/206, and he buys (fills) 5 contracts, the system calculates that he will need to sell 3 contracts in order to be fully hedged (thus keeping the marker at the 'Price Points On' price). Likewise, if that trader buys 10 contracts, he would need to sell 6 contracts. If the trader fills orders on only one side of the ratio, he will be unhedged, and the location of the Price Level Indicator 511, 512 will not reside at the 'Price Points On' 310 price, but will instead reside at the last traded price average price of the filled, unhedged position. For example, if a trader has selected Best/Bid Offer 311, and the best bid is a price of 9221 in column 121, then the marker 511 will reside at 9221. If that trader (with a 5:3 ratio) in 205, 206 buys 5 at a price of 9224, but does not sell any on the non-anchor, the marker 511 will reside at the 9224 price in column 121. In addition, it is also possible for a trader to continue to buy multiple contracts while selling none. In cases like this, the price level indicator will reside at the average price level of those filled buy orders. For example, the trader discussed above may begin by buying 5 contracts at a price of 9222 in column 121. He then may buy another 5 at a price of 9224 in column 121, and still another 5 at a price of 9226. The price level indicator 511 would then reside at the weighted average price of these three separate buy orders, which would be 9224. Assume, for example, that after filling these three buy orders, the trader fills a sell order in the non-anchor commodity for a quantity of 3. This will then hedge the first order (9222), and calculate a weighted average so that the level indicator 511 will now reside at the weighted average of the other two orders, 9224 and 9226, which would be 9225.

[0065] As discussed above, there are several factors involved in determining the placement of the markers in the non-anchored contract, including the Ratio, the Price Points On selection, the Net Change, and the Spread Price Point values. These factors are used to calculate the price level indicators, thereby determining the placement of the markers on the non-anchored contact.

[0066] The present invention lets a trader set up two different 'Buy' levels 331, 332 and two different 'Sell' levels 333, 334, which constitute the price ranges in which the trader wants to buy and sell the spread. For example, assume that a trader set the 'Buy' Spread Price Point values to -15 and -1 in 331 and 332, and he set the 'Sell' Spread Price Point values to 21 and 6 in 333 and 334. The "-15" and "-1" 'Buy' Spread Price Point values 331, 332 indicate that ideally the trader would like to buy the spread when the spread price point value is -15, but he is willing to buy the spread at -1. Buying the spread in the present context means to purchase the anchor leg. Likewise, the "21" and "6" 'Sell' Spread Price Point values 333 or 334 indicate that ideally the trader would like to sell the spread when the spread price point value is 21, but he is willing to sell the spread at 6. Selling the spread in the present context means selling the anchor leg.

[0067] Range Indications

[0068] The 'Range Indications' feature shown in FIG. 6, as developed by the inventors, provides a trader

with a vertical display of a market's prices while also providing a visual reference as to which prices the commodity is most often traded. The vertical layout applies to both legs of the spread and displays the prices for contracts for both of the commodities from the top of the panes to the bottom. The prices displayed in the price column 640 begin with the largest price 645 at the top of the column and descends as the price level decreases.

[0069] To distinguish a price point at which a large percentage of the daily volume has traded, from a price point at which little volume has traded, the present innovation incorporates the use of colors. Particular colors, which are chosen by the trader, differentiate the price points. Colors are used to represent the percentage of the daily volume that has traded at a particular price(s). Each price is colored depending on the quantity that is traded at a particular price or group of prices. In place of or in addition to color, other ways can be used to distinguish a price point. For example, the background color of the prices could differ, or there could be some other convenient visual indicator at or in adjacency to the pertinent price groups, such as the use of a different font, type of underlining or circling.

[0070] In the sample display using range indications shown in FIG. 6, the trader may want to view the daily trade volume of a particular commodity, and he may also want to see that volume divided into a plurality, such as, for example, three easily distinguishable groups of prices ranging from the most heavily traded volume for the day to the lightest. In embodiment, the present feature gives the trader the option of deciding how large he wants a group of prices to be and in what color or other visual designation he wants each group to be depicted. As illustrated in FIG. 6, the trader chose to divide the daily trade volume into three price groups: A) 70%, B) 20%, and C) 10%. Group A (element 610) represents the prices where 70% of the trading volume occurred for that day. Group B (element 620) represents the 20% of prices 640 that had the next heaviest amount of trading for the day, and Group C (element 630) represents the 10% of prices 640 that saw the lightest amount of trading. It should also be noted that each group may be dispersed throughout the market depth. For example, Group A may include price levels at 9217 and 9233, and Group B might be the price level 9221 while Group C is at price levels 9227 through 9231. The volume of trading may not always follow a true "bell-curve" where the most traded prices are grouped together. Instead, frequently the volume ebbs and flows at various prices in the market. In the preferred embodiment, the prices are arranged in descending order by volume and the percentile groupings are made by accumulating the values into the percentiles selected by the user. As shown to the trader, however, the prices are displayed in numeric order. The trader who is operating the application determines the colors or other visual indicators that are applied to the prices shown in column 640.

[0071] In one embodiment, a trader is provided access to the prices for the duration that the application is open. If the application is opened during the middle of the day, price information from the beginning of the day will not be available. This may be varied and is a design choice.

[0072] Drag and Drop

[0073] The `Drag and Drop` feature is the ability to drag and drop Price Level Indicators 511-516 of FIG. 5 from one price level to another price level. The feature is performed on either of the Mercury Display panes 101 or 102 shown in FIG. 5, and in the preferred embodiment, is currently carried out by clicking on the left button of a user's mouse. While holding down that left mouse button, the trader would drag the Price Level Indicator 511-516 to a different price 121, 122 and release it when the marker is along side his desired price. The `Drag and Drop` functions may also be effected by designated keystrokes on a trader's keyboard or through other actions performed by the trader.

[0074] On the anchor leg 101, a trader conducting the `Drag and Drop` feature will perform the same functions as if he had selected the `Manual` option 313 from the Price Points On options 310. The placement of the price level indicators 511, 512 will also be calculated as if the `Manual` option 313 were selected.

[0075] A trader may also choose to `Drag and Drop` one or more price level indicators on the non-anchored leg 102. When such an action is performed, the Spread Price Point value associated with the

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specific indicator 513-516 that was moved, will be altered. As described above in Equation 2, a Price Level Indicator would be calculated as follows:

Non-Anchor Price Level Indicator=(Spread Price Point Value-(Anchor Leg Ratio*Anchor Leg Net Change))/Non-Anchor Leg Ratio.

[0076] By dragging and dropping a Price Level Indicator 513-516 on the non-anchored leg 102, a trader has, in essence, defined the Price Level Indicator leaving the Spread Price Point value 330 to be determined. The Price Level Indicator, as defined by the following calculation, is the price level at which a trader has dragged and dropped an indicator 513-516. For example, when a trader drags and drops an indicator from a price of 2100 to a price of 2120, the price level of the Price Level Indicator would be 2120. In addition, the Anchor Spread Point Indicator 511, 512 refers to the price level, on the anchor leg, where the price indicator is resting. For example, if a user has been filled at 1000, 1200, and 1400 (1 lot at each price), the Anchor Spread Point Indicator 511 or 512 would be resting at 1200 (the average price of the fills). There are a variety of formulas that can be used to calculate the Spread Price Point values. Typically, such formulas would include one or more of the factors described in Equation 3 below. By way of example only, the following calculation would determine the Spread Price Point 331-334 value when the Price Level Indicator 513-516 is known.

Spread price point value=(Price Level Indicator*Non-Anchor Leg Ratio)+(Anchor Leg Ratio*Anchor Leg Spread Point Indicator) [Eq. 3]

[0077] Spread Market Display

[0078] The `Spread Market Display` feature, as developed by the inventors, provides a trader with a window display that illustrates where the current spread is trading, while also showing the market depth as related to that spread. Market depth represents each bid and ask entered into the market that is not the inside market (the best bid price and quantity and the best ask price and quantity). The present feature, using the market depth from each leg that makes up the spread 710 and 720, calculates the spread 730 by subtracting one leg 720 from another 710 as shown, for example, in FIG. 7. The labels A-F (731-736) pointing to various spread prices correspond to examples A-F described below.

[0079] An example of such a Spread Market Display is shown in FIG. 8. The middle column 810 is the spread price. This list of prices is also the market depth. The left column 820 is the bid column and displays the bid quantity currently available in the market (where the spread is trading) for that spread price. The right column 830 is the ask (offer) column and displays the offer quantity currently available in the market (where the spread is trading) for that spread price. The box 840 above the center column lists the commodity(s), and the box 850 to the right of box 840 displays the trader's ratio. The actual numbers shown in the display of FIG. 8 correspond to and are explained in the context of the examples to be described herein.

[0080] The current market spread is dependant on the best price point for the commodities at which a trader is presently trading. A trader entering the market on the bid side is looking to buy at the lowest offer (ask) price in the market, whereas a trader entering the market on the offer side is looking to sell for the highest bid price in the market. This feature of the present invention always begins with the best bid and best offer and calculates the spread based on both. For example, referring again to FIG. 7, and as calculated above, a trader who is entered in the market at the FGBL price of 9861 (best bid) column 710, when the corresponding leg (FGBM) column 720 has quantity available at the best offer (9221), will be trading on a spread of 640 (see column 730). As orders are filled and price levels in the market are "zeroed out", the best bid and best offer prices change (bid prices get lower as they are zeroed out, and offer prices get higher), and that results in a change in the spread. `Zeroed Out` means that all of the quantity that was previously in the market for a specific product, and at a specific price, has been either bought or sold, and a quantity of 0 (zero) remains. Prices from the contracts that are used in the calculation of the spread, and ultimately in the market depth, can be rounded and displayed at whatever value the trader chooses (e.g. half ticks).

[0081] The present feature, which operates as part of the spread trading tool and creates its own market depth and spread from two similar contracts, does not require a trader to be entered in the market in order to view the Spread Market Display window 800 of FIG. 8. The illustrations in FIGS. 7-9 depict the display of two similar contracts, FGBM and FGBL 920 and 910 in FIG. 9 and the sample spread calculation display (see FIG. 7), and are presented as references to the examples that follow.

[0082] Examples A, B, and C are based on a trader entering the market on the bid side 912 of the FGBL leg 910 at the best bid price of 9861 (column 914).

[0083] It is important to note that for the purpose of illustration the following examples refer to a trader who has entered the market. However, the Spread Market Display information is available to any trader running the present application, and it is not necessary for that trader to be entered in the market in order to view the Spread Market Display window 800 of FIG. 8. Therefore, references to such are for the enhanced illustration of the innovation's process only. The present innovation will calculate market spreads 840 and display them in conjunction with the market's depth 820, 830 irrespective of whether or not a trader is actively involved in the market.

EXAMPLE A

[0084] As mentioned above, the present innovation always begins with the best bid and best offer (and calculates the spread based on both). Therefore, a trader entering the market at the best bid price 911 (9861) would have that price matched with the best offer price 921. In the present example, that best offer price would be 9221. The best offer (9221) would be subtracted from the best bid price (9861) to determine the spread on which the trader would be trading (640). See Line A 731 of FIG. 7. The bid quantity 913 of 100 displayed on the FGBL leg 910 at the price point 911 where the trader entered the market, would suggest that the trader was interested in buying a quantity of 100 contracts from the corresponding FBGM leg 920. Because the present feature begins with the best bid and best offer, the application would look to make a match at the best offer price 921 (9221) on the corresponding FBGM leg 920. The FBGM best offer price (9221) currently has 65 contracts available 923, and therefore since corresponding bids and offers would exist, a match would be made. The match would result in all 65 FBGM best offer (9221) contracts 923 getting sold (zeroed out), a new FBGM best offer price being established (9222), and the desired quantity of 100 (at the best bid price of 9861) getting reduced to 35 contracts.

EXAMPLE B

[0085] As a consequence of the market changes described in Example A, and particularly the change in best offer price from 9221 to 9222, the present feature would automatically calculate a new spread. The spread (639) is determined by subtracting the best offer (9222) from the best bid (9861). See Line B 732 of FIG. 7. As displayed in FIG. 9, the best offer price 925 (9222) currently has a quantity of 30 contracts available 927. Since the trader, still entered in the market, would still be looking to buy 35 contracts, and 30 contracts 927 would be available at the new best offer price, another match would be made. The result of this match would be that all 30 contracts at the best offer price 925 (9222) would be zeroed out, therefore reducing the trader's desired bid quantity from 35 to 5 contracts, and creating a third new best offer price of 9223.

EXAMPLE C

[0086] As a consequence of the changes in the market resulting from the activity described in Example B, and particularly the change in the best offer price from 9222 to 9223, the present innovation would automatically calculate a new spread. The spread (638) is determined by subtracting the best offer (9223) from the best bid (9861). See Line C 733 of FIG. 7. As displayed in FIG. 9, the best offer price 928 (9223) currently has a quantity of 50 contracts available 929. However the trader, in the market at the best bid price 911 (9861), would only be looking to buy (fill) the 5 remaining contracts from his original bid. Since 50 contracts are available 929 at the corresponding best offer price 928, and the trader has a bid entered in

the market at the best bid price, a match would be made, the result of which would include the best bid price 911 (9861) getting zeroed out. In addition, and as a result of the aforementioned market activity, the best offer price 928 (9223) would remain the best offer but would be reduced from 50 to 45 contracts, and the best bid price would become 9860 (the next largest available bid price 915).

[0087] Referring again to FIG. 8, in Example A, the trader was trading at a spread price of 640 and he zeroed out the quantity. Thus, as shown in FIG. 8, the spread price of 640 (column 840) has no (zero) quantity displayed in column 820. In Example B, the same happened since the 30 contracts were zeroed out, but in Example C only 5 out of 50 contracts were sold, leaving a quantity of 45. Thus, 45 is shown in column 820 next to the spread price of 638 (column 840).

[0088] Examples D, E, and F are based on a trader entering the market on the offer side 916 of the FGBL leg 910 at the best offer price 917 of 9862.

[0089] Again, it should be noted that a trader need not be entered in the market in order to view the Spread Market Display window 800, and therefore any references to such are for the enhanced illustration of the innovation's process only. The present feature will calculate market spreads 840 and display them in conjunction with the market's depth 820, 830 irrespective of whether a trader is actively involved in the market.

EXAMPLE D

[0090] Similar to the manner in which the present feature operates when a trader enters the market at the best bid price, a trader entering the market at the best offer price would have that price matched at the best bid price on the corresponding leg. In the present example, that best offer price 917 would be 9862. The best bid 930 (9220) would be subtracted from the best offer price 917 (9862) to determine the spread on which the trader would be trading (642). See Line D 734 at FIG. 7. The offer quantity 918 of 100 displayed on the FGBL leg 910 at the price point 917 where the trader entered the market, would suggest that the trader wanted to sell 100 contracts. Again, because the present innovation begins with the best bid and best offer, the application would look to make a match at the best bid price 930 (9220) on the corresponding FGBM leg 920. At the FGBM best bid price 930 (9220) a trader is interested in buying 25 contracts 932, and therefore since corresponding bids and offers exist, a match would be made. The match would result in all 25 FGBM best bid (9220) contracts 932 getting zeroed out, a new FGBM best bid price 931 being established (9219), and the desired FGBL sell quantity 918 of 100 getting reduced to 75 contracts.

EXAMPLE E

[0091] As a consequence of the market changes described in Example D, and particularly the change in the best bid price from 9220 to 9219, a new spread would be calculated. The spread of 643 would be calculated by subtracting 9219 (the best bid) from 9862 (the best offer). See Line F 735 of FIG. 7. The trader, who entered in the market at 9862 (the best offer price 917) and filled 25 of his 100 offer (ask) contracts 918, would have an order of 75 contracts remaining. On the corresponding FGBM leg 920, and at the new best bid price (9219), a trader has a bid order 933 of 100 contracts, which would be matched with the 75 FGBL contracts. As a result of the aforementioned match, the best offer 917 (9862) would be zeroed out and the best bid price 931 (9219) would be reduced from 100 to 25 contracts. In addition, the new best offer price 919 would become 9863 (the lowest available offer price).

EXAMPLE F

[0092] As a consequence of the changes in the market resulting from the activity described in Example E, and particularly the change in the best offer price from 9862 to 9863, a new spread would be calculated. The spread (644) is determined by subtracting the best bid (9219) from the best offer (9863). See Line F 736 of FIG. 7. The trader, entered in the market at the best offer price 919 (9863), currently has an order 909 for 15 contracts in the market. On the corresponding leg 920, a trader entered at the best bid price 931 (9219), currently has an order of 25 contracts in the market. Since contracts are available at the coinciding

best bid and best offer prices 931 and 919, a match would be made, and as a result the best offer price 919 (9863) would be zeroed out and the best bid price 931 (9219) would be reduced from 25 to 10 contracts.

[0093] Referring again to FIG. 8, in Example D, the 642 spread price (column 840) was zeroed out. Thus, no quantity is shown next to the spread price of 642. In Example E, the same occurred. Thus, no quantity is shown next to the spread price (column 840) of 643. In Example F, however, 10 contracts remain (column 830) at a spread price of 644 (column 810), and is shown accordingly in FIG. 8 (column 830) next to spread price 644.

[0094] Traded Spread Display

[0095] The Traded Spread Display serves to provide a trader with historical data illustrating specifically where a spread could have traded. A trader operating the present Spread Tool invention will have two corresponding trading screens 101 and 102 (legs), as referenced throughout this document, displayed on his workstation's monitor. From those screens the trader is able to buy and sell commodities simultaneously. The displaying of information, as related to the present feature, is based on the best prices in the market, and the feature will display both the spread price and the total quantity traded at that spread price. To illustrate the present innovation, the displays shown in FIG. 10 are used, which represent the two markets 1010 and 1020 used as the spread legs.

[0096] The `Traded Spread Display` feature, an example of which is shown in FIG. 11, provides a trader who is operating the present invention with an additional window display 1100 that illustrates where a spread has traded throughout the day. More specifically, the window displays spread prices 1110 and quantities 1120 as they are traded in the market.

[0097] Spread prices are determined by subtracting a price point shown in FIG. 10 on one leg 1020 from a price point on the other leg 1010. This calculation initially incorporates either the best bid for each leg or the best ask (offer) for each leg. In FIG. 10, the bids are shown in one color while the asks/offers are shown in another color. As prices are zeroed out, new best prices will be created and the spread will be recalculated using either the new best bid or best offer prices. Prices are zeroed out when the entire quantity associated with that price are either bought or sold, leaving a total quantity of zero. The quantities 1120 displayed are the total number of contracts that have traded throughout the day at each particular spread price. The `Traded Spread Display` 1100 will maintain a running total of the quantities for each of these applicable spread prices. For example, if a spread trades at a price level of 340 (column 1110) and at a quantity of 15 (column 1120), the trade would be recorded and displayed in the `Traded Spread Display` 1100. If one hour later the spread were to trade again at 340, and would trade this time at a quantity of 12, then the display would change from 15 to 27 for the traded quantity Column 1120.

[0098] FIG. 10, in which Contract A 1013 has a best bid price 1014 of 9859 and a best ask (offer) price 1015 of 9860, and Contract B 1023 has a best bid price 1024 of 9517 and a best ask price 1025 of 9518, further illustrates the calculation and display of the spread price 1110 and quantity 1120. If, for instance, 10 contracts trade on the 9859 bid price of Contract A 1013, then the buyer could sell 10 contracts at the 9517 bid price on Contract B 1023. In this scenario the spread would have traded 10 times at a price of 342 (9859-9517). If, for example, all 50 contracts 1016 would have traded at the 9859 price (1014), then the buyer could only have sold 35 contracts at the 9517 price (1024) since that is the maximum quantity available 1026 on Contract B 1023 and at that price 1024. In this scenario the spread would have traded 35 times at 342 as is shown in columns 1110 and 1120 of display 1100. The trader could then sell 8 contracts at 9516, see columns 1021 and 1022, with the spread trading 8 times at 343, see columns 1110 and 1120 (9859-9516). Finally, selling his remaining 7 contracts at a price of 9515, see columns 1021 and 1022, could zero the trader's order out, resulting in the spread trading 7 times at 344 (9859-9515), see columns 1110 and 1120. All told, in the scenario above, 50 spreads could have traded at three different price levels 342 and 344 (see columns 1110 and 1120).

[0099] FIG. 11 depicts what the `Traded Spread Display` window would look like based on the above scenario. It should be reiterated that the price displayed in column 1110 is not the price of any individual

product in the market, but is instead the spread price (Bid price of Contract A-Bid price of Contract B, or Ask price of Contract A-Ask price of Contract B). In addition, the quantities that are displayed in column 1120 for the present innovation are not quantities that currently reside in the market, nor are they the quantities of any specific product; rather they constitute a measure of how many spreads have traded at that particular price level throughout the day. Lastly, the information in this window is limited by how long the trader has the application open, since, in the preferred embodiment, there is no database currently attached to the window that will store previous trade information. However, the addition of such a database is within the skill of the art.

[0100] The calculations and other operations described herein may be implemented using a spreadsheet mode and/or by any standard rule based logic or other convenient logic for determining the appropriate display numbers and indicators. Thus, a spread trading tool has been described according to the present invention. Many modifications and variations may be made to the techniques and structures described and illustrated herein without departing from the spirit and scope of the invention. Accordingly, it should be understood that the methods and interfaces described herein are illustrative only and are not limiting upon the scope of the invention.

* * * * *

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Click based trading with intuitive grid display of market depth and price consolidation

Abstract

A method and system for reducing the time it takes for a trader to place a trade when electronically trading on an exchange, thus increasing the likelihood that the trader will have orders filled at desirable prices and quantities. The "Mercury" display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuate. This allows the trader to trade quickly and efficiently. The price consolidation feature of the present invention, as described herein, enables a trader to consolidate a number of prices in order to condense the display. Such action allows a trader to view a greater range of prices and a greater number of orders in the market at any given time. By consolidating prices, and therefore orders, a trader reduces the risk of a favorable order scrolling from the screen prior to filling a bid or ask on that order at a favorable price.

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Claims

What is claimed is:

1. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market, said method comprising: dynamically displaying, in a bid display region, a plurality of consolidated bids for said commodity, each of said plurality of consolidated bids representing a plurality of bid quantities in the market for said commodity; dynamically displaying, in an ask display region, a plurality of consolidated asks for said commodity; each of said plurality of consolidated asks representing a plurality of ask quantities in the market for said commodity; and statically displaying consolidated prices corresponding to said plurality of consolidated bids and asks, each of said consolidated prices representing a plurality of prices for said commodity, wherein said pluralities of consolidated bids and asks are dynamically displayed in alignment with the consolidated prices corresponding thereto.

2. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein said consolidated bids and asks are oriented vertically.

3. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein said consolidated bids and asks are oriented horizontally.

4. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein the number of prices in said plurality of prices represented by each of said consolidated prices is adjustable.

5. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein if a range of prices corresponds to ask quantities in the market, such prices are rounded up to a consolidated price greater than or equal to such prices and wherein if a range of prices corresponds to bid quantities in the market, such prices are rounded down to a consolidated price less than or equal to such prices.

6. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 5, wherein a range of ask quantities in the market are summed to a consolidated ask corresponding to a consolidated price greater than or equal to the prices corresponding to such ask quantities and wherein a range of bid quantities in the market are summed to a consolidated bid corresponding to a consolidated price less than or equal to the prices corresponding to such bid quantities.

7. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein prices corresponding to ask quantities are rounded to consolidated prices in accordance with the equation $Acp = Int(((Ap-Os)+N-1)/N)N+Os$, where Ap=Ask Quantity Price (in ticks), N=Variable increment chosen by the trader, Acp=Consolidated price row with corresponding ask quantity (in ticks), Os=Offset (# of ticks) and Int=Integer Function.

8. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein prices corresponding to bid quantities are rounded to consolidated prices in accordance with the equation: $Bcp = Int((Bp-Os)/N)N+Os$, where Bp=Bid Quantity Price (in ticks), N=Variable increment chosen by the trader, Bcp=Consolidated price row with corresponding bid quantity (in ticks), Os=Offset (# of ticks) and Int=Integer Function.

9. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market, the program code for causing a machine to perform the following method steps: dynamically displaying, in a bid display region, a plurality of consolidated bids for said commodity, each of said plurality of consolidated bids representing a plurality of bid quantities in the market for said commodity; dynamically displaying, in an ask display region, a plurality of consolidated asks for said commodity; each of said plurality of consolidated asks representing a plurality of ask quantities in the market for said commodity; and statically displaying consolidated prices corresponding to said plurality of consolidated bids and asks, each of said consolidated prices representing a plurality of prices for said commodity, wherein said pluralities of consolidated bids and asks are dynamically displayed in alignment with the consolidated prices corresponding thereto.

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10. A computer readable medium according to claim 9, wherein said consolidated bids and asks are oriented vertically.

11. A computer readable medium according to claim 9, wherein said consolidated bids and asks are oriented horizontally.

12. A computer readable medium according to claim 9, wherein the number of prices in said plurality of prices represented by each of said consolidated prices is adjustable.

13. A computer readable medium according to claim 9, wherein if a range of prices corresponds to ask quantities in the market, such prices are rounded up to a consolidated price greater than or equal to such prices and wherein if a range of prices corresponds to bid quantities in the market, such prices are rounded down to a consolidated price less than or equal to such prices.

14. A computer readable medium according to claim 13, wherein a range of ask quantities in the market are summed to a consolidated ask corresponding to a consolidated price greater than or equal to the prices corresponding to such ask quantities and wherein a range of bid quantities in the market are summed to a consolidated bid corresponding to a consolidated price less than or equal to the prices corresponding to such bid quantities.

15. A computer readable medium according to claim 9, wherein prices corresponding to ask quantities are rounded to consolidated prices in accordance with the equation $Acp=Int(((Ap-Os)+N-1)/N)N+Os$, where Ap=Ask Quantity Price (in ticks), N=Variable increment chosen by the trader, Acp=Consolidated price row with corresponding ask quantity (in ticks), Os=Offset (# of ticks) and Int=Integer Function.

16. A computer readable medium according to claim 9, wherein prices corresponding to bid quantities are rounded to consolidated prices in accordance with the equation: $Bcp=Int((Bp-Os)/N)N+Os$, where Bp=Bid Quantity Price (in ticks), N=Variable increment chosen by the trader, Bcp=Consolidated price row with corresponding bid quantity (in ticks), Os=Offset (# of ticks) and Int=Integer Function.

17. A graphical user interface for displaying the market depth of a commodity traded in a market, comprising: a dynamic display, in a bid display region, of a plurality of consolidated bids for said commodity, each of said plurality of consolidated bids representing a plurality of bid quantities in the market for said commodity; a dynamic display, in an ask display region, of a plurality of consolidated asks for said commodity, each of said plurality of consolidated asks representing a plurality of ask quantities in the market for said commodity; and a static display of consolidated prices corresponding to said plurality of consolidated bids and asks, each of said consolidated prices representing a plurality of prices for said commodity, wherein said pluralities of consolidated bids and asks are dynamically displayed in alignment with the consolidated prices corresponding thereto.

18. A graphical user interface according to claim 17, wherein said displays are oriented vertically.

19. A graphical user interface according to claim 17, wherein said displays are oriented horizontally.

20. A graphical user interface according to claim 17, wherein the number of prices in said plurality of prices represented by each of said consolidated prices is adjustable.

21. A graphical user interface according to claim 17, wherein if a range of prices corresponds to ask quantities in the market, such prices are rounded up to a consolidated price greater than or equal to such prices and wherein if a range of prices corresponds to bid quantities in the market, such prices are rounded down to a consolidated price less than or equal to such prices.

22. A graphical user interface according to claim 21, wherein a range of ask quantities in the market are summed to a consolidated ask corresponding to a consolidated price greater than or equal to the prices

corresponding to such ask quantities and wherein a range of bid quantities in the market are summed to a consolidated bid corresponding to a consolidated price less than or equal to the prices corresponding to such bid quantities.

23. A method of placing a trade order for a commodity, using a graphical user interface and a user input device and having preset parameters for trade orders, said method comprising: displaying the market depth of a commodity traded in a market, through a dynamic display, in a bid display region, of a plurality of consolidated bids for said commodity and, in an ask display region, of a plurality of consolidated asks for said commodity, aligned with a static display of consolidated prices corresponding thereto; and initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned within at least one of said bid and ask display regions; wherein each of said plurality of consolidated bids represents a plurality of bid quantities in the market for said commodity; wherein each of said plurality of consolidated asks represents a plurality of ask quantities in the market for said commodity; wherein each of said consolidated prices represents a plurality of prices for said commodity; wherein the contents of the trade order are based in part upon the preset parameters and the position of the pointer at the time of said single action.

24. A method of placing a trade order according to claim 23, wherein said trade order is a buy order if the position of the pointer at the time of said single action is within the bid display region and wherein said trade order is a sell order if the position of the pointer at the time of said single action is within the asks display region.

25. A method of placing a trade order according to claim 24, wherein the trade order is a single order for said pre-determined quantity and for the lowest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a buy order and for the highest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a sell order.

26. A method of placing a trade order according to claim 24, wherein the trade order is comprised of multiple trade orders, quantities for which sum to a predetermined quantity and prices for which include prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

27. A method of placing a trade order according to claim 26, wherein the quantities for said multiple trade orders are evenly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

28. A method of placing a trade order according to claim 26, wherein the quantities for said multiple trade orders are randomly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action..

29. A method of placing a trade order according to claim 26, wherein the quantities for said multiple trade orders are distributed in accordance with a predetermined distribution method among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

30. A method of placing a trade order according to claim 26, wherein said predetermined quantity is based on said preset parameters and the quantities of said commodity available in the market at the time of said single action.

31. A computer readable medium having program code recorded thereon, for execution on a computer having a graphical user interface and a user input device and having preset parameters for trade orders, to place a trade order for a commodity on an electronic exchange, the program code for causing a machine to perform the following method steps: displaying the market depth of a commodity traded in a market, through a dynamic display, in a bid display region, of a plurality of consolidated bids for said commodity

and, in an ask display region, of a plurality of consolidated asks for said commodity, aligned with a static display of consolidated prices corresponding thereto; and initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned within at least one of said bid and ask display regions; and setting characteristics of the trade order based in part upon the preset parameters and the position of the pointer at the time of said single action, wherein each of said plurality of consolidated bids represents a plurality of bid quantities in the market for said commodity; wherein each of said plurality of consolidated asks represents a plurality of ask quantities in the market for said commodity; wherein each of said consolidated prices represents a plurality of prices for said commodity.

32. A computer readable medium according to claim 31, wherein said trade order is a buy order if the position of the pointer at the time of said single action is within the bid display region and wherein said trade order is a sell order if the position of the pointer at the time of said single action is within the asks display region.

33. A computer readable medium according to claim 32, wherein the trade order is a single order for said pre-determined quantity and for the lowest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a buy order and for the highest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a sell order.

34. A computer readable medium according to claim 32, wherein the trade order is comprised of multiple trade orders, quantities for which sum to a predetermined quantity and prices for which include prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

35. A computer readable medium according to claim 34, wherein the quantities for said multiple trade orders are evenly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

36. A computer readable medium according to claim 34, wherein the quantities for said multiple trade orders are randomly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

37. A computer readable medium according to claim 34, wherein the quantities for said multiple trade orders are distributed in accordance with a predetermined distribution method among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

38. A computer readable medium according to claim 34, wherein said predetermined quantity is based on said preset parameters and the quantities of said commodity available in the market at the time of said single action.

39. A client system for placing a trade order for a commodity on an electronic exchange, the system comprising: a display device for displaying the market depth of a commodity traded in a market, through a dynamic display, in a bid display region, of a plurality of consolidated bids for said commodity and, in an ask display region, of a plurality of consolidated asks for said commodity, aligned with a static display of consolidated prices corresponding thereto a user input device for positioning a pointer thereof over an area within at least one of said bid display region and said ask display region and for initiating placement of a trade order of the commodity through a single action of the user input device; and a trade order characteristics setting component for setting characteristics of the trade order based in part upon preset parameters and the position of the pointer at the time of said single action, wherein each of said plurality of consolidated bids represents a plurality of bid quantities in the market for said commodity; wherein each of said plurality of consolidated asks represents a plurality of ask quantities in the market for said commodity; wherein each of said consolidated prices represents a plurality of prices for said commodity.

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40. A client system for placing a trade order for a commodity according to claim 39, wherein said trade order characteristics setting component establishes that said trade order is a buy order if the position of the pointer at the time of said single action is within the bid display region and wherein said trade order is a sell order if the position of the pointer at the time of said single action is within the asks display region.

41. A client system for placing a trade order for a commodity according to claim 40, wherein said trade order characteristics setting component establishes that the trade order is a single order for said pre-determined quantity and for the lowest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a buy order and for the highest price represented by the consolidated price corresponding to the position of the pointer at the time of said single action if said trade order is a sell order.

42. A client system for placing a trade order for a commodity according to claim 40, wherein said trade order characteristics setting component establishes that the trade order is comprised of multiple trade orders, quantities for which sum to a predetermined quantity and prices for which include prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

43. A client system for placing a trade order for a commodity according to claim 42, wherein said trade order characteristics setting component establishes that the quantities for said multiple trade orders are evenly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

44. A client system for placing a trade order for a commodity according to claim 42, wherein said trade order characteristics setting component establishes that the quantities for said multiple trade orders are randomly distributed among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

45. A client system for placing a trade order for a commodity according to claim 42, wherein said trade order characteristics setting component establishes that the quantities for said multiple trade orders are distributed in accordance with a predetermined distribution method among the prices within the range represented by the consolidated price corresponding to the position of the pointer at the time of said single action.

46. A client system for placing a trade order for a commodity according to claim 42, wherein said predetermined quantity is based on said preset parameters and the quantities of said commodity available in the market at the time of said single action.

Description

[0001] This application claims the benefit of U.S. Provisional Application No. 60/238,001, filed Oct. 6, 2000 and is a continuation-in-part of U.S. application Ser. No. 09/590,692, filed Jun. 9, 2000, which claims the benefit of U.S. Provisional Application No. 60/186,322, filed Mar. 2, 2000.

BACKGROUND OF THE INVENTION

[0002] The present invention is directed to the electronic trading of commodities. Specifically, the invention provides a trader with a versatile and efficient tool for executing trades. It facilitates the display of and the rapid placement of trade orders within the market trading depth of a commodity, where a commodity includes anything that can be traded with quantities and/or prices.

[0003] At least 60 exchanges throughout the world utilize electronic trading in varying degrees to trade

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stocks, bonds, futures, options and other products. These electronic exchanges are based on three components: mainframe computers (host), communications servers, and the exchange participants' computers (client). The host forms the electronic heart of the fully computerized electronic trading system. The system's operations cover order-matching, maintaining order books and positions, price information, and managing and updating the database for the online trading day as well as nightly batch runs. The host is also equipped with external interfaces that maintain uninterrupted online contact to quote vendors and other price information systems.

[0004] Traders can link to the host through three types of structures: high speed data lines, high speed communications servers and the Internet. High speed data lines establish direct connections between the client and the host. Another connection can be established by configuring high speed networks or communications servers at strategic access points worldwide in locations where traders physically are located. Data is transmitted in both directions between traders and exchanges via dedicated high speed communication lines. Most exchange participants install two lines between the exchange and the client site or between the communication server and the client site as a safety measure against potential failures. An exchange's internal computer system is also often installed with backups as a redundant measure to secure system availability. The third connection utilizes the Internet. Here, the exchange and the traders communicate back and forth through high speed data lines, which are connected to the Internet. This allows traders to be located anywhere they can establish a connection to the Internet.

[0005] Irrespective of the way in which a connection is established, the exchange participants' computers allow traders to participate in the market. They use software that creates specialized interactive trading screens on the traders' desktops. The trading screens enable traders to enter and execute orders, obtain market quotes, and monitor positions. The range and quality of features available to traders on their screens varies according to the specific software application being run. The installation of open interfaces in the development of an exchange's electronic strategy means users can choose, depending on their trading style and internal requirements, the means by which they will access the exchange.

[0006] The world's stock, bond, futures and options exchanges have volatile products with prices that move rapidly. To profit in these markets, traders must be able to react quickly. A skilled trader with the quickest software, the fastest communications, and the most sophisticated analytics can significantly improve his own or his firm's bottom line. The slightest speed advantage can generate significant returns in a fast moving market. In today's securities markets, a trader lacking a technologically advanced interface is at a severe competitive disadvantage.

[0007] Irrespective of what interface a trader uses to enter orders in the market, each market supplies and requires the same information to and from every trader. The bids and asks in the market make up the market data and everyone logged on to trade can receive this information if the exchange provides it. Similarly, every exchange requires that certain information be included in each order. For example, traders must supply information like the name of the commodity, quantity, restrictions, price and multiple other variables. Without all of this information, the market will not accept the order. This input and output of information is the same for every trader.

[0008] With these variables being constant, a competitive speed advantage must come from other aspects of the trading cycle. When analyzing the time it takes to place a trade order for a given commodity, various steps contribute in different amounts to the total time required. Approximately 8% of the total time it takes to enter an order elapses between the moment the host generates the price for the commodity and the moment the client receives the price. The time it takes for the client application to display the price to the trader amounts to approximately 4%. The time it takes for a trade order to be transmitted to the host amounts to approximately 8%. The remainder of the total time it takes to place an order, approximately 80%, is attributable to the time required for the trader to read the prices displayed and to enter a trade order. The present invention provides a significant advantage during the slowest portion of the trading cycle-- while the trader manually enters his order. Traders recognize that the value of time savings in this portion may amount to millions of dollars annually.

[0009] In existing systems, multiple elements of an order must be entered prior to an order being sent to market, which is time consuming for the trader. Such elements include the commodity symbol, the desired price, the quantity and whether a buy or a sell order is desired. The more time a trader takes entering an order, the more likely the price on which he wanted to bid or offer will change or not be available in the market. The market is fluid as many traders are sending orders to the market simultaneously. It fact, successful markets strive to have such a high volume of trading that any trader who wishes to enter an order will find a match and have the order filled quickly, if not immediately. In such liquid markets, the prices of the commodities fluctuate rapidly. On a trading screen, this results in rapid changes in the price and quantity fields within the market grid. If a trader intends to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars. The faster a trader can trade, the less likely it will be that he will miss his price and the more likely he will make money.

[0010] The "Mercury" display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates, while the display of the corresponding prices remains static. This allows the trader to trade quickly and efficiently.

[0011] One advantage of the static price column is that traders are more likely to enter orders at desired prices because the prices don't move on the screen. However, the physical size of a trader's computer screen imposes a limitation on the static price column in that only a finite number of prices can be displayed within that screen area.

