

110805 – Quote Stuffing

There were 3,498,832,252 BBO option quotes on Friday, August 8th. This surpassed the records set the previous two days by over 600 Million quotes. This is almost 3 times the normal quote volume for the option market. In order to get BBO quotes, OPRA has to consolidate the full data feed. Nanex just came out with a report complaining that the quote activity is killing the markets

<http://www.nanex.net/Research/EMini2/EMini2.html>

The 1 trillion bytes cited in the article, translates to over 15 Billion quotes. The option market accounts for over 80% of these quotes.

As I have indicated in the past, the research I do is on the BBO quotes. Obviously, there is a lot of quote stuffing activity going on behind the BBO that is not being detected by my research. I typically further filter the research to 100 quotes per second to only find the worst or the worse.

With the filter set to 100 quotes per second, quote stuffing activity accounted for 1% of the BBO quotes. The PHLX accounted for 64.47% of the quote stuffing activity at this level. Today I wanted to see how much more activity would be detected if I moved the filter down so I ran test at 50 quotes per second (which is still a ridiculously high number) and found that the quote stuffing activity accounted for 3.2% of the BBO quotes at this level. To put this in to perspective, there were on average almost 58 option symbols being attacked each second all day long. An interesting finding was that the PHLX accounted for 42.41% of the activity when the bar was moved down. What this tells me is that the PHLX quote stuffers are more aggressive when they attack, and possibly that the activity at the attackers at the other exchanges may be trying to hide from the scans. Today I will try and uncover some of these non PHLX attackers.

The table below shows the hardest hit 25 stocks. The table is sorted on the sum of all quotes that are at a rate of 50 quotes per second or greater for the stock for the day. The first row indicates that SPY options were attacked 151,645 seconds during the day with the highest count of 1,279 quotes during the second prior to 15:04:13. The sum of all attacks was 11+ Million. The average attack was 73 quotes per second with the ISE being the most likely cause of the attacks.

Under2	Cnts2	Hi2	HiTime2	SumOfAll2	Average2		
SPY	151,645	1,279	15:04:13	11,129,510	73	ISE	
AOS	22,601	1,118	14:54:31	10,748,160	476	PHLX	
IWM	98,131	497	11:44:31	6,904,215	70	PHLX	
OGE	68,456	240	9:36:13	6,213,478	91	PHLX	
AAPL	50,776	541	14:15:34	3,303,989	65	NOEX & BATS	
YONG	38,459	178	12:02:37	3,131,181	81	PHLX	
SHZ	26,402	139	13:09:46	2,541,445	96	PHLX	
UGL	24,750	208	11:59:49	2,403,363	97	PHLX	
DTG	33,203	171	15:16:22	2,203,909	66	CBOE & PSE	
IGE	3,609	839	9:33:20	1,848,900	512	PHLX	
CHD	4,610	970	12:45:26	1,721,439	373	PHLX	
CKH	12,671	298	15:44:50	1,671,071	132	PHLX	
PMI	16,774	169	9:50:31	1,592,136	95	PHLX	
QQQ	24,232	356	14:49:43	1,503,221	62	PHLX	
PGN	22,394	88	14:05:38	1,346,905	60	PHLX & PSE	
NDX	20,299	219	13:39:25	1,246,232	61	PHLX, ISE & CBOE	
MA	18,363	372	10:23:42	1,238,345	67	PHLX	
ZOLL	10,561	378	15:07:53	1,232,246	117	PHLX	
SUI	11,690	235	15:15:48	1,178,180	101	PHLX	
DBA	18,039	221	11:29:40	1,123,820	62	PHLX	
GRMN	16,710	173	14:27:49	1,051,833	63	PHLX	
AGQ	12,482	293	12:08:45	1,044,971	84	PHLX	
MUB	18,660	76	13:19:58	1,023,233	55	AMEX	
INHX	18,688	69	12:09:20	1,010,304	54	PSE	

The last column shows that the PHLX is definitely the most aggressive attacker, but the following highlights the activity at some of the other exchanges.

ISE attacking the SPY.

As reported before the ISE continues to attack the SPY. SPY options are the only symbol quoted on OPRA's line 38. It can be theorized that the ISE is using the 11,129,510 unnecessary quotes to intentionally try to delay the data for SPY options. Example SPY Jan2013 135 Calls.

15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2800
15:04:12.750	PHIL	5.07	2310	National	BBO	ISEX	6.90	2810

BATS and NQEX battle with AAPL Aug5th 350 Calls.

14:15:33.625	BATS	25.50	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.65	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	4	NationalBBO	NQEX	26.40	4
14:15:33.625	BATS	25.60	5	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.65	4	NationalBBO	BATS	26.40	4
14:15:33.625	NQEX	25.60	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.50	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.65	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	8	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.50	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.55	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	4	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.55	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.50	4	NationalBBO	BATS	26.40	4
14:15:33.625	BATS	25.50	9	NationalBBO	NQEX	26.40	4
14:15:33.625	NQEX	25.50	4	NationalBBO	NQEX	26.40	4

NQEX attacks AAPL Aug5th 365 Calls.

10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	12
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	12
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	12
10:44:29.100	AMEX	10.35	11	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	12	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	12	NationalBBO	NQEX	10.60	12
10:44:29.100	AMEX	10.35	12	NationalBBO	NQEX	10.60	9
10:44:29.100	AMEX	10.35	12	NationalBBO	NQEX	10.60	12
10:44:29.125	AMEX	10.35	12	NationalBBO	NQEX	10.60	9
10:44:29.125	AMEX	10.35	12	NationalBBO	NQEX	10.60	12
10:44:29.125	AMEX	10.35	12	NationalBBO	NQEX	10.60	9
10:44:29.125	AMEX	10.35	12	NationalBBO	NQEX	10.60	12

CBOE & PSE flip-flop DTG option quotes.

There were over 2.2 Million unnecessary quotes on DTG options. In this example the CBOE and PSE flip flop quotes on the DTG Jan2012 85 Put.

15:16:21.000	PACF	17.20	10	National	BBO	CBOE	20.90	10
15:16:21.000	CBOE	17.00	10	National	BBO	CBOE	20.90	10
15:16:21.000	CBOE	17.00	10	National	BBO	PACF	21.00	10
15:16:21.000	PACF	16.90	10	National	BBO	PACF	21.00	10
15:16:21.000	CBOE	17.10	10	National	BBO	PACF	21.00	10
15:16:21.000	CBOE	17.10	10	National	BBO	CBOE	21.10	20
15:16:21.025	CBOE	17.10	10	National	BBO	PACF	21.10	10
15:16:21.050	PACF	17.00	10	National	BBO	PACF	21.10	10
15:16:21.050	CBOE	17.00	10	National	BBO	PACF	20.70	10
15:16:21.050	CBOE	16