[0012] Exchanges list the prices of commodities traded in the marketplace in small denominations, like {fraction (1/32)}.sup.nd or {fraction (1/64)}.sup.th of a dollar, or in decimals like 0.01. The smallest such denomination for each commodity is called a "tick." The static price column of Mercury can display each tick in price rows that make up the static price column. As the ticks become smaller, more price rows are required on the trader's computer screen to list all of them. For example, while only one field would be required to display a tick of one dollar, if that dollar was broken down into 64.sup.th's, 64 price rows would now be required to display the same one dollar price range. As such, much of the space on a trader's computer screen might be monopolized to show activity in the marketplace within a small variance in price. Many traders find a small variance in price, like {fraction (1/64)}.sup.th of a dollar, to be inconsequential. Those traders are willing to give up a display of the actual ticks available in a market in exchange for a wider range of prices. Similar display problems may occur when the market is volatile. In a volatile market, the difference between the best bid and the best ask (the spread) widens, and a wider spread results in a trader seeing less of the overall market on his computer screen due to the space restrictions.

SUMMARY OF THE INVENTION

[0013] The inventors have developed the present invention which overcomes the drawbacks of the existing trading systems and dramatically reduces the time it takes for a trader to place a trade when electronically trading on an exchange. This, in turn, increases the likelihood that the trader will have orders filled at desirable prices and quantities. The present invention consolidates the available ticks and the corresponding bid and ask quantities in the marketplace so that the trader sees a larger range of prices in the market. As a result of the consolidated price rows, the trader will also enter orders in a consolidated fashion by clicking on active trading fields in the Mercury display.

[0014] Specifically, the present invention is directed to a method of displaying and a graphical user interface for displaying the market depth of a commodity traded in a market. Both the method and the user interface include: dynamically displaying, in a bid display region, a plurality of consolidated bids for the commodity, each of the plurality of consolidated bids representing a plurality of bid quantities in the market for the commodity; dynamically displaying, in an ask display region, a plurality of consolidated asks for the commodity; each of said plurality of consolidated asks representing a plurality of ask quantities in the market for the commodity; and statically displaying consolidated prices corresponding to the

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plurality of consolidated bids and asks, each of the consolidated prices representing a plurality of prices for the commodity, wherein the pluralities of consolidated bids and asks are dynamically displayed in alignment with the consolidated prices corresponding thereto.

[0015] Also described herein is a method and system for placing trade orders using such displays. Specifically, the present invention includes a method and system of placing a trade order for a commodity, using a graphical user interface and a user input device and having preset parameters for trade orders. The method and system include: displaying the market depth of a commodity traded in a market, through a dynamic display, in a bid display region, of a plurality of consolidated bids for said commodity and, in an ask display region, of a plurality of consolidated asks for the commodity, aligned with a static display of consolidated prices corresponding thereto. The method and system also include initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned within at least one of the bid and ask display regions, wherein each of said plurality of consolidated bids and asks represents a plurality of bid and asks quantities, respectively, in the market for the commodity, wherein each of said consolidated prices represents a plurality of prices for the commodity and wherein the contents of the trade order are based in part upon the preset parameters and the position of the pointer at the time of the single action.

[0016] The inventors have developed the present invention, which builds upon the Mercury display described in parent application, and dramatically reduces the problems associated with the display of multiple prices when such prices are listed in small ticks.

[0017] This new feature consolidates the display of price information on the static price column of the Mercury electronic trading screen, thereby reducing the potential drawbacks associated with a fast moving marketplace that trades in small denominations.

[0018] The price consolidation feature of the present invention, as described herein, enables a trader to consolidate a number of prices in order to condense the display. Such action allows a trader to view a greater range of prices and a greater number of orders in the market at any given time. By consolidating prices, and therefore orders, a trader reduces the risk of a favorable order scrolling from the screen prior to his hitting a bid or ask on that order at its favorable price.

[0019] These embodiments, and others described in greater detail herein, provide the trader with improved efficiency and versatility in placing, and thus executing, trade orders for commodities in an electronic exchange. Other features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description. It should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0020] The foregoing advantages and features of the invention will become apparent upon reference to the following detailed description and the accompanying drawings, of which:

[0021] FIG. 1 illustrates the network connections between multiple exchanges and client sites;

[0022] FIG. 2 illustrates screen display showing the inside market and the market depth of a given commodity being traded;

[0023] FIG. 3 illustrates the Mercury display of the present invention;

[0024] FIG. 4 illustrates the Mercury display at a later time showing the movement of values when compared to FIG. 3;

[0025] FIG. 5 illustrates a Mercury display with parameters set in order to exemplify the Mercury trading method;

[0026] FIG. 6 is a flowchart illustrating the process for Mercury display and trading;

[0027] FIGS. 7A and 7B show corresponding displays before and after price consolidation;

[0028] FIGS. 8A and 8B illustrate the consolidation of bid and ask quantities;

[0029] FIG. 9 illustrates different areas of the display of the present invention wherein trade orders can be placed;

[0030] FIG. 10 illustrates a consolidated display with a trade order;

[0031] FIGS. 11-18 illustrate various schemes for distributing a trade order; and

[0032] FIG. 19 is a flowchart illustrating the process for trading using the price consolidation feature of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0033] As described with reference to the accompanying figures, the present invention provides a display and trading method to ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to place trade orders quickly and efficiently. A commodity's market depth is the current bid and ask prices and quantities in the market. The display and trading method of the invention increase the likelihood that the trader will be able to execute orders at desirable prices and quantities.

[0034] In the preferred embodiment, the present invention is implemented on a computer or electronic terminal. The computer is able to communicate either directly or indirectly (using intermediate devices) with the exchange to receive and transmit market, commodity, and trading order information. It is able to interact with the trader and to generate contents and characteristics of a trade order to be sent to the exchange. It is envisioned that the system of the present invention can be implemented on any existing or future terminal or device with the processing capability to perform the functions described herein. The scope of the present invention is not limited by the type of terminal or device used. Further, the specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While this describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.

[0035] The system can be configured to allow for trading in a single or in multiple exchanges simultaneously. Connection of the system of the present invention with multiple exchanges is illustrated in FIG. 1. This figure shows multiple host exchanges 101-103 connected through routers 104-106 to gateways 107-109. Multiple client terminals 110-116 for use as trading stations can then trade in the multiple exchanges through their connection to the gateways 107-109. When the system is configured to receive data from multiple exchanges, then the preferred implementation is to translate the data from various exchanges into a simple format. This "translation" function is described below with reference to FIG. 1. An applications program interface ("TT API" as depicted in the figure) translates the incoming data formats from the different exchanges to a simple preferred data format. This translation function may be disposed anywhere in the network, for example, at the gateway server, at the individual workstations or at both. In addition, the storage at gateway servers and at the client workstations, and/or other external storage cache

historical data such as order books which list the client's active orders in the market; that is, those orders that have neither been filled nor cancelled. Information from different exchanges can be displayed at one or in multiple windows at the client workstation. Accordingly, while reference is made through the remainder of the specification to a single exchange to which a trading terminal is connected, the scope of the invention includes the ability to trade, in accordance with the trading methods described herein, in multiple exchanges using a single trading terminal.

[0036] The preferred embodiments of the present invention include the display of "Market Depth" and allow traders to view the market depth of a commodity and to execute trades within the market depth with a single click of a computer mouse button. Market Depth represents the order book with the current bid and ask prices and quantities in the market. In other words, Market Depth is each bid and ask that was entered into the market, subject to the limits noted below, in addition to the inside market. For a commodity being traded, the "inside market" is the highest bid price and the lowest ask price.

[0037] The exchange sends the price, order and fill information to each trader on the exchange. The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program or any other comparable mapping technique for mapping data to a screen. The physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art. The present invention is not limited by the method used to map the data to the screen display.

[0038] How far into the market depth the present invention can display depends on how much of the market depth the exchange provides. Some exchanges supply an infinite market depth, while others provide no market depth or only a few orders away from the inside market. The user of the present invention can also chose how far into the market depth to display on his screen.

[0039] FIG. 2 illustrates a screen display of an invention described in a commonly owned co-pending application entitled "*Click Based Trading* with Market Depth Display" Ser. No. 09/589,751 filed on Jun. 9, 2000, the contents of which are incorporated herein by reference. This display shows the inside market and the market depth of a given commodity being traded. Row 1 represents the "inside market" for the commodity being traded which is the best (highest) bid price and quantity and the best (lowest) ask price and quantity. Rows 2-5 represent the "market depth" for the commodity being traded. In the preferred embodiment of the present invention, the display of market depth (rows 2-5) lists the available next-best bids, in column 203, and asks, in column 204. The working bid and ask quantity for each price level is also displayed in columns 202 and 205 respectively (inside market--row 1). Prices and quantities for the inside market and market depth update dynamically on a real time basis as such information is relayed from the market.

[0040] In the screen display shown in FIG. 2, the commodity (contract) being traded is represented in row 1 by the character string "CDH0". The Depth column 208 will inform the trader of a status by displaying different colors. Yellow indicates that the program application is waiting for data. Red indicates that the Market Depth has failed to receive the data from the server and has "timed out." Green indicates that the data has just been updated. The other column headings in this and all of the other figures, are defined as follows. BidQty (Bid Quantity): the quantity for each working bid, BidPrc (Bid Price): the price for each working bid, AskPrc (Ask Price): the price for each working ask, AskQty (Ask Quantity): the quantity for each working ask, LastPrc (Last Price): the price for the last bid and ask that were matched in the market and LastQty (Last Quantity): the quantity traded at the last price. Total represents the total quantity traded of the given commodity.

[0041] The configuration of the screen display itself informs the user in a more convenient and efficient manner than existing systems. Traders gain a significant advantage by seeing the market depth because they can see trends in the orders in the market. The market depth display shows the trader the interest the market has in a given commodity at different price levels. If a large amount of bids or asks are in the market near the trader's position, he may feel he should sell or buy before the inside market reaches the morass of orders. A lack of orders above or below the inside market might prompt a trader to enter orders near the inside market. Without seeing the market depth, no such strategies could be utilized. Having the

dynamic market depth, including the bid and ask quantities and prices of a traded commodity aligned with and displayed below the current inside market of the commodity conveys the information to the user in a more intuitive and easily understandable manner. Trends in the trading of the commodity and other relevant characteristics are more easily identifiable by the user through the use of the present invention.

[0042] Various abbreviations are used in the screen displays, and specifically, in the column headings of the screen displays reproduced herein. Some abbreviations have been discussed above. A list of common abbreviations and their meanings is provided in Table 1.

1TABLE I Abbreviations COLUMN DESCRIPTION COLUMN DESCRIPTION Month Expiration Month/Year TheoBid Theoretical Bid Price Bid Mbr.sub.(1) Bid Member ID TheoAsk Theoretical Ask Price WrkBuys.sub.(2) Working Buys for entire Group QAct Quote Action (Sends ID individual quotes) BidQty Bid Quantity BQQ Test Bid Quote Quantity ThrshBid.sub.(6) Threshold Bid Price BQP Test Bid Quote Price BidPrc Bid Price Mkt BQQ Market Bid Quote Quantity Bid Qty Accum Accumulated Bid Quantity Mkt BQP Market Bid Quote Price BidPrc Avg Bid Price Average Quote Checkbox activates/deactivates contract for quoting AskPrc Avg Ask Price Average Mkt AQQ Market Ask Quote Quantity AskQty Accum Accumulated Ask Quantity Mkt AQP Market Ask Quote Price AskPrc Ask Price AQP Ask Quote Price ThrshAsk.sub.(6) Threshold Ask Price AQQ Ask Quote Quantity AskQty Ask Quantity Imp BidQty.sub.(5) Implied Bid Quantity WrkSells.sub.(2) Working Sells for entire Group Imp BidPrc.sub.(5) Implied Bid Price ID Ask Mbr.sub.(1) Ask Member ID Imp AskQty.sub.(5) Implied Ask Quantity NetPos Net Position Imp AskPrc.sub.(5) Implied Ask Price FFNetPos Fast Fill Net Position Gamma.sub.(3) Change in Delta given1 pt change in underlying LastPrc Last Price Delta.sub.(3) Change in price given 1 pt change in underlying LastQty Last Quantity Vola.sub.(3) Percent volatility Total Total Traded Quantity Vega.sub.(3) Price change given 1% change in Vola High High Price Rho.sub.(3) Price change given 1% change in interest rate Low Low Price Theta.sub.(3) Price change for every day that elapses Open Opening Price Click Trd Activate/deactivate click trading by contract Close Closing Price S (Status) Auction, closed, FastMkt, Not Tradable, Pre-trading, Tradable, S = post-trading Chng Last Price-Last Close Expiry Expiration Month/Year TheoPrc Theoretical Price

[0043] As described herein, the display and trading method of the present invention provide the user with certain advantages over systems in which a display of market depth, as shown in FIG. 2, is used. The Mercury display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently. An example of such a Mercury display is illustrated in the screen display of FIG. 3.

[0044] The display of market depth and the manner in which traders trade within the market depth can be effected in different manners, which many traders will find materially better, faster and more accurate. In addition, some traders may find the display of market depth to be difficult to follow. In the display shown in FIG. 2, the market depth is displayed vertically so that both Bid and Ask prices descend the grid. The Bid prices descend the market grid as the prices decrease. Ask prices also descend the market grid as these prices actually increase. This combination may be considered counterintuitive and difficult to follow by some traders.

[0045] The Mercury display overcomes this problem in an innovative and logical manner. Mercury also provides an order entry system, market grid, fill window and summary of market orders in one simple window. Such a condensed display materially simplifies the trading system by entering and tracking trades in an extremely efficient manner. Mercury displays market depth in a logical, vertical fashion or horizontally or at some other convenient angle or configuration. A vertical field is shown in the figures and described for convenience, but the field could be horizontal or at an angle. In turn, Mercury further increases the speed of trading and the likelihood of entering orders at desired prices with desired quantities. In the preferred embodiment of the invention, the Mercury display is a static vertical column of prices with the bid and ask quantities displayed in vertical columns to the side of the price column and aligned with the corresponding bid and ask prices. An example of this display is shown in FIG. 3.

[0046] Bid quantities are in the column 1003 labeled BidQ and ask quantities are in column 1004 labeled AskQ. The representative ticks from prices for the given commodity are shown in column 1005. The column does not list the whole prices (e.g. 95.89), but rather, just the last two digits (e.g. 89). In the example shown, the inside market, cells 1020, is 18 (best bid quantity) at 89 (best bid price) and 20 (best ask quantity) at 90 (best ask price). In the preferred embodiment of the invention, these three columns are shown in different colors so that the trader can quickly distinguish between them.

[0047] The values in the price column are static; that is, they do not normally change positions unless a re-centering command is received (discussed in detail later). The values in the Bid and Ask columns however, are dynamic; that is, they move up and down (in the vertical example) to reflect the market depth for the given commodity. The LTQ column 1006 shows the last traded quantity of the commodity. The relative position of the quantity value with respect to the Price values reflects the price at which that quantity was traded. Column 1001 labeled E/W (entered/working) displays the current status of the trader's orders. The status of each order is displayed in the price row where it was entered. For example, in cells 1007, the number next to S indicates the number of the trader's ordered lots that have been sold at the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order. Blanks in this column indicate that no orders are entered or working at that price. In cells 1008, the number next to B indicates the number of the trader's ordered lots that have been bought at the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order.

[0048] Various parameters are set and information is provided in column 1002. For example, "10:48:44" in cell 1009 shows the actual time of day. The L and R fields in cell 1010 indicate a quantity value, which may be added to the order quantity entered. This process is explained below with respect to trading under Mercury. Below the L and R fields, in cell 1011, a number appears which represents the current market volume. This is the number of lots that have been traded for the chosen contract. Cell 1012, "X 10", displays the Net Quantity, the current position of the trader on the chosen contract. The number "10" represents the trader's buys minus sells. Cell 1013 is the "Current Quantity"; this field represents the quantity for the next order that the trader will send to market. This can be adjusted with right and left clicks (up and down) or by clicking the buttons which appear below the Current Quantity in cells 1014. These buttons increase the current quantity by the indicated amount; for example, "10" will increase it by 10; "1H" will increase it by 100; "1K" will increase it by 1000. Cell 1015 is the Clear button; clicking this button will clear the Current Quantity field. Cell 1016 is the Quantity Description; this is a pull down menu allowing the trader to chose from three Quantity Descriptions. The pull down menu is displayed when the arrow button in the window is clicked. The window includes NetPos, Offset and a field allowing the trader to enter numbers. Placing a number in this field will set a default buy or sell quantity. Choosing "Offset" in this field will enable the L/R buttons of cell 1010. Choosing "NetPos" in this field will set the current Net Quantity (trader's net position) as the trader's quantity for his next trade. Cell 1017 are +/- buttons; these buttons will alter the size of the screen-either larger (+) or smaller (-). Cell 1018 is used to invoke Net 0; clicking this button will reset the Net Quantity (cell 1101) to zero. Cell 1019 is used to invoke Net Real; clicking this button will reset the Net Quantity (cell 1011) to its actual position.

[0049] The inside market and market depth ascend and descend as prices in the market increase and decrease. For example, FIG. 4 shows a screen displaying the same market as that of FIG. 3 but at a later interval where the inside market, cells 1101, has risen three ticks. Here, the inside market for the commodity is 43 (best bid quantity) at 92 (best bid price) and 63 (best ask quantity) at 93 (best ask price). In comparing FIGS. 3 and 4, it can be seen that the price column remained static, but the corresponding bids and asks rose up the price column. Market Depth similarly ascends and descends the price column, leaving a vertical history of the market.

[0050] As the market ascends or descends the price column, the inside market might go above or below the price column displayed on a trader's screen. Usually a trader will want to be able to see the inside market to assess future trades. The system of the present invention addresses this problem with a one click centering feature. With a single click at any point within the gray area, 1021, below the "Net Real" button, the system

will re-center the inside market on the trader's screen. Also, when using a three-button mouse, a click of the middle mouse button, irrespective of the location of the mouse pointer, will re-center the inside market on the trader's screen.

[0051] The same information and features can be displayed and enabled in a horizontal fashion. Just as the market ascends and descends the vertical Mercury display shown in FIGS. 3 and 4, the market will move left and right in the horizontal Mercury display. The same data and the same information gleaned from the dynamical display of the data is provided. It is envisioned that other orientations can be used to dynamically display the data and such orientations are intended to come within the scope of the present invention.

[0052] Display Using Price Consolidation

[0053] The price consolidation feature of the present invention is used to condense a large number of price rows into a more manageable number of price rows, resulting in more expedient trading. By consolidating prices, and therefore orders, a trader reduces the risk of a favorable order scrolling from the screen prior to his hitting a bid or ask on that order at its favorable price.

[0054] The present invention provides a display and graphical user interface on which order and price information is displayed and from which order and price information can be sent to electronic markets. FIG. 7A shows an unconsolidated screen 1700 while FIG. 7B shows a consolidated screen 1702 under the present invention. There are three primary areas that are of interest in the consolidation of prices--the Bid Quantity (BidQ) column 1704, 1710, the Ask Quantity (AskQ) column 1706, 1712, and the Price (Prc) column 1708, 1714. In the preferred embodiment, the display has a vertical orientation and these display regions are shown as columns, as is evident in the figures. However, in other embodiments, these display regions could be horizontal rows or some other shape and orientation.

[0055] The Bid Quantity column lists the total amount of working bids in the market at the corresponding price rows. As discussed above, a "bid" is an order to buy a given quantity of a commodity at a given price. The Ask Quantity column lists the total amount of working asks in the market at the corresponding price rows. An "ask" is an order to sell a given quantity of a commodity at a given price. The Price column lists the prices (ticks) for the chosen commodity.

[0056] Typically, markets provide prices in ticks. The static price column of the Mercury trading screen can display as many such ticks as the trader's screen will allow. The present invention makes it possible to expand the price range displayed by consolidating the price rows as much as the trader desires. The trader designates a finite number of ticks (e.g. 5) to be consolidated into a single consolidated price row, and the present invention will consolidate the price rows accordingly.

[0057] While the static price column will simply display the prices in the increments chosen by the trader, each price in the range corresponding to a consolidated price row will be rounded up or down depending on whether the price is considered in relation to an ask or a bid quantity. If considered in relation to an ask quantity, the price will round up (or remain equal) to the nearest consolidated price row, and if considered in relation to a bid quantity, the price will round down (or remain equal) to the nearest consolidated price row.

[0058] FIGS. 7A and 7B illustrate the consolidation of the prices from the unconsolidated display 1700 to the consolidated display 1702. In the displays shown, the range of prices 95-99 (1716) corresponding to bids consolidate to price 95 (1726). The range of prices 00-04 (1718) corresponding to bids consolidate to price 00 (1728). The range of prices 01-05 (1720) corresponding to asks consolidate to price 05 (1730). The range of prices 06-10 (1722) corresponding to asks consolidate to price 10 (1732). For example, the 04 price in the 1720 range is rounded up to 05 when considered in relation to the ask quantity in the market. The 05 price is included in the 05 consolidated price row when considered in relation to the ask quantity in the market. The remaining prices in range 1720 (03, 02, and 01) are irrelevant when considering the prices of asks in the market because there are no ask quantities in the market.

[0059] Conversely, prices 03, 02, 01, and 00 in the range 1718 are rounded down to 00 as the next lowest consolidated price row in relation to the bid quantities in the market. Price 04 of range 1718 is irrelevant when considering the prices of bids in the market because there are no corresponding bid quantities in the market.

[0060] The user, under the present invention, has the ability to offset the starting point for the consolidation of prices. This display of prices depends both on the manner in which each exchange provides the price information and the user's preferences. The prices may be displayed on the screen in ticks, fractions of ticks, or in currency (dollars, Euros, etc.). Regardless of the manner in which prices are displayed, the calculations performed to effect the present invention assume that the prices are in ticks. For example, if the market tick size is 0.25, but a trader is trading in dollars and enters an order of $10, the invention will view the trader's order as 40 ticks when performing calculations (0.25.times.40=10). The starting point for the display of the consolidation of prices automatically defaults to the zero price level, but it may be offset to any price level from zero to one less than the range size (increment) chosen by the user. For example, if the trader chose to consolidate the price row into groups of five, the starting point could be any integer from 0 through 4, since 4 is one less than the maximum group size of 5. From that starting point, the static price row will ascend and descend. This enables the trader to group price rows at any tick offset. For example, if the market tick size is 0.25 (i.e. $0.25) the price row will ascend as follows: 0.25, 0.50, 0.75, 1.00, 1.25, etc. If the trader wanted to display the price row in increments of 1.0 (e.g. 1.00, 2.00, 3.00, 4.00, etc.), he would choose to consolidate the price row into groups of 4 since 0.25 goes into 1.00 four times. Starting at the default starting point of zero, the price row would then ascend as follow: 1.00, 2.00, 3.00, 4.00, etc. Now assume that this same trader, still wanting to trade in increments 1.00, would rather trade with the price row displaying prices at the 0.5 point. He would then set the tick offset to 2 ticks (equivalent to an offset of 0.5 where the tick size is 0.25). This is possible because 0.50 would fall into a price level between zero and one less than the range size of 4. Due to the offset, the consolidation would begin at 0.50 with 0.50, 0.75, 1.00, and 1.25 being the prices in the first consolidated price group (this group would be displayed on the screen as the 0.50 price level). All of the ascending price groups, beginning at 1.50, would now be in increments of 1.00 (groups of four 0.25 price levels) and will ascend the price row as follows: 0.50, 1.50, 2.50, 3.50, 4.50, etc.

[0061] Note that in the figures of the present specification, no offset has been used.

[0062] The following equations are used to determine what consolidated price would correspond to a given bid or ask price:

[0063] P=Price (in ticks)

[0064] N=Variable increment chosen by the trader (number of ticks per consolidated price)

[0065] Bcp=Consolidated price row with corresponding bid quantity (in ticks)

[0066] Acp=Consolidated price row with corresponding ask quantity (in ticks)

[0067] Int=Integer Function

[0068] Os=Offset (# of ticks)

[0069] Bcp=Int((P-Os)/N)N+Os

[0070] Acp=Int(((P-Os)+N-1)/N)N+Os

[0071] At the end of the calculations, the result, which is in the units of ticks, is displayed on the screen in ticks or converted to a format/unit desired by the user in a manner as set forth above with respect to the conversion to ticks.

[0072] As the price column is condensed, the corresponding bid and ask quantities in the market also are condensed with their corresponding consolidated prices. Bid quantities in the market are consolidated into the lowest corresponding price row. Conversely, ask quantities in the market are consolidated into the highest corresponding price row. Such consolidation is demonstrated in FIGS. 8A and 8B. The screen displayed on the right (1702) shows a consolidated price column 1714 and the corresponding consolidated bid 1710 and ask 1712 quantities. The bid quantities in the market are consolidated to the lowest corresponding price (00, 95, 90, 85 etc.), while the ask quantities are consolidated to their highest corresponding price (05, 10, 15, 20 etc.).

[0073] As will often be the case, and as illustrated by FIGS. 8A and 8B, the inside market may fall within a consolidated price row. In other words, the inside market prices--03 and 04 in price column 1708--are between the consolidated price rows--00 and 05 in price column 1714. The rounding principle set forth above still applies in this scenario. As a result, all of the bid quantities in the relevant range 1802 (here one of the bid quantities is 0, because it is above the inside market) will correspond to the consolidated price row "00" (1808), which now displays a consolidated bid quantity of 108 which is the sum of the bid quantities in the price range 00-04. All of the ask quantities in the relevant range 1804 (here three of the ask quantities are 0, because they are below the inside market) will correspond to the condensed price row "05" (1806), which now displays a condensed ask quantity of 206 which is the sum of the ask quantities in the price range of 01-05.

[0074] Placing Trade Orders

[0075] Next, trading commodities, and specifically, the placement of trade orders using the Mercury display is described. Using the Mercury display and trading method, a trader would first designate the desired commodity and, if applicable, the default quantities. Then he can trade with single clicks of the right or left mouse button. The following equations are used by the system to generate trade orders and to determine the quantity and price to be associated with the trade order. The following abbreviations are used in these formulas: P=Price value of row clicked (in ticks), R=Value in R field, L=Value in L field, Q=Current Quantity, Q.sub.a=Total of all quantities in AskQ column at an equal or better price than P, Q.sub.b=Total of all quantities in BidQ column at an equal or better price than P, N=Current Net Position, Bo=Buy order sent to market and So=Sell order sent to market.

[0076] Any order entered using right mouse button

Bo=(Q.sub.a+R)P (Eq. 1)

[0077] If BidQ field clicked.

So=(Q.sub.b+R)P (Eq. 2)

[0078] If AskQ field clicked.

[0079] Orders Entered Using the Left Mouse Button

[0080] If "Offset" mode chosen in Quantity Description field then (note, this Offset is different than the offset described above with respect to price consolidation):

Bo=(Q.sub.a+L)P (Eq. 3)

[0081] If BidQ field clicked.

So=(Q.sub.b+L)P (Eq. 4)

[0082] If AskQ field clicked.

[0083] If "number" mode chosen in Quantity Description field then:

Bo=QP (Eq. 5)

So=QP (Eq. 6)

[0084] If "NetPos" mode chosen in Quantity Description field then:

Bo=NP (Eq. 7)

So=NP (Eq. 8)

[0085] Orders can also be sent to market for quantities that vary according to the quantities available in the market; quantities preset by the trader; and which mouse button the trader clicks. Using this feature, a trader can buy or sell all of the bids or asks in the market at or better than a chosen price with one click. The trader could also add or subtract a preset quantity from the quantities outstanding in the market. If the trader clicks in a trading cell--i.e. in the BidQ or AskQ column, he will enter an order in the market. The parameters of the order depend on which mouse button he clicks and what preset values he set.

[0086] Using the screen display and values from FIG. 5, the placement of trade orders using the Mercury display and trading method is now described using examples. A left click on the 18 in the BidQ column 1201 will send an order to market to buy 17 lots (quantity # chosen on the Quantity Description pull down menu cell 1204) of the commodity at a price of 89 (the corresponding price in the Prc column 1203). Similarly, a left click on the 20 in the AskQ column 1202 will send an order to market to buy 17 lots at a price of 90.

[0087] Using the right mouse button, an order would be sent to market at the price that corresponds to the row clicked for the total quantity of orders in the market that equal or better the price in that row plus the quantity in the R field 1205. Thus, a right click in the AskQ column 1202 in the 87 price row will send a sell order to market at a price of 87 and a quantity of 150. 150 is the sum of all the quantities 30, 97, 18 and 5. 30, 97 and 18 are all of the quantities in the market that would meet or better the trader's sell order price of 87. These quantities are displayed in the BidQ column 1201 because this column represents the orders outstanding in the market to purchase the commodity at each corresponding price. The quantity 5 is the quantity pre-set in the R field 1205.

[0088] Similarly, a right click in the BidQ column 1201 at the same price level of 87 would send a buy limit order to market for a quantity of 5 at a price of 87. The quantity is determined in the same manner as above. In this example, though, there are no orders in the market that equal or better the chosen price--there are no quantities in the AskQ column 1202 that equal or better this price. Therefore, the sum of the equal or better quantities is zero ("0"). The total order entered by the trader will be the value in the R field, which is 5.

[0089] An order entered with the left mouse button and the "Offset" option chosen in the quantity description field 1204 will be calculated in the same way as above, but the quantity in the L field 1206 will be added instead of the quantity in the R field 1205. Thus, a left click in the BidQ column 1201 in the 92 price row will send a buy order to market at a price of 92 and a quantity of 96. 96 is the sum of all the quantities 45, 28, 20 and 3. 45, 28 and 20 are all quantities in the market that would meet or better the trader's buy order price of 92. These quantities are displayed in the AskQ column 1202 because this column represents the orders outstanding in the market to sell the commodity at each corresponding price. The quantity 3 is the quantity pre-set in the L field 1206.

[0090] The values in the L or R fields may be negative numbers. This would effectively decrease the total quantity sent to market. In other words, in the example of a right click in the AskQ column 1202 in the 87 price row, if the R field was -5, the total quantity sent to market would be 140 (30+97+18+(-5)).

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[0091] If a trader chose the "NetPos" option in the quantity description field 1204, a right click would still work as explained above. A left click would enter an order with a price corresponding to the price row clicked and a quantity equal to the current Net position of the trader. The Net position of the trader is the the trader's current position on the chosen contract. In other words, if the trader has bought 10 more contracts than he has sold, this value would be 10. NetPos would not affect the quantity of an order sent with a right click.

[0092] If the trader chose a number value in the quantity description, a left click would send an order to market for the current quantity chosen by the trader. The default value of the current quantity will be the number entered in the quantity description field, but it could be changed by adjusting the figure in the current quantity field 1204.

[0093] This embodiment of the invention also allows a trader to delete all of his working trades with a single click of either the right or left mouse button anywhere in the last traded quantity (LTQ) column 1207. This allows a trader to exit the market immediately. Traders will use this feature when they are losing money and want to stop the losses from piling up. Traders may also use this feature to quickly exit the market upon making a desired profit. The invention also allows a trader to delete all of his orders from the market at a particular price level. A click with either mouse button in the Entered/Working (E/W) column 1208 will delete all working orders in the cell that was clicked. Thus, if a trader believes that previously sent orders at a particular price that have not been filled would be poor trades, he can delete these orders with a single click.

[0094] The process for placing trade orders using the Mercury display and trading method of the present invention as described above is shown in the flowchart of FIG. 6. First, in step 1301, the trader has the Mercury display on the trading terminal screen showing the market for a given commodity. In step 1302, the parameters are set in the appropriate fields, such as the L and R fields and the Current Quantity, NetPos or Offset fields from the pull down menu. In step 1303, the mouse pointer is positioned and clicked over a cell in the Mercury display by the trader. In step 1304, the system determines whether the cell clicked is a tradeable cell (i.e. in the AskQ column or BidQ column). If not, then in step 1305, no trade order is created or sent and, rather, other quantities are adjusted or functions are performed based upon the cell selected. Otherwise, in step 1306, the system determines whether it was the left or the right button of the mouse that was clicked. If it was the right, then in step 1307, the system will use the quantity in the R field when it determines the total quantity of the order in step 1310. If the left button was clicked, then in step 1308, the system determines which quantity description was chosen: Offset, NetPos or an actual number.

[0095] If Offset was chosen, then the system, in step 1309, will use the quantity in the L field when it determines the total quantity of the order in step 1310. If NetPos was chosen, then the system, in step 1312, will determine that the total quantity for the trade order will be the current NetPos value, i.e. the net position of the trader in the given commodity. If an actual number was used as the quantity description, then, in step 1311, the system will determine that the total quantity for the trade order will be the current quantity entered. In step 1310, the system will determine that the total quantity for the trade order will be the value of the R field (if step 1307 was taken) or the value of the L field (if step 1309 was taken) plus all quantities in the market for prices better than or equal to the price in the row clicked. This will add up the quantities for each order in the market that will fill the order being entered by the trader (plus the L or R value).

[0096] After either steps 1310, 1311 or 1312, the system, in step 1313, determines which column was clicked, BidQ or AskQ. If AskQ was clicked, then, in step 1314, the system sends a sell limit order to the market at the price corresponding to the row for the total quantity as already determined. If BidQ was clicked, then, in step 1315, the system sends a buy limit order to the market at the price corresponding to the row for the total quantity as already determined.

[0097] Placing Trade Orders Using Price Consolidation

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[0098] Now, placing trade orders using the price consolidation feature of the present invention is described. The method and single actions used in placing trade orders are the same as described above. Under price consolidation, however, the contents of the trade order are different than when the price consolidation feature is not used. Specifically, the price or prices at which orders and the quantities for which they are placed differ from that described above.

[0099] FIG. 9 illustrates an unconsolidated display 1700 under the present invention. Within the bid 1704 and ask 1706 columns of the display of the present invention, there are essentially four distinct areas in which a trader can click to send an order to the market. These are shown as Areas 1-4 in FIG. 9. Two are within the bid display region (1704) and two are within the ask display region (1706). Clicking on an active cell within one of the areas will enter an order that either "joins" the market, "hits" an existing bid, or "takes" an existing ask. If either hitting a bid or taking an ask, then such orders will likely be immediately filled in the market. While these areas are shown in relation to an unconsolidated display, they are meant to refer, for the purposes of the present specification, to corresponding areas in the consolidated displays as well. Accordingly, Area 1 is meant to refer to the cells in the bid display region corresponding to prices at or above the inside market. Area 2 refers to the cells in the ask display region corresponding to prices at or below the inside market. Area 3 refers to the cells in the bid display region corresponding to prices at or below the inside market. Area 4 refers to the cells in the ask display region corresponding to prices at or above the inside market.

[0100] Using the display of the present invention without price consolidation, a trader clicking on a specific row in area 1, will send a limit order to buy at the price corresponding to that row or at a better price. This order will "take" existing asks and will likely be immediately filled in the market. Similarly, by clicking on a specific row in area 2, a trader will send a limit order to sell at the price corresponding to that row or at a better price. This order will "hit" existing bids in the market and will likely be immediately filled in the market.

[0101] When a trader sends a buy or sell order to market by clicking in a row where prices have been consolidated, a limit order will be sent to the exchange to be filled at the best price[s] available from the clicked price row to the inside market. For example, referring again to FIGS. 8A and 8B, if a trader clicks in the AskQ column 1712 in the "00" consolidated price row 1808, and his preset quantity is 100, his order will be filled as follows: 2 at a price of 03, 2 at a price of 02, 2 at a price of 01, and 94 at a price of 00 (see range 1802). If the trader clicks in the BidQ column 1710 in the "05" consolidated price row 1806, and his preset quantity is 100, his order will be filled as follows: 5 at a price of 04 and 95 at a price of 05 (see range 1804).

[0102] In the consolidated display 1702, when clicking in either area 1 or area 2 with consolidated price rows, the present innovation carries out a 2-step process. Step 1 involves sending an order to the market up to the quantity of orders available in the market at the desired price or better. If the quantity of the order is for less than the quantity available in the market, then the order will be filled completely. However, if the order quantity is for more than the quantity available in the market, step 1 will result in filling only the quantity available at the desired price or better (therefore "taking out" the market). In this case, Step 2 will be performed whereby the remaining quantity will "join" the market in accordance with the distribution scheme selected by the trader (the various distribution schemes are described in detail later in the specification). In essence, the process carried out in step 2 is the same as when a trader joins the market via area 3 or area 4.

[0103] For example, in FIG. 8B, if a trader clicks in area 1 at price row 10 with a predefined quantity of 400, an order to buy will be sent to market for all available quantities in the market at or better than a price of 10. Using the values shown in ask display region 1712, all available quantities at or better than 10 equals 320 (114+206). All 320 will be filled and, in accordance with step 2 described above, the invention will send the remaining 80 to join the market in accordance with the trader's pre-determined distribution scheme. In other words, the remaining quantity will join the market and be displayed on the trader's screen in the BidQ column in consolidated price row 10. The actual order quantity (or quantities) will be distributed according to the pre-determined distribution scheme.

[0104] As described above, a trader who enters the market in area 1 or 2 with a pre-defined quantity greater than the quantity available in the market, will join the market with that excess. By directly clicking on a specific row in area 3 however, a trader elects to "join" the market with a Bid order at the price corresponding to that row. Similarly, by clicking on a specific row in area 4, a trader elects to "join" the market with an Ask order at the price corresponding to that row. "Joining the market" means that the trader will place orders among the existing orders in the market that will not immediately match other orders in the market. Rather, the orders that join the market will only be filled if the market moves and they are matched.

[0105] Under the price consolidation feature of the present invention, the orders entered to join the market be grouped in a different manner. FIG. 10 illustrates the consolidated display 1702, but here, unlike previous figures, only the trader's orders are shown. The increment chosen by the trader is 10. As evident from this figure, there is a bid order 1740 for a quantity 10 placed at consolidated price 00. The invention provides the trader with multiple options for distributing the trade order quantity among the prices within the range represented by the consolidated price. The following are examples of such distribution methods shown in unconsolidated displays using FIG. 10 and the trade order shown therein as a reference.

[0106] The first option is to allow a single limit order to be entered for the chosen quantity at the best price within the consolidated price row. As shown in FIG. 11, if a trader clicks on the BidQ column 1710 (see FIG. 10) at the 00 consolidated price row, he will join the market in that consolidated price row. If the Bid quantity that he wishes to enter is 10, and he chooses to distribute all 10 orders at the best price, the 10 orders (see 1704) will then be entered at the best price of 09 (see 1708).

[0107] Another option under the present invention, as shown in FIG. 12, is to allow a single limit order to be entered for the chosen quantity at the worst price within the consolidated price row. Upon joining the market at the 00 consolidated price row, and choosing to distribute all 10 orders at the worst price, all 10 orders (see 1704) will be entered at the worst price of 00 (see 1708).

[0108] Yet another option for distributing an entered order includes an even distribution of multiple orders throughout the prices in the consolidated price row. As shown in FIG. 13, after joining the market at the 00 consolidated price row, and choosing to evenly distribute all 10 order, one order each will be distributed among the 10 price rows that make up the consolidated 00 price row.

[0109] A further option is a random distribution of the orders as shown in FIG. 14. The bid quantities shown in column 1704 sum to the order quantity of 10 and are randomly distributed among the prices within the range corresponding to the consolidated price at which the order was placed.

[0110] The present invention will also allow a single limit order to be entered for the chosen quantity at both the best price and random prices within the consolidated price row. As shown in FIG. 15, the trader chose to distribute 50% of his 10 orders at the best price and randomly distribute the additional 50% among any of the prices incorporated into the consolidated price row.

[0111] Similarly, the present invention allows for the distribution of multiple percentages of orders among the separate prices that make up the consolidated price row. FIG. 16 illustrates orders entered by a trader when he chose to distribute 50% of the 10 orders at the best price, 20% at the worst price, and 30% midway through the best and worst prices.

[0112] In addition, the present invention will allow for the distribution of multiple orders from a consolidated price row to be weighted toward the best price. In FIG. 17, the trader chose to weight his 10 orders toward the best price resulting in four orders at the 09 price, three at 08, two at 07, and one at 06.

[0113] Much like the distribution explained above, the present invention also allows for the distribution of multiple orders from a consolidated price row to be weighted toward the worst price. FIG. 18 illustrates the result of a trader choosing to weight his 10 orders toward the worst price (four are at the 00 worst price,

three at 01, two at 02, and one at 03).

[0114] As discussed above, the aforementioned distribution schemes or any combination thereof, can be used to distribute orders that are placed to join the market. Furthermore, they can be used to distribute excess orders, that is, the quantity of the order remaining after the quantity available in the market has been matched. The distribution of trade orders can be accomplished by any convenient programming techniques, including rule-based programming techniques. Also, the randomization in distributing the trade orders can be accomplished through the use of one or more standard randomizing algorithms.

[0115] When condensing prices, the market depth may affect the display of consolidated ticks. The order information that is available varies depending on the exchange. Some exchanges offer an infinite number of prices, while others may supply only a limited number. If a trader elects to group ticks into consolidated price rows of five ticks per row, and a particular exchange offers only ten prices, consolidating would be unnecessary because all of the prices could be displayed separately on the screen at the same time.

[0116] Flowchart of the Placing Trade Orders Using Price Consolidation

[0117] The flowchart shown in FIG. 19 illustrates the trade order placement using price consolidation. It is a modification of that shown in FIG. 6 which illustrates the process described in the parent application. The modifications include a step 1916 for setting up the consolidation quantity (increment) and distribution scheme. The flowchart of FIG. 6 has been altered to illustrate the effect of consolidating price rows. For example, if a trader enters the market and elects to enter a Bid order of 20 commodities at a consolidated price of 00, since that 00 represents a range of prices, the 00 may not be the best market price. The present invention provides that trader with the option of splitting the quantity into one or more orders within the consolidated price range, and therefore potentially entering the market at a better price. In addition, as displayed in step 1916 of FIG. 19, a trader joining the market has the option of setting up consolidation quantity and distribution schemes as discussed above.

[0118] The boxes added to the flowchart address the treatment of orders that are "better than" the market price but where the quantity selected is larger than the quantity available in the market. Specifically, the added decision boxes address whether there is any quantity available in the market at the order price or better (step 1917). If not, the order remainder will be placed for the desired quantity in accordance with the predefined distribution scheme (steps 1922 and 1923). If so, the next question addressed is whether the entire quantity ordered is greater than what is available in the market at the order price or better (step 1918). If not, the entire order will be placed (step 1919). If so, the order will be placed for the quantity available in the market (step 1920) and the remainder (step 1921) will be placed in accordance with the predefined distribution scheme (steps 1922 and 1923).

[0119] It should be understood that the above description of the invention and specific examples and embodiments, while indicating the preferred embodiments of the present invention are given by demonstration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof and the present invention includes all such changes and modifications.

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Click based trading with intuitive grid display of market depth

Abstract

A method and system for reducing the time it takes for a trader to place a trade when electronically trading on an exchange, thus increasing the likelihood that the trader will have orders filled at desirable prices and quantities. The "Mercury" display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently.

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Claims

We claim:

1. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market, said method comprising: dynamically displaying a plurality of bids in the market for said commodity; dynamically displaying of a plurality of asks in the market for said commodity; and statically displaying prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

2. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein said bids and asks are oriented vertically.

3. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein said bids and asks are oriented horizontally.

4. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein a plurality of said displayed bids and asks in the market include bid and ask quantities of the commodity.

5. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, wherein said bids and asks are displayed in different colors.

6. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, re-centering said prices corresponding to the bids and asks about an inside market price upon receipt of a re-centering instruction.

7. A method of displaying, on an electronic display device, the market depth of a commodity traded in a market according to claim 1, further comprising dynamically displaying entered and working orders in alignment with the prices corresponding thereto.

8. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market, comprising: a first program code for dynamically displaying a plurality of bids in the market for said commodity; a second program code for dynamically displaying of a plurality of asks in the market for said commodity; and a third program code for statically displaying prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

9. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed bids, asks and prices are oriented vertically.

10. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed bids, asks and prices are oriented horizontally.

11. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code to ensure that a plurality of bids and asks in the market include bid and ask quantities of the commodity.

12. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code to ensure that bids and asks are displayed in different colors.

13. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code to ensure that said displayed prices corresponding to the bids and asks are re-centered about an inside market price upon receipt of a re-centering instruction.

14. A computer readable medium having program code recorded thereon for execution on a computer for displaying the market depth of a commodity traded in a market according to claim 8, further comprising program code for dynamically displaying entered and working orders in alignment with the prices corresponding thereto.

15. A graphical user interface for displaying the market depth of a commodity traded in a market, comprising: a dynamic display of a plurality of bids in the market for said commodity; a dynamic display of a plurality of asks in the market for said commodity; and a static display of prices corresponding to said plurality of bids and asks; wherein said pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto.

16. A graphical user interface according to claim 15, wherein said displays are oriented vertically.

17. A graphical user interface according to claim 15, wherein said displays are oriented horizontally.

18. A graphical user interface according to claim 15, wherein said displays of the pluralities of bids and asks in the market include bid and ask quantities of the commodity.

19. A graphical user interface according to claim 15, wherein said displays are displayed in different colors.

20. A graphical user interface according to claim 15, wherein said display of prices corresponding to the bids and asks is re-centered about an inside market price upon re-centering instruction from a user.

21. A graphical user interface according to claim 15, further comprising a display of entered and working orders displayed in alignment with the prices corresponding thereto.

22. A method of placing a trade order for a commodity on an electronic exchange, using a graphical user interface and a user input device and having preset parameters for trade orders, said method comprising: displaying the market depth of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; and initiating placement of a trade order of the commodity through a single action of the user input device initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks; wherein the contents of the trade order are based in part upon the preset parameters and the position of the pointer at the time of said single action.

23. A method of placing a trade order according to claim 22, wherein said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and wherein said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

24. A method of placing a trade order according to claim 23, wherein the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

25. A method of placing a trade order according to claim 23, wherein the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

26. A method of placing a trade order according to claim 23, wherein the trade order is for a quantity equal to a pre-determined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

27. A method of placing a trade order according to claim 26, wherein said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second pre-determined value if a single action of a second type is taken.

28. A method of placing a trade order according to claim 22, further comprising canceling said trade order

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in response to a subsequent single action of the user input device.

29. A computer readable medium having program code recorded thereon, for execution on a computer having a graphical user interface and a user input device and having preset parameters for trade orders, to place a trade order for a commodity on an electronic exchange, comprising: a first program code displaying the market depth of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; a second program code for initiating placement of a trade order of the commodity through a single action of the user input device with a pointer of the user input device positioned over an area in said dynamic displays of bids and asks; and a third program code for setting characteristics of the trade order based in part upon the preset parameters and the position of the pointer at the time of said single action.

30. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 29, further comprising program code for establishing that said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and that said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

31. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

32. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

33. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 30, further comprising program code for establishing that the trade order is for a quantity equal to a pre-determined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

34. A computer readable medium having program code recorded thereon, for execution on a computer to place a trade order according to claim 33, further comprising program code for establishing that said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second pre-determined value if a single action of a second type is taken.

35. A client system for placing a trade order for a commodity on an electronic exchange, the system comprising: a display device for displaying the market depth of a commodity traded in a market, through a dynamic display of a plurality of bids and a plurality of asks in the market for the commodity, including the bid and ask quantities of the commodity, aligned with a static display of prices corresponding thereto; a user input device for positioning a pointer thereof over an area in said dynamic displays of bids and asks and for initiating placement of a trade order of the commodity through a single action of the user input device; and a trade order characteristics setting component for setting characteristics of the trade order based in part upon preset parameters and the position of the pointer at the time of said single action.

36. A client system for placing a trade order for a commodity according to claim 35, wherein said trade order characteristics setting component establishes that said trade order is a buy order if the position of the pointer at the time of said single action is within the display of bids and that said trade order is a sell order if the position of the pointer at the time of said single action is within the display of asks.

37. A client system for placing a trade order for a commodity according to claim 36, wherein said trade

order characteristics setting component establishes that the trade order is for a pre-determined fixed quantity and for a price corresponding to the position of the pointer at the time of said single action.

38. A client system for placing a trade order for a commodity according to claim 36, wherein said trade order characteristics setting component establishes that the trade order is for a quantity equal to a current net position of the user in the commodity and for a price corresponding to the position of the pointer at the time of said single action.

39. A client system for placing a trade order for a commodity according to claim 36, wherein said trade order characteristics setting component establishes that the trade order is for a quantity equal to a predetermined fixed offset plus the sum of all quantities in the market at prices better than or equal to a price corresponding to the position of the pointer at the time of said single action and for a price corresponding to said position.

40. A client system for placing a trade order for a commodity according to claim 39, wherein said trade order characteristics setting component establishes that said offset is equal to a first pre-determined value if a single action of a first type is taken and said offset is equal to a second predetermined value if a single action of a second type is taken.

Description

PRIORITY

[0001] The present application claims priority to a U.S. Provisional Patent Application entitled "Market Depth Display *Click Based Trading* and Mercury Display" filed Mar. 2, 2000, the contents of which are incorporated herein by reference.

FIELD OF INVENTION

[0002] The present invention is directed to the electronic trading of commodities. Specifically, the invention provides a trader with a versatile and efficient tool for executing trades. It facilitates the display of and the rapid placement of trade orders within the market trading depth of a commodity, where a commodity includes anything that can be traded with quantities and/or prices.

BACKGROUND OF THE INVENTION

[0003] At least 60 exchanges throughout the world utilize electronic trading in varying degrees to trade stocks, bonds, futures, options and other products. These electronic exchanges are based on three components: mainframe computers (host), communications servers, and the exchange participants' computers (client). The host forms the electronic heart of the fully computerized electronic trading system. The system's operations cover order-matching, maintaining order books and positions, price information, and managing and updating the database for the online trading day as well as nightly batch runs. The host is also equipped with external interfaces that maintain uninterrupted online contact to quote vendors and other price information systems.

[0004] Traders can link to the host through three types of structures: high speed data lines, high speed communications servers and the Internet. High speed data lines establish direct connections between the client and the host. Another connection can be established by configuring high speed networks or communications servers at strategic access points worldwide in locations where traders physically are located. Data is transmitted in both directions between traders and exchanges via dedicated high speed communication lines. Most exchange participants install two lines between the exchange and the client site or between the communication server and the client site as a safety measure against potential failures. An exchange's internal computer system is Also often installed with backups as a redundant measure to secure

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system availability. The third connection utilizes the Internet. Here, the exchange and the traders communicate back and forth through high speed data lines, which are connected to the Internet. This allows traders to be located anywhere they can establish a connection to the Internet.

[0005] Irrespective of the way in which a connection is established, the exchange participants' computers allow traders to participate in the market. They use software that creates specialized interactive trading screens on the traders' desktops. The trading screens enable traders to enter and execute orders, obtain market quotes, and monitor positions. The range and quality of features available to traders on their screens varies according to the specific software application being run. The installation of open interfaces in the development of an exchange's electronic strategy means users can choose, depending on their trading style and internal requirements, the means by which they will access the exchange.

[0006] The world's stock, bond, futures and options exchanges have volatile products with prices that move rapidly. To profit in these markets, traders must be able to react quickly. A skilled trader with the quickest software, the fastest communications, and the most sophisticated analytics can significantly improve his own or his firm's bottom line. The slightest speed advantage can generate significant returns in a fast moving market. In today's securities markets, a trader lacking a technologically advanced interface is at 4 severe competitive disadvantage.

[0007] Irrespective of what interface a trader uses to enter orders in the market, each market supplies and requires the same information to and from every trader. The bids and asks in the market make up the market data and everyone logged on to trade can receive this information if the exchange provides it. Similarly, every exchange requires that certain information be included in each order. For example, traders must supply information like the name of the commodity, quantity, restrictions, price and multiple other variables. Without all of this information, the market will not accept the order. This input and output of information the same for every trader.

[0008] With these variables being constant, a competitive speed advantage must come from other aspects of the trading cycle. When analyzing the time it takes to place a trade order for a given commodity, various steps contribute in different amounts to the total time required. Approximately 8% of the total time it takes to enter an order elapses between the moment the host generates the price for the commodity and the moment the client receives the price. The time it takes for the client application to display the price to the trader amounts to approximately 4%. The time it takes for a trade order to be transmitted to the host amounts to approximately 8%. The remainder of the total time it takes to place an order, approximately 80%, is attributable to the time required for the trader to read the prices displayed and to enter a trade order. The present invention provides a significant advantage during the slowest portion of the trading cycle-- while the trader manually enters his order. Traders recognize that the value of time savings in this portion may amount to millions of dollars annually.

[0009] In existing systems, multiple elements of an order must be entered prior to an order being sent to market, which is time consuming for the trader. Such elements include the commodity symbol, the desired price, the quantity and whether a buy or a sell order is desired. The more time a trader takes entering an order, the more likely the price on which he wanted to bid or offer will change or not be available in the market. The market is fluid as many traders are sending orders to the market simultaneously. It fact, successful markets strive to have such a high volume of trading that any trader who wishes to enter an order will find a match and have the order filled quickly, if not immediately. In such liquid markets, the prices of the commodities fluctuate rapidly. On a trading screen, this results in rapid changes in the price and quantity fields within the market grid. If a trader intends to enter an order at a particular price, but misses the price because the market prices moved before he could enter the order, he may lose hundreds, thousands, even millions of dollars. The faster a trader can trade, the less likely it will be that he will miss his price and the more likely he will make money.

SUMMARY OF THE INVENTION

[0010] The inventors have developed the present invention which overcomes the drawbacks of the existing

trading systems and dramatically reduces the time it takes for a trader to place a trade when electronically trading on an exchange. This, in turn, increases the likelihood that the trader will have orders filled at desirable prices and quantities.

[0011] The "Mercury" display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently.

[0012] Specifically, the present invention is directed to a graphical user interface for displaying the market depth of a commodity traded in a market, including a dynamic display for a plurality of bids and for a plurality of asks in the market for the commodity and a static display of prices corresponding to the plurality of bids and asks. In this embodiment the pluralities of bids and asks are dynamically displayed in alignment with the prices corresponding thereto. Also described herein is a method and system for placing trade orders using such displays.

[0013] These embodiments, and others described in greater detail herein, provide the trader with improved efficiency and versatility in placing, and thus executing, trade orders for commodities in an electronic exchange. Other features and advantages of the present invention will become apparent to those skilled in the art from the following detailed description. It should be understood, however, that the detailed description and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the invention includes all such modifications.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 illustrates the network connections between multiple exchanges and client sites;

[0015] FIG. 2 illustrates screen display showing the inside market and the market depth of a given commodity being traded;

[0016] FIG. 3 illustrates the Mercury display of the present invention;

[0017] FIG. 4 illustrates the Mercury display at a later time showing the movement of values when compared to FIG. 3;

[0018] FIG. 5 illustrates a Mercury display with parameters set in order to exemplify the Mercury trading method; and

[0019] FIG. 6 is a flowchart illustrating the process for Mercury display and trading.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0020] As described with reference to the accompanying figures, the present invention provides a display and trading method to ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to place trade orders quickly and efficiently. A commodity's market depth is the current bid and ask prices and quantities in the market. The display and trading method of the invention increase the likelihood that the trader will be able to execute orders at desirable prices and quantities.

[0021] In the preferred embodiment, the present invention is implemented on a computer or electronic terminal. The computer is able to communicate either directly or indirectly (using intermediate devices) with the exchange to receive and transmit market, commodity, and trading order information. It is able to

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interact with the trader and to generate contents and characteristics of a trade order to be sent to the exchange. It is envisioned that the system of the present invention can be implemented on any existing or future terminal or device with the processing capability to perform the functions described herein. The scope of the present invention is not limited by the type of terminal or device used. Further, the specification refers to a single click of a mouse as a means for user input and interaction with the terminal display as an example of a single action of the user. While this describes a preferred mode of interaction, the scope of the present invention is not limited to the use of a mouse as the input device or to the click of a mouse button as the user's single action. Rather, any action by a user within a short period of time, whether comprising one or more clicks of a mouse button or other input device, is considered a single action of the user for the purposes of the present invention.

[0022] The system can be configured to allow for trading in a single or in multiple exchanges simultaneously. Connection of the system of the present invention with multiple exchanges is illustrated in FIG. 1. This figure shows multiple host exchanges 101-103 connected through routers 104-106 to gateways 107-109. Multiple client terminals 110-116 for use as trading stations can then trade in the multiple exchanges through their connection to the gateways 107-109. When the system is configured to receive data from multiple exchanges, then the preferred implementation is to translate the data from various exchanges into a simple format. This "translation" function is described below with reference to FIG. 1. An applications program interface ("TT API" as depicted in the figure) translates the incoming data formats from the different exchanges to a simple preferred data format. This translation function may be disposed anywhere in the network, for example, at the gateway server, at the individual workstations or at both. In addition, the storage at gateway servers and at the client workstations, and/or other external storage cache historical data such as order books which list the client's active orders in the market; that is, those orders that have neither been filled nor cancelled. Information from different exchanges can be displayed at one or in multiple windows at the client workstation. Accordingly, `while reference is made through the remainder of the specification to a single exchange to which a trading terminal is connected, the scope of the invention includes the ability to trade, in accordance with the trading methods described herein, in multiple exchanges using a single trading terminal.

[0023] The preferred embodiments of the present invention include the display of "Market Depth" and allow trader to view the market depth of a commodity and to execute trades within the market depth with a single click of a computer mouse button. Market Depth represents the order book with the current bid and ask prices and quantities in the market. In other words, Market Depth is each bid and ask that was entered into the market, subject to the limits noted below, in addition to the inside market. For a commodity being traded, the "inside market" is the highest bid price and the lowest ask price.

[0024] The exchange sends the price, order and fill information to each trader on the exchange. The present invention processes this information and maps it through simple algorithms and mapping tables to positions in a theoretical grid program or any other comparable mapping technique for mapping data to a screen. The physical mapping of such information to a screen grid can be done by any technique known to those skilled in the art. The present invention is not limited by the method used to map the data to the screen display.

[0025] How far into the market depth the present invention can display depends on how much of the market depth the exchange provides. Some exchanges supply an infinite market depth, while others provide no market depth or only a few orders away from the inside market. The user of the present invention can also chose how far into the market depth to display on his screen.

[0026] FIG. 2 illustrates a screen display of an invention described in a commonly owned co-pending application entitled "*Click Based Trading* with Market Depth Display" Ser. No. _____, filed on _____ the contents of which are incorporated herein by reference. This display shows the inside market and the market depth of a given commodity being traded. Row 1 represents the "inside market" for the commodity being traded which is the best (highest) bid price and quantity and the best (lowest) ask price and quantity. Rows 2-5 represent the "market depth" for the commodity being traded. In the preferred embodiment of the present invention, the display of market depth (rows 2-5) lists the available next-best bids, in column 203, and asks, in column 204. The working bid and ask quantity for each price level is also displayed in columns

202 and 205 respectively (inside market--row 1). Prices and quantities for the inside market and market depth update dynamically on a real time basis as such information is relayed from the market.

[0027] In the screen display shown in FIG. 2, the commodity (contract) being traded is represented in row 1 by the character string "CDHO". The Depth column 208 will inform the trader of a status by displaying different colors. Yellow indicates that the program application is waiting for data. Red indicates that the Market Depth has failed to receive the data from the server and has "timed out." Green indicates that the data has just been updated. The other column headings in this and all of the other figures, are defined as follows. BidQty (Bid Quantity): the quantity for each working bid, BidPrc (Bid Price): the price for each working bid, AskPrc (Ask Price): the price for each working ask, AskQty (Ask Quantity): the quantity for each working ask, LastPrc (Last Price): the price for the last bid and ask that were matched in the market and LastQty (Last Quantity): the quantity added at the last price. Total represents the total quantity traded of the given commodity.

[0028] The configuration of the screen display itself informs the user in a more convenient and efficient manner than existing systems. Traders gain a significant advantage by seeing the market depth because they can see trends in the orders in the market. The market depth display shows the trader the interest the market has in a given commodity at different price levels. If a large amount of bids or asks are in the market near the trader's position, he may feel he should sell or buy before the inside market reaches the morass of orders. A lack of orders above or below the inside market might prompt a trader to enter orders near the inside market. Without seeing the market depth, no such strategies could be utilized. Having the dynamic market depth, including the bid and ask quantities and prices of a traded commodity aligned with and displayed below the current inside market of the commodity conveys the information to the user in a more intuitive and easily understandable manner. Trends in the trading of, the commodity and other relevant characteristics are more easily identifiable by the user through the use of the present invention.

[0029] Various abbreviations are used in the screen displays, and specifically, in the column headings of the screen displays reproduced herein. Some abbreviations have been discussed above. A list of common abbreviations and their meanings is provided in Table 1.

1TABLE I Abbreviations. COLUMN DESCRIPTION COLUMN DESCRIPTION Month Expiration Month/Year TheoBid Theoretical Bid Price Bid Mbr(1) Bid Member ID TheoAsk Theoretical Ask Price WrkBuys(2) Working Buys for entire Group ID Qact Quote Action (Sends individual quotes) BidQty Bid Quantity BQQ Test Bid Quote Quantity ThrshBid(6) Threshold Bid Price BQP Test Bid Quote Price BidPrc Bid Price Mkt BQQ Market Bid Quote Quantity Bid Qty Accum Accumulated Bid Quantity Mkt BQP Market Bid Quote Price BidPrc Avg Bid Price Average Quote Checkbox activates/ deactivates contract for quoting AskPrc Avg Ask Price Average Mkt AQQ Market Ask Quote Quantity AskQty Accum Accumulated Ask Quantity Mkt AQP Market Ask Quote Price AskPrc Ask Price AQP Ask Quote Price ThrshAsk(6) Threshold Ask Price AQQ Ask Quote Quantity AskQty Ask Quantity Imp BidQty(5) Implied Bid Quantity WrkSells(2) Working Sells for entire Group ID Imp BidPrc(5) Implied Bid Price Ask Mbr(1) Ask Member ID Imp AskQty(5) Implied Ask Quantity NetPos Net Position Imp AskPrc(5) Implied Ask Price FFNetPos Fast Fill Net Position Gamma(3) Change in Delta given 1 pt change in underlying LastPrc Last Price Delta (3) Change in price given 1 pt change in underlying LastQty Last Quantity Vola (3) Percent volatility Total Total Traded Quantity Vega (3) Price change given I% change in Vola High High Price Rhop (3) Price change given I% change in interest rate Low Low Price Theta(3) Price change for every day that elapses Open Opening Price Click Trd Activate/deactivate click trading by contract Close Closing Price S (Status) Auction, Closed, FastMkt, Not Tradable, Pre-trading, Tradable, S = post-trading Chng Last Price-Last Close Expiry Expiration Month/Year TheoPrc Theoretical Price

[0030] As described herein, the display and trading method of the present invention provide the user with certain advantages over systems in which a display of market depth, as shown in FIG. 2, is used. The Mercury display and trading method of the present invention ensure fast and accurate execution of trades by displaying market depth on a vertical or horizontal plane, which fluctuates logically up or down, left or right across the plane as the market prices fluctuates. This allows the trader to trade quickly and efficiently. An example of such a Mercury display is illustrated in the screen display of FIG. 3.

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[0031] The display of market depth and the manner in which traders trade within the market depth can be effected in different manners, which many traders will find materially better, faster and more accurate. In addition, some traders may find the display of market depth to be difficult to follow. In the display shown in FIG. 2, the market depth is displayed vertically so that both Bid and Ask prices descend the grid. The Bid prices descend the market grid as the prices decrease. Ask prices also descend the market grid as these prices actually increase. This combination may be considered counterintuitive and difficult to follow by some traders.

[0032] The Mercury display overcomes this problem in an innovative and logical manner. Mercury also provides an order entry system, market grid, fill window and summary of market orders in one simple window. Such a condensed display materially simplifies the trading system by entering and tracking trades in an extremely efficient manner. Mercury displays market depth in a logical, vertical fashion or horizontally or at some other convenient angle or configuration. A vertical field is shown in the figures and described for convenience, but the field could be horizontal or at an angle. In turn, Mercury further increases the speed of trading and the likelihood of entering orders at desired prices with desired quantities. In the preferred embodiment of the invention, the Mercury display is a static vertical column of prices with the bid and ask quantities displayed in vertical columns to the side of the price column and aligned with the corresponding bid and ask prices. An example of this display is shown in FIG. 3.

[0033] Bid quantities are in the column 1003 labeled BidQ and ask quantities are in column 1004 labeled AskQ. The representative ticks from prices for the given commodity are shown in column 1005. The column, does not list the whole prices (e.g. 95.89), but rather, just the last two digits (e.g. 89). In the example shown, the inside market, cells 1020, is 18 (best bid quantity) at 89 (best bid price) and 20 (best ask quantity) at 90 (best ask price). In the preferred embodiment of the invention, these three columns are shown in different colors so that the trader can quickly distinguish between them.

[0034] The values in the price column are static; that is, they do not normally change positions unless a re-centering command is received (discussed in detail later). The values in the Bid and Ask columns however, are dynamic; that is, they move up and down (in the vertical example) to reflect the market depth for the given commodity. The LTQ column 1006 shows the last traded quantity of the commodity. The relative position of the quantity value with respect to the Price values reflects the price at which that quantity was traded. Column 1001 labeled EI W (entered/working) displays the current status of the trader's orders. The status of each order is displayed in the price row where it was entered. For example, in cells 1007, the number next to S indicates the number of the trader's ordered lots that have been sold at the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order. Blanks in this column indicate that orders are entered or working at that price. In cells 1008, the number next to B indicates the number of the trader's ordered lots that have been bought a.about.the price in the specific row. The number next to W indicates the number of the trader's ordered lots that are in the market, but have not been filled--i.e. the system is working on filling the order.

[0035] Various parameters are set and information is provided in column 1002. For example, "10:48:44" in cell 1009 shows the actual time of day. The L and R fields in cell 1010 indicate a quantity value, which may be added to the order quantity entered. This process is explained below with respect to trading under Mercury. Below the L and R fields, in cell 1011, a number appears which represents the current market volume. This is the number of lots that have been traded for the chosen contract. Cell 1012, "X 10", displays the Net Quantity, the current position of the trader on the chosen contract. The number "10" represents the trader's buys minus sells. Cell 1013 is the "Current Quantity"; this field represents the quantity for the next order that the trader will send to market. This can be adjusted with right and left clicks (up and down) or by clicking the buttons which appear below the Current Quantity in cells 1014. These buttons increase the current quantity by the indicated amount; for example, "10" will increase it by 10; "1H" will increase it by 100; "1K" will increase it by 1000. Cell 1015 is the Clear button; clicking this button will clear the Current Quantity field. Cell 1016 is the Quantity Description; this is a pull down menu allowing the trader to chose from three Quantity Descriptions. The pull down menu is displayed when the

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arrow button in the window is clicked. The window includes NetPos, Offset and a field allowing the trader to enter numbers.. Placing a number in this field will set a default buy or sell quantity. Choosing "Offset" in this field will enable the L/R buttons of cell 1010. Choosing "NetPos" in this field will set the current Net Quantity (trader's net position) as the trader's quantity for his next trade. Cell 1017 are +/- buttons; these buttons will alter the size of the screen-either larger (+) or smaller (-). Cell 1018 is used to invoke Net 0; clicking this button will reset the Net Quantity (cell 101 1) to zero. Cell 1019 is used to invoke Net Real; clicking this button will reset the Net Quantity (cell 10 11) to its actual position.

[0036] The inside market and market depth ascend and descend as prices in the market increase and decrease. For example, FIG. 4 shows a screen displaying the same market as that of FIG. 3 but at a later interval where the inside market, cells 1101, has risen three ticks. Here, the inside market for the commodity is 43 (best bid quantity) at 92 (best bid price) and 63 (best ask quantity) at 93 (best ask price). In comparing FIGS. 3 and 4, it can be seen that the price column remained static, but the corresponding bids and asks rose up the price column. Market Depth similarly ascends, and descends the price column, leaving a vertical history of the market.

[0037] As the market ascends or descends the price column, the inside market, might go above or below the price column displayed on a trader's screen. Usually a trader will want to be able to see the inside market to assess future trades. The system of the present invention addresses this problem with a one click centering feature. With a single click at any point within the gray area, 1021, below the "Net Real" button, the system will re-center the inside market on the trader's screen. Also, when using a three-button mouse, a click of the middle mouse button, irrespective of the location of the mouse pointer, will re-center the inside market on the trader's screen.

[0038] The same information and features can be displayed and enabled in a horizontal fashion. Just as -the market ascends and descends the vertical Mercury display shown in FIGS. 3 and 4, the market will move left and right in the horizontal Mercury display. The same data and the same information gleaned from the dynamical display of the data is provided. It is envisioned that other orientations can be used to dynamically display the data and such orientations are intended to come within the scope of the present invention.

[0039] Next, trading commodities, and specifically, the placement of trade orders using the Mercury display is described. Using the Mercury display and trading method, a trader would first designate the desired commodity and, if applicable, the default quantities. Then he can trade with single clicks of the right or left mouse button. The following equations are used by the system to generate trade orders and to determine the quantity and price to be associated with the trade order. The following abbreviations are used in these formulas: P=Price value of row clicked, R=Value in R field, L=Value in L field, Q=Current Quantity, Q.sub.a=Total of all quantities in AskQ column at an equal or better price than P, Q.sub.b=Total of all quantities in BidQ column at an equal or better price than P, N=Current Net Position, Bo=Buy order sent to market and So=Sell order--sent to market.

[0040] Apy order entered using right mouse button

Bo=(Q.sub.a+R)P (Eq. 1)

[0041] If BidQ field clicked.

So=(Q.sub.b+R)P (Eq. 2)

[0042] If AskQ field clicked.

[0043] Orders entered using the left mouse button

[0044] If "Offset" mode chosen in Quantity Description field then:

Bo=(Q.sub.a+L)P (Eq. 3)

[0045] If BidQ field clicked.

SO=(Q.sub.b+L)P (Eq. 4)

[0046] If AskQ field clicked.

[0047] If "number" mode chosen in Quantity Description field then:

Bo=QP (Eq. 5)

So=QP (Eq. 6)

[0048] If "NetPos" mode chosen in Quantity Description field then:

Bo=NP (Eq. 7)

So=NP (Eq. 8)

[0049] Orders can also be sent to market for quantities that vary according to the quantities available in the market; quantities preset by the trader; and which mouse button the trader clicks. Using this feature, a trader can buy or sell all of the bids or asks in the market at or better than a chosen price with one click. The trader could also add or subtract a preset quantity from the quantities outstanding in the market. If the trader clicks in a trading cell--i.e. in the BidQ or AskQ column, he will enter an order in the market. The parameters of the order depend on which mouse button he clicks and what preset values he set.

[0050] Using the screen display and values from FIG. 5, the placement of trade orders using the Mercury display and trading method is now described using examples. A left click on the 18 in the BidQ column 1201 will send an order to market to sell 17 lots (quantity # chosen on the Quantity Description pull down menu cell 1204) of the commodity at a price of 89 (the corresponding price in the Prc column 1203). Similarly, a left click on the 20 in the AskQ column 1202 will send an order to market to buy 17 lots at a price of 90.

[0051] Using the right mouse button, an order would be sent to market at the price that corresponds to the row clicked for the total quantity of orders in the market that equal or better the price in that row plus the quantity in the R field 1205. Thus, a right click in the AskQ column 1202 in the 87 price row will send a sell order to market at a price of 87 and a quantity of 150. 150 is the sum of all the quantities 30, 97, 18 and 5. 30, 97 and 18 are all of the quantities in the market that would meet or better the trader's sell order price of 87. These quantities are displayed in the BidQ column 1201 because this column represents the orders outstanding in the market to purchase the commodity at each corresponding price. The quantity 5 is the quantity pre-set in the R field 1205.

[0052] Similarly, a right click in the BidQ column 1201 at the same price level of 87 would send a buy limit order to market for a quantity of 5 at a price of 87. The quantity is determined in the game manner as above. In this example, though, there are no orders in the market that equal or better the chosen price--there are no quantities in the AskQ column 1202 that equal or better this price. Therefore, the sum of the equal or better quantities is zero ("0"). The total order entered by the trader will be the value in the R field, which is 5.

[0053] An order entered with the left mouse button and the "Offset" option chosen in the quantity description field 1204 will be calculated in the same way as above, but the quantity in the L field 1206 will be added instead of the quantity in the R field 1205. Thus, a left click in the BidQ column 1201 in the 92 price row will send a buy order to market at a price of 92 and a quantity of 96. 96 is the sum of all the quantities 45, 28, 20 and 3. 45, 28 and 20 are all quantities in the market that would meet or better the

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trader's buy order price of 92. These quantities are displayed in the AskQ column 1202 because this column represents the orders outstanding in the market to sell the commodity at each corresponding price. The quantity 3 is the quantity pre-set in the L field 1206.

[0054] The values in the L or R fields may be negative numbers. This would effectively decrease the total quantity sent to market. In other words, in the example of a right click in the AskQ column 1202 in the 87 price row, if the R field was -5, the total quantity sent to market would be 140 (30+97+18+(-5)).

[0055] If a trader chose the "NetPos" option in the quantity description field 1204, a right click would still work as explained above. A left click would enter an order with a price corresponding to the price row clicked and a quantity equal to the current Net position of the trader. The Net position of the trader is the trader's current position on the chosen contract. In other words, if the trader has bought 10 more contracts than he has sold, this value would be 10. NetPos would not affect the quantity of an order sent with a right click.

[0056] If the trader chose a number value in the quantity description, a left click would send an order to market for the current quantity chosen by the trader. The default value of the current quantity will be the number entered in the quantity description field, but it could be changed by adjusting the figure in the current quantity field 1204.

[0057] This embodiment of the invention also allows a trader to delete all of his working trades with a single click of either the right or left mouse button anywhere in the last traded quantity (LTQ) column 1207. This allows a trader to exit the market immediately. Traders will use this feature when they are losing money and want to stop the losses from pilling up. Traders may also use this feature to quickly exit the market upon making a desired profit. The invention also allows a trader to delete all of his. orders from the market at a particular price level. A click with either mouse button in the Entered/Working (E/W) column 1208 will delete all working orders in the cell that was clicked. Thus, if a trader believes that previously sent orders at a particular price that have not been filled would be poor trades, he can delete these orders with a single click.

[0058] The process for placing trade orders using the Mercury display and trading method of the present invention as described above is shown in the flowchart of FIG. 6. First, in step 1301, the trader has the Mercury display on the trading terminal screen showing the market for a given commodity. In step 1302, the parameters are set in the appropriate fields, such as the L and R fields and the Current Quantity, NetPos or Offset fields from the pull down menu. In step 1303, the mouse pointer is positioned and clicked over a cell in the Mercury display by the trader. In step 1304, the system determines whether the cell clicked is a tradable cell (i.e. in the AskQ column or BidQ column). If not, then in step 1305, no trade order is created or sent and, rather, other quantities are adjusted or functions are performed based upon the cell selected. Otherwise, in step 1306, the system determines whether it was the left or the right button of the mouse that was clicked. If it was the right, then in step 1307, the system will use the quantity in the R field when it determines the total quantity of the order in step 1310. If the left button was clicked, then in step 1308, the system determines which quantity description was chosen: Offset, NetPos or an actual number.

[0059] If Offset was chosen, then the system, in step 1309, will use the quantity in the L field when it determines the total quantity of the. order in step 1310. If NetPos was chosen, then the system, in step 1312, will determine that the total quantity for the trade order will be current NetPos value, i.e. the net position of the trader in the given commodity. If an actual number was used as the quantity description, then, in step 1311, the system will determine that the total quantity for the trade order will be the current quantity entered. In step 1310, the system will determine that the total quantity for the trade order will be the value of the R field (if step 1307 was taken) or the value of the L field (if step 1309 was taken) plus all quantities in the market for prices better than or equal to the price in the row clicked. This will add up the quantities for each order in, the market that will fill the order being entered by the trader (plus the L or R value).

[0060] After either steps 1310, 1311 or 1312, the system, in step 1313, determines which column was

clicked, BidQ or AskQ. If AskQ was clicked, then, in step 1314, the system sends a sell limit order to the market at the price corresponding to the row for the total quantity as already determined. If BidQ was clicked, then, in-step 1315, the system sends a buy limit order to the market at the price corresponding to the row for the total quantity as already determined.

[0061] It should be understood that the above description of the invention and specific examples, while indicating preferred embodiments of the present invention, are given by way of illustration and not limitation. Many changes and modifications within the scope of the present invention may be made without departing from the spirit thereof, and the present invention includes all such changes and modifications.

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Exhibit R

	A	B	C	D	E	F	G
1	Created Date	Request Update Date	Response Update Date	Amount	Activity Type	Telco Row Id	CQG Circuit Id
2	11/10/2005 10:58				Email - Outbound		
3	11/10/2005 11:01				Email - Outbound		
4	12/9/2005 19:16				Email - Outbound		
5	12/13/2005 13:08				Email - Outbound		
6	1/5/2006 13:59				Email - Outbound		
7	1/18/2006 14:31				Email - Outbound		

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PDX 2183

CQG00581905

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PTX 0187.0001

	H
1	Description
2	Sent message to: yshterk@cqg.com; sergeya@cqg.com; ux@cqg.com; sergeyg@cqg.com; alexeyc@cqg.com; ...
3	Sent message to: sergeya@cqg.com; yshterk@cqg.com; sheila@cqg.com; ux@cqg.com. (see Comment for ...
4	Sent message to: Srijana Savignac. (see Comment for message body.)
5	Sent message to: pdsam1@cqg.com; dmitrys@cqg.com; igora@cqg.com; andrei@cqg.com. (see Comment fo...
6	Sent message to: gouchine@cqg.com; dianeb@cqg.com; Sheila Spampinato. (see Comment for message b...
7	Sent message to: gouchine@cqg.com; dianeb@cqg.com; ep@cqg.com; Sheila Spampinato. (see Comment f...

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1	Note/Request
2	---------------- Comments: I want to suggest that we implement the following solution: Hovering image will contain price (or last N digits from the price). While price corresponding to the hovered cell is on screen we highlight it and underscore it. Wh
3	---------------- Comments: ---------------- Number: 67260001 Title: Invalid link on web site. Date Opened: 10.11.2005 11:00:01 Reported By: SERGEYA Created By: SERGEYA Area: Website Sub-Area: Content Priority:
4	---------------- Comments: we need to get all people with GW Trader enablements on version that doesn't infringe patents of TT Coulnd't reach him and he doesn't answer emails or upgrade, can you please chase him up Srijana as your the account manager. he
5	The following Defect has been set to Closed/Canceled: ---------------- Comments: Drag'n'Drop order placing as well as Fast Click is not supported in Order Ticket by requirements (TT patent issue). ---------------- Number: 78192605 Title: Draug'n'Drop orders are not placed in OrderTicket Date Opened: 13.12.2005 15:06:51 Reported By: GRIGORYB Created By: GRIGORYB Assigned To: DMITRYS Area: CQG Trader Sub-Area: DomTrader Priority: Status: Closed Sub Status: Canceled Target Fix Version:▨ Description: Draug'n'Drop orders are not placed in OrderTicket
6	---------------- Comments: Added the ***Note to explain what happened here, and to remind me to add it back in when the patent is secured. Sheila, is there some mechanism by which we'll be notified? ---------------- Number: 78382805 Title:
7	---------------- Comments: This topic has been hidden (green text in the Word document so it will just need to be revealed when this change is approved) pending notification from Ernie that it's okay to put it back in. Ernie's meeting with an attorney 1/

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PTX 0187.0003

	J Order Number	K Completed	L Assigned To	M Due Date	N Created By	O System	P Date Assigned
1	Order Number	Completed	Assigned To	Due Date	Created By	System	Date Assigned
2		N			SERGEYA		
3		N			SERGEYA		
4		N			SONJA		
5		N			MAXIM		
6		N			dianeb		
7		N			DIANEB		

CQG00581908

TT v. CQG (05-4811)

PTX 0187.0004

	Q	R	S	T	U
	Acct. Name	Acct. Location	ARNum	Last Name	First Name
1					
2					
3					
4	Refco Overseas Swiss SA	Geneva	33,319	Dutoit	Jean Luc
5					
6					
7					

CQG00581909

TT v. CQG (05-4811)

PTX 0187.0005

	V	W	X	Y	Z	AA
1	Contact Email	Contact Phone	CSR/ISR	Defect/Suggestion Num.	Project	Requirement
2				57986001		
3				67260001		
4	jldutoit@refcoeurope.ch		1-77649328			
5				78192605		
6				78382805		
7				78382805		

CQG00581910

TT v. CQG (05-4811)

PTX 0187.0006

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
1	Overdue	Priority	Todo	Class	Created Server Time	Date Completed	Start Time	Duration	End Time	Alarm
2					11/10/2005 0:55			0		N
3					11/10/2005 0:58			0		N
4					12/9/2005 11:56			0		N
5					12/13/2005 4:08			0		N
6					1/5/2006 13:55			0		N
7					1/18/2006 14:30			0		N

CQG00581911

TT v. CQG (05-4811)

PTX 0187.0007

	A	B	C	D	E	F	G
8	1/18/2006 14:33				Email - Outbound		
9	1/20/2006 12:04				Email - Outbound		
10	1/20/2006 9:20				Email - Outbound		
11	4/24/2006 10:02				Email - Outbound		
12	6/28/2006 16:39				Note		
13	10/24/2007 12:55				Email - Outbound		
14	10/2/2008 9:15				Note		

CQG00581912

TT v. CQG (05-4811)

PTX 0187.0008

H
8	Sent message to: gouchine@cqg.com; dianeb@cqg.com; ep@cqg.com; Sheila Spampinato; val@cqg.com. (...
9	Sent message to: gouchine@cqg.com; dianeb@cqg.com; ep@cqg.com. (see Comment for message body.)
10	Sent message to: gouchine@cqg.com; ep@cqg.com; Sheila Spampinato; Holly Shellner. (see Comment f...
11	Sent message to: laurie@cqg.com; 'Data Quality Tech Support'. (see Comment for message body.)
12	
13	Sent message to: yvette@cqg.com; Joel Nelson; 'CQG'. (see Comment for message body.)
14	

CQG00581913

TT v. CQG (05-4811)

PTX 0187.0009

		I
8	---------------- Comments: Changed Sub-status to event pending. ---------------- Number: 78382805 Title: Help topic for BidAskRange bars misses Autolevel factor explanation Date Opened: 12/22/2005 1:41:28 PM Reported By: GOUCHINE A	
9	---------------- Comments: Diane, due date for this defect is today (Jan 20). Thanks, Sergey A. ---------------- Number: 78382805 Title: Help topic for BidAskRange bars misses Autolevel factor explanation Date Opened: 22.12.2005 13	
10	---------------- Comments: Per Sheila, this needs to be escalated so we don't lose track of it. As soon as we get the legal stuff done, we'll put this back in. The setting is no longer available in the product, so it's not something the users will miss. -	
11	---------------- Comments:Hi Laurie, thats good. Prices fell hard apparently as a result of a false court room rumor pertaining to a patent infringement case. ---------------- CSR Number: 1-134103704 Date Opened: 4/24/2006 9:40:19 AM Account:	
12	done, he wasn'ts to do exacly what the TT patent is, pointed him to Order Ticket and Heads up window	
13	---------------- Comments: Patent settlement with Intel. Is good. ---------------- CSR Number: 1-167790014 Date Opened: 10/24/2007 11:48:49 AM Account: CQG AR Number: 0 Contact: CQG System: 105605 Assigned To: JOELN As	
14	Did a Bomgar and went through the proccess of adding level in EP,60C then switching to EP,240C --> no issue with any of them. Could not recreate the issue with any new levels and the previous ones had already disappeared appatently. tested a few more times: again, no issue identified at all. this may indicate possibly user error or that levels were accidentally edited/moved. Lee will let me know if issue re-occurs.	

CQG00581914

TT v. CQG (05-4811)

PTX 0187.0010

	J	K	L	M	N	O	P
8		N			DIANEB		
9		N			SERGEYA		
10		N			DIANEB		
11		N			MALEK		
12		Y			SONJA	100602	
13		N			JOELN		
14		Y			SAMUELV	105671	

CQG00581915

TT v. CQG (05-4811)

PTX 0187.0011

	Q	R	S	T	U
8					
9					
10					
11	Little	Chicago	6,877	Little	J. Daniel
12	Saxon Financials Ltd	London	30,026	Diamantis	Angelos
13	CQG	Glenwood Springs	0		
14	Independent Derivative Traders Ltd	Woking	30,108	Goldberg	Danny

CQG00581916

TT v. CQG (05-4811)

PTX 0187.0012

	V	W	X	Y	Z	AA
8				78382805		
9				78382805		
10				78382805		
11	jlittle190@comcast.net	(312) 733-4048	1-134103704			
12	ang_diam@yahoo.com	+0030 211 7507 343	1-158251563			
13			1-167790014			
14	d.goldberg@futex.co.uk	+01483 774015	1-187684306			

CQG00581917

TT v. CQG (05-4811)

PTX 0187.0013

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
8					1/18/2006 14:32			0		N
9					1/20/2006 2:03			0		N
10					1/20/2006 9:19			0		N
11					4/24/2006 10:01			0		N
12	N				6/28/2006 8:38	6/28/2006 0:00		0		N
13					10/24/2007 11:54			0		N
14	N				10/2/2008 2:16	10/2/2008 0:00		0		N

CQG00581918

TT v. CQG (05-4811)

PTX 0187.0014

	A	B	C	D	E	F	G
15	4/24/2009 11:01				Note		
16	7/14/2009 11:27				Email - Outbound		
17	8/31/2010 18:42				Email - Outbound		

CQG00581919

TT v. CQG (05-4811)

PTX 0187.0015

H
15
16	Sent message to: Troy Wood; Yuriy Shterk. (see Comment for message body.)
17	Sent message to: Nikita Lepetukhin; Yuriy Shterk; sergeya@cqg.com; Sergey Gorelov. (see Comment ...

CQG00581920

TT v. CQG (05-4811)

PTX 0187.0016

15	Hi Matthew, Thanks again for your time today. As I mentioned my goal is to get this product in the Equity/Futures arena as I am already working on the spot FX side. I have spoken with numerous firms, professional traders, market psychologist, etc on this concept and have received great reviews. My website (in dev until product completion) is www.roguered.com There you will see exactly what I am getting at. This apparatus/concept is patent pending and any other information you need I will be happy to supply. Thank you for consideration. Bottom line - if you guys want to address the market segment outside of the next best indicator, I think I have your solution. I'd love your thoughts. Thank you again Matthew Carstens 616.633.2359
16	The following Suggestion has been set to Closed/Fixed Later Version: ---------------- Comments: ---------------- Number: 35586702 Title: Make a CAST enablement to disable DOM Trader. Date Opened: 5/17/2005 10:34:08 AM Reported By: TWOOD Created By: TWOOD Assigned To: YSHTERK Area: CQG Client Sub-Area: Trade Routing Priority: Status: Closed Sub Status: Fixed Later Version Target Fix Version:▯ Description: Make a CAST enablement to disable DOM Trader. Suggested by JPM and Goldman Sachs for legal, patent, and liability issues. CSR is linked.
17	---------------- Comments: FYI - linked CSR request from VIP customer Sterling Commodity to this suggestion. Thanks, Valerie ---------------- Number: 36347201 Title: CQG Mobile Date Opened: 7/1/2005 4:33:48 PM Reported By: NIKITA

CQG00581921

TT v. CQG (05-4811)

PTX 0187.0017

	J	K	L	M	N	O	P
15		Y			MATTHEW	117263	
16		N			JAID		
17		N			VAL		

CQG00581922

TT v. CQG (05-4811)

PTX 0187.0018

	Q	R	S	T	U
15	CQG	Chicago	0		
16					
17					

TT v. CQG (05-4811)

PTX 0187.0019

	V	W	X	Y	Z	AA
15			1-195377703			
16				35586702		
17				36347201		

CQG00581924

TT v. CQG (05-4811)

PTX 0187.0020

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
15	N				4/24/2009 12:53	4/24/2009 0:00		0		N
16					7/14/2009 11:22			0		N
17					8/31/2010 18:42			0		N

CQG00581925

TT v. CQG (05-4811)

PTX 0187.0021

	A	B	C	D	E	F	G
18	1/6/2011 15:35				Note		
19	1/12/2011 13:01				Email - Outbound		
20	2/28/2011 14:19				Email - Outbound		
21	3/19/2012 13:48				Note		

CQG00581926

TT v. CQG (05-4811)

PTX 0187.0022

	H
18	
19	Sent message to: Sophie Parsons; Troy Wood. (see Comment for message body.)
20	Sent message to: Alexey Borisanov; Matt Long; Vladimir Kislenkov; GWSYS; Sheila Spampinato; A; 'Z...
21	Email from michelle@cqg.com

CQG00581927

TT v. CQG (05-4811)

PTX 0187.0023

18	re-centering is by design Hi John, Ok, I talked with Yuriy and he misunderstood what I was talking about earlier. That setting I was talking about earlier is for something else, I guess. Anyway, the bad news is that we had to remove that functionality because TT says it violates their patent. So, due to the lawsuit, we had to remove it from the software and I guess that started with version 8x3. They said we can't have the static DOM when in Responsive mode. So, current functionality will wait one minute and then it will re-center. After that, you can click on the little white or red circles to bring you quickly to your order. Sorry to be the bearer of bad news :(Kerry Gill Rogers p. 312 939-1564 f. 312 939-2263 kerryg@cqg.com CQG Support: 1 800-525-1085
19	---------------- Comments: Created and linked Suggestion 260123201 to the CSR. I went and closed the CSR, Sophie. BTW, chances of this being implemented might be slim. There might be TT patent infringements that could be exceeded if they implement this
20	---------------- Comments: During this defect fixing I found some points in performance optimization: - VS2009 compiler has different behavior with "maximize speed" optimization. There are two ways to switch speed optimization on: use default compiler s
21	We removed all references to compression from our user assistance documentation in February 2010 because of the pending patent case with TT. Now that it has been resolved, I will have Mark approve adding this information back. Can you please send me the requirements associated with the additional compression mode; I don't have MKS. I will do this by the end of Friday Denver time, assuming I have the requirements and Mark's approval. -----Original Message----- From: Stas Shidlovsky Sent: Wednesday, March 14, 2012 2:45 AM To: Mikhail Shamaev; PDSAM5; Stas Shidlovsky; eml2dsi; Stas Shidlovsky; Michelle Despres Subject: Suggestion 448617802 has been assigned to MICHELLE Importance: High The following Suggestion has been

CQG00581928

TT v. CQG (05-4811)

PTX 0187.0024

	J	K	L	M	N	O	P
18		Y			KERRYG	105167	
19		N			BRYANR		
20		N			BALEXEY		
21		Y			TRKSRV		

CQG00581929

TT v. CQG (05-4811)

PTX 0187.0025

	Q	R	S	T	U
18	Netto	San Bruno	14,666	Netto	John
19	CFT Financials	London/34331	34,331		
20					
21					

CQG00581930

TT v. CQG (05-4811)

PTX 0187.0026

	V	W	X	Y	Z	AA
18	john.f.netto@gmail.com	(212) 315-0650	1-259113922			
19			1-259637902			
20				261459802		
21				448617802		

CQG00581931

TT v. CQG (05-4811)

PTX 0187.0027

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
18	N				1/6/2011 14:43	1/6/2011 0:00		0		N
19					1/12/2011 11:01			0		N
20					2/28/2011 4:18			0		N
21	N				3/19/2012 13:49	3/19/2012 0:00		0		N

CQG00581932

TT v. CQG (05-4811)

PTX 0187.0028

	A	B	C	D	E	F	G
22							
23	3/20/2012 5:23				Note		
24							

CQG00581933

TT v. CQG (05-4811)

PTX 0187.0029

H

22

23 | Email from mikhails@cqg.com

24

CQG00581934

TT v. CQG (05-4811)

PTX 0187.0030

22	assigned to MICHELLE: ---------------- Comments: Michelle, is it realistic to meet the due date for you? ---------------- Number: 448617802 Title: Add description of Scale and Market compression into CQGTrader help Date Opened: 3/7/2012 1:12:49 PM Reported By: MIKHAILS Created By: MIKHAILS Assigned To: MICHELLE Area: CQG Trader Sub-Area: Help Priority: 2-By Due Date Description: Add description of Scale and Market compression into CQGTrade help, because cutomers and CSP don't understand how to use it. Funcionality of Split market Compression tool available starting CQGT 4.0. But in 4.2 it has aditional compression mode.
23	Requirements attached. Thank you -----Original Message----- From: Michelle Despres Sent: Monday, March 19, 2012 11:49 PM To: Stas Shidlovsky; Mikhail Shamaev; PDSAM5; eml2dsi Subject: RE: Suggestion 448617802 has been assigned to MICHELLE We removed all references to compression from our user assistance documentation in February 2010 because of the pending patent case with TT. Now that it has been resolved, I will have Mark approve adding this information back. Can you please send me the requirements associated with the additional compression mode; I don't have MKS. I will do this by the end of Friday Denver time, assuming I have the requirements and Mark's approval. -----Original Message----- From: Stas Shidlovsky
24	Sent: Wednesday, March 14, 2012 2:45 AM To: Mikhail Shamaev; PDSAM5; Stas Shidlovsky; eml2dsi; Stas Shidlovsky; Michelle Despres Subject: Suggestion 448617802 has been assigned to MICHELLE Importance: High The following Suggestion has been assigned to MICHELLE: ---------------- Comments: Michelle, is it realistic to meet the due date for you? ---------------- Number: 448617802 Title: Add description of Scale and Market compression into CQGTrader help Date Opened: 3/7/2012 1:12:49 PM Reported By: MIKHAILS Created By: MIKHAILS Assigned To: MICHELLE Area: CQG Trader Sub-Area: Help Priority: 2-By Due Date Description: Add description of Scale and Market compression into CQG

	J	K	L	M	N	O	P
22							
23		Y			TRKSRV		
24							

CQG00581936

TT v. CQG (05-4811)

PTX 0187.0032

	Q	R	S	T	U
22					
23					
24					

CQG00581937

TT v. CQG (05-4811)

PTX 0187.0033

	V	W	X	Y	Z	AA
22						
23				448617802		
24						

CQG00581938

TT v. CQG (05-4811)

PTX 0187.0034

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
22										
23	N				3/20/2012 5:22	3/20/2012 0:00		0		N
24										

TT v. CQG (05-4811)

PTX 0187.0035

	A	B	C	D	E	F	G
25	5/17/2012 19:18				Email - Outbound		
26	5/30/2012 2:04				Note		
27							

CQG00581940

TT v. CQG (05-4811)

PTX 0187.0036

	H
25	Sent message to: Konstantin Stepanyuk; PDTPQD. (see Comment for message body.)
26	Email from evgeniy@cqg.com
27	

CQG00581941

TT v. CQG (05-4811)

PTX 0187.0037

25	The following Suggestion has been assigned to KOSTYAS: --------------- Comments: --------------- Number: 488065202 Title: QD: Disable compression by removing patented operators Date Opened: 17.05.2012 19:12:41 Reported By: EVGENIY Created By: EVGENIY Assigned To: KOSTYAS Area: Ticker Plant System Sub-Area: Quotes Direct Priority: 2-By Due Date Description: We are going to make changes similar to what CME is talking about - see attached Status: Open Sub Status: Assigned Target Fix Version:ELX64QD 01.06.00
26	Ryan, Dmitry, Now knowing a cost of implementing the suggestion shall we proceed with it? If yes, What release shall it be included to? Thank You, Evgeniy Sachenko -----Original Message----- From: Konstantin Stepanyuk Sent: Tuesday, May 29, 2012 11:30 PM To: Evgeniy Sachenko; Konstantin Stepanyuk; Ryan Moroney; PDTPQD; eml2dsi Subject: Suggestion 488065202 Details --------------- Impact: This suggestion will actually cancel another suggestion "S.308139201 FFD: SDS: Don't reset FAST dictionary", which saved 20% of bandwidth a year ago. The cumulative instrument definition channel bandwidth for all feeds will increase by 64%. The cumulative bandwidth for all increment channels will increase by 45%. This may
27	affect customers which are not cross-connected with our servers. We also have to remove more price levels on feeds with unlimited DOM. For example, now we provide 75 levels on ICE and this number will be reduced to 50. --------------- Number: 488065202 Title: QD: Disable compression by removing patented operators Date Opened: 5/17/2012 7:12:41 PM Reported By: EVGENIY Created By: EVGENIY Area: Ticker Plant System Sub-Area: Quotes Direct Priority: 2-By Due Date Assigned To: KOSTYAS Status: Open Sub Status: Assigned Description: We are going to make changes similar to what CME is talking about - see attached http://www.Taglocity.com Tags: Groups, QD

CQG00581942

TT v. CQG (05-4811)

PTX 0187.0038

	J	K	L	M	N	O	P
25		N			EVGENIY		
26		Y			TRKSRV		
27							

CQG00581943

TT v. CQG (05-4811)

PTX 0187.0039

	Q	R	S	T	U
25					
26					
27					

TT v. CQG (05-4811)

PTX 0187.0040

	V	W	X	Y	Z	AA
25				488065202		
26				488065202		
27						

CQG00581945

TT v. CQG (05-4811)

PTX 0187.0041

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
25					5/17/2012 9:17			0		N
26	N				5/30/2012 2:04	5/30/2012 0:00		0		N
27										

CQG00581946

TT v. CQG (05-4811)

PTX 0187.0042

	A	B	C	D	E	F	G
28	5/29/2012 13:30				Email - Outbound		
29	5/30/2012 14:11				Note		
30							
31	6/27/2012 16:00				Email - Outbound		

CQG00581947

TT v. CQG (05-4811)

PTX 0187.0043

H
28	Sent message to: Evgeniy Sachenko; Konstantin Stepanyuk; Ryan Moroney; PDTPQD; eml2dsi. (see Com...
29	Email from ryanm@cqg.com
30	
31	Sent message to: Marina Morales; eml2dsi; Artashes Ghazaryan; Matt Long. (see Comment for messag...

CQG00581948

TT v. CQG (05-4811)

PTX 0187.0044

28	---------------- Impact: This suggestion will actually cancel another suggestion "S.308139201 FFD: SDS: Don't reset FAST dictionary", which saved 20% of bandwidth a year ago. The cumulative instrument definition channel bandwidth for all feeds will increa
29	I am ok with the limitation of DOM levels to 50. Regarding the bandwidth increase, we only have one customer taking data not through a cross-connect... I'll talk to them and get a feel for it Thanks, Ryan -----Original Message----- From: Evgeniy Sachenko Sent: Wednesday, May 30, 2012 3:05 AM To: Ryan Moroney; Dmitry Mostovoy Cc: Konstantin Stepanyuk; PDTPQD; eml2dsi Subject: RE: Suggestion 488065202 Details Ryan, Dmitry, Now knowing a cost of implementing the suggestion shall we proceed with it? If yes, What release shall it be included to? Thank You, Evgeniy Sachenko
30	PDTPQD; eml2dsi Subject: Suggestion 488065202 Details ---------------- Impact: This suggestion will actually cancel another suggestion "S.308139201 FFD: SDS: Don't reset FAST dictionary", which saved 20% of bandwidth a year ago. The cumulative instrument definition channel bandwidth for all feeds will increase by 64%. The cumulative bandwidth for all increment channels will increase by 45%. This may affect customers which are not cross-connected with our servers. We also have to remove more price levels on feeds with unlimited DOM. For example, now we provide 75 levels on ICE and this number will be reduced to 50. ---------------- Number: 488065202 Title: QD: Disable compression by removing patented ope...
31	The following Inquiry has been assigned to ARTASHES: ---------------- Comments: Target Fix Version:⊡GW Inquiries ---------------- Number: 509120203 Title: SpanParser is having issues decompressing ose files Date Opened: 6/27/2012 1:34:16 PM Reported By: MORALESM Created By: MORALESM Assigned To: ARTASHES Area: CQGGW Sub-Area: SPAN Parser Priority: 2-By Due Date Description: SpanParser is having issues decompressing ose files every time SpanParser tries to process the files. The following non-critical error can be found In SpanParserService logs.

TT v. CQG (05-4811)

PTX 0187.0045

	J	K	L	M	N	O	P
28		N			KOSTYAS		
29		Y			TRKSRV		
30							
31		N			MATTL		

CQG00581950

TT v. CQG (05-4811)

PTX 0187.0046

	Q	R	S	T	U
28					
29					
30					
31					

CQG00581951

TT v. CQG (05-4811)

PTX 0187.0047

	V	W	X	Y	Z	AA
28				488065202		
29				488065202		
30						
31				509120203		

CQG00581952

TT v. CQG (05-4811)

PTX 0187.0048

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
28					5/29/2012 13:29			0		N
29	N				5/30/2012 14:12	5/30/2012 0:00		0		N
30										
31					6/27/2012 15:59			0		N

CQG00581953

TT v. CQG (05-4811)

PTX 0187.0049

	A	B	C	D	E	F	G
32							
33	8/29/2003 13:12				Email - Outbound		
34	5/10/2005 15:45				Email - Outbound		
35	5/11/2005 11:15				Email - Outbound		

CQG00581954

TT v. CQG (05-4811)

PTX 0187.0050

H
32
33 Sent message to: Frkcsp; Lori Fairbanks; jw@cqg.com. (see Comment for message body.)
34 Sent message to: Mike Glista. (see Comment for message body.)
35 Sent message to: alexk@cqg.com; sergeyg@cqg.com; Yuriy Shterk; sergeya@cqg.com; solomin@cqg.com. ...

CQG00581955

TT v. CQG (05-4811)

PTX 0187.0051

	decompression of c:\xpit.com\Applications\SpanParser\Data\Downloads archive. Result:
	   is result successful: No
	   result code: 301
	   information text: PKZIP(R) Version 2.50 FAST! Compression Utility for Windows 95/NT 4-15-1998
	Copyright 1989-1998 PKWARE Inc. All Rights Reserved. Shareware Version
	PKZIP Reg. U.S. Pat. and Tm. Off. Patent No. 5,051,745
	
	Extracting files from .ZIP: c:/xpit.com/Applications/SpanParser/Data/Downloads/ose.20120626.s.zip
	
	PKZIP: (Z152) No CE signature found
	
	This error only appears for ose files. Should we be concerned with this error?
	Status: Open
	Sub Status: Assigned

32	
	---------------- Comments: FYI I just stumbled upon this information, as we use tabs excessively within our software I thought you may want to investigate in what way this issue affects us cheers sonja ---------------- ISR Number: 1-25262710
33	ISR Tit
	---------------- Comments: informed user, they're pretty happy, he asked if we'd notify him once contracts are signed so that he can put pressure on MAN to get connections online. can you pls write email to gwops or so once MAN signed up? thx sonja
34	Fro
	The following Suggestion has been assigned to ALEXK: ---------------- Comments: ---------------- Number: 35495307 Target Fix Version:▯7x3 Alpha 4 - 6/3/05 Due Date: ▯▯▯▯6/3/2005 Title: Changes to DOMTrader required to bypass TT patent. Date Opened: 5/10/2005 8:07:13 PM Reported By: ALEXK Created By: ALEXK Assigned To: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 2-By Due Date Description: Requirements 35495301, 35495302, 35495303, 32985940, 35495304, 35495305 should be implemented. Status: Open Sub Status: Working
35	

CQG00581956

TT v. CQG (05-4811)

PTX 0187.0052

	J	K	L	M	N	O	P
32							
33		N			SONJA		
34		N			SONJA		
35		N			SHEILA		

CQG00581957

TT v. CQG (05-4811)

PTX 0187.0053

	Q	R	S	T	U
32					
33					
34	Portfolio Concept GmbH	Koeln/28428	28,428	Wenzel	Ralf
35					

CQG00581958

TT v. CQG (05-4811)

PTX 0187.0054

	V	W	X	Y	Z	AA
32						
33			1-25262710			
34	rw@portfolioconcept.de	+49 221-9486-11-32	1-35474906			
35				35495307		

CQG00581959

TT v. CQG (05-4811)

PTX 0187.0055

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
32										
33					8/29/2003 5:10			0		N
34					5/10/2005 7:43			0		N
35					5/11/2005 13:43			0		N

CQG00581960

TT v. CQG (05-4811)

PTX 0187.0056

	A	B	C	D	E	F	G
36	5/17/2005 7:41				Email - Outbound		PTX 0187.0057
37	5/18/2005 7:21				Email - Outbound		
38	5/18/2005 9:39				Email - Outbound		
39	5/19/2005 9:08				Email - Outbound		

CQG00581961

TT v. CQG (05-4811)

PTX 0187.0057

	H
36	Sent message to: joanna@cqg.com; twood@cqg.com; gwops@cqg.com; sst@cqg.com. (see Comment for mes...
37	Sent message to: twood@cqg.com. (see Comment for message body.)
38	Sent message to: Valerie Curry; Simon; Clifton. (see Comment for message body.)
39	Sent message to: 'joanna@cqg.com'. (see Comment for message body.)

CQG00581962

TT v. CQG (05-4811)

PTX 0187.0058

	---------------- Comments: Interesting suggestion! VC ---------------- CSR Number: 1-35580404 Date Opened: 5/17/2005 12:00:51 PM Account: JPMorgan Chase Bank AR Number: 29,159 Contact: Pamela Stephenson CQG System: Assigne
36	
	---------------- Comments: thought you might know the answer off the top of your head ---------------- CSR Number: 1-35608101 Date Opened: 5/18/2005 9:33:13 AM Account: Man Financial Ltd. AR Number: 29,470 Contact: CQG System:
37	
	Val, I don't know who to assign this to - can you help? Thx ---------------- Comments: ---------------- CSR Number: 1-35608101 Date Opened: 18/05/2005 09:33:13 Account: Man Financial Ltd. AR Number: 29,470 Contact: CQG System: Assigned To: Assigned Group: Software Services Status: Assigned Description: Man in London would be interested in looking at Gateway but require specific legal advice from CQG lawyers that the product does not infringe any patents before moving forward. Can CQG provide that?
38	
	---------------- Comments: Talk to Joe S. ---------------- CSR Number: 1-35608101 Date Opened: 5/18/2005 9:33:13 AM Account: Man Financial Ltd. AR Number: 29,470 Contact: CQG System: Assigned To: TWOOD
39	Assigned Group:

CQG00581963

TT v. CQG (05-4811)

PTX 0187.0059

	J	K	L	M	N	O	P
36		N			VAL		
37		N			JO		
38		N			JOANNA		
39		N			TWOOD		

CQG00581964

TT v. CQG (05-4811)

PTX 0187.0060

	Q	R	S	T	U
36	JPMorgan Chase Bank	London	29,159	Stephenson	Pamela
37	MF Global UK Ltd	Canary Wharf	29,470		
38	MF Global UK Ltd	Canary Wharf	29,470		
39	MF Global UK Ltd	Canary Wharf	29,470		

CQG00581965

TT v. CQG (05-4811)

PTX 0187.0061

	V	W	X	Y	Z	AA
36	pamela.stephenson@jpmorgan.com	+7325 5003	1-35580404			
37			1-35608101			
38			1-35608101			
39			1-35608101			

CQG00581966

TT v. CQG (05-4811)

PTX 0187.0062

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
36					5/17/2005 7:40			0		N
37					5/18/2005 7:17			0		N
38					5/18/2005 1:36			0		N
39					5/19/2005 9:06			0		N

CQG00581967

TT v. CQG (05-4811)

PTX 0187.0063

	A	B	C	D	E	F	G
40	5/23/2005 13:30				Email - Outbound		
41	6/9/2005 17:12				Email - Outbound		
42	7/1/2005 16:57				Email - Outbound		

CQG00581968

TT v. CQG (05-4811)

PTX 0187.0064

H
40	Sent message to: alexk@cqg.com; sergeyg@cqg.com; yshterk@cqg.com; sergeya@cqg.com; solomin@cqg.co...
41	Sent message to: alexk@cqg.com; sergeyg@cqg.com; yshterk@cqg.com; sergeya@cqg.com; solomin@cqg.co...
42	Sent message to: nikita@cqg.com; yshterk@cqg.com; sergeya@cqg.com; sergeyg@cqg.com. (see Comment...

CQG00581969

TT v. CQG (05-4811)

PTX 0187.0065

	The following Suggestion has been set to Test Pending/Test Pending: ---------------- Comments: Suggestion has been implemented. ---------------- Number: 35495307 Title: Changes to DOMTrader required to bypass TT patent. Date Opened: 5/10/2005 8:07:13 PM Reported By: ALEXK Created By: ALEXK Assigned To: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 2-By Due Date Status: Test Pending Sub Status: Test Pending Target Fix Version:⁊7x3 Alpha 4 - 6/3/05 Description: Requirements 35495301, 35495302, 35495303, 32985940, 35495304, 35495305 should be implemented.
40	
	The following Suggestion has been set to Closed/Resolved: ---------------- Comments: Suggestion 35495307 passed testing. ---------------- Number: 35495307 Title: Changes to DOMTrader required to bypass TT patent. Date Opened: 5/10/2005 8:07:13 PM Reported By: ALEXK Created By: ALEXK Assigned To: ALEXK Area: CQG Client Sub-Area: Trade Routing Priority: 2-By Due Date Status: Closed Sub Status: Resolved Target Fix Version:⁊7x3 Alpha 4 - 6/24/05
41	Description: Requirements 35495301, 35495302, 35495303, 32985940, 35495304, 35495305 should be implemented.
	---------------- Comments: ---------------- Number: 36347201 Title: CQG Mobile Date Opened: 01.07.2005 16:33:48 Reported By: NIKITA Created By: NIKITA Area: CQG Client Sub-Area: Trade Routing Priority:
42	Ass

CQG00581970

TT v. CQG (05-4811)

PTX 0187.0066

	J	K	L	M	N	O	P
40		N			ALEXK		
41		N			NOSKOV		
42		N			NIKITA		

CQG00581971

TT v. CQG (05-4811)

PTX 0187.0067

	Q	R	S	T	U
40					
41					
42					

TT v. CQG (05-4811)

PTX 0187.0068

	V	W	X	Y	Z	AA
40				35495307		
41				35495307		
42				36347201		

CQG00581973

TT v. CQG (05-4811)

PTX 0187.0069

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
40					5/23/2005 2:26			0		N
41					6/9/2005 17:10			0		N
42					7/1/2005 5:55			0		N

CQG00581974

TT v. CQG (05-4811)

PTX 0187.0070

	A	B	C	D	E	F	G
43	7/1/2005 7:59				Email - Outbound		
44	7/6/2005 13:33				Note		
45	7/6/2005 13:35				Email - Outbound		
46	7/11/2005 19:16				Email - Outbound		
47	7/21/2005 8:12				Email - Outbound		

CQG00581975

TT v. CQG (05-4811)

PTX 0187.0071

H
43	Sent message to: nikita@cqg.com; Yuriy Shterk; sergeya@cqg.com; sergeyg@cqg.com. (see Comment fo...
44	
45	Sent message to: Melody Baker; 'Truitt'. (see Comment for message body.)
46	Sent message to: alexk@cqg.com; sergeyg@cqg.com; sergeya@cqg.com. (see Comment for message body.)
47	Sent message to: gwcsp@cqg.com. (see Comment for message body.)

CQG00581976

TT v. CQG (05-4811)

PTX 0187.0072

43	The following Suggestion has been assigned to YSHTERK: ---------------- Comments: ---------------- Number: 36347201 Target Fix Version:▨ Due Date: ▨▨▨ Title: CQG Mobile Date Opened: 7/1/2005 4:33:48 PM Reported By: NIKITA Created By: NIKITA Assigned To: YSHTERK Area: CQG Client Sub-Area: Trade Routing Priority: 2-By Due Date Description: I think that it is an interesting idea to make CQG DOMTrader for pocket pc. DOMTrader interface will be looking very well on pocket pc. Moreover, we can use special pocket's features (like sensitive screen and stylus) for DOMTrader interface changing and it helps us to avoid problems with the patent. Pocket PCs are very popular and they are really mobile, so it can become a best seller. Status: Open Sub Status: Assigned
44	Greg came by the office today for a demo of the trade routing interface. Has questions regarding TT patent and wants to make sure that we are a solution they can consider. I will email him vendor setup information and sample contracts, as he had questions on process and legalities. He will contact me again for another demo after he has presented us as a solution within US trnsmkt.
45	---------------- Comments:Greg came by the office today for a demo of the trade routing interface. Has questions regarding TT patent and wants to make sure that we are a solution they can consider. I will email him vendor setup information and sample co
46	---------------- Comments: This is a new suggestion. ---------------- Number: 36457403 Title: Changes to ChartTrader required to bypass TT patent. Date Opened: 7/11/2005 7:07:58 PM Reported By: ALEXK Created By: ALEXK Area:
47	how much should we be discussing the real reasons we had to make this change? should there be mention of TT and patents? We have not been given a reason to give customers. ---------------- Comments: he said with this change he would not be able to stay with cqg trader and will unfortunately have to go back to tt. he said it will completely cripple his ability to trade in the way he does. ---------------- CSR Number: 1-36668003 Date Opened: 7/21/2005 8:09:42 AM Account: FC Stone AR Number: 13,993 Contact: Robert Ouzounian CQG System: 98001 Assigned To: BRYANR Assigned Group: Status: Closed Description: trader, jack rusher, CQG Trader called this morning about the "Fast Click" change and adding confirmations. 847-425-9450

CQG00581977

TT v. CQG (05-4811)

PTX 0187.0073

	J	K	L	M	N	O	P
43		N			SHEILA		
44		Y			MOLLY	40411	
45		N			MOLLY		
46		N			ALEXK		
47		N			BRYANR		

CQG00581978

TT v. CQG (05-4811)

PTX 0187.0074

	Q	R	S	T	U
43					
44	Aardvark Trading LLC	Chicago/11329	11,329	Veselica	Greg
45	Aardvark Trading LLC	Chicago/11329	11,329	Veselica	Greg
46					
47	FC Stone	Chicago/13993	13,993	Ouzounian	Robert

CQG00581979

TT v. CQG (05-4811)

PTX 0187.0075

	V	W	X	Y	Z	AA
43				36347201		
44	greg.veselica@tmgchicago.com	(312) 663-6584	1-36403305			
45	greg.veselica@tmgchicago.com	(312) 663-6584	1-36403305			
46				36457403		
47	roberto@fcstone.com	(312) 780-6713	1-36668003			

CQG00581980

TT v. CQG (05-4811)

PTX 0187.0076

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
43					7/1/2005 10:04			0		N
44	N				7/6/2005 12:36	7/6/2005 0:00		0		N
45					7/6/2005 12:37			0		N
46					7/11/2005 8:14			0		N
47					7/21/2005 6:07			0		N

CQG00581981

TT v. CQG (05-4811)

PTX 0187.0077

	A	B	C	D	E	F	G
48	7/22/2005 9:31				Note		
49	7/29/2005 14:10				Note		
50	8/2/2005 6:49				Note		
51	8/5/2005 10:39				Note		
52	10/18/2005 12:37				Note		

CQG00581982

TT v. CQG (05-4811)

PTX 0187.0078

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CQG00581983

TT v. CQG (05-4811)

PTX 0187.0079

	Per Mike I could tell the customer something along the following: that cqg reviews it software based on functionality used and makes decisions on how to improve the software based on customer request. we have had customers (fcm's) request the removal of the fast click functionality until a clear ruling on what indicates patent infringement. based on the low amount of fast click that was used we made the changes per the customers requests. as you can clearly see many more customer request are being put into our trade routing software with each release. as examples of functionality enhancements look at alert trading and excel trading interfaces in our last release. I told him just that. Some FCMs have requested we make this change unitl a ruling has been made on what indicates patent infringement. He understood and appreciated the explanation. I also told him the click and drag feature is not affected by this change and also is very fast in placing the order. He said he would try it but still liked the old Fast Click.
48	
49	Ralph has left multiple messages for Mike Glista re. this issue and hadn't heard back. I gave him the answer that the FCMs had requested we do this until a clear distinction is made on what patent infringment is. He was happy to have an answer. I then showed him how he could place trades without getting the confirmation by clicking and dragging. He didn't know that and found that to be an ok work around.
50	I explained that we made this change at the request of the FCMs until a clear ruling is made on what indicates patent infringement. I then explained what he still could do, slide and drop for example. He then asked if he could still use the 'Market' buttons, and the key board without getting the confirmations. As it turns out he doesn't even use 'Fast Click' but he thought he had to confirm everything. He had no trouble upgrading as the change doesn't affect him.
51	I explained that the FCMs asked us to do this until a clear determination is made as to what constitutes 'Patent Infridgment'. He understood and hoped we will resolve it soon, he liked Fast Click.
52	- The Fast Click mode would also fulfill your request, this would generate a buy limit order at selected price. Unfortunately, this feature is currently unavailable due to pending law suits about patents, this might be available in the future again but th

CQG00581984

TT v. CQG (05-4811)

PTX 0187.0080

	J	K	L	M	N	O	P
48		Y			TWOOD	96750	
49		Y			TWOOD	96750	
50		Y			TWOOD	96750	
51		Y			TWOOD	98757	
52		Y			CHRISD	96748	

CQG00581985

TT v. CQG (05-4811)

PTX 0187.0081

	Q	R	S	T	U
48	Alaron Trading Corp.	Chicago/13812	13,812	Payable	Accounts
49	Alaron Trading Corp.	Chicago/13812	13,812	Payable	Accounts
50	Alaron Trading Corp.	Chicago/13812	13,812	Payable	Accounts
51	Saxon Financials Ltd	London	30,026	Aveling	Jim
52	CIS	Chicago	11,062	Payable	Accounts

CQG00581986

TT v. CQG (05-4811)

PTX 0187.0082

	V	W	X	Y	Z	AA
48		(312) 563-8153	1-36692008			
49		(312) 563-8153	1-36798811			
50		(312) 563-8153	1-36846301			
51	jim@saxonfinancials.com	+020 7247 9000	1-36922704			
52	mike_glista@cargill.com		1-57766278			

CQG00581987

TT v. CQG (05-4811)

PTX 0187.0083

	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK
48	N				7/22/2005 9:31	7/22/2005 0:00		0		N
49	N				7/29/2005 14:09	7/29/2005 0:00		0		N
50	N				8/2/2005 6:50	8/2/2005 0:00		0		N
51	N				8/5/2005 10:38	8/5/2005 0:00		0		N
52	N				10/18/2005 4:36	10/18/2005 0:00		0		N

CQG00581988

TT v. CQG (05-4811)

PTX 0187.0084

Exhibit S

2006 WL 3063481

2006 WL 3063481
Only the Westlaw citation is currently available.
United States District Court,
D. Nebraska.

AMERICAN HEALTHNET, INC.,
A Nebraska Corporation, Plaintiff,
v.
WESTSIDE COMMUNITY HOSPITAL,
INC., An Illinois Corporation d/b/
a/ Sacred Heart Hospital, Defendant.

No. 8:04CV9. | Oct. 24, 2006.

Attorneys and Law Firms

Gregory C. Scaglione, Heather S. Voegele, Koley, Jessen Law Firm, Omaha, NE, for Plaintiff.

David S. Argentar, James R. Pranger, Chuhak, Tecson Law Firm, Chicago, IL, John A. Sharp, Jill R. Ackerman, Baird, Holm Law Firm, Omaha, NE, for Defendant.

ORDER

F.A. GOSSETT, Magistrate Judge.

*1 This matter is before the magistrate judge by consent of the parties on the Motion for Partial New Trial [181] filed by Westside Community Hospital, Inc. ("Sacred Heart"). The court has considered the briefs and indices filed by all parties.

American HealthNet, Inc. (AHN) and Sacred Heart filed lawsuits against each other regarding a contract for AHN to supply computer software and other services to Sacred Heart. The parties agreed to a consolidate the trial of AHN's breach of contract claim against Sacred Heart with Sacred Heart's claims asserted against AHN in companion case No. 4:04CV3210 for breach of contract, negligent misrepresentation, fraudulent misrepresentation, and fraudulent concealment.

On May 12, 2006, the jury returned a verdict in favor of AHN on its claim against Sacred Heart for breach of contract and awarded AHN $133,671.75 in damages. The jury also found in favor of AHN and against Sacred Heart on all of Sacred Heart's claims.

Pursuant to Rule 59(a)(1), "A new trial may be granted to all or any of the parties and on all or part of the issues ... in an action in which there has been a trial by jury, for any of the reasons for which new trials have heretofore been granted in actions at law in the courts of the United States."The rule permits a new trial "if substantial errors were made in admitting or excluding evidence, or in charging the jury, or in misconduct, or because a material issue was improperly submitted or withdrawn from a jury.... This list is not exhaustive, as a trial court may order a new trial 'for any of the reasons for which new trials have heretofore been granted in actions at law in the courts of the United States.' ....Despite this great latitude, it is well settled that the trial judge is to 'abstain from interfering with the verdict unless' upholding it would constitute a 'miscarriage of justice.' ....The federal rules direct the court to 'disregard any error or defect in the proceeding which does not affect the substantial rights of the parties.' " *Sharkey v. Lasmo (Aul Ltd.),* 55 F.Supp.2d 279, 289 (S.D.N.Y.1999) (citations omitted).

Thus, under Rule 59(a), "A motion for new trial will be granted when a miscarriage of justice occurred in the first trial."*Larson v. Farmers Co-op. Elevator of Buffalo Center, Iowa,* 211 F.3d 1089, 1095 (8th Cir.2000); *accord Gasper v. Wal–Mart Stores, Inc.,* 270 F.3d 1196, 1199 (8th Cir.2001)."[A] movant should not use Rule 59 merely to relitigate previously-decided matters."*LiButti v. United States,* 986 F.Supp. 114, 117 (N.D.N.Y.1997), *rev'd on other grounds,*178 F.3d 114 (2d Cir.1999).

> [A] trial court should be most reluctant to set aside that which it has previously decided unless convinced that it was based on a mistake of fact or clear error of law, or that refusal to revisit the earlier decision would work a manifest injustice.... Certainly, a trial court should not grant a new trial simply because, like the proverbial second bite at the apple, the losing party believes it can present a better case if afforded another chance.

*2 *Libutti v. United States,* 178 F.3d at 118–19 (citing *Arizona v. California,* 460 U.S. 605, 618 n. 8 (1983)).

In this motion, Sacred Heart basically contends the jury's resolution of the breach of contract claims in favor of AHN is not supported by the evidence. The defendant does not contend the jury was improperly instructed, and the

court believes the jury instructions were correct. Rather, defendant appears to contend that the jury did not understand, disobeyed, or misapplied the instructions.

The evidence presented in this case, depending on which evidence the jury found credible, would support a variety of verdicts. The verdict was not contrary to the evidence or the law, and upholding this jury verdict will not constitute a

miscarriage of justice. The court finds that Sacred Heart is not entitled to relief under Rule 59.

Accordingly,

IT IS ORDERED that Sacred Heart's Motion for Partial New Trial [181] is denied.

End of Document

2006 WL 3783006

2006 WL 3783006
Only the Westlaw citation is currently available.
United States District Court,
N.D. Illinois,
Eastern Division.

BLACK & DECKER INC. and Black
& Decker (U.S.) INC., Plaintiffs,
v.
ROBERT BOSCH TOOL
CORPORATION, Defendant.

No. 04 C 7955. | Dec. 22, 2006.

Attorneys and Law Firms

Raymond P. Niro, Christopher J. Lee, David Joseph Mahalek, Dean D. Niro, Paul Christopher Gibbons, Niro, Scavone, Haller & Niro, LTD., Chicago, IL, for Plaintiffs.

Albert L. Underhill, Allen W. Hindcraker, Douglas J. Williams, Erik G. Swenson, Jon R. Trembath, Rachel C. Hughey, Rebecca A. Bortolotti, Merchant & Gould, P.C., Minneapolis, MN, Elizabeth J. Reagan, Kirstin L. Stoll-Debell, Peter A. Gergely, Merchant & Gould, PC, Denver, CO, Thomas Edward Sarikas, Merlo Kanofsky Brinkmeier & Gregg Ltd., Chicago, IL, for Defendant.

MEMORANDUM OPINION AND ORDER

AMY J. ST. EVE, District Court Judge.

 *1 Plaintiffs Black & Decker Inc. and Black & Decker (U.S.) Inc. (collectively "Black & Decker") brought the present lawsuit against Defendant Robert Bosch Tool Corporation ("Bosch") alleging infringement of various claims of U.S. Patent Nos. 6,308,059 (the "#059 patent") and 6,788,925 (the "#925 patent"). Specifically, Black & Decker accused Bosch's Power Box radio of infringing each of the patents-in-suit that relate to rugged jobsite radios. On September 22, 2006, a jury returned a verdict finding that the Bosch Power Box radio chargers infringed certain claims of both patents-in-suit. The jury also found that Bosch's infringement was willful. Before the Court is Bosch's Motion for Judgment as a Matter of Law or to Alter the Judgment as to Willful Infringement and for a New Trial pursuant to Federal Rules of Civil Procedure 50(b), 59(a), and 59(e). For the following reasons, the Court denies Bosch's motion.

LEGAL STANDARDS

The law of the Seventh Circuit controls motions under Federal Rules of Civil Procedure 50 and 59 because they involve procedural issues not unique to patent law. *See Primos, Inc. v. Hunter's Specialties, Inc.,* 451 F.3d 841, 847 (Fed.Cir.2006); *NTP, Inc. v. Research in Motion, Ltd.,* 418 F.3d 1282, 1324 (Fed.Cir.2005).

I. Motion for Judgment as a Matter of Law-Rule 50(b)
When ruling on a motion for judgment as a matter of law following a jury verdict, the Court does not re-weigh the evidence presented at trial or make credibility determinations. *See Reeves v. Sanderson Plumbing Prods., Inc.,* 530 U.S. 133, 150, 120 S.Ct. 2097, 147 L.Ed.2d 105 (2000); *see*Fed.R.Civ.P. 50(b). Instead, the Court views the evidence and all reasonable inferences in a light most favorable to the non-movant, in this instance, Black & Decker. *See Reeves,* 530 U.S. at 150-51; *Byrd v. Illinois Dep't of Pub. Health,* 423 F.3d 696, 712 (7th Cir.2005)."[T]he question is not whether the jury believed the right people, but only whether it was presented with a legally sufficient amount of evidence from which it could reasonably derive its verdict."*Zelinski v. Columbia 300, Inc.,* 335 F.3d 633, 638 (7th Cir.2003)."This is obviously a difficult standard to meet."*Waite v. Board of Trs. of Ill. Cmty. Coll. Dist. 508,* 408 F.3d 339, 343 (7th Cir.2005).

II. Motion for a New Trial-Rule 59(a)
"Rule 59(a), in a bit of a circular way, allows new trials in cases where new trials have been traditionally allowed at law."*ABM Mktg., Inc. v. Zanasi Fratelli, S.R.L.,* 353 F.3d 541, 543 (7th Cir.2003) (citing Fed.R.Civ.P. 59(a)). The Seventh Circuit has clarified this standard explaining that a "motion for a new trial should succeed only if the verdict is against the manifest weight of the evidence."*Id. at 545* (quotation and citation omitted). To satisfy this standard, Bosch must demonstrate that no rational jury could have rendered a verdict against it concerning the finding of willfulness. *See King v. Harrington,* 447 F.3d 531, 534 (7th Cir.2006). When making this evaluation, the Court views the evidence in a light most favorable to Black & Decker and cannot re-weigh the evidence or make credibility determinations. *Id.* The Court will sustain the verdict where a reasonable basis exists in the record to support the jury's finding. *Id.*"Because the trial judge is uniquely situated to rule on such a motion, the district

2006 WL 3783006

court has great discretion in determining whether to grant a new trial."*Kempner Mobile Elec., Inc. v. Southwestern Bell Mobile Sys.,* 428 F.3d 706, 716 (7th Cir.2005).

III. Motion to Alter or Amend the Judgment-Rule 59(e)

 *2 Rule 59(e) permits parties to file, within ten days of the entry of judgment, a motion to alter or amend the judgment. *See*Fed.R .Civ.P. 59(e). Motions under Rule 59(e) serve the limited function of allowing the Court to correct manifest errors of law or fact or consider newly discovered material evidence. *See County of McHenry v. Insurance Co. of the West,* 438 F.3d 813, 819 (7th Cir.2006).Rule 59(e)"does not provide a vehicle for a party to undo its own procedural failures" or "introduce new or advance arguments that could and should have been presented to the district court prior to the judgment."*Moro v. Shell Oil Co.,* 91 F.3d 872, 876 (7th Cir.1996); *see also Estremera v. United States,* 442 F.3d 580, 587 (7th Cir.2006). Whether to grant a Rule 59(e) motion "is entrusted to the sound judgment of the district court."*Matter of Prince,* 85 F.3d 314, 324 (7th Cir.1996); *see also Andrews v. E.I. Du Pont De Nemours & Co.,* 447 F.3d 510, 515 (7th Cir.2006) (appellate court reviews denial of Rule 59(e) motion for abuse of discretion).

ANALYSIS

In the present post-trial motion, Bosch argues that Black & Decker failed to present clear and convincing trial evidence of Bosch's willful infringement. When making willfulness findings, the jury must consider the totality of the circumstances in weighing and evaluating the evidence. *See Liquid Dynamics Corp. v. Vaughan Co.,* 449 F.3d 1209, 1225 (Fed.Cir.2006) (citing *Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.,* 383 F.3d 1337, 1342-43 (Fed.Cir.2004) (en banc))."The drawing of inferences, particularly in respect of an intent-implicating question such as willfulness, is peculiarly within the province of the fact finder that observed the witnesses."*Liquid Dynamics,* 449 F.3d at 1225 (citation omitted). The patentee bears the burden of persuasion and must prove willful infringement by clear and convincing evidence. *Golden Blount, Inc. v. Robert H. Peterson Co .,* 438 F.3d 1354, 1368 (Fed.Cir.2006). Specifically, "the patentee must present threshold evidence of culpable behavior before the burden of production shifts to the accused to put on evidence that it acted with due care."*Id.* (citation and internal quotations omitted). After the *Knorr-Bremse* decision, this "threshold showing cannot be satisfied

merely by proof that the accused is asserting the attorney-client privilege to withhold an opinion of counsel."*Golden Blount,* 438 F.3d at 1368. Instead, the "extent to which the infringer disregarded the property rights of the patentee, the deliberateness of the tortious acts, or other manifestations of unethical or injurious commercial conduct, may provide grounds for a finding of willful infringement."*Id.* at 1367-68 (citation omitted).

Thus, a "jury verdict of willfulness requires a finding by clear and convincing evidence in view of the totality of the circumstances that [the defendant] acted in disregard of the ... patent and lacked a reasonable basis for believing it had a right to do what it did."*nCube Corp. v. Seachange Int'l, Inc.,* 436 F.3d 1317, 1320 (Fed.Cir.2006) (citation and internal quotations omitted). As such, in addressing Bosch's post-trial motion, the Court must determine whether-when viewed as a whole-there is substantial evidence upon which the jury could find willful infringement by clear and convincing evidence. *Id.*

I. Bosch's Knowledge of Black & Decker's Patent Rights

 *3 First, Bosch contends that there is no evidence indicating that it willfully infringed the patents-in-suit after Black & Decker filed this lawsuit on December 8, 2004. On the other hand, Black & Decker asserts that Bosch's division of its infringement into different time periods is artificial. *See nCube Corp.,* 436 F.3d at 1324 ("Actual notice of another's patent rights triggers an affirmative duty of due care to avoid infringement."). The Court agrees with Black & Decker because there is ample evidence that Bosch had notice of Black & Decker's patent rights before and after Black & Decker sent its notice letter and filed this lawsuit in November and December 2004, respectively. *See id.*(willful infringement inquiry hinges on when defendants had actual knowledge of plaintiff's patent rights and defendants' actions thereafter).

A. Bosch's Knowledge Prior to Notice Letter & Lawsuit

According to Bosch's internal documents, Bosch had specific knowledge of Black & Decker's patent rights prior to the November 1, 2004 notice letter and the filing of this lawsuit. Specifically, Bosch created a document entitled Product Concept-Project Greenlight, RPU-Radio Power Unit-before it launched the Bosch Power Box project. (*See generally* PTX # 34.) In this document, Bosch admits that "Milwaukee did not want to infringe on the Dewalt radio charger patent, therefore they provide mounting screws for the charger on

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the back of the radio to accommodate the charger."(*See* PTX # 34 at B001439). The document also identified that "Dewalt and Milwaukee are the only competitors within this $20 Mil. Product category."(*Id.* at B001438.)In fact, this Product Concept document discusses the DeWalt radio chargers in detail. (*Id.* at B001438-B0011440.)Furthermore, trial testimony reveals that Bosch's witness, Richard Gray, heard about the DeWalt radio at a trade show before Bosch launched the Power Box. (Trial Tr. at 1155 .) Gray subsequently talked to Bosch's engineers, Steven Cole and John DeCicco, about the DeWalt radio charger. (*Id.* at 1161-62.)

Nevertheless, Bosch argues that this evidence does not support the conclusion that it knew of the Domes patents prior to the notice letter because this evidence speaks to the DeWalt radio chargers, not specifically to the ′059 and ′925 patents. Bosch, however, fails to any cite authority-controlling or otherwise-in support of its argument that it must have knowledge of the actual patents. Indeed, the Federal Circuit instructs that it is the infringer's knowledge of **patent rights** that is relevant. *See [nCube Corp.,](#) 436 F.3d at 1324; [Imonex Servs., Inc. v. W.H. Munzprufer Dietmar Trenner GMBH, 408 F.3d 1374, 13787 (Fed.Cir.2005)](#).* Bosch's argument is without merit.

B. Bosch's Knowledge Pursuant to the Notice Letter and Lawsuit

The notice letter addressed to Bosch's Chief Counsel, R. Warren Comstock, and November 1, 2004, explicitly states that the patents-in-suit are the ′059 and ′ 925 patents issued to Joseph Domes, the inventor. (PTX # 12 at BD015664-BD015667.) Further, Black & Decker's Complaint also explicitly identifies the patents-in-suit. (R. 1-1, Compl.¶ 2.)

II. Bosch's Willful Conduct & Copying

A. Willful Conduct

 *4 Not only is there clear and convincing evidence upon which the jury could conclude that Bosch was aware of Black & Decker's patent rights before and after the notice letter, there is also clear and convincing trial evidence to support the jury's finding of Bosch's willfulness. More specifically, Black & Decker's witness, Christine Potter, testified as follows:

> Q. This is a letter to a Warren Comstock dated November 1, 2004, Chief Counsel, Intellectual Property, Robert Bosch Corporation. And it was sent by Charles Yocum,

Senior Group Patent Counsel. And it indicates here that you got a copy. Do you recall receiving a copy of this letter?

> A.A. Yes, I do.

...

> Q. What was the purpose of this letter, as you understand it?

> A. As I understand it, it was to formally put Bosch on notice of infringement.

...

> Q. Now, did Bosch-as requested by Black & Decker on this November 1, 2004, letter-discontinue its sales?

> A. No, they did not.

(Trial Tr. at 243-45.)

Other trial evidence that supports the jury's willfulness finding is Cole's testimony that he was not aware of any steps Black & Decker took to avoid infringing the patents-in-suit:

> Q. So, after the meeting with Mr. Comstock in January or February of 2005, as you sit here today, you are not aware of any steps that Bosch Engineering took to avoid infringement or potential infringement of any of Black & Decker's patents that are being asserted against Bosch at that time?

> A. I am not aware of any steps that were taken after the January meeting.

(Trial Tr. at 864.) Cole further testified that he was not involved in any investigation of the possibility of infringement of the Domes patents:

> Q. I see. But you personally have not been involved in any of that type of project, is that right, with respect to the Power Box product?

> A. With respect to the Power Box, no.

([*Id.* at 865.)](#)

Moreover, there is trial testimony that Bosch unsuccessfully sought a license from the inventor, Joseph Domes, after the notice letter, which supports an inference that Bosch was explicitly aware of the possibility of infringement. *See [Spindelfabrik Suessen v. Schubert & Salzer Maschinenfabrik,](#)*

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829 F.2d 1075, 1084 (Fed.Cir.1987). Specifically, Domes testified to the following:

Q. I want to take you back to a time when you received a call from an attorney for Bosch. Do you recall that?

A. Yes.

Q. When was it?

A. It was November, '04.

Q. And tell us what happened?

A. I got a phone call from Bosch. I think it was a Mr. Greer.

Q. Did he identify himself?

A. Yes, as Mr. Greer.

Q. What did he say?

A. He said, "I would like to know if we can license your patent," and-

Q. Did he identify who he was representing?

A. He said he was representing Bosch.

Q. What did you tell him?

A. Well, I told him I couldn't at that time because I sold it to Black & Decker already.

 *5 Q. Did he tell you where he was located?

A. He said Chicago.

Q. And tell us, as best you can recall, exactly what he said to you?

A. Well, he said he had a new radio coming out for jobsites, that would be really nice for the job-you know, be a good jobsite radio.

Q. And he asked for a license?

A. Yes, he did.

Q. And you said, what?

A. I said I couldn't sell it to him at this time; I wish I could have, but I couldn't, because I already sold it to Black & Decker.

Q. Did he tell you why they wanted a license?

A. Well, he said they want it for their radio.

Q. Did he identify the radio to you?

A. He just said it was a new type of radio coming out, that was going to be very good for jobsites.

(Trial Tr. at 407-09.)

B. Evidence of Copying

In addition, there is clear and convincing evidence in the trial record that Bosch copied key features of Black & Decker's radio charger based on trial testimony that in October 2002 Bosch sent the DeWalt radio charger to its supplier, Glory Horse, before designing the Power Box. *See Advanced Display Sys., Inc. v. Kent State Univ.,* 212 F.3d 1272, 1285 (Fed.Cir.2000) (evidence of copying relevant to willfulness determination). Specifically, Bosch's lead engineer, Cole, and Glory Horse's principal, Thompson Cheung, testified that Glory Horse engineers studied the DeWalt radio charger, disassembled the it, and examined the internal circuitry. Cole testified as follows:

Q. Now, Glory Horse studied the DeWalt unit, correct?

A. That was one of the units they studied, yes.

Q. Again, this was before they sent the prototype, correct?

A. Yes.

Q. They tested the unit?

A. They tested the audio of the unit, yes.

...

Q. They told you they took it apart?

A. Yes.

Q. And they looked at the internal components of the Black & Decker unit; isn't that correct?

A. Yes.

Q. Which would allow them access to the circuitry that's inside, correct?

A. Yes.

Q. And they told you that they did that, correct?

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A. Yes.

(Trial Tr. at 905-06.) At trial, Cheung testified:

Q. You did take this DeWalt unit apart, correct?

A. We first take the DeWalt-we first take the DeWalt-radio to compare for benchmark comparison for audio, for speaker sound.

Q. Okay. And in doing that-

A. And, obviously-

Q. I'm sorry. Go ahead.

A. Sorry. Obviously, I don't-I don't-think that I can stop my engineer in taking it apart. There's no question about it.

Q. All right. You didn't stop your engineers from taking it apart?

A. No, I can't. I mean, the engineer do that.

Q. Okay. How many engineers took it apart; do you know?

A. Oh, I guess six-five, six-engineers that we have.

(*Id.* at 1327-28.)

Further, trial evidence supports the inference that Glory Horse and Bosch copied certain features of the DeWalt radio charger and incorporated those features into the Power Box radio. Specifically, Black & Decker points to Bosch's preliminary concept specification sent to Glory Horse, in which it wanted the following three features (1) the "capacity to be operated from a Bosch battery," (2) an "internal charger inside the radio housing," and (3) "ruggedness." (PTX # 66 at B002254-B002256.) There is also trial testimony that Bosch and Glory Horse copied the "protective roll cage," the "speakers," the "antenna," the "cord wrap," the "handle," the "large knobs," "AM/FM tuner," ability to "be powered by an AC power outlet," ability to "be powered by power tool batteries," "integrated battery charger," the ability to "be played from batteries and charge multiple Bosch batteries," the "circuitry inside the radio," "trap door latches," "roll bars," "weather resistant material" and "rubber linkage to provide shock absorption."(Trial Tr. at 216-22, 225-27, 915-917, 1331-33.)

III. Good Faith Belief

*6 Despite the clear and convincing evidence as discussed above, Bosch contends that it acted in good faith. "Good faith may normally be shown by obtaining the advice of legal counsel as to infringement or patent validity."*Liquid Dynamics Corp.,* 449 F .3d at 1225;*see also Read Corp. v. Portec, Inc.,* 970 F.2d 816, 828 (Fed.Cir.1992) ("affirmative duty normally entails obtaining advice of legal counsel although the absence of such advice does not mandate a finding of willfulness"). Although Bosch contends that it sought advice from its litigation counsel regarding invalidity and infringement, it does not set forth specific evidence concerning counsel's opinion. Instead, Bosch argues that it decided not to waive the attorney-client privilege for these opinions, and thus, under Federal Circuit law, it should not be penalized for its actions. *See Knorr-Bremse Systeme Fuer Nutzfahrzeuge GmbH v. Dana Corp.,* 383 F.3d 1337, 1351 (Fed.Cir.2004) (en banc) ("the failure to obtain an exculpatory opinion of counsel shall no longer provide an adverse inference or evidentiary presumption that such an opinion would have been unfavorable"). Specifically, in *Knorr-Bremse,*"the affirmative duty of due care to avoid infringement was reiterated, but it was found no longer appropriate to draw an adverse inference with respect to willful infringement from failure to obtain legal advice."*Imonex Servs., Inc. v. W.H. Munzprufer Dietmar Trenner GMBH,* 408 F.3d 1374, 1378 (Fed.Cir.2005). As such, Bosch is allowed to invoke the attorney-client privilege without any adverse inference. *See id.*The *Knorr-Bremse* decision, however, does not hold that a positive inference of good faith can be made if a party does seek legal advice. *See Third Wave Tech. v.. Stratagene Corp.,* 405 F.Supp.2d 991, 1016-17 (W.D.Wis.2005) (citing *Knorr-Bremse,* 383 F.3d at 1345).

Bosch argues that Black & Decker's closing remarks concerning Bosch's failure to set forth a legal opinion on infringement warrants a new trial. Black & Decker's closing remarks, however, do not pertain to the Court's analysis of whether the jury had substantial evidence upon which to find willful infringement by clear and convincing evidence. *See nCube Corp.,* 436 F.3d at 1320. Simply put, closing remarks are not evidence and the Court repeatedly instructed the jury as such. *See Denius v. Dunlap,* 330 F.3d 919, 928-29 (7th Cir.2003) ("Statements made during closing argument are, of course, not evidence."). Further, the parties agreed to the jury instruction regarding willful infringement, which did not direct the jury to draw an inference from the absence of counsel's opinion on infringement. *See United States v. White,*

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[443 F.3d 582, 588 (7th Cir.2006)](jury is presumed to follow jury instructions). As such, Bosch's argument fails. [1]

Meanwhile, there is clear and convincing evidence in the trial record-not pertaining to Bosch's legal advice-that supports the jury's conclusion that Bosch did not have a good faith basis for its actions. For example, there is documentary evidence that Bosch specifically targeted the DeWalt radio charger and intended to get 24% of Black & Decker's market share. (PTX # 43 at B002258-B002259; PTX # 146 at B023023). Furthermore, as cited above, Bosch's lead engineer, Cole, testified that he was not aware of anyone in engineering who took steps to avoid potential infringement of the patents-in-suit after Black & Decker sent Bosch the notice letter in November 2004 and initiated the lawsuit in December 2004. Cole also testified that he was not involved in any investigation into the possibility of infringement of the Domes patents.

*7 Bosch nonetheless argues that it acted in good faith based on its legitimate defenses to Black & Decker's claims of infringement. Accepting Bosch's premise as true, Bosch's "defenses prepared for [ ] trial are not equivalent to the competent legal opinion of non-infringement or invalidity which qualify as 'due care' before undertaking any potentially infringing activity."*Crystal Semiconductor Corp. v. Tritech Microelectronics Int'l, Inc.,* 246 F .3d 1336, 1352 (Fed.Cir.2001). Put differently, "good faith defenses are not dispositive."*Advanced Cardiovascular Sys., Inc. v. Medtronic, Inc.,* 265 F.3d 1294, 1310 (Fed.Cir.2001). In short, under the circumstances, Bosch's legitimate defense argument does not save the day.

Finally, Bosch's reliance on *Gustafson, Inc. v. Intersystems Indus. Prods., Inc.,* 897 F.2d 508 (Fed.Cir.1990), for the proposition that it could continue to manufacture the Power Box radio after being put on notice is misplaced. The *Gustafson* court explained that "[e]xercising due care, a party may continue to manufacture and may present what in good faith it believes to be a legitimate defense without risk of being found on that basis alone a willful infringer."*Id.* at 511.The *Gustafson* court, however, "did not hold, as a matter of law, that a party that continues its accused infringing activity after a patentee files suit cannot be guilty of willful infringement as long as that party presents a non-frivolous defense to infringement."*Crystal Semiconductor Corp.,* 246 F.3d at 1351-52. Indeed, the *Gustafson* court concluded that an alleged infringer's continued manufacturing of an accused product, alone, cannot be a basis for a finding of willful

infringement.*Gustafson,* 897 F.2d at 511;*see also Advanced Cardiovascular Sys.,* 265 F.3d at 1310.

As discussed, there is substantial evidence beyond Bosch's continued manufacturing of the Power Box upon which the jury could conclude that Bosch did not exercise due care. There is also ample evidence in the trial record of Bosch's copying. *See Civix-DDI, LLC v. Cellco P'ship,* 387 F.Supp.2d 869, 903 n. 39 (N.D.Ill.2005) (citing *Crystal Semiconductor Corp.,* 246 F.3d at 1352). Furthermore, the facts in *Gustafson* are distinguishable because the Federal Circuit relied on the patentee's filing of a lawsuit immediately after the patent issued and consequently the manufacturer had no warning of its infringing conduct. *Id.* at 511.Here, the trial record evidences that Bosch had notice of Black & Decker's patent rights as early as 2002. Thus, Bosch's reliance on *Gustafson* fails.

IV. Conclusion

Viewing the evidence and all reasonable inferences in a light most favorable to Black & Decker, there is clear and convincing evidence supporting the jury's conclusion that it was "highly probable" Bosch's infringing conduct was willful. *See Buildex Inc. v. Kason Indus., Inc.,* 849 F.2d 1461, 1463 (Fed.Cir.1988) ("Although not susceptible to precise definition, 'clear and convincing' evidence has been described as evidence which produces in the mind of the trier of fact 'an abiding conviction that the truth of [the] factual contentions are 'highly probable.") (citation omitted); *see also United States v. Boos,* 329 F.3d 907, 911 (7th Cir.2003) ("highly probable" is Supreme Court's definition of clear and convincing standard of proof). In other words, there was a legally sufficient amount of evidence-under the clear and convincing standard-from which the jury could reasonably derive its willfulness finding. *See nCube Corp.,* 436 F.3d at 1320; *Zelinski,* 335 F.3d at 638. As the Federal Circuit instructs, "[t]he drawing of inferences, particularly in respect of an intent-implicating question such as willfulness, is peculiarly within the province of the fact finder that observed the witnesses."*Liquid Dynamics,* 449 F.3d at 1225. Here, Black & Decker presented clear and convincing evidence upon which the jury could draw reasonable inferences and ultimately conclude that Bosch's conduct was willful. Therefore, the Court denies Bosch's motion for judgment as a matter of law under Rule 50(b).

*8 Moreover, Bosch has failed to demonstrate that no rational jury could have rendered a verdict against it on this issue, and thus the jury's willfulness finding was not against

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the manifest weight of the evidence. *See King,* 447 F.3d at 534. Put another way, there was a reasonable basis to support the jury's finding of willfulness. *See id.;nCube Corp.,* 436 F.3d at 1320. Thus, the Court, in its discretion, denies Bosch's motion for a new trial pursuant to Rule 59(a).

Finally, Bosch does not explain how the jury committed a "manifest error of law or fact" nor does Bosch point to newly discovered material evidence for the Court to consider. *See Oto v. Metropolitan Life Ins. Co.,* 224 F.3d 601, 606 (7th Cir.2000) (manifest error is wholesale disregard, misapplication, or failure to recognize controlling precedent).

Accordingly, the Court, in its discretion, also denies Bosch's Motion to Alter or Amend the Judgment pursuant to Rule 59(e).

CONCLUSION

For these reasons, the Court denies Bosch's Motion for Judgment as a Matter of Law or to Alter the Judgment as to Willful Infringement and for a New Trial.

Footnotes

1   The Court addressed Black & Decker's conduct during closing arguments when denying Black & Decker's motion for attorney's fees pursuant to 35 U.S.C. § 285. (R. 569-1, November 20, 2006, Memorandum, Opinion, & Order at 8-9.)

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2015 WL 94117
United States District Court,
N.D. Illinois, Eastern Division.

Cascades Computer Innovation, LLC, Plaintiff,

v.

Samsung Electronics Co. Ltd., Defendant.

Cascades Computer Innovation, LLC, Plaintiff,

v.

HTC Corporation, Defendant.

No. 11 C 4574 | No. 11 C 6235 | Signed
January 6, 2015 | Corrected February 18, 2015

Synopsis

Background: Exclusive licensee of patent brought action against manufacturers of mobile devices, alleging infringement of patent describing method and apparatus for preserving precise exceptions in binary translated code. After manufacturers' motion for summary judgment based on doctrine of patent exhaustion was granted in part and denied in part, 2014 WL 4553226, manufacturers moved for summary judgment of noninfringement for time preceding their settlement and license agreement with non-party.

Holdings: The District Court, Matthew F. Kennelly, J., held that:

[1] patentees did not disclaim all uses of a rollback function during prosecution of patent;

[2] genuine issue of material fact existed as to whether manufacturers' accused products performed claimed rollback to recover a foreign state;

[3] term "calculate" meant "determine" and did not require more than copying and moving a value;

[4] genuine issue of material fact existed as to whether manufacturers' accused products calculated values as disclosed by patent;

[5] manufacturers did not practice all steps of claimed method in the United States, precluding licensee's direct infringement claim; and

[6] triable issues of fact precluded summary judgment on licensee's induced infringement claim.

Motion granted in part and denied in part.

West Headnotes (21)

[1]   **Patents**
　　⚷ Prosecution disclaimer

Patentees did not disclaim all uses of a rollback function during prosecution of patent describing method and apparatus for preserving precise exceptions in binary translated code, as would preclude exclusive licensee's infringement claim on ground that mobile device manufacturers' accused products operated by rolling back target registers to recover earlier state; rather, patentees disclaimed only type of rollback disclosed in prior art, that is, rolling back host registers to restore host state.

Cases that cite this headnote

[2]   **Patents**
　　⚷ Prosecution disclaimer

To constitute a disavowal of claim scope, the disclaimer must be both so clear as to show reasonable clarity and deliberateness, and so unmistakable as to be unambiguous evidence of disclaimer.

Cases that cite this headnote

[3]   **Patents**
　　⚷ Methods or processes

Genuine issue of material fact existed as to whether mobile device manufacturers' accused products, which operated by rolling back target registers to recover earlier state, performed claimed rollback to recover a foreign state, precluding summary judgment for manufacturers on licensee's claim that they infringed patent describing method and apparatus for preserving precise exceptions in binary translated code, which claimed

performance of "operations required to calculate a corresponding foreign state."

Cases that cite this headnote

[4]   Patents

☞ Multiple sources for construction

In construing a patent's claim terms, the court must first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive.

Cases that cite this headnote

[5]   Patents

☞ Computers and Software

Term "calculate" in claims of patent describing method and apparatus for preserving precise exceptions in binary translated code meant "determine," and did not require more than copying and moving a value; specification referred to process by which temporarily stored register contents were used to determine a corresponding foreign state when an exception was encountered.

Cases that cite this headnote

[6]   Patents

☞ Methods or processes

Genuine issue of material fact existed as to whether mobile device manufacturers' accused products calculated values as disclosed by patent describing method and apparatus for preserving precise exceptions in binary translated code, precluding summary judgment for manufacturers on licensee's infringement claim.

Cases that cite this headnote

[7]   Patents

☞ Territorial extent of rights

Manufacturers of mobile devices did not practice in the United States all steps of claimed method for preserving precise exceptions in binary

translated code, precluding licensee's direct infringement claim, although manufacturers recruited software engineers to develop and test software for their mobile devices in the United States, where manufacturers were foreign companies, and there was no evidence that they tested claimed method, as opposed to other aspects of their devices, in the United States. 35 U.S.C.A. § 271(a).

Cases that cite this headnote

[8]   Patents

☞ Inducement to infringe

To succeed on a claim of induced infringement, the patentee must show, first that there has been direct infringement, and second, that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[9]   Patents

☞ Participation, intent, and contributory infringement

Exclusive licensee's letter to mobile device manufacturer's vice president was insufficient to provide manufacturer notice of allegedly infringed patent, as would support licensee's induced infringement claim against manufacturer, where the letter did not discuss the patent, but, rather, merely listed it in an appendix, without explanation. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[10]   Patents

☞ Inducement to infringe

To be liable for induced infringement, a defendant must have knowledge that the induced acts constitute patent infringement and must know of the existence of the patent that is infringed. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[11]   Patents

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☞ Participation, intent, and contributory infringement

Exclusive licensee's e-mail to mobile device manufacturer provided manufacturer sufficient notice of allegedly infringed patent, supporting licensee's induced infringement claim against manufacturer, where the e-mail specifically described infringement contentions concerning the patent and attached a detailed claim chart applying patent claim to manufacturer's products. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[12] **Patents**

☞ Contributory infringement in general

Patents

☞ Inducement to infringe

Liability for either active inducement of infringement or contributory infringement is dependent upon the existence of direct infringement. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[13] **Patents**

☞ Direct or circumstantial evidence

Direct infringement can be proven by circumstantial evidence.

Cases that cite this headnote

[14] **Patents**

☞ Participation, intent, and contributory infringement

Sale of an allegedly infringing product is sufficient to create a triable issue of fact as to inducement of infringement or contributory infringement if the instructions teach an infringing use or if the device can only be used in an infringing manner. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[15] **Patents**

☞ Methods or processes

Genuine issue of material fact existed as to whether mobile device manufacturers' customers directly infringed patent by performing claimed method using manufacturers' devices, precluding summary judgment for manufacturers' on exclusive licensee's induced infringement claim. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[16] **Patents**

☞ Inducement to infringe

To prove inducement of infringement, the plaintiff must show that the defendants knowingly induced infringement and possessed specific intent to encourage another's infringement. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[17] **Patents**

☞ Participation, intent, and contributory infringement

Intent to induce infringement can be shown by circumstantial evidence, but the mere knowledge of possible infringement will not suffice. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[18] **Patents**

☞ Methods or processes

Genuine issue of material fact existed as to whether manufacturers of accused mobile devices intended to encourage their customers to infringe patent describing method and apparatus for preserving precise exceptions in binary translated code, precluding summary judgment for manufacturers' on exclusive licensee's induced infringement claim. 35 U.S.C.A. § 271(b).

Cases that cite this headnote

[19] **Patents**

☞ Enhanced or punitive damages

To establish willful infringement, as would warrant treble damages, a plaintiff must prove

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two elements by clear and convincing evidence: (1) the plaintiff must show that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent, and (2) if objective recklessness is found, the plaintiff must also demonstrate 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. 35 U.S.C.A. § 284.

Cases that cite this headnote

[20]   Patents
    👉 Questions of law or fact

On a claim for enhanced damages for willful infringement, the ultimate legal question of whether a reasonable person would have considered there to be a high likelihood of infringement of a valid patent should always be decided as a matter of law by the judge. 35 U.S.C.A. § 284.

Cases that cite this headnote

[21]   Patents
    👉 In general; utility

US Patent 7,065,750. Construed and Ruled Not Infringed in Part.

Cases that cite this headnote

Expand Construed Terms

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MEMORANDUM OPINION AND ORDER

MATTHEW F. KENNELLY, District Judge:

 *1 Cascades Computer Innovation, LLC, has sued Samsung Electronics Co. Ltd. (Samsung) and HTC Corporation (HTC) for patent infringement, contending that the defendants manufacture and sell products that infringe U.S. patent number 7,065,750 (the '750 patent). On September 14, 2014, the Court granted summary judgment in part, concluding that the defendants were entitled to summary judgment of noninfringement from January 29, 2014, the date of Cascades' settlement and license agreement with Google, forward. *Cascades Computer Innovation, LLC v. Samsung Elecs. Co. & HTC Corp.,* Nos. 11 C 4574 & 11 C 6235, —— F.Supp.3d ——, ——, 2014 WL 4553226, at *5 (N.D.Ill. Sept. 14, 2014). On September 24, 2014, Samsung and HTC jointly moved for summary judgment of noninfringement for the time preceding January 29, 2014.

Background

Because defendants have moved for summary judgment, the Court construes all facts in the light most favorable to Cascades, the nonmoving party. *Anderson v. Liberty Lobby, Inc.,* 477 U.S. 242, 255, 106 S.Ct. 2505, 91 L.Ed.2d 202 (1986).

Cascades is the exclusive licensee of the '750 patent, entitled "Method and Apparatus for Preserving Precise Exceptions in Binary Translated Code." Pl.'s Niro Decl., Ex. T. As a general overview, the '750 patent describes a method and apparatus for efficiently executing on one system architecture computer programming code that is intended for a different architecture. According to the patent specification, "the task of porting [a] software application to a new platform, based on a different architectural design, is very complex and time consuming." *Id.* at 1:42–51. Binary translation, a technique in which "foreign code is processed by host software to produce new host code corresponding to the foreign code," is one mechanism for executing foreign code in a host environment. *Id.* at 2:1–10, 4:15–17. The patented invention "provides a system and method for executing binary translated code

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in a manner that exploits the explicit parallelism of a host computer system and that supports precise exception maintenance." *Id.* at 3:56–59.

One challenge with binary translation is that software programs may include errors that "mak[e] it difficult to accurately execute the foreign code in the host environment." *Id.* at 2:12–13. An exception is one type of error. "An exception is a problem or a change in conditions that causes the processor or computer system to stop or suspend execution of the program and respond to the problem in a separate routine, which is often referred to as an exception handler." *Id.* at 2:22–26. An exception occurs when a program that is running encounters a condition "that violates a mathematical or logical rule or attempts to access invalid memory or data." *Id.* at 2:16– 18. For example, an exception arises when the denominator is zero and a divide instruction is executed. *Id.* at 2:37–39.

The patent discloses a mechanism by which exceptions are handled more efficiently. As the specification explains, the "exception handler in the host architecture maintains documentation showing which registers must be used to restore the original foreign register content." *Id.* at 4:67– 5:3. "Thus, when an operation generates an exception, the exception handler quickly determines the state of the computer system prior to detection of the exception. Using this information, the exception handler determines an appropriate solution to the problem." *Id.* at 5:10–15.

 *2 Examples from the specification illustrate how this process works. A host central processing unit (CPU) "temporarily preserves register data and system status information before executing instructions that will calculate a variable." *Id.* at 10:9–12. With that information, "the exception handler can determine the state of the computer system immediately prior to the detection of the exception because the present invention preserves the data and conditions that gave rise to the exception." *Id.* at 10:20– 23. Put differently, when an exception occurs, the exception handler uses the documentation created during the optimizing binary translation "to recreate the state of the host computer system at the most recently executed recovery point." *Id.* at 15:22– 27. The availability of prior system state information minimizes the number of side effects that must be investigated. *Id.* at 5:16–19.

At issue in this case are two of the '750 patent's eighteen claims. Claim 1 describes the invention's binary translation system, comprising the following six elements:

a non-optimizing foreign code execution module configured to maintain dedicated foreign state for each foreign binary operation executed allowing for the exceptions arisen to be handled precisely; and

an optimizing binary translator configured to translate foreign binary operations into optimized sequences of host operations in such a way as to improve the speed of execution of the sequences; and

a host CPU configured to execute the host operations; and

a documentation generator configured to generate a set of documentations for optimized sequences of host operations, wherein each documentation describes operations required to calculate a corresponding foreign state for an appointed point;

a documentation tracker configured to record host operation addresses at appointed points of the host operation sequences being executed, wherein, for each host operation address, operations required to calculate a corresponding foreign state for the host operation address are added to documentation; and

a recovery mechanism configured to select a documentation in the set of documentations using a host operation address corresponding to the selected documentation, wherein the recovery mechanism is configured to perform the operations saved in the documentation to calculate the corresponding foreign state for the host operation address and to continue foreign codes execution in case of the exception arisen during the execution of the corresponding optimized host codes.

Id. at 16:5–34. Claim 15 describes a "method of recomputing a dedicated foreign state in a binary translation system from documentation generated by an optimizing translator in a case of an exception arising during execution of optimized binary translated code translated from a foreign code," comprising three elements:

designating a set of recovery points in the optimized binary translated code during optimized translation of the foreign code, wherein each recovery point represents a foreign state;

generating a set of documentations during the optimized translation of the foreign code, wherein each documentation in the set of documentations corresponds to a recovery point in the optimized binary translated code and describes operations required to calculate a corresponding foreign state for the recovery point; and

using one of the documentations in the set of documentations corresponding to executed optimized binary translated code when an exception arises during its execution to recover a foreign state corresponding to a recovery point for the exception, wherein the foreign state is recovered by executing the operations for the one of the documentations.

Id. at 17:20–18:7.

Cascades accuses Samsung of infringing claims 1 and 15 of the '750 patent and accuses HTC of infringing claim 15. The accused devices are Android-based smartphones manufactured by Samsung and HTC that use Dalvik's Just–In–Time (JIT) Compiler, a component of the Dalvik Virtual Machine (VM) in the Android operating system. The Dalvik JIT Compiler translates foreign code to host code for execution. For example, if a programmer writes an application in Java source code (the foreign code), the Dalvik JIT Compiler translates the instruction from Java to the host code, which allows the program to run on the Dalvik VM (the host). The Dalvik JIT Compiler includes routines for handling precise exceptions when translating foreign code to host code for execution. According to Cascades, the Dalvik JIT Compiler, like the '750 patent, restores a foreign register as part of its precision exception handling routine.

Discussion

*3 A party is entitled to summary judgment if it shows that there is no genuine issue of material fact and it is entitled to judgment as a matter of law. Fed.R.Civ.P. 56(a). On a motion for summary judgment, the Court views the record in a light most favorable to the non-moving party and draws all reasonable inferences in that party's favor. *Anderson,* 477 U.S. at 255, 106 S.Ct. 2505. Summary judgment is inappropriate "if the evidence is such that a reasonable jury could return a verdict for the nonmoving party." *Id.* at 248, 106 S.Ct. 2505. "Summary judgment of noninfringement may only be granted if, after viewing the alleged facts in the light most favorable to the nonmovant and drawing all justifiable

inferences in the nonmovant's favor, there is no genuine issue whether the accused device is encompassed by the patent claims." *Novartis Corp. v. Ben Venue Labs., Inc.,* 271 F.3d 1043, 1046 (Fed.Cir.2001).

A. Disclaimer of the rollback function

 [1] Defendants argue that HTC and Samsung's products are incapable of infringing claims 1 and 15. Defendants rely on the January 2, 2014 claim construction order, in which the Court ruled that the patentees "unmistakably disclaim[ed] the use of a rollback function" during prosecution. *Cascades Computer Innovation, LLC v. Dell Inc.,* Nos. 11 C 4574, 11 C 7264, 11 C 6235, 11 C 7223 & 11 C 7249, 2014 WL 26288, at *13 (N.D.Ill. Jan. 2, 2014). HTC and Samsung contend that infringement is not possible because the Dalvik JIT Compiler operates by rolling back the target registers to recover an earlier state.

Cascades, in response, argues that the patentees only disclaimed the rollback function as operated under the Kelly prior art patent. The key distinction, Cascades contends, is that Kelly handles exceptions by restoring the host's working registers, by copying them into the most recently committed state of the foreign state. In other words, the *host* registers are restored to their previous state. The '750 patent, on the other hand, handles exceptions by restoring the *foreign* state registers, by executing documentation.

For the reasons that follow, the Court clarifies that the patentees only disclaimed use of the rollback functionality as disclosed in Kelly. *See* *Network Commerce, Inc. v. Microsoft Corp.,* 422 F.3d 1353, 1358 n. 4 (Fed.Cir.2005) (approving a district court's clarification of its claim construction order on summary judgment).

 [2] To constitute a disavowal of claim scope, the disclaimer must "be both so clear as to show reasonable clarity and deliberateness, and so unmistakable as to be unambiguous evidence of disclaimer." *Omega Eng'g, Inc. v. Raytek Corp.,* 334 F.3d 1314, 1325 (Fed.Cir.2003) (internal citation omitted). Although the patentees clearly sought to differentiate their invention from Kelly, it is not clear or unambiguous that they disclaimed all operations that restore an earlier state. This would constitute a much broader disclaimer than the inventors likely intended.

In order to distinguish their invention from Kelly, the patentees amended their claims to include "operations required to calculate a corresponding foreign state." The

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patentees' submissions to the patent examiner inform the Court's conclusion that they only disclaimed the Kelly rollback function. In those submissions, the patentees distinguished the mechanism by which the inventions handle exceptions. When an exception occurs in the Kelly invention, "*the original state in the target registers* at the last update (or commitment) may be recalled to the working registers." Defs.' Claim Const. Br., Ex. 2 at 75. The '750 patent, on the other hand, "discloses adding *operations required to calculate* a corresponding foreign state for the host operation address are added [sic] to documentation." *Id.* The '750 patent restores a foreign state, whereas the Kelly patent does not recover a foreign state. *Id.* ("[In Kelly] operations are not executed to recover a foreign state.").

*4 In sum, the patentees did not disclaim every form of rollback. The patentees disclaimed the type of rollback disclosed in the Kelly patent, which the Court construes to mean rolling back host registers to restore the host state. The Court's construction applies to claims 1 and 15. *SeeRexnord Corp. v. Laitram Corp.,* 274 F.3d 1336, 1342 (Fed.Cir.2001) ("[A] claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent.").

[3] The Court next turns to how the accused devices operate in this regard. In its final infringement contentions, Cascades stated that the accused devices "rollback the VM registers to a recovery point." Defs.' Brown Decl., Ex. 1 at 91. Cascades' expert, Alan Purdy, also acknowledged that the accused devises perform rollback. Defs.' Shih Decl., Ex. 1 at 275:23–276:13. And defendants' experts confirm that the Dalvik JIT Compiler rolls back to recover an earlier state. Defs.' Buzbee Decl. ¶¶ 5–6; Defs.' Goldberg Decl., Ex. A ¶¶ 113–14; Defs.' Medvidovic Decl., Ex. A ¶ 142. Nonetheless, because patentees only disclaimed rolling back host registers to their previous state, the description of defendants' mechanism as "rollback" does not entitle them to summary judgment of noninfringement.

Cascades has pointed to evidence that Samsung's devices produce documentation that describes "operations required to calculate a corresponding foreign state" and include a "recovery mechanism [ ] configured ... to calculate the corresponding foreign state" as disclosed by claim 1. According to Mr. Purdy's expert report, in Samsung's devices, the "genCheckCommon( )" instruction creates documentation, which then adds to the documentation the program counter (PC) reconstruction code. At runtime, the

PC reconstruction code "performs operations to calculate the corresponding foreign state (the Dalvik PC) for the appointed point in the generated host code." Pl.'s Niro Decl., Ex. A ¶¶ 137–45.

Cascades has also pointed to evidence that HTC and Samsung's devices generate documentation that "describes operations required to calculate a corresponding foreign state" as disclosed by claim 15 of the patent. That documentation is comprised of host instructions "that calculate the corresponding foreign state for the recovery point. The host instructions recover Dalvik VM's foreign state by calculating the VM's foreign state for the recovery point, by restoring the Dalvik VM's PC." *Id.* ¶¶ 158–61. This evidence is sufficient to create a genuine issue of material fact as to whether the accused devices perform a rollback to recover a foreign state. Accordingly, the Court denies summary judgment of noninfringement as to whether the accused devices perform "operations required to calculate a corresponding foreign state."

B. "Calculate"

Defendants also argue that Samsung and HTC's devices are incapable of infringing because the documentation generated by the Dalvik JIT Compiler does not describe operations that "calculate" any values as disclosed by claims 1 and 15. Pl.'s Niro Decl., Ex. T at 16:16–18; 17:31–34. Cascades identifies the "documentation" as the "loadConstant" instruction, but defendants argue that the instruction does not "calculate" anything because it simply copies a value from one location and moves it to another. Defendants contend that "calculate" in claims 1 and 15 should be construed to require more than copying and moving a value.

*5 Cascades does not challenge defendants' description of the accused technology. Instead, it argues that "calculate" means "everything a computer does." Pl.'s Mem. in Opp. to Mot. for Summ. J. at 13. According to Cascades, the loadConstant instruction restores the foreign state by putting the previously stored Dalvik VM's program counter value back into the host register, which is a type of calculation.

[4] The parties offer different definitions of the term "calculate" based on conflicting dictionary definitions and expert testimony. But in construing a patent's claim terms, the Court must "first look to, and primarily rely on, the intrinsic evidence, including the claims themselves, the specification, and the prosecution history of the patent, which is usually dispositive." *Sunovion Pharms., Inc. v. Teva Pharms.USA,*

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Inc., 731 F.3d 1271, 1276 (Fed.Cir.2013). *See alsoSouthwall Techs., Inc. v. Cardinal IG Co.,* 54 F.3d 1570, 1578 (Fed.Cir.1995) ("[T]he definition in the patent documents controls the claim interpretation.... Thus, we may not consider Southwall's opinion expert testimony as we interpret claim 14 as a matter of law.").

 [5] The term "calculate" in claims 1 and 15 refers to the mechanism by which the system determines a "corresponding foreign state" when an exception is encountered. Although "calculate" is not defined in the claims or specification, the specification offers guidance as to how the foreign state is determined. Specifically, the specification states the following:

> Performance improvements achieved by [the] optimizing binary translator processor [ ] may be significantly and negatively impacted when an exception is detected and variables must be calculated. The present invention ... sav[es] the contents of registers in temporary locations before executing instructions that could generate an exception. An exception handler uses the information in the temporary location upon detection of the exception. The exception handler recovers the contents of the registers, resets the status flags to a known state and recovers from the error condition in a manner that minimize[s] the side effects that must be resolved.

Pl.'s Niro Decl., Ex. T at 7:56–67. In other words, the invention does not individually calculate variables each time an exception is detected; rather, register contents are saved for later use when an exception occurs. The exception handler then determines the foreign state, or the "known state" to which status flags are reset, by "recover[ing] the contents of the registers" that were previously saved. "[T]he exception handler can determine the state of the computer system immediately prior to the detection of the exception because the present invention preserves the data and conditions that gave rise to the exception." *Id.* at 10:20–23.

Operation of the exception handler is also described in the specification as follows:

> [The host exception handler] takes wide instruction address from the [Recovery Point] register and extracts correspondent documentation for the Recovery Point being addressed by the value of instruction pointer in the [Recovery Point] register. On the base of this documentation the exception handler determines a foreign operation which the process of recovery [ ] should be started from.

Id. at 14:26–32.

The language of claim 1 and patentees' representations to the Patent and Trademark Office also reveal that the invention's exception handler operates by accessing stored register data and system information to determine the foreign state. Claim 1 discloses that "the recovery mechanism is configured to perform the operations saved in the documentation to calculate the corresponding foreign state." Pl.'s Niro Decl., Ex. T at 16:29–31. During the prosecution of the patent, the patentees stated that a key distinction between the Kelly patent and the '750 patent is that the latter "store[s] a set of documentations each including operations for host operation addresses, and then [ ] determine[s] a documentation where operations are executed to recover foreign state." Defs.' Claim Const. Br., Ex. 2 at 75.

 *6 The language used to describe how the system identifies the foreign recovery point includes the following: "the exception handler *determines* a foreign operation"; it "can *determine* the state" immediately before the exception; it "*determine[s]* a documentation ... to recover foreign state"; and it "*recovers* " and "*resets* " the status flags to a known state. It is clear from these descriptions that the term "calculate" refers to the process by which the temporarily stored register contents are used to determine a corresponding foreign state. The Court therefore concludes that the term "calculate," as used in the claims, simply means "determine."

 [6] Cascades has offered sufficient evidence to raise a genuine issue of material fact as to whether the Dalvik JIT Compiler "calculate[s] a corresponding foreign state" or includes a mechanism configured to "calculate a corresponding foreign state" as disclosed by claims 1 and 15 of the patent. The parties agree that when the loadConstant instruction is invoked, it "take [s] the value it receives in register 0 and puts that value in r4." Pl.'s Resp. to Defs.' LR

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56.1(a)(3) Stmt. ¶¶ 51–52; Defs.' Shih Decl, Ex. 1 at 962:8–963:5. During Mr. Purdy's deposition, in which he discussed the requirements for showing infringement of the '750 patent, he testified that when the foreign program counter is restored, the JIT Compiler "has calculated the displacement and the base address and taken that sum and cached that, stored that in only one place, and that's in the [ ] load immediate instruction that is generated." Pl.'s Niro Decl., Ex. G at 576:8–19. Cascades has pointed to evidence that the documentation (the LoadConstant instruction) stores the operations required to calculate the foreign state, and that this information is later used to determine the recovery point. Applying the Court's construction, a genuine issue of material fact exists as to whether the accused devices "calculate" a foreign state.

C. Direct infringement of claim 15

 [7] HTC and Samsung argue that they did not directly infringe claim 15, because Cascades cannot show that all steps of the patented method were performed in the United States. To prove direct infringement of a method claim, a person must have practiced all steps of the claimed method in the United States. *NTP, Inc. v. Research In Motion, Ltd.,* 418 F.3d 1282, 1318 (Fed.Cir.2005); 35 U.S.C. § 271(a).

Both HTC and Samsung are foreign companies with offices in the United States. To support its claim that defendants infringed claim 15 in the United States, Cascades cites Internet postings for employment opportunities in this country, which purport to show that defendants' smartphones are tested in the United States. Although these documents indicate that Samsung and HTC recruit software engineers to develop and test Android software for defendants' mobile devices in the United States, they only refer to smartphone testing generally. The postings do not support a reasonable inference that defendants tested or operated the Dalvik JIT Compiler, as opposed to other aspects of their phones, in this country. Cascades asks the Court to infer that defendants must have tested the Dalvik JIT Compiler because some product testing is done in the United States. But it has not offered enough evidence to reasonably permit that inference.

Cascades also offers evidence of purported product demonstrations in the United States. Cascades cites the LinkedIn profile of Samsung's Chief Product Officer, who works in Dallas. Again, this evidence does not support the inference that all three elements of the method were performed in this country. Cascades refers to testimony that HTC held a presentation meeting in New York. But that witness admitted that she did not know whether HTC's smartphones were demonstrated during the meeting. Further, the meeting took place in 2014, a period of time that is no longer at issue based on the Court's September 2014 summary judgment ruling. Finally, Cascades points to a video presentation that was streamed on the Internet in which Samsung representatives demonstrated a smartphone. But according to the evidence provided to the Court, the presentation took place in Hong Kong. This evidence also fails to support the inference that the defendants performed the claimed method in the United States.

 *7 Because Cascades has not offered sufficient evidence to support an inference that defendants performed the claimed method in the United States, the Court grants defendants' motion for summary judgment of noninfringement as to direct infringement of claim 15.

D. Induced infringement of claim 15

 [8] Cascades alleges that HTC and Samsung induced infringement of claim 15. Under 35 U.S.C. § 271(b), "[w]hoever actively induces infringement of a patent shall be liable as an infringer." 35 U.S.C. § 271(b). "In order to succeed on a claim of inducement, the patentee must show, first that there has been direct infringement, and second, that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement." *MEMC Elec. Materials, Inc. v. Mitsubishi Materials Silicon Corp.,* 420 F.3d 1369, 1378 (Fed.Cir.2005) (internal quotation marks omitted). Defendants argue that Cascades fails to raise a genuine issue of material fact as to both of these requirements. They contend that Cascades has failed to identify an instance of direct infringement by a third party and has offered no evidence of defendants' specific intent to encourage infringement. Defendants also ask the Court to grant summary judgment of no indirect infringement prior to the filing of the original complaints in this case, even if the Court denies summary judgment as to indirect infringement.

1. Notice

Defendants contend that because they did not have notice of the '750 patent prior to the filing of the original complaints, they cannot be held liable for induced infringement before that date. Cascades argues that Samsung was notified as early as April 7, 2011. Cascades concedes that HTC was not notified of infringement prior to September 7, 2011, and HTC does not challenge this contention, so the Court concludes that HTC was on notice as of that date.

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 [9] **[10]** To be liable for induced infringement, a defendant must have knowledge that the induced acts constitute patent infringement and must know "of the existence of the patent that is infringed." *Global–Tech Appliances, Inc. v. SEB S.A.,* —— U.S. ——, 131 S.Ct. 2060, 2068, 179 L.Ed.2d 1167 (2011). To show notice, Cascades offers an April 7, 2011 letter that was sent to the Executive Vice President of Samsung's IP Center. In that letter, Cascades notified Samsung of some of its patent licenses but did not discuss the '750 patent in detail. Rather, Cascades stated that "[w]e want to draw your attention to just five of the 39 patents in the Cascade portfolio." Pl.'s Niro Decl., Ex. O at 4. But the '750 patent was not one of the five patents discussed in the letter; it was merely listed in an appendix, without explanation. Pl.'s Niro Decl., Ex. O at 10. This communication is insufficient to create a triable issue as to Samsung's knowledge at that time.

 [11] Cascades offers an e-mail dated June 15, 2011, which specifically describes infringement contentions concerning the '750 patent. That email reads, "Attached is a detailed claim chart applying claim 15 of U.S. Patent No. 7,065,750" to Samsung's products. Pl.'s Niro Decl., Ex. Q. This communication was sufficient to put Samsung on notice of the '750 patent. Accordingly, Samsung can be liable for induced infringement from June 15, 2011 through January 29, 2014. HTC can be liable for induced infringement from July 6, 2011 through January 29, 2014. The Court grants summary judgment of no indirect infringement before those dates.

2. Direct infringement

 *8 **[12]** Defendants argue that there is no evidence of direct infringement. "Liability for either active inducement of infringement or contributory infringement is dependent upon the existence of direct infringement." *DSU Med. Corp. v. JMS Co.,* 471 F.3d 1293, 1303 (Fed.Cir.2006) (quoting *Joy Techs., Inc. v. Flakt, Inc.,* 6 F.3d 770, 774 (Fed.Cir.1993)). To survive summary judgment, Cascades must point to evidence sufficient to raise a genuine issue of material fact that users infringe claim 15 when they use the accused devises.

 [13] **[14]** "Direct infringement can be proven by circumstantial evidence." *Toshiba Corp. v. Imation Corp.,* 681 F.3d 1358, 1364 (Fed.Cir.2012) (internal quotation marks omitted). Sale of an allegedly infringing product is sufficient to create a triable issue of fact if the instructions teach an infringing use or if the device can only be used in an infringing manner. *See id.* at 1365 ("[W]here an alleged infringer designs a product for use in an infringing way and instructs users

to use the product in an infringing way, there is sufficient evidence for a jury to find direct infringement."). In the cases cited by defendants where the Federal Circuit affirmed findings of no inducement, the accused devices could be used in an infringing or a noninfringing manner and customers were not instructed on infringing use. *See ACCO Brands, Inc. v. ABA Locks Mfrs. Co.,* 501 F.3d 1307, 1313 (Fed.Cir.2007) ("Here, the parties do not dispute that the accused device can be operated in either of two modes.... Because the accused device can be used at any given time in a noninfringing manner, the accused device does not necessarily infringe."); *Mirror Worlds, LLC v. Apple Inc.,* 692 F.3d 1351, 1360–61 (Fed.Cir.2012) ("The manuals teach customers each step of the claimed method only in isolation and thus do not suffice ... for showing inducement of infringement.").

 [15] In this case, it is undisputed that the Dalvik JIT Compiler is operational by default in defendants' devices. Defs.' Goldberg Decl., Ex. A at 5 (referring to the "Default Dalvik functionality in the accused HTC products"). Although plaintiff's expert states that "the user or manufacturer can turn off the Dalvik JIT Compiler" in the accused devices, Pl.'s Niro Decl., Ex. A ¶ 13, defendants previously argued, and this Court agreed, that the accused devices have no reasonable noninfringing uses. *Cascades Computer Innovation,* —— F.Supp.3d at ——, ——, 2014 WL 4553226, at *5 (concluding that the patent exhaustion doctrine applies because the Android operating system has no reasonable noninfringing uses and includes all inventive aspects of the claimed method). In fact, defendants encourage use of the Dalvik JIT Compiler. In an exhibit that was previously submitted to the Court, one of Cascades' experts reports that the Android website contains the following warning: "**Important:** Dalvik must remain the default runtime or you risk breaking your Android implementations and third-party applications." Defs.' Reply in Supp. of Mot. for Summ. J. on Exhaustion, Ex. 21 ¶ 141. The same expert reports that "Android suggests that Dalvik remains as the default runtime against the risk of malfunctioning regarding Android implementations and third-party applications." *Id.* ¶ 52 (internal quotation marks omitted). Even if a user can turn off the Dalvik JIT Compiler, a reasonable jury could infer that most consumers do not do so based on these instructions. Because the Dalvik JIT Compiler is installed and enabled on defendants' devices, a jury could reasonably infer that at least some of defendants' customers have used the technology.

 *9 It also appears that the noninfringing use has been disabled in some of defendants' devices. Mr. Purdy states in

his report that Samsung has modified some of its devices to remove the user's ability to switch from Dalvik to a noninfringing use. Pl.'s Niro Decl., Ex. A ¶ 18. Similarly, HTC sells products that do not allow users to switch from Dalvik to a noninfringing use. Pl.'s Niro Decl., Ex. N at 46:19–24. This evidence supports the inference that at least one person has used the accused technology.

A jury could also reasonably infer that exceptions occur during operation of the Dalvik JIT Compiler. Mr. Purdy encountered exceptions when he tested the Android source code. Further, he identified "655 *.java files that contain Java's 'try ... catch' structures—a mechanism for fielding raised exceptions, and a total of at least 2300 'try ... catch' structures." Pl.'s Niro Decl., Ex. A ¶ 15. The fact that Java-based applications handle exceptions when operated and the fact that the Dalvik JIT compiler is enabled by default support the inference that exceptions occur when customers use Samsung and HTC smartphones. This is sufficient to raise a triable issue as to whether customers perform the claimed method.

In *Lucent Technologies, Inc. v. Gateway, Inc.,* 580 F.3d 1301 (Fed.Cir.2009), the Federal Circuit considered post-trial motions challenging a jury's finding of induced infringement. In that case, the plaintiff presented no direct evidence that any users, other than plaintiff's expert, performed the claimed method. *Id.* at 1318. The plaintiff presented circumstantial evidence, including "evidence relating to the extensive sales of Microsoft products and the dissemination of instruction manuals for the Microsoft products." *Id.* Although the court found the evidence to be weak, it ruled that the jury was not "unreasonable in finding that Microsoft possessed the requisite intent to induce" and "could have reasonably concluded that ... more likely than not one person somewhere in the United States had performed the claimed method." *Id.* at 1323. Here, the Android website instructs customers not to disable the Dalvik JIT Compiler, which runs whenever a foreign application is translated on a smartphone. As in *Lucent,* a reasonable jury might infer that at least one user performed the claimed method given the evidence of wide distribution of defendants' products and the default operation of the Dalvik JIT Compiler. A genuine issue of fact therefore exists as to whether defendants' customers directly infringed the '750 patent.

3. Intent

 [16] To prove inducement, Cascades must also show that the defendants knowingly induced infringement and possessed

specific intent to encourage another's infringement. *DSU Med. Corp.,* 471 F.3d at 1306 (en banc).[1] "The plaintiff has the burden of showing that the alleged infringer's actions induced infringing acts *and* that he knew or should have known his actions would induce actual infringements." *Id.* (internal quotation marks omitted).

 [17]   **[18]** Defendants argue that Cascades has not offered evidence of specific intent to induce infringement. "Intent can be shown by circumstantial evidence, but the mere knowledge of possible infringement will not suffice." *Vita–Mix Corp. v. Basic Holding, Inc.,* 581 F.3d 1317, 1328 (Fed.Cir.2009). As the Court concluded, Samsung and HTC knew about the patent beginning in June and July 2011, respectively. As to whether defendants knew their actions would induce infringement, it is reasonable to infer that HTC and Samsung include the Dalvik JIT Compiler in their devices intending that it be used to translate foreign code and handle exceptions. Defendants offer Java-based smartphone applications, some of which they develop themselves. This fact further supports the inference that HTC and Samsung intend customers will perform the claimed method when they run applications.

 *10 In *Ricoh Co., Ltd. v. Quanta Computer Inc.,* 550 F.3d 1325 (Fed.Cir.2008), the Federal Circuit, reversing a district court's decision to grant summary judgment of noninfringement, discussed the specific intent requirement for inducement. The court stated that "the distribution of a product can itself give rise to liability where evidence shows that the distributor intended and encouraged the product to be used to infringe." *Id.* at 1343 (internal quotation marks and citations omitted). Further, "[t]o the extent that the components [in the accused device] do not in fact have a purpose other than the performance of infringing functions under normal use conditions, such evidence would create a material issue of fact regarding [the defendant's] intent that its drives be used to infringe." *Id.* In this case, it is hard to imagine why the defendants would include the Dalvik JIT Compiler in their smartphones if not for the purpose of translating foreign source code and handling exceptions. Because it would be reasonable for a jury to infer that the defendants intended this technology to be used, Cascades has raised a genuine issue of material fact as to whether HTC and Samsung possessed specific intent to encourage infringement.

E. Willful infringement

Cascades Computer Innovation, LLC v. Samsung..., --- F.Supp.3d ---- (2015)
2015 WL 94117, 2015 Markman 94117

 [19] Samsung requests summary judgment of no willful infringement. [2] 35 U.S.C. § 284 allows a court to enhance a prevailing plaintiff's damage award "up to three times the amount found or assessed." 35 U.S.C. § 284. The Federal Circuit has held "that an award of enhanced damages requires a showing of willful infringement." *In re Seagate Tech., LLC,* 497 F.3d 1360, 1368 (Fed.Cir.2007) (en banc). To establish willful infringement, a plaintiff must prove two elements by clear and convincing evidence. First, the plaintiff must show "that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent." *Id.* at 1371. If objective recklessness is found, the plaintiff "must also demonstrate 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." *Id.*

 [20] The Court recognizes that "the ultimate legal question of whether a reasonable person would have considered there to be a high likelihood of infringement of a valid patent should always be decided as a matter of law by the judge." *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.,* 682 F.3d 1003, 1008 (Fed.Cir.2012). Nonetheless, factual determinations will inform the Court's objective reasonableness analysis in this case. *Id.* at 1007 ("When the objective prong turns on fact questions ... the judge remains the final arbiter of whether the defense was reasonable, even when the underlying fact question is sent to a jury."). The Court will defer deciding whether Samsung's infringement defenses are reasonable as a matter of law until after the facts are presented at trial. *SeeHTC Corp. v. Tech. Props. Ltd.,* No. 5:08–CV–00882–PSG, 2013 WL 5225043, at *8 (N.D.Cal. Sept. 17, 2013) (denying summary judgment on the issue of willfulness because "where factfinding is necessary, trial courts generally reserve willfulness until after a full presentation of the evidence on the record to the jury").

Conclusion

For the foregoing reasons, the Court grants Samsung and HTC's motion for summary judgment of noninfringement in part and denies the motion in part [Case No. 11 C 4574, dkt. nos. 197 & 198; Case No. 11 C 6235. dkt. no. 152]. The cases are set for a status hearing on January 14, 2015 at 9:30 a.m. for the purpose of setting a trial date and addressing whether there should be separate trials for each case.

Parallel Citations

2015 Markman 94117

Footnotes

1   Only Section III.B of the Federal Circuit's opinion, in which the court discussed the intent requirement for inducement, was considered by the court sitting en banc. *SeeDSU Med. Corp.,* 471 F.3d at 1304–06 (en banc).

2   Cascades has not alleged that HTC willfully infringed the patent.

End of Document

1999 WL 672560, 80 Fair Empl.Prac.Cas. (BNA) 1641

1999 WL 672560
United States District Court, S.D. New York.

Olive DEWITT, Plaintiff,
v.
NEW YORK STATE HOUSING
FINANCE AGENCY, Defendant.

No. 97 Civ. 4651 SAS. | Aug. 26, 1999.

Attorneys and Law Firms

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Lois M. Traub, Hitsman, Hoffman & O'Reilly Elmsford, New York, for Defendant.

OPINION AND ORDER

SCHEINDLIN, J.

 *1 On August 17, 1999, plaintiff in this Title VII sexual harassment case moved, pursuant to Federal Rule of Civil Procedure 59, for a new trial based on alleged errors in the jury charge and verdict form. Plaintiff also moved, pursuant to Federal Rule of Civil Procedure 50(b), for judgment as a matter of law on the issue of whether Joel B. Lieberman, the alleged harasser, was plaintiff's supervisor.

For the reasons set forth below, plaintiff's motion for a new trial is granted. However, plaintiff's motion for judgment as a matter of law is denied.

I. Background

This case involves a sexual harassment charge brought by plaintiff Olive DeWitt against defendant the New York State Housing Finance Agency ("NYSHFA"). Plaintiff alleges that she was sexually harassed by NYSHFA staff attorney Lieberman during the two weeks she worked at NYSHFA as a temporary legal secretary.

A jury trial was held from August 2 to August 6, 1999. On August 6, after approximately three hours of deliberation, the jury returned a verdict for defendant. In response to questions posed in a special verdict form, the jury found: (1) NYSHFA staff attorney Lieberman was not plaintiff's supervisor; (2)

plaintiff did not suffer from quid pro quo or hostile work environment sexual harassment; (3) defendant provided a reasonable avenue of complaint; and (4) defendant did not ignore any known allegations of harassment. Judgment was entered for defendant on August 17, 1999.

II. Discussion

A. Rule 59 Motion For New Trial

Rule 59 provides that "[a] new trial may be granted ... in an action in which there has been a trial by jury, for any of the reasons for which new trials have heretofore been granted."Fed.R.Civ.P. 59(a). New trials have generally been granted where "the verdict is against the weight of the evidence, damages are excessive, the verdict is inconsistent, substantial errors were made in admitting or excluding evidence, or in charging the jury, or because a material issue was improperly submitted or withdrawn from a jury."*Hardy v. Saliva Diagnostic Sys., Inc.,* 94 Civ. 1142, 1999 WL 382474, at [*]5 (D.Conn. March 17, 1999). In evaluating a Rule 59 motion, the trial judge's duty " 'is essentially to see that there is no miscarriage of justice." ' *Sharkey v. Lasmo (AUL Ltd.),* 94 Civ. 4699, 1999 WL 476850, at [*]2 (S.D.N.Y. July 7, 1999) (quoting *Bevevino v. Saydjari,* 574 F.2d 676, 684 (2d Cir.1978)). A "miscarriage of justice" has occurred if the jury's verdict is against the weight of the evidence or "the trial was not fair to the moving party." *Mallis v. Bankers Trust Co.,* 717 F.2d 683, 691 (2d Cir.1983).[1]

In support of her motion for a new trial pursuant to Rule 59, plaintiff points to four alleged errors in the jury instructions and special verdict form. As defendant correctly notes in its opposition to plaintiff's post-trial motions, plaintiff did not object to those errors during trial. *See* Defendant's Memorandum of Law in Opposition to Plaintiff's Post Trial Motions ("Def.Mem.") at 4–5; *see also* DeWitt Trial Transcript ("DeWitt Tr.") at 729, 739–45 .[2] As a result of plaintiff's failure to object during the trial, a new trial can only be granted if the alleged mistakes constitute "plain error." *SeeHardy,* 1999 WL 382474, at [*]5 ("unless there is 'plain error,' failure to object to an issue during trial precludes review of that issue on a motion for a new trial") (citing *Schaafsma v. Morin Vt. Corp.,* 802 F.2d 629, 636 (2d Cir.1986)). Accordingly, I review the alleged mistakes for plain error.[3]

1. Question 6: Hostile Work Environment Harassment

DeWitt v. New York State Housing Finance Agency, Not Reported in F.Supp.2d (1999)
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*2 Question 6 of the special verdict form submitted to the jury listed four types of conduct that constitute hostile work environment sexual harassment and asked whether plaintiff had proven the existence of such conduct in the instant case. The question read as follows:

> Do you find that Plaintiff has proven by a preponderance of the evidence that she suffered from discrimination because of her sex by the conduct of Joel Lieberman consisting of sexual proposition, sexual innuendo, unwelcome touching, and sexually explicit activity?

Plaintiff argues that the use of "and" rather than "or" in the last line of Question 6 improperly led the jury to read Question 6 in the conjunctive. I agree.

The plain meaning of Question 6, as set forth above and as submitted to the jury, is that to prove her case, plaintiff was required to show, by a preponderance of the evidence, that she had suffered from conduct consisting of sexual proposition, sexual innuendo, unwelcome touching, *and* sexually explicit activity. In other words, the only way the jury could have answered "Yes" to Question 6—and "Yes" to a finding of hostile work environment sexual harassment—was to find that plaintiff had proven all four types of conduct. To require such a finding, however, is clearly contrary to sexual harassment law, because proof of any one of the four types of conduct listed in Question 6 is enough, in and of itself, to support a claim for hostile work environment harassment. *SeeRichardson v. New York State Dep't of Correctional Serv.,* 98 Civ. 7110, 1999 WL 391551, at [*] 6 (2d Cir. June 16, 1999) (even a single episode of harassment can establish hostile work environment harassment); *Leopold v. Baccarat, Inc.,* 174 F.3d 261, 268–69 (2d Cir.1999) (sexual comments are sufficient to create a hostile work environment). Accordingly, Question 6 should have asked the jurors whether plaintiff had proven her case by demonstrating conduct consisting of "sexual proposition, sexual innuendo, unwelcome touching and/or sexually explicit behavior."*See* Revised Verdict Sheet at Question 6 (attached).

Defendant concedes that Question 6 as submitted to the jury was incorrect but argues that the error was harmless because the Court correctly stated the law regarding hostile work environment harassment in its instructions to the jury. Def. Mem. 8–9. I find defendant's argument unpersuasive. Regardless of whether the Court properly instructed the jurors on hostile work environment harassment prior to deliberations, the verdict sheet that the jurors used to guide their discussions and to ultimately determine their verdict incorrectly stated the standard for a finding of hostile work environment harassment. Not only is it highly unlikely that the jurors would have remembered or referred to the Court's prior instructions rather than the verdict sheet, the verdict sheet would have made it impossible for the jurors to follow those instructions in any event because Question 6 did not permit the jurors to find hostile work environment harassment absent proof of four types of sexual misconduct. As a result, I find that the use of "and" rather than "and/or" in Question 6 constitutes plain error because it is both an obvious misapplication of the law and prejudicial to plaintiff. [4]

2. Co–Worker Liability

*3 In its initial charge to the jury, this Court gave no instructions regarding employer liability for co-worker —as opposed to supervisor—sexual harassment. During deliberations, the Court received a note from the jury that raised an issue as to what might happen if the jury determined NYSHFA staff attorney Lieberman was not plaintiff's supervisor. In response to the jurors' note, the Court asked the jurors to add two additional questions, 14(a) and 14(b), to their verdict sheets. Question 14(a) asked: "Do you find that the employer provided no reasonable avenue for complaint?"Question 14(b) asked: "Do you find that the employer knew of the harassment but did nothing about it?"The Court gave the jurors a supplemental charge instructing them that defendant could be liable for co-worker harassment based on their answers to the two newly added questions.

Plaintiff contends that the Court's instruction regarding co-worker liability and the two questions the Court added to the jury form regarding co-worker liability were inadequate. Again, I agree.

Employer liability for co-worker harassment is determined by a negligence standard. In order for an employer to be held liable for an employee's harassment of a co-worker, a plaintiff must show: (1) that the employer provided no reasonable avenue for complaint; or (2) that the employer knew of the harassment but failed to take immediate and appropriate remedial action. *SeeRichardson,* 1999 WL 391551, at [*] 10–11.

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In its supplemental jury charge regarding employer liability for co-worker harassment, the Court stated: "[T]he employer will not be liable for a co-worker's sexual harassment unless one of the following is true—the employer provided no reasonable avenue for complaint or the employer knew of the harassment but did nothing about it." DeWitt Tr. at 862. This instruction was plainly inadequate because it directed the jurors to determine whether defendant responded to plaintiff's allegations of harassment; it did not direct the jurors to determine whether defendant's response was "immediate and appropriate" as required under *Richardson.* Similarly, Questions 14(a) and (b) addressed whether defendant provided a reasonable avenue for complaint and, if so, whether defendant responded to plaintiff's known allegations of harassment. However, these questions simply did not address—as they must under the law—whether any action that defendant did take was "immediate and appropriate."

Defendant argues that the Court's failure to include Question 14(c) was harmless error, because the jury responded negatively to Questions (a) and (b) and thus would not have reached Question 14(c). Defendant is wrong. Although the jury found that defendant did not fail to provide a reasonable avenue for complaint ("No" to Question 14(a)) and that defendant did not fail to act with respect to allegations of sexual harassment that plaintiff reported ("No" to Question 14(b)), the jury never found that the action defendant did take was "immediate and appropriate". Thus, contrary to defendant's assertion, a jury could find that an employer provided a reasonable avenue for complaint and that the employer responded to known allegations of harassment but that the employer's response was ultimately inadequate to shield it from liability because it was not "immediate and appropriate". For this reason, I find that the Court's instructions and questions regarding co-worker harassment were plain error.

*4 The plain error in Question 6 together with the plain error in both the jury instructions and verdict sheet regarding co-worker harassment misstated the law and deprived plaintiff of a fair trial. Accordingly, plaintiff's motion for a new trial pursuant to Rule 59 is granted. [5]

Yes _____

[If Yes, please go on to Question 2, if No, please go to Question 6]

Yes _____

B. Rule 50 Motion For Judgment As a Matter of Law

Plaintiff has also moved pursuant to Rule 50(b) for judgment as a matter of law on the issue of whether NYSHFA staff attorney Lieberman was plaintiff's supervisor. However, a party cannot seek judgment as a matter of law pursuant to Rule 50(b) post-verdict unless she moved for judgment as a matter of law pursuant to Rule 50(a) during trial and before the case was sent to the jury. *See, e.g., Pittman v. Grayson, 149 F.3d 111, 119 (2d Cir.1999)*; Fed.R.Civ.P. 50(b) ("If, for any reason, the Court does not grant a motion for judgment as a matter of law made at the close of all the evidence .... [t]he movant *may renew its request for judgment as a matter of law* by filing a motion no later than 10 days after entry of judgment." (emphasis added)). Here, plaintiff failed to move for judgment as a matter of law on the supervisor issue during trial. Therefore, plaintiff cannot seek post-trial relief on this issue and plaintiff's motion for judgment as a matter of law is denied. [6]

III. Conclusion

For the foregoing reasons, plaintiff's motion for a new trial is granted and plaintiff's motion for judgment as a matter of law with respect to the issue of Lieberman's supervisor status is denied.

Thus, it is HEREBY ORDERED that the verdict in favor of defendant returned on August 6, 1999 and entered on August 17, 1999, be set aside and a new trial granted. The new trial is scheduled to commence on Monday, September 21, 1999 at 10:00 a.m.

SPECIAL VERDICT FORM

1) Do you find that Plaintiff has proven, by a preponderance of the evidence, that Joel B. Lieberman was Plaintiff's supervisor at the New York State Housing Finance Agency?

No _____

Quid Pro Quo Sexual Harassment

2) Do you find by a preponderance of the evidence that Joel B. Lieberman made sexual advances to the Plaintiff?

No _____

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[If Yes, please go on to Question 3, if No please go to Question 6]

      3) Do you find by a preponderance of the evidence that the New York State Housing Finance Agency

Yes _____

[If Yes, please go on to Question 4, if No please go to Question 6]

      4) Do you find by a preponderance of the evidence that Plaintiff's

Yes _____

*5 [If Yes, please go on to Question 5, if No please go to Question 6]

      5) Do you find that plaintiff has proved by a preponderance of the

Yes _____

[Please go on to Question 6]

Hostile Environment Sexual Harassment

  6) Do you find that Plaintiff has proven by a preponderance of the evidence that she suffered from discrimination

Yes _____

[If Yes, please go on to Question 7]

[If No, and No to Questions 1 or 2—5, please sign the verdict form]

Yes _____

[Please go on to Question 8]

      8) Do you find that Plaintiff has proven by a preponderance of the evidence that the alleged conduct was sufficiently severe and pervasive and regular based on the totality of the circumstances including the

Yes _____

wrongly terminated Plaintiff's assignment, failed to offer her permanent employment, or otherwise altered the terms and conditions of her employment with Defendant;

No _____

acceptance or rejection of the sexual advances was a condition of employment or of a job detriment at the New York State Housing Finance Agency?

No _____

evidence that Plaintiff's reaction to the supervisor's advances, in fact, affected a tangible aspect of her employment.

No _____

because of her sex by the conduct of Joel Lieberman consisting of sexual proposition, sexual innuendo, sexual comments, unwelcome touching, and/or sexually explicit activity.

No _____

[If No, and Yes to Questions 1 –5, please go to Question 15]

      7) Do you find by a preponderance of the evidence that such conduct was unwelcome?

No _____

frequency of the discriminatory conduct, its severity and whether it was physically threatening or humiliating, so as to alter the compensation, terms, conditions or privileges of the Plaintiff's employment and create an abusive and hostile working environment to a reasonable person?

No _____

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[Please go on to Question 9]

      9) Do you find that the Plaintiff proved by a preponderance of the

Yes _____

[Please go on to Question 10]

      10) Do you find that the Plaintiff proved by a preponderance of

Yes _____

[If Yes, please go on to Question 11]

[If No, and No to Questions 1 or 2—5, please sign the verdict form]

[If No, and Yes to Questions 1 –5, please go to Question 15]

Yes _____

[Please go on to Question 12]

      12) Do you find by a preponderance of the evidence that the Plaintiff

Yes _____

[Please go on to Question 13]

Yes _____

*6 [If No to Question 1 but Yes to Questions 6—10, please go on to Question 14]

Yes _____

Yes _____

Yes _____

evidence that the alleged conduct detrimentally affected her?

No _____

the evidence that such conduct would have detrimentally affected a reasonable person?

No _____

Affirmative Defense

      11) Do you find that the New York State Housing Finance Agency exercises reasonable care to prevent and correct promptly any sexually harassing behavior by its employees?

No _____

failed to take advantage of the complaint mechanism provided by the New York State Housing. Finance Agency.

No _____

      13) Do you find that the Defendant's response to Plaintiff's complaint was adequate?

No _____

Co–Worker Harassment

      14) a. Do you find that Defendant provided no reasonable avenue for complaint?

No _____

      b. Do you find that Defendant knew of the harassment but did nothing about it?

No _____

      c. Do you find that Defendant took immediate and appropriate remedial action in response to Plaintiff's complaint?

No _____

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Damages

   Back Pay

   Pain & Suffering

   Medical Expenses

15) What amount of damages did the Plaintiff suffer, as proven by a preponderance of the evidence, in the following categories?

_____

_____

_____

Parallel Citations

80 Fair Empl.Prac.Cas. (BNA) 1641

Footnotes

1   In contrast to a motion for judgment notwithstanding the verdict, "a new trial motion may be granted even if there is substantial evidence to support the verdict." *Bevevino,* 574 F.2d at 683.

2   Plaintiff contends that she registered "no less than twenty-one (21) objections to the jury instructions." *See* Letter from plaintiff's attorney, Joan Cresap, to this Court of 8/20/99 at 1–2. However, plaintiff fails to provide any cites to the trial record that support her claim, and a review of the relevant portions of the trial record reveals that plaintiff did not, in fact, object to the errors in the jury instructions and verdict sheet that are the subject of plaintiff's Rule 59 motion. *See* Dewitt Tr. at 729, 739–45. Moreover, pursuant to Rule 51, "[n]o party may assign as error the giving or the failure to give an instruction unless that party objects thereto before the jury retires to consider its verdict, *stating distinctly the matter objected to and the grounds of the objection."* Fed.R.Civ.P. 51 (emphasis added).

3   For purposes of evaluating a motion for a new trial, "[a]n error is plain if it results in a miscarriage of justice, or if it is an obvious instance of misapplied law." *Latsis v. Chandris, Inc.,* 20 F.3d 45, 49 (2d Cir.1994) (internal quotations omitted).

4   Plaintiff also contends that Question 6 was improper because it failed to list "sexual comments" as one of the components of hostile work environment sexual harassment. Although Question 6 does not include the phrase "sexual comments", *see* *Leopold,* 174 F.3d at 268–69, it does include the nearly synonymous and much broader phrase "sexual innuendo." As defendant argues, sexual innuendo encompasses sexual comments; thus, if the jury were to find sexual innuendo, it would necessarily find sexual comments and vice versa. *See* Def. Mem. at 8. Accordingly, I find that the failure to include the phrase "sexual comments" in Question 6 is harmless error.

5   Plaintiff sets forth errors regarding the scope of expert testimony at trial as an additional basis for her Rule 59 motion. Because I am granting plaintiff's motion for retrial on other grounds, I need not address whether the scope of expert testimony at trial was proper.

6   On retrial of this case, the new jury would not bound by any findings of the previous jury including their finding with respect to the supervisor status of Joel Lieberman.

End of Document

Fujitsu Ltd. v. Tellabs Operations, Inc., Not Reported in F.Supp.2d (2013)

2013 WL 268607

2013 WL 268607
Only the Westlaw citation is currently available.
United States District Court,
N.D. Illinois,
Eastern Division.

FUJITSU LIMITED, Counter claimant,
v.
TELLABS OPERATIONS, INC., Tellabs Inc., and
Tellabs North America, Inc., Counter defendants.

Nos. 08 C 3379, 09 C 4530. | Jan. 24, 2013.

Attorneys and Law Firms

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MEMORANDUM OPINION AND ORDER DENYING PARTIES' RESPECTIVE REQUESTS FOR JUDGMENT AS A MATTER OF LAW AND DENYING FUJITSU LIMITED'S REQUEST FOR A NEW TRIAL REGARDING FUJITSU LIMITED'S #681 PATENT

JAMES F. HOLDERMAN, Chief Judge.

*1 Counterclaimant Fujitsu Limited alleged in this lawsuit that Tellabs Operations, Inc., Tellabs, Inc., and Tellabs North America, Inc. (collectively "Tellabs") infringed Claims 6, 7,

and 8 of Fujitsu Limited's U.S. Patent No. 7,227,681 (the " ′681 Patent") by making or selling Tellabs' Metro Input Amplifier Module (the "MIAM module") product. Tellabs in response asserted that the ′681 Patent was invalid by reason of anticipation and obviousness. At the close of a nine-day jury trial, the jury returned a verdict on September 7, 2012 of non-infringement for each of the asserted claims, and upheld the ′681 Patent as unanticipated and non-obvious.

Pending before the court are "Fujitsu's Renewed Motion for Judgment as a Matter of Law that Tellabs Infringes Claims 6, 7, and 8 of U.S. Patent No. 7,228,681, Notwithstanding the Jury Verdict of Non–Infringement; or, Alternatively Motion for a New Trial" (Case No. 09 C 4530, Dkt. No. 962) and "Tellabs, Inc.'s, Tellabs Operations, Inc.'s, and Tellabs North America, Inc.'s Renewed Motion for Judgment as a Matter of Law that U.S. Patent No. 7,227,681 Is Invalid" (Case No. 08 C 3379, Dkt. No. 566). For the reasons that follow below, both motions are denied.

BACKGROUND

The ′681 Patent issued on June 5, 2007, and is titled "Controller Which Controls a Variable Optical Attenuator to Control the Power Level of a Wavelength–Multiplexed Optical Signal When the Number of Channels Are Varied."(#681 Patent (Joint Ex.2000) at (54).) Yasushi Sugaya and Susumu Kinoshita are the named inventors on the ′681 Patent, and Fujitsu Limited is the assignee. (′681 Patent at (75), (73).)

The ′681 Patent "relates to a fiber optic communication system which uses wavelength division multiplexing to transmit a wavelength-multiplexed optical signal."(#681 Patent, col. 1:33–35.) "Wavelength division multiplexing" is method of combining multiple channels of information having different individual wavelengths into one wavelength-multiplexed optical signal. (*See generally* ′681 Patent, col. 1:44–65.) In fiber optic communication systems using wavelength division multiplexing, an optical amplifier is used "to amplify the wavelengthmultiplexed optical signal traveling through [the] optical fiber."(#681 Patent, col. 1:66–67; col. 2:1–3.) This amplification or increase in power is known as "gain." (Case No. 08 C 3379, Dkt. No. 234 ("9/23/09 Tech. Tutorial Tr.") at 66:21–25; Case No. 08 C 3379, Dkt. No. 287 ("2/23/10 Tech. Tutorial Tr.") at 450:5–6.)

Fujitsu Ltd. v. Tellabs Operations, Inc., Not Reported in F.Supp.2d (2013)
2013 WL 268607

As this court explained in its September 29, 2011 claim construction opinion:

> The ′681 Patent is directed to the ability to control the gain of the optical amplifier depending on the number of wavelength division multiplexed channels that are input into the amplifier. (2/23/10 Tech. Tutorial Tr. 466:22–25.) As the number of wavelength channels entering the amplifier from the network changes, the required gain also changes. (*Id.* at 470:11–24.)For example, if the number of channels entering the amplifier decreases, less gain is needed, and the amplifier would decrease the amount of pump power. (*Id.*)

> ***2** Relatedly, each wavelength amplified in the optical amplifier receives a different amount of gain depending on the wavelength. (*Id.* at 472:3–473:16.)The ′681 Patent discloses introducing a loss element, such as a filter, that would equalize the gain across the wavelengths. (*Id.*)

Fujitsu Ltd. v. Tellabs Operations, Inc., 821 F.Supp.2d 1009, 1054 (N.D.Ill.2011).

Fujitsu Limited asserted three claims of the ′681 Patent at trial: Claim 6, Claim 7, and Claim 8. The asserted claims of the ′681 Patent read as follows, with the court's claim interpretations of the italicized terms inserted in brackets:

> **6.**An apparatus comprising:

> an optical amplifier which amplifies a wavelength division multiplexed (WDM) optical signal *having a variable number of channels associated with different wavelengths* [the number of channels can change and each channel is associated with a different wavelength] with a gain and outputs the amplified WDM optical signal, the optical amplifier including:

>> an *optical attenuator* [a device having variable optical transmissivity] which controls a level of the amplified WDM optical signal,

>> an optical filter *making* [which makes][1] the gain *substantially even* [largely but not wholly even] with respect to said different wavelengths, and

>> a controller which controls the gain the be *approximately constant* [nearly constant or constant].

7.An apparatus as in claim **6,** wherein the controller controls the gain to be *approximately constant* [nearly constant or constant] *during variation of the number of channels in the WDM optical signal* [while the number of channels in the WDM optical signal changes].

8.An apparatus as in claim **6,** wherein an attenuation level of the *optical attenuator* [a device having variable optical transmissivity] is changed to control a level of the amplified WDM optical signal.

As stated above, the accused device in this case is Tellabs' MIAM module product. Specifically, Fujitsu Limited alleged that Tellabs' MIAM module product is an apparatus comprising an "optical amplifier" as described in Claims 6, 7, and 8 of the ′681 Patent. Relevant to the controller element of all three asserted claims, it is undisputed that the MIAM module product incorporates an optical gain block manufactured by a company named RED–C Optical Networks, Ltd. ("RED–C"), and that RED–C also designed the gain-control algorithm used by the optical gain block.

Fujitsu Limited presented several witnesses in its case-in-chief, including: Mr. Yasushi Sugaya, one of the inventors of the ′681 Patent; Dr. Uri Ghera, the head of research and development at RED–C; and Dr. Alan Willner, Fujitsu Limited's expert witness. Mr. Sugaya's testimony focused on the amplifier technology described by the ′681 Patent; Dr. Ghera's testimony focused on the components used in, and the operation of, the MIAM module product; and Dr. Willner's testimony focused on general optical amplifier principles and Dr. Willner's expert opinion that Tellabs' MIAM module product infringed the asserted claims of the ′681 Patent. Fujitsu Limited also offered into evidence, among other exhibits, a document titled "Hardware Requirements Specification TELLABS 7100 E–OGB for Amplifier Modules," setting forth Tellabs' hardware specifications for its optical amplifier products. (Fujitsu Ex.2012.)

*3 Tellabs denied that its MIAM module product infringed the asserted claims of the ′681 Patent and further alleged that the ′681 Patent was invalid as both anticipated and obvious. Tellabs relied primarily on its expert witness, Dr. A. Bruce Buckman, to support its theories of non-infringement and invalidity. Tellabs also offered into evidence three items of admitted prior art in support of its invalidity claim. With respect to anticipation, Tellabs presented U.S. Patent No. 6,055,092 (the " ′092 Patent"), titled "Multi–Wavelength

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Light Amplifier." (Tellabs Ex. DX–134.) The ʹ092 Patent was filed on May 28, 1996, and lists Mr. Sugaya as a named inventor. ('092 Patent at [22], [75].) Fujitsu Limited is the assignee of the ʹ092 Patent. ('092 Patent at [73].) With respect to obviousness, Tellabs presented an article published in July of 1995 by the Institute of Electronics, Information and Communication Engineers, *Configuration Design of Multi–Wavelength Er–Doped Fiber Amplifier for WDM Transmission System,* Technical Report of IEICE OCS95–96 (1995–07), written in part by Mr. Sugaya (the "July 1995 Sugaya Article") (Tellabs Ex. DX–031), as well as U.S. Patent No. 5,083,874 (the " ʹ874 Patent"), titled "Optical Repeater and Optical Network Using the Same" and filed on April 10, 1990 (Tellabs Ex. DX029 at [22]).

During Fujitsu Limited's rebuttal case, Dr. Willner provided his expert opinion that the ʹ681 Patent was not anticipated by the ʹ092 Patent or rendered obvious by the July 1995 Sugaya Article in combination with the ʹ 874 Patent.

The jury deliberated for three days before returning its verdict that the ʹ 681 Patent was not invalid and was not infringed.

Notwithstanding the jury's verdict, Fujitsu Limited requests that this court enter judgment as a matter of law that the ʹ681 Patent was infringed by Tellabs and, in the alternative, requests a new trial on the merits. Tellabs requests that this court enter judgment as a matter of law that the ʹ681 Patent is invalid as anticipated or obvious.

LEGAL STANDARD

Judgment as a matter of law is appropriate as to a particular issue when "a reasonable jury would not have a legally sufficient evidentiary basis to find for the party on that issue." Fed.R.Civ.P. 50(a). "The district court may not resolve any conflicts in the testimony nor weigh the evidence, except to the extent of determining whether substantial evidence could support a jury verdict: '[A] mere scintilla of evidence will not suffice.' " *Lane v. Hardee's Food Sys., Inc.,* 184 F.3d 705, 707 (7th Cir.1999) (quoting *La Montagne v. American Convenience Products, Inc.,* 750 F.2d 1405, 1410 (7th Cir.1984)). [2] In deciding a motion for judgment as a matter of law, "the court should review all of the evidence in the record" and "should give credence to the evidence favoring the nonmovant as well as that evidence supporting the moving party that is uncontradicted and unimpeached." *Reeves v. Sanderson Plumbing Prods., Inc.,* 530 U.S. 133,

151, 120 S.Ct. 2097, 147 L.Ed.2d 105 (2000). A jury's verdict will be overturned only if it is determined that no rational jury could have found for the non-moving party. *Waite v. Bd. of Trustees of Ill. Cmty. Coll. Dist. No. 508,* 408 F.3d 339, 343 (7th Cir.2005); *see also Lebow v. Am. Trans Air, Inc.,* 86 F.3d 661, 664 (7th Cir.1996) (judgment as a matter of law appropriate "only if there can be but one conclusion from evidence and inferences reasonably drawn therefrom") (internal quotation marks and citation omitted).

*4 Motions for new trials under Rule 59(a) are addressed to the discretion of the district court, and the "district court must determine whether the verdict was against the manifest weight of the evidence, the damages are excessive, or if for other reasons the trial was not fair to the moving party." *Frizzell v. Szabo,* 647 F.3d 698, 702 (7th Cir.2011). The jury's verdict should be set aside as contrary to the manifest weight of the evidence only if "no rational jury" could have rendered the verdict. *Moore v. Tuleja,* 546 F.3d 423, 427 (7th Cir.2008).

ANALYSIS

The first order of business is to determine whether Fujitsu Limited has properly presented its motion. Tellabs argues that Fujitsu Limited's motion should not be considered by this court because it is untimely. Fujitsu Limited made an oral Rule 50(a) motion at the close of Tellabs' case-in-chief on September 4, 2012. Fujitsu Limited also requested, without objection by Tellabs, that it be allowed until September 10, 2012 to file an accompanying written motion, and this request was granted. On September 5, 2012, Tellabs was also given until September 10, 2012 to file its written motion for judgment as a matter of law. On September 7, 2012 the jury returned its verdict. At that time Fujitsu Limited was granted, without objection, until October 5, 2012, to file its written motion for judgment as a matter of law, along with its other motions for post-trial relief. Fujitsu Limited therefore did not submit a written motion for judgment as a matter of law until October 5, 2012, twenty-eight days after the jury returned its verdict.

Although Fujitsu Limited's September 4, 2012 oral motion did not "specify the judgment sought and the law and facts that entitle the movant to the judgment," Fed.R.Civ.P. 50(a) (2), and Fujitsu Limited's Octover 5, 2012 written motion was not filed "before the case [was] submitted to the jury," *id.,* Tellabs made no objection at the time Fujitsu Limited sought

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an extension, and is not prejudiced by Fujitsu Limited's late filing. See *Leader Tech, Inc. v. Facebook, Inc.,* 770 F.Supp.2d 686, 715 (D.Del.2011) ("to the extent there is any doubt as to whether Leader's oral pre-verdict Rule 50(a) motion was sufficiently specific, those doubts are erased by Leader's subsequent filing of its written Rule 50(a) motion, which was filed consistent with the timing allowed by the Court"). Fujitsu Limited's renewed motion for judgment as a matter of law is properly before this court, and the court will address the merits of the parties' respective motions.

1. *Fujitsu Limited's Renewed Motion for Judgment as a Matter of Law and Alternative Motion for a New Trial*
Both parties agree that the success of Fujitsu Limited's infringement contentions at trial depended on whether Fujitsu Limited proved by a preponderance of the evidence that Tellabs' MIAM module product includes "a controller which controls the gain to be approximately constant."(*See*Case No. 09 C 4530, Dkt. No. 962 ("Fujitsu's JMOL") at 3 ("The sole missing claim element disputed by Dr. Buckman was the 'controller which controls the gain to be approximately constant.' "); *see also*Case No. 09 C 4530, Dkt. No. 974 ("Tellabs' Resp." at 9 ("Specifically, the Tellabs Defendants and Dr. Buckman established that the accused MIAM module does not include the controller required by each of the asserted claims....")). In light of the substantial evidence of non-infringement presented to the jury in this case, Fujitsu Limited's motion for judgment as a matter of law on the question of infringement is denied.

*5 As recognized by Fujitsu Limited, Dr. Buckman testified at trial that a person of ordinary skill in the art would understand Claim 6 to require an optical amplifier to hold the gain approximately constant before, during, and after a change in the number of channels. (Fujitsu's JMOL at 10 (citing Trial Tr. 1049:23–1052:15)) . [3] Dr. Buckman further testified that the MIAM module product allowed for a ± 0.8 dB "maximum excursion" in the gain during a change in the number of channels, which was "a little over three times" the "steady state gain error band" allowed when the number of channels was not changing. (Trial Tr. at 834:13–19; *see generally* Trial Tr. 822–834.)

Dr. Buckman illustrated the MIAM module product's response during a change in the number of channels using Fujitsu Exhibit 2012—a Tellabs-authored technical specification document originally introduced into evidence at trial by Fujitsu Limited. (*See* Fujitsu Ex.2012 at 2012–14

(Fig.4) & 2012–15 (Table 1)). Dr. Buckman concluded from this evidence that "the gain is not kept constant" in the MIAM module product during a change in the number of channels. (Trial Tr. 836:7–17). No other evidence of the MIAM module product's response characteristics during an actual change in the number of channels was introduced by either party at trial.

Fujitsu Limited argues that it is nevertheless entitled to judgment as a matter of law on its infringement claims, because "Dr. Buckman's theory did not withstand cross-examination."(Fujitsu's JMOL at 13.) Fujitsu Limited's argument rests on (1) Dr. Buckman's testimony on cross examination that the ± 0.8 dB maximum excursion in the gain during a change in the number of channels represents the MIAM module product's reaction to a "fiber cut event" in which all channels but one are suddenly dropped, and Dr. Buckman's follow-up testimony that he "would expect that [the excursion] wouldn't be as high" if fewer channels were dropped in the "normal" course of operation (Trial Tr. at 1088:4–1092:10; *see also* Fujitsu Ex.2012 at 2012–13 & 2012–14); (2) Dr. Buckman's testimony on cross examination that the ± 0.8 dB maximum excursion in the gain during a change in the number of channels is only 1/15th the size of a standard 12 dB signal and lasts for only 1/5,000th of a second (Trial Tr. at 1092:11–1096:20; 1099:24–1102:3); and (3) Dr. Buckman's testimony on cross examination acknowledging that Tellabs' specifications state that the design function of the Automatic Gain Control ("AGC") circuit in Tellabs' optical amplifiers is to "ensure[ ] constant gain of the amplifier during quick change in the power level of the DWDM signal" (Trial Tr. at 1102:17–1104:18; *see also* Fujitsu Ex.2012 at 2012–14 (Fig.4) & 2012–28 (Section 5.10.2)).

While Fujitsu Limited's cross examination of Dr. Buckman's testimony may have been damaging, deciding what weight to give Dr. Buckman's testimony is a task for the jury. *See E.E.O.C. v. Mgmt. Hospitality of Racine, Inc.,* 666 F.3d 422 (7th Cir.2012) ("Credibility determinations, the weighing of the evidence, and the drawing of legitimate inferences from the facts are within the province of the jury.") (quoting *Bogan v. City of Chicago,* 644 F.3d 563, 572 (7th Cir.2011)). This court may not, and will not, substitute its own assessment of Dr. Buckman's testimony in place of the jury's.

*6 The court also rejects Fujitsu Limited's argument that Dr. Buckman's testimony was impermissibly based on "unusual conditions." (Fujitsu's JMOL at 15 (citing *Hilgraeve Corp. v. Symantec Corp.,* 265 F.3d 1336, 1343 (Fed.Cir.2001)).) Dr. Buckman's opinion was based on an anticipated "fiber

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cut event" specifically addressed in Tellabs' specifications, and was in that sense clearly "relevant to the infringement analysis" regarding the MIAM module product's standard operation under those anticipated conditions. *Hilgraeve Corp.,* 265 F.3d at 1343.

Fujitsu Limited further relies on Dr. Ghera's testimony that the RED–C optical gain block component was designed to react "fast enough" to "keep the gain constant" during a change in the number of channels, (Fujitsu's JMOL, Ex. 2 ("Ghera Dep. Tr.") at 162:1–17), arguing that this "uncontroverted factual testimony" demonstrates that the MIAM module product actually keeps the gain constant during a change in the number of channels. (Fujitsu's JMOL at 19.) A reasonable jury, however, could have rejected Fujitsu Limited's interpretation of Dr. Ghera's testimony in favor of Dr. Buckman's interpretation of Dr. Ghera's testimony— that Dr. Ghera was addressing "the speed with which the controller *corrects* the gain when something happens, such as a change in the number of channels which wants to take it out of its range where it's supposed to be constant."(Trial Tr. at 1152:2–7 (emphasis added).)

The court need not address Fujitsu Limited's additional arguments regarding Tellabs' alternative theories of non-infringement. Based on Dr. Buckman's testimony as to the ± 0.8 dB maximum excursion in the gain during a change in the number of channels, the court finds that a legally sufficient evidentiary basis was presented at the trial for a reasonable jury to conclude that Tellabs' MIAM module product does not include "a controller which controls the gain to be approximately constant" during a change in the number of channels, as required by independent Claim 6 and dependent Claims 7 and 8. Fujitsu Limited's renewed motion for judgment as a matter of law is therefore denied.

Fujitsu Limited argues, in the alternative, for a new trial on the issue of infringement. (Fujitsu's JMOL at 25.) This request for a new trial is denied. As discussed above, Tellabs introduced evidence at trail that, in response to a change in the number of channels, the gain supplied by the MIAM module product would deviate from the desired value, resulting in a ± 0.8 dB "maximum excursion" in the gain before the control systems of the MIAM module product regulated the gain to the desired steady state value. This ± 0.8 dB excursion directly relates to the patent element requiring that a controller control the gain to be approximately constant. A rational jury could have, in light of this evidence and the other evidence presented at trial, determined that the MIAM module product did not maintain

an approximately constant gain as required in Claims 6, 7, and 8 of the ′681 Patent. The jury's determination is not against the manifest weight of the evidence, and Fujitsu Limited's request for a new trial is denied.

2. *Tellabs' Motion for Judgment as a Matter of Law*

*7 The court also rejects Tellabs' contention that a judgment of invalidity is required as a matter of law for Claims 6, 7, and 8 of the ′681 Patent. As noted above, Tellabs argued to the jury that the ′681 Patent is anticipated by the ′092 Patent. In support of its anticipation argument, in relevant part, Tellabs introduced evidence that the ′092 Patent inherently disclosed a variable channel count environment, as required by Claims 6, 7, and 8 of the ′681 Patent. (*See* Claim 6 (′681 Patent, col. 22:36–39) (describing "an optical amplifier ... having a variable number of channels associated with different wavelengths [the number of channels can change and each channel is associated with a different wavelength]") (as modified by 9/29/2011 claim construction).) Specifically, Dr. Buckman testified, "[I]t's my opinion based on common sense that the number of channels in a [wavelength division multiplexed] optical system is going to inherently vary," because the "laser source[s] somewhere in the system ... eventually and randomly, probably unexpected, are going to die. They're going to quit operating and when they do that, that channel's gone. The number of channels has changed."(Trial Tr. at 880:19–881:14.) Dr. Buckman further testified that a person of ordinary skill in the art, as defined by the court, would understand that any component is "eventually going to fail ... and, in the case of a laser, stop producing the light it's supposed to produce which would cause the number of channels on a particular communications line to change when that happens."(Trial Tr. at 882:20–883:2.) Through Dr. Buckman, Tellabs also introduced statements made by PTO examiner Deandra Hughes during the prosecution of a patent related to the ′ 681 Patent, in which Hughes stated in an official Office Action that with respect to the ′092 Patent "the number of channels is inherently variable because channels are inherently dropped."(DX–025–3; *see generally* Trail Tr. 918:19–923:21.) Based on this evidence, Tellabs argues it proved at trial that "a person of ordinary skill in the art would have known that an optical fiber transmission system inherently adds and drops wavelength channels from the wavelength division multiplexed (WDM) optical signal at a node in the system."(*See* Dkt. No. 566 ("Tellabs' JMOL") at 5 .)

In response, Fujitsu Limited argues that the trial testimony of Mr. Sugaya, Dr. Willner, and Dr. Buckman suggests

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"a consensus ... that the optical amplifier disclosed in the ‹092 Patent... cannot work in a variable channel count environment."(Dkt. No. 568 ("Fujitsu's Resp.") at 21.) As an inventor of both the ‹681 Patent and the ‹092 Patent, Mr. Sugaya testified that the optical amplifier disclosed in the ‹092 Patent "operates in an environment in which the number of channels doesn't change."(Trial Tr. at 613:17–20.) Mr. Sugaya further testified that if the number of channels were to change, "the amount of power per channel drops [with respect to the optical amplifier disclosed in the ‹092 Patent] ... mean[ing] that the quality of communications will be degraded, and so problems like not being able to communicate will occur."(Trial Tr. at 628:23–629:3 (referring to Fujitsu Illustrative Ex. 2614).) Specifically, Mr. Sugaya testified that in a changing channel count environment, the attenuator in the ‹092 Patent changes, causing "the amplifier overall gain to change."(Trial Tr. at 625:8–11; 629:25–630:3.) Mr. Sugaya testified that the invention disclosed in the ‹681 Patent was designed to address these concerns. (Trial Tr. at 630:1–4.) Similarly, Dr. Willner testified that "[a] fixed-channel count amplifier, such as the ‹092 patent, would erroneously change the gain, adjust the attenuation of the variable optical attenuator when the number of channels is changing."(Trial Tr. at 1219:13–21.) On cross examination, Dr. Buckman testified that there was "[n]o explicit disclosure of variable channel count" in the ‹092 Patent, and he agreed with counsel's statement that the ‹092 Patent was "not designed to differentiate for input power fluctuations caused by changes in channel count."(Trial Tr. at 1123:21–23; 1129:19–25.) Dr. Buckman further testified that "[t]he gain across the entire amplifier in the ‹092 Patent will change when the number of channels changes."(Trial Tr. at 1167:4–9.)

 *8 As stated earlier in this memorandum opinion, it is not for the court in ruling on post-trial motions to resolve conflicts in trial testimony or weigh the evidence. In accordance with Rule 50(a), the court finds that a reasonable jury considering the testimony of Mr. Sugaya, Dr. Willner, and Dr. Buckman had a legally sufficient evidentiary basis to conclude that the ‹092 Patent did not anticipate the asserted claims of the ‹681 Patent, because the ‹092 Patent did not disclose an optical amplifier "having a variable number of channels associated with different wavelengths," including a component that "controls the gain to be approximately constant," as required by the asserted claims of the ‹681 Patent. In light of this finding, the court need not address Tellabs' additional arguments regarding anticipation by the ‹092 Patent.

Finally, the court addresses Tellabs' request for judgment that the ‹681 Patent is invalid as a matter of law due to obviousness. As presented at trial, Tellabs' obviousness argument focused on the combination of the July 1995 Sugaya Article and the ‹874 Patent. Specifically, as summarized in Tellabs' pending motion, Tellabs took the position that "[e]very element of [the asserted claims], other than the optical filter which makes the gain substantially even with respect to said different wavelengths, can be found in the July 1995 Sugaya Article" and that "one of skill in the art would have been motivated to employ the gain-flattening filter from the ‹874 Patent with the July 1995 Sugaya Article in order to achieve a gain that is flat with respect to wavelength."(Tellabs' JMOL at 21, 30.)

As with the ‹092 Patent, the court's analysis of Tellabs' argument focuses on whether the July 1995 Sugaya Article disclosed an optical amplifier "having a variable number of channels associated with different wavelengths," including a component that "controls the gain to be approximately constant," as required by the asserted claims of the ‹681 Patent. At trial, Tellabs primarily relied on three pieces of evidence to demonstrate that the optical amplifier described in the July 1995 Sugaya Article controls the gain to be approximately constant in a changing channel count environment. First, Dr. Buckman identified Figures 1 and 10 from the July 1995 Sugaya Article as "two different figures showing [a] different number of channels."(Trial Tr. at 940:17–18; *see generally* 940:7–942:22; *see also* DX–031 at TLIL_0003234 and TLIL_0003238 (English: TLIL_0003241 and TLIL_0003253).) In this context, Dr. Buckman further noted the authors' statement that the optical amplifier disclosed in the July 1995 Sugaya Article "can deal with input changes" by "optimizing the amplification conditions for the sixteen (16) wave amplification ... same as the four (4) wave amplification."(DX–031 at TLIL_0003238 (English: TLIL_ 0003253); *see also* Trial Tr. at 942:19–22.) Second, Tellabs introduced Section 3.1 of the July 1995 Sugaya Article, which refers to the optical amplifier being "used for a WDM network that includes optical cross connect (OXC) systems."(DX–031 at TLIL_0003236 (English: TLIL_0003245)). Dr. Buckman testified that "[o]ne purpose of an optical cross-connect system is to switch channels in and out of a particular optical fiber link, to change the number of channels."(Trial Tr. at 947:16–20.) Similarly, Mr. Sugaya testified that an optical cross-connect system is used "for switching the optical path of light," and Mr. Sugaya agreed with counsel that the use of an optical cross-connect

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system "can result in adding or dropping channels."(Trial Tr. at 741:3–11.) Finally, Dr. Buckman testified that the number of channels in the optical amplifier disclosed by the July 1995 Sugaya Article could vary, because "the lasers which supply these different wavelengths ... can die at any time and then you've got a change in the number of channels."(Trial Tr. at 943:21–944:3.)

*9 Fujitsu Limited takes the position that a reasonable jury could have concluded from the evidence at trial that the July 1995 Sugaya Article did not disclose an optical amplifier that controls the gain to be approximately constant in a changing channel count environment. (*See* Fujitsu's Resp. at 29 ("[I]n the face of a varying number of channels, the controller disclosed in the *July 1995 Sugaya Article* suffers from the same shortcomings as does the ′092 Patent."); *see also id.* at 33 ("the consensus among the witnesses [was] that the controller in the *July 1995 Sugaya Article* changed the gain rather than kept the gain constant with respect to a varying number of channels").) As with the ′092 Patent, Mr. Sugaya testified that the optical amplifier disclosed in the July 1995 Sugaya Article was "directed at a fixed number of channels" (Trial Tr. at 731:20–21) and Dr. Willner testified that the optical amplifier disclosed in the July 1995 Sugaya Article could be described as "[a] fixed-channel count amplifier" (Trial Tr. at 1210:12–14). Dr. Willner further opined that "[w]hen the number of channels changes, [the amplifier disclosed in the July 1995 Sugaya Article] would— erroneously would make a mistake and it would change the gain."(Trial Tr. at 1210:18–20; *see also* Trial Tr. at 1217:1–3 ("These amplifiers in the July 1995 article as well as the ′092 patent, if there is a change in the number of channels, it will change the gain erroneously.").) Likewise, in response to a question regarding the optical amplifier disclosed in the July 1995 Sugaya Article, Mr. Sugaya testified that "[w]hen the environment is one of which the number of channels changes, the gain changes."(Trial Tr. at 739:12–13.) Dr. Buckman testified that the optical amplifier disclosed in the July 1995 Sugaya Article did not include circuitry that would keep the gain across the entire optical amplifier constant if there was a change in the channel count. (Trial Tr. at 1168:10–16 ("Q: ... there is no circuitry in the Sugaya July 1995 reference which allows the gain across the entire optical amplifier to remain constant if there's a change in channel count, is there? A: ... There's not circuitry provided that will keep that particular overall gain constant.").)

In response to Tellabs' reliance on Figures 1 and 10 of the July 1995 Sugaya Article, Fujitsu Limited notes Dr.

Buckman's concession that "[t]here was no attempt made in the Sugaya reference July 1995 marked as Exhibit DX 31 to operate this system in an environment where channel counts actually changed while the operational—while the amplifier was operating" and Dr. Buckman's understanding that the authors instead physically "changed filters in order to have one which would accommodate this wider range of wavelengths corresponding to the use of 16 channels."(Trial Tr. at 1128:22–1129:1; 1128:13–16.) In response to Tellabs' reliance on Section 3.1's reference to optical cross connect systems, Fujitsu Limited notes that Mr. Sugaya, Dr. Willner, and Dr. Buckman all testified that optical cross connect systems do not necessarily indicate a change in the overall channel count. (*See* Trial Tr. at 741:3–7 (Sugaya) (an optical cross connect system is "for switching the optical path of light"); Trial Tr. at 1214:7–8 (Willner) ("although an [optical cross connect] might change the number of channels, many times it doesn't"); Trial Tr. at 1169:1–3 (Buckman) ("Q. Isn't it true that cross-connects can be used to switch signals rather than drop or add them? A. They can be used for both.").)

*10 After considering the testimony and evidence presented at trial, a reasonable jury could have concluded that the July 1995 Sugaya Article did not disclose an optical amplifier "having a variable number of channels associated with different wavelengths," including a component that "controls the gain to be approximately constant," as required by the asserted claims of the ′681 Patent. Because Tellabs does not argue that this missing claim element is supplied by either the ′874 Patent or by the general knowledge of a person of ordinary skill in the art, a reasonable jury could have concluded that Tellabs did not meet its burden of establishing by clear and convincing evidence that the July 1995 Sugaya Article and the ′874 Patent in combination rendered the asserted claims of the ′681 Patent obvious.

CONCLUSION

For the reasons set forth above, "Fujitsu's Renewed Motion for Judgment as a Matter of Law that Tellabs Infringes Claims 6, 7, and 8 of U.S. Patent No. 7,228,681, Notwithstanding the Jury Verdict of Non–Infringement; or, Alternatively Motion for a New Trial" (Case No. 09 C 4530, Dkt. No. 962) and "Tellabs, Inc.'s, Tellabs Operations, Inc.'s, and Tellabs North America, Inc.'s Renewed Motion for Judgment as a Matter of Law that U.S. Patent No. 7,227,681 Is Invalid" (Case No. 08 C 3379, Dkt. No. 566) are both denied in their entirety.

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Tellabs' original "Motion for Judgment as a Matter of Law that U .S. Patent No. 7,227,681 Is Invalid" (Case No. 08 C 3379, Dkt. No. 557) and Tellabs' "Motion for Judgment as a Matter of Law Based on Fujitsu Limited's Failure to Prove Infringement of Claims 6–8" (Case No. 08 C 3379, Dkt. Nos. 547, 552, 555 (renewed)) are denied as moot.

Footnotes

1   Pursuant to a Certificate of Correction issued by the PTO on October 13, 2007, the word "makes" in Claim 6 was changed to "making." (#681 Patent, col. 22:43.)

2   Although this is a patent case, Seventh Circuit law governs the court's analysis as to the parties' post-trial motions. *See Pregis Corp. v. Kappos,* 700 F.3d 1348, 1353 (Fed.Cir.2012) (reviewing "the grant or denial of a motion for judgment as a matter of law under regional circuit law"); *Hewlett–Packard Co. v. Mustek Sys., Inc.,* 340 F.3d 1314, 1323 (Fed.Cir.2003) ("[o]n motions for a new trial we apply the law of the regional circuit").

3   Dr. Buckman also testified that dependent Claim 7 recited "a more limited time period or particular time period" than independent Claim 6, but that "the time period where the controller is supposed to keep the gain constant always at least includes, and most of the time surrounds on either side, the period of time where the number of channels is actually changing."(Trial Tr. at 836:21–22; 839:11–14.) Fujitsu Limited appears to agree with Dr. Buckman's testimony on this point, asserting in its pending motion that the gain in Claim 6 is held constant "for an interval related to a variation in the number of channels in the optical signal input to the MIAM optical amplifier."(Fujitsu's JMOL at 10 (citing Dr. Buckman's testimony in support).) Neither party distinguishes dependent Claims 7 and 8 from independent Claim 6 in this regard, and the court's analysis therefore applies equally to all three asserted claims of the #681 Patent.

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United States District Court,
N.D. Illinois,
Eastern Division.

PET PRODUCT INNOVATIONS,
LLC, et al., Plaintiffs,
v.
The PAW WASH, L.L.C., Defendant.

No. 11 C 7182. | Sept. 25, 2012.

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MEMORANDUM OPINION AND ORDER

VIRGINIA M. KENDALL, District Judge.

*1 Pet Product Innovations brings the present Motion to Alter or Amend Judgment pursuant to Federal Rule of Civil Procedure 59(e, asking this Court to vacate in full its summary judgment Order of June 5, 2012. *See Pet Product Innovations, LLC v. Paw Wash, LLC,,* No. 11 C 7182 2012 WL 2022038 (N.D. Ill. June 5, 2012. Pet Product Innovations argues that this Court's Order of June 5, 2012 was defective for a number of reasons and thus requires that the Court vacate it in its entirety. In its Order of June 5, 2012, this Court granted Paw Wash's motion for summary judgment and held that the doctrine of *res judicata* barred Pet Product Innovations from maintaining its claims of non-infringement and invalidity against Paw Wash in this Court because the issues of infringement and invalidity of the 391 Patent, the patent-in-suit, raised in this case were already adjudicated by a court of competent jurisdiction and reduced to final judgment. *See Pet Product Innovations,* 2012 WL 20222038 at *7. The Court also held that the injunction previously issued by the District Court for the Western District of Missouri enjoining Paw Plunger, LLC, Pet Product Innovations' privy, from

manufacturing or selling its Paw Plunger product applied to Pet Product Innovations as well and therefore that Pet Product Innovations was likewise enjoined from manufacturing and selling the Paw Plunger device. *See Pet Product Innovations,* 2012 WL 20222038 at *2, *7 (citing *The Paw Wash, LLC v. Paw Plunger, LLC,* No. 08–0113–CV–W–GAF (W.D.Mo. Feb. 15, 2008)).

Pet Product Innovations attacks this Court's prior Order on numerous grounds. First, Pet Product Innovations contends that the dismissal of its claims that were not the subject of Paw Wash's summary judgment motion was an error of law. Second, it argues that failing to decide a pending motion to file a supplemental amended complaint before deciding Paw Wash's motion for summary judgment was also an error of law. Third, Pet Product Innovations contends that a substantial and controlling intervening change in the governing law alters the outcome of Paw Wash's summary judgment motion with respect to the issue of *res judicata.*Fourth, Pet Product Innovations argues that this Court neglected to follow controlling Federal Circuit precedent in ruling on its declaratory judgment claims of invalidity and non-infringement of the ʼ391 Patent with respect to the issue of *res judicata.*Fifth, Pet Product Innovations argues that the Court committed legal error by failing to follow controlling Federal Circuit precedent by enjoining it, consistent with the injunction issues by the District Court in Missouri against Pet Product Innovations' privy, from manufacturing and selling the Paw Plunger device. For the following reasons, Pet Product Innovations' Motion to Alter or Amend Judgment is granted in part and denied in part. The dismissal of Pet Product Innovations' claims that were not the subject of Paw Wash's summary judgment motion was a clerical error, and therefore the Court grants Pet Product Innovations' Motion with respect to that claim, and the case will be reinstated on Pet Product Innovations' third, fourth, and fifth claims for relief. All other claims advanced by Pet Product Innovations to Alter or Amend Judgment are denied.

I. The Legal Standard

*2 Pet Product Innovations brings its Motion to Alter or Amend Judgment under Rule 59(e) of the Federal Rules of Civil Procedure. A Rule 59(e) motion must be brought no later than 28 days after the entry of judgment in a civil matter. *See*Fed.R.Civ.P. Rule 59(e). The Court entered judgment in this case on June 5, 2012, and the Plaintiff brought its Motion to Alter or Amend Judgment on July 3, 2012, exactly 28

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days after the entry of judgment and in time for the Court to construe the instant Motion as arising under Rule 59(e).

Under Federal Rule of Civil Procedure 59(e) a district court may entertain "[a] motion to alter or amend a judgment."Fed.R.Civ.P. 59(e). Motions to alter or amend a judgment under Rule 59(e) are routinely referred to as motions for reconsideration. Motions to reconsider should be granted only in rare circumstances. *See Bank of Waunakee v. Rochseter Cheese Sales, Inc.,* 906 F.2d 1185, 1191 (7th Cir.1990) (quoting *Above the Belt, Inc. v. Mel Bohannan Roofing, Inc.,* 99 F.R.D. 99, 101 (E.D.Va.1983)) ("... the motion to reconsider should be equally rare."). A party moving for reconsideration bears a heavy burden. *See Caisse Nationale de Credit Agricole v. CBI Industries, Inc.,* 90 F.3d 1264, 1270 (7th Cir.1996). A motion for reconsideration is not an appropriate vehicle for relitigating arguments that the court previously rejected or for arguing issues that could have been raised during the consideration of the motion presently under reconsideration. *See Id.*Motions for reconsideration are utilized for a very limited purpose: to correct manifest errors of law or fact, to present newly discovered evidence, or where there has been an intervening and substantial change in the controlling law since the submission of the issues to the court. *See Cosgrove v. Bartolotta,* 150 F.3d 729, 732 (7th Cir.1998); *Publishers Resource, Inc. v. WalkerDavis Publications, Inc.,* 762 F.2d 557, 561 (7th Cir.1985) (quoting *Keene Corp. v. International Fidelity Ins. Co.,* 561 F.Supp. 656, 665–666 (N.D.Ill.1982), *aff'd and adopted in relevant part,*736 F.2d 388, 393 (7th Cir.1984)).

A district court reviews its prior judgment under Rule 59(e) to determine whether "there exists a manifest error of law or fact so as to enable the court to correct its own errors and thus avoid unnecessary appellate procedures."*Divane v. Krull Elec. Co., Inc.,* 194 F.3d 845, 847 (7th Cir.1999) (citing *Moro v. Shell Oil Co.,* 91 F.3d 872, 876 (7th Cir.1996)); *see also Obriecht v. Raemisch,* 517 F.3d 489, 494 (7th Cir.2008). It is well-settled that a motion to reconsider is not a proper vehicle to advance arguments or legal theories that could and should have been made before the district court entered judgment or to present evidence that was available earlier. *See Sigsworth v. City of Aurora,* 487 F.3d 506, 512 (7th Cir.2007) (citing *LB Credit Corp. v. Resolution Trust Corp.,* 49 F.3d 1263, 1267 (7th Cir.1995)); *Anderson v. Flexel, Inc.,* 47 F.3d 243, 247–248 (7th Cir.1995); *King v. Cooke,* 26 F.3d 720, 726 (7th Cir.1994). Instead, a Rule 59(e) motion must establish either a clear manifest error of law or fact, present newly discovered evidence, or present a significant change in the

controlling law since the issues in the case were presented to the court for consideration and judgment. *See LB Credit Corp.,* 49 F.3d at 1267 (quoting *FDIC v. Meyer,* 781 F.2d 1260, 1268 (7th Cir.1986)). A manifest error of law is the "disregard, misapplication, or failure to recognize controlling precedent."*Oto v. Metropolitan Life Ins. Co.,* 224 F.3d 601, 606 (7th Cir.2000) (quoting *Sedrak v. Callahan,* 987 F.Supp. 1063, 1069 (N.D.Ill.1997)). The decision to grant a Rule 59(e) motion lies in the sound discretion of this Court, and its ruling is reviewed deferentially and will only be disturbed upon a showing that the Court abused that discretion. *See Matter of Prince,* 85 F.3d 314, 324 (7th Cir.1996); *Billups v. Methodist Hosp.,* 922 F.2d 1300, 1305 (7th Cir.1991).

II. Discussion

A. Issues Outside the Scope of Paw Wash's Summary Judgment Motion

*3 On June 5, 2012, this Court granted Paw Wash's motion for summary judgment and terminated the case. Paw Wash had only moved for summary judgment on Pet Product Innovations' claims of patent invalidity and non-infringement. It was the intention of this Court to only grant summary judgment in favor of Paw Wash as to those counts on which it moved for judgment as a matter of law. [1] The Court did not intend to grant summary judgement in favor of Paw Wash on Pet Product Innovations' third, fourth, and fifth counts for relief alleging claims of false advertising, as Paw Wash did not move for summary judgment on those claims. This Court's Order did not address those claims, and the Court did not state that it was entering summary judgment in favor of Paw Wash on those claims, nor dismissing them. It was a clerical error that the case was terminated after the Order granting summary judgment in favor of Paw Wash on the issues of non-infringement and invalidity was issued. Therefore, the case is reinstated and Pet Product Innovations may proceed on its false advertising claims against Paw Wash. Thus, Pet Product Innovations' Motion to Alter or Amend Judgment is granted on this single issue; the Court should not have accidentally terminated its false advertising claims and should have only granted summary judgment in Paw Wash's favor on those counts for which it moved for judgment as a matter of law-which was the intention of this Court as is clearly demonstrated and evidenced by its Order of July 5, 2012. *See Pet Product Innovations,* 2012 WL 20222038 at *7. Pet Products Innovations also argues that it was legal error for the Court to grant summary judgment in favor of Paw Wash while there was a motion to file a supplemental amended complaint pending before the

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Court. The motion to file a supplemental amended complaint was filed after Paw Wash moved for summary judgment against Pet Product Innovations on non-infringement and invalidity with respect to the Paw Plunger device. (Doc. 41). In the motion to file an amended complaint, Pet Product Innovations requested leave to add a single count for a declaration of non-infringement of the patent-in-suit based on Plaintiff Zeus's recent offers for sale of another canine footbath product. Pet Product Innovations cites no legal authority for the proposition that it is inappropriate for a court to decide a motion for summary judgement while a later-filed motion to file a supplemental complaint is pending. In any event, there is no need in the present case for Pet Product Innovations to amend its Complaint to include another product, "the Paw Clean," in this litigation. Paw Wash provided Pet Product Innovations with a covenant-not-to-sue, thus divesting this Court of jurisdiction over any such claim. *See Dow Jones & Co., Inc. v. Ablaise Ltd.,* 606 F.3d 1338, 1345–1348 ("a covenant not to sue for patent infringement ... eliminates any case or controversy between the parties"). Because the issues on summary judgment were the invalidity and non-infringement of the ′391 Patent covering the Paw Plunger, it was not an error to decide the motion for summary judgment without first deciding the later-filed motion to file a supplemental amended complaint for a declaration of noninfringement of an entirely different product. Because of the covenant-not-to-sue that Paw Wash has provided to Pet Product Innovations, the motion to file a supplemental amended complaint is moot because the claim that Pet Product Innovations sought leave to add was for non-infringement only and therefore the covenant divested the Court of jurisdiction over the claim for lack of an existing case or controversy. [2]

B. Intervening Change in the Law

*4 Pet Product Innovations contends that the Federal Circuit's recent decision in *Aspex Eyewear v. Marchon Eyewear, Inc.,* 672 F.3d 1335 (Fed.Cir.2012), which was issued after the parties' period for briefing the motion for summary judgment in this case had passed, represents a significant and controlling change in the law with respect to res judicata as to patent claims and therefore requires the Court to vacate its prior res judicata holding. Pet Product Innovations argues that Aspex holds that res judicata cannot be applied in a second patent infringement suit where the products at issue in the second suit were made and sold only after initiation of the first suit. In Aspex the Federal Circuit did hold that res judicata does not bar an action with respect to accused products that were made or sold after the patentee's earlier actions against the same competitors alleging infringement of the same patent. See *Id.* at 1342 (citing *Young Eng'rs, Inc. v. U.S. Int'l Trade Comm'n,* 721 F.2d 1305, 1316 (Fed.Cir.1983) ("With respect to patent litigation, we are unpersuaded that an 'infringement claim,' for purposes of claim preclusion, embraces more than the specific devices before the court in the first suit."); *Cordis Corp. v. Boston Scientific Corp.,* 635 F.Supp.2d 361, 369–370 (D.Del.2009) (claim preclusion will not bar a second suit for damages for conduct occurring after the first judgment); *Williams v. Gillette Co.,* 887 F.Supp. 181, 183–185 (N.D.Ill.1995) (because second lawsuit seeks damages only for infringement after the dismissal of the first, it is not barred by res judicata); *MGA, Inc. v. Centri–Spray Corp.,* 699 F.Supp. 610, 614 (E.D.Mich.1987) ("if the plaintiff claimed that different products infringed the patent in suit, the prior adjudication would not act as a bar to the subsequent claim")). The court held that "in order for a particular claim to be barred, it is necessary that the clam either was asserted, or could have been asserted, in the prior action. If the claim did not exist at the time of the earlier action, it could not have been asserted in that action and is not barred by *res judicata.*" *See Aspex,* 672 F.3d at 1342. The court held that infringement suits against products that were made and sold after an earlier action was brought are not barred by *res judicata* in subsequently filed suits even where the design of the products are essentially the same as the design of the products that were the subject of prior actions. *See Id.* Thus *Aspex* stands for the rather unremarkable proposition that *res judicata* does not bar a patentee from instituting a second infringement action against an adjudged infringer where that party develops and sells a new infringing product after resolution of an earlier lawsuit. Indeed, *Aspex* rested its analysis on what it described as "well-settled principles" of law. *See Id.* at 1342–1343 (citing *Lawlor v. Nat'l Screen Serv. Corp.,* 349 U.S. 322, 75 S.Ct. 865, 99 L.Ed. 1122 (1955) (a prior judgment "cannot be given the effect of extinguishing claims which did not even then exist and which could not possibly have been sued upon in the previous case"); *Manning v. City of Auburn,* 953 F.2d 1355, 1359 (11th Cir.1992) (res judicata does not bar claims for conduct occurring after judgment); *Blair v. City of Greenville,* 649 F.2d 365, 368 (5th Cir.1981) (res judicata "does not ... bar a suit based on acts of the defendant that have occurred subsequent to the final judgment asserted as a bar"); *Kilgoar v. Colbert Cnty. Bd. of Educ.,* 578 F.2d 1033 (5th Cir.1978) (claims based on conduct transpiring after the close of prior litigation were not precluded by res judicata even though earlier litigation involved the same kind of

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conduct)). As such, *Aspex* does not represent a significant and controlling change in the law governing the issues submitted to the Court in this case.

*5 Pet Product Innovations argues that Paw Wash, the party asserting *res judicata,* bore the burden of proof on that issue and that it failed to present any evidence that the Paw Plunger device that was the subject of the declaratory judgment action filed in this Court was manufactured and sold prior to February 15, 2008, the date that Paw Wash filed suit against Paw Plunger, LLC in the District Court for the Western District of Missouri. This argument is based on the flawed premise that Pet Product Innovations' device is different from the one originally sold by Paw Plunger, LLC. In briefing its motion for summary judgment Paw Wash established that the Paw Plunger device originally sold by Paw Plunger, LLC is the same device now manufactured and sold by Pet Product Innovations. Accordingly, the Court found that the two devices are the same. The Court determined that Pet Product Innovations admitted that "[u]sing the assets it obtained from Paw Plunger, LLC, Pet Product Innovations *continues* to manufacture and sell *the same infringing Paw Plunger device earlier sold by Paw Plunger, LLC." Pet Product Innovations,* 2012 WL 20222038 at *2 (emphasis supplied). Pet Product Innovations also failed to dispute, and thus admitted, the fact that "[t]he factual and legal issues raised in plaintiffs' current declaratory judgment action-namely the validity of the ′391 Patent and infringement by the 'Paw Plunger' device-*are identical to those already litigated* in Paw Wash's earlier case against Paw Plunger."(Pet Product Innovations' Rule 56.1 Response to Paw Wash's Statement of Undisputed Material Facts ¶ 26) (emphasis supplied). [3] Based on these facts it is undisputed that Pet Product Innovations' Paw Plunger is the same Paw Plunger that was at issue in the Missouri litigation. Pet Product Innovations' argument that Paw Wash has failed to sustain its burden of proof on this issue is thus controverted by the record.

Pet Product Innovations is trying to use the decision in *Aspex* as a way to relitigate infringement of the Paw Plunger device; an issue that was already litigated and reduced to a final judgement by a court of competent jurisdiction. *Aspex,* 672 F.3d at 1343, holds that "when a party that has had a full and fair opportunity to litigate an issue and has lost on that issue, it may not relitigate that issue in a later case."*See also Hallco Mfg. Co., Inc. v. Foster,* 256 F.3d 1290, 1297–1298 (Fed.Cir.2001) (when a device is determine to infringe in a prior suit, the issues of infringement and validity brought in a second infringement suit are barred by the previous

proceedings). This is a clear statement describing the doctrine of *res judicata* as it applies to patent infringement and invalidity suits.

Pet Product Innovations' privy, Paw Plunger, LLC, had a full and fair opportunity to litigate infringement and validity of the ′391 Patent in the Missouri action. It elected to settle the lawsuit by admitting infringement and entering into a settlement agreement with Paw Wash. *See The Paw Wash, LLC v. Paw Plunger, LLC,* No. 08–0113–CV–W–GAF (W.D.Mo. Feb. 15, 2008). Pet Product Innovations chose to purchase Paw Plunger, LLC's assets, notwithstanding Paw Plunger, LLC's admission of infringement of Paw Wash's patent. It is improper for Pet Product Innovations to now try to relitigate those infringement and validity issues through serial litigation, first by seeking declaratory relief from this Court and now by seeking reconsideration of the Court's Order granting summary judgment to Paw Wash on the issues of non-infringement and invalidity through the misuse of the *Aspex* decision. For these reasons, Pet Product Innovations' Motion to Alter or Amend Judgment is denied with respect to its argument that *Aspex* represents a substantial and controlling change in the law governing the issues submitted to the Court requiring that the Court vacate its prior *res judicata* holding.

C. The Court's Res Judicata Analysis

*6 Pet Product Innovations argues that the Court improperly conducted the *res judicata* analysis by failing to determine whether the Paw Plunger device that was determined to infringe in the Missouri litigation is essentially the same as the Paw Plunger device at issue in the present suit. This argument is without merit, as the Court relied on evidence offered by Paw Wash, and admissions made by Pet Product Innovations, to determine that the two devices are the same. Pet Product Innovations admits that *res judicata* will apply to its claims for non-infringement and invalidity if its Paw Plunger device is determined to be "essentially the same" as the accused device at issue in the Missouri suit. *See* Pet Product Innovations' Memorandum in Support at 6 (citing *Accumed LLC v. Stryker Corp.,* 525 F.3d 1319, 1324 (Fed.Cir.2008); *Foster v. Halco Mfg. Co., Inc.,* 947 F.2d 469, 479–490 (Fed.Cir.1991); *Halco Mfg. Co., Inc.,* 256 F.3d at 1297). It is worth noting that Pet Product Innovations' admission is in tension with its argument based on *Aspex.*On the one hand, Pet Product Innovations argues that *Aspex* requires that the doctrine of *res judicata* cannot apply in this case, while on the other it relies on *Accumed* to argue that *res judicata* applies where the product at issue in a prior suit is

"essentially the same" as the product at issue in a subsequent suit. Nevertheless, Paw Wash submitted evidence which this Court credited that establishes that the product at issue in the Missouri suit is the same as the product at issue in the instant suit. ("Using the assets it obtained from Paw Plunger, LLC, Pet Product Innovations continues to manufacture and sell *the same infringing [Paw Plunger device earlier sold by Paw Plunger, LLC.](#)" [Pet Product Innovations,](#) 2012 WL 20222038 at *2 (emphasis supplied)).

Pet Product Innovations faults the Court for failing to compare the structure and operation of the respective products to determine whether any differences between the devices are related to the limitation of the claim of the patent. However, it was unnecessary for the Court to compare the actual structure of the two Paw Plungers because there was ample evidence in the record to establish that the two devices are the same. *See [Halco Mfg. Co.,](#) 256 F.3d at 1297* (the district court must only compare the products to ascertain whether there is any colorable difference between them or whether they are essentially the same, in which case *res judicata* applies); *see, e.g.,* Injunction Order at 4–5 (Doc. 20–3).

It is troubling that Pet Product Innovations would admonish this Court for failing to adequately compare its Paw Plunger product to the one at issue in the Missouri lawsuit given the complete and total lack of evidence offered by Pet Product Innovations to support its assertion that various Paw Plunger models exist. Pet Product Innovations' argument with respect to this issue was so deficient that both Paw Wash and this Court were left simply to guess as to how Pet Product Innovations' alleged Paw Plunger I, II, and III devices differed from one another. As Paw Wash previously explained, the Paw Plunger I, II, and III designations do not appear on thepawplunger.com website, and were likely invented solely for the purpose of manufacturing a disputed issue of material fact to avoid summary judgment in Paw Wash's favor. Indeed, Pet Product Innovations never admitted to using the Paw Plunger I, II, and III designations to refer to different sizes of the Paw Plunger device until it filed the present Motion to Alter or Amend Judgment. *See* Pet Product Innovations' Memorandum in Support at 7 n. 4. Pet Product Innovations' admission confirms the Court's speculation in its prior Order that the Paw Plunger I, II, and III designations merely refer to different sizes of the Paw Plunger device, and that Paw Wash adequately demonstrated that the products are essentially the same and that any differences between them do not relate to the limitations in the claim of the patent. *See [Pet Product Innovations,](#) 2012 WL 20222038 at *2 n. 5* (citing

[Roche Palo Alto LLC v. Apotex, Inc.,](#) 531 F.3d 1372, 1379 (Fed.Cir.2008)).

 *7 It is likely that Pet Product Innovations withheld this information because it was aware that mere changes in size would not prevent the application of *res judicata* to its claims. *See [Nystrom v. Trex Co., Inc.,](#) 580 F.3d 1281, 1286 (Fed.Cir.2009)* (mere colorable changes in a product's design, such as changes in color or the wood grain used, will not prevent *res judicata* from barring a subsequent suit based on the same product). Nothing in Claim 17 of the ′391 Patent-which is the claim that Paw Plunger, LLC admitted to infringing-places any size requirements on an infringing device. Instead Pet Product Innovations tried to obfuscate what its various "product versions" referred to in the hope that in so doing the Court would find a disputed issue of material fact and deny Paw Wash's motion for summary judgment. It is improper for Pet Product Innovations to try to rely on its own failure to counter Paw Wash's proof that the products are essentially the same and that any differences between them do not relate to the limitations in the claim of the patent or its failure to present evidence of structural or operational differences between the products as a basis for altering this Court's previous Order. Based on the record established in this case, the Court properly concluded that Pet Product Innovations' Paw Plunger is the same device as that which was at issue in the Missouri litigation between Paw Wash and Paw Plunger, LLC, and that Paw Wash carried its burden to establish this fact. In light of this finding, it was entirely appropriate for the Court to apply the doctrine of *res judicata* to preclude Pet Product Innovations' claims of non-infringement and invalidity against Paw Wash. *See [Acumed,](#) 525 F.3d at 1324; [Hallco,](#) 256 F.3d at 1297–1298*. For these reasons, the Court will not reconsider its *res judicata* analysis and the doctrine continues to bar Pet Product Innovations' claims of non-infringement and invalidity against Paw Wash in the proceedings before this Court.

D. The Injunction as Applied to Pet Product Innovations

Pet Product Innovations argues that it was legal error for the Court to hold that the injunction entered in the Missouri case applies to Pet Product Innovations because the Court did not perform the analysis set forth in [Tivo Inc. v. EchoStar Corp.,](#) 646 F.3d 869, 881–882 (Fed.Cir.2011), and therefore the Court should vacate the injunction entered against Pet Product Innovations. In its original Opinion the Court relied on *Nat'l Spiritual Assembly of the Baha'is of the United States Under the Hereditary Guardianship, Inc. v. Nat'l Spiritual Assembly of the Baha'is of the United States,* 682 F.3d 837, 848–849

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(7th Cir.2010), which holds that injunctions may be enforced against non-parties that are in privity with an adjoined party. Pet Product Innovations argues that Nat'l Spiritual Assembly of the Baha'is is a trademark case, and provides no guidance as to the standards for enforcing an injunction against an accused patent infringer. Pet Product Innovations' Motion to Alter or Amend should be rejected outright with respect to this issue because Pet Product Innovations had the opportunity to present this issue to the Court on summary judgment but failed to do so. See *Sigsworth,* 487 F.3d at 512 (citing *LB Credit Corp.,* 49 F.3d at 1267); *Caisse Nationale de Credit Agricole,* 90 F.3d at 1270; *Anderson,* 47 F.3d at 247–248; *King,* 26 F.3d at 726. Reconsideration is an inappropriate vehicle to advance arguments that could and should have been made before the Court reached a judgment in the case presently under reconsideration. See *Sigsworth,* 487 F.3d at 512 (citing *LB Credit Corp.,* 49 F.3d at 1267); *Caisse Nationale de Credit Agricole,* 90 F.3d at 1270; *Anderson,* 47 F.3d at 247–248; *King,* 26 F.3d at 726. Pet Product Innovations should have advanced its *Tivo* argument when it filed its brief in opposition to Paw Wash's motion for summary judgment. Therefore, reconsideration on an issue that should have been advanced by Pet Product Innovations before the Court issued its prior Order is inappropriate.

*8 Even if the Court were to consider Pet Product Innovations' *Tivo* argument, it must be rejected because *Tivo* does not apply to the present case, and even if it did the *Tivo* analysis would still result in the injunction being applied against Pet Product Innovations. First *Tivo* is inapposite to the present case because *Tivo* involved a contempt proceeding initiated against an adjudged infringer for violating an injunction through its sale of an ineffective design-around product. *See Tivo,* 646 F.3d at 875–876. *Tivo* does not apply to the instant case because the instant case neither involves a contempt proceeding nor a designaround product. The *Tivo* test provides for an intentionally high showing of proof due to the fact that "contempt is a severe remedy, and should not be resorted to where there is a fair ground of doubt as to the wrongfulness of the defendant's conduct" and because the proceeding involves a second product not previously before the Court. *See Id.* at 882–883.By contrast, the relief sought by Paw Wash in this case is far less complex; application of an injunction entered against Paw Plunger, LLC to its privy, Pet Product Innovations.

Furthermore, even if the *Tivo* two-part test were to apply, Pet Product Innovations would still be bound by its privy's admission of infringement and it would thus be precluded from arguing that the Paw Plunger does not infringe the ′391 Patent and the injunction issued by the Missouri court would apply to it. Under *Tivo,* 646 F.3d at 884, the party seeking to enforce an injunction must prove by clear and convincing evidence both (1) that the newly accused product is not more than colorably different from the product found to infringe; and (2) that the newly accused product actually infringes. As the discussion in the preceding sections demonstrates, Paw Wash proved that Pet Product Innovations' Paw Plunger is not more than colorably different from Paw Plunger, LLC's Paw Plunger device that was declared to infringe Paw Wash's patent in the Missouri action. Furthermore, Paw Plunger, LLC, Pet Product Innovations' privy, admitted to infringing the ′391 Patent. The effect of Pet Product Innovations' privy's admission binds it for the purposes of *res judicata.See Transclean Corp. v. Jiffy Luby Intern., Inc.,* 474 F.3d 1298, 1305 (Fed.Cir.2007) (it is unnecessary to decide the issue of infringement because establishing privity between the parties "answers the question for us"). Any other outcome would allow Pet Product Innovations to relitigate its privy's earlier admission of infringement by continuing to manufacture and sell its infringing product in violation of the injunction. Such an outcome would be completely at odds with the doctrine of *res judicata,* which seeks to promote reliability and finality in the course of civil proceedings and conserve judicial time and energy. Allowing Pet Product Innovations to escape Paw Plunger, LLC's admission of infringement would also violate the doctrine of judicial estoppel which "prohibits a party from taking inconsistent positions in the same or related litigation" to "protect the integrity of the judicial process."*Id.* at 1307.For these reasons, the Order enjoining Pet Product Innovations from continuing to infringe the ′391 Patent stands, and Pet Product Innovations' Motion to Alter or Amend on the grounds that the Court did not apply the *Tivo* analysis in deciding whether the injunction applies to Pet Product Innovations is rejected.

III. Conclusion

*9 Pet Product Innovations' Motion to Alter of Amend Judgment is granted in part and denied in part. Paw Wash did not move for summary judgment on Pet Product Innovations' third, fourth, and fifth claims for relief, and it was not the intention of this Court to grant summary judgment on claims for which Paw Wash did not move for judgment as a matter of law. Terminating the case was a clerical error which will be corrected, and Pet Product Innovations may proceed on its false advertising claims against Paw Wash in this Court. Therefore, Pet Product Innovations' Motion to Alter or Amend Judgment is granted on its argument that the

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Court should not have terminated its false advertising claims. Pet Product Innovations' argument that this Court should not have decided Paw Wash's motion for summary judgment while a later-filed motion to file a supplemental first amended complaint was pending is not grounds for reconsideration, and is moot because Paw Wash provided Pet Product Innovations with a covenant-not-tosue thus eliminating any case or controversy between the parties and thereby divesting this Court of jurisdiction. Pet Product Innovations' argument based on the Federal Circuit's subsequent decision in *Aspex* is also not grounds to alter this Court's prior Order. *Aspex* does not provide a substantial and controlling change in the governing law concerning the issues submitted to this Court sufficient for the Court to reconsider its *res judicata* ruling. Paw Wash established that the Paw Plunger device at issue in the Missouri litigation was the same as that in the present litigation, thus satisfying *Aspex.* Nor did the Court commit an error of law in its *res judicata* analysis by failing to examine the structure and operation of the two Paw Plunger devices to ensure that they are essentially the same. Paw Wash proved that the Paw Plunger at issue in the Missouri case was the same Paw Plunger device at issue here. Finally, the Court's failure to undertake the *Tivo* analysis is not a proper basis to alter or amend this Court's prior judgment because Pet Product Innovations could and should have presented that issue to the Court before it reached its judgment now under reconsideration. Furthermore, *Tivo* does not apply to this case because this is not a contempt proceeding and because the product at issue is not a design-around product. Even if *Tivo's* two-part test did apply, Pet Product Innovations would still be bound by the injunction entered by the District Court for the Western District of Missouri because the product at issue in the prior suit was not more than colorably different from the product at issue in the present suit and because Pet Product Innovations infringed Paw Wash's patent, as evidenced by its privy's admission of infringement in the prior Missouri action. For these reasons, the Court declines to reconsider its *res judicata* holding or its holding with respect to the injunction's applicability to Pet Product Innovations. Thus, Pet Product Innovations' Motion to Alter or Amend Judgment is granted with respect to the issue of the Court granting judgment as a matter of law to Paw Wash on claims for which it did not move for summary judgment and on the grounds that the Court inadvertently terminated Pet Product Innovations' false advertising claims, which will be reinstated when the civil case is reopened. All other requests to Alter or Amend Judgment are denied.

Footnotes

1   Pet Product Innovations argues that it was premature of the Court to find the #391 Patent valid and enforceable because it timely served its invalidity contentions pursuant to the Court's scheduling order and its local patent rules. This is not grounds for reconsideration, as the doctrine of *res judicata,* which, as will be explained below, still bars Pet Product Innovations from maintaining its non-infringement and invalidity claims against Paw Wash, compels the Court to conclude that the Missouri court's finding of validity and enforceability of the #391 Patent is binding on the parties in this subsequent action. Therefore, it was entirely proper of the Court to invoke the doctrine of *res judicata* and find that the patent-in-suit is valid and enforceable.

2   Pet Product Innovations contends that this Court made inaccurate findings of fact by stating that the Paw Plunger and the Paw Wash device are both cylindrical containers lined with bristles. The Court was left with the responsibility to describe the products at issue in this suit because surprisingly neither party did so in their Statements of Undisputed Material Facts. The Court's description of the products did not constitute adjudicative factfinding, and therefore the Order is not subject to reconsideration on the basis that the Court may have misdescribed the products-in-suit. For the sake of the clarity of the record, the Court now notes that the Paw Wash product is an hourglass shaped container without bristles or a handle. This clarification of the Court's Order does not alter the Court's prior holding, and thus is not grounds for reconsideration.

3   Pet Product Innovations argued in its Response to Paw Wash's Rule 56.1 Statement of Undisputed Material Facts in Support of Summary Judgment that this is not a fact but rather a legal conclusion. Pet Product Innovations' argument is mistaken, as whether the factual and legal issues raised in its suit against Paw Wash are the same as those already litigated in Missouri is a fact readily ascertainable from examining the complaint filed in the District Court for the Western District of Missouri with the Complaint filed in this case as well as the Stipulated Order of Dismissal entered by the Missouri court.

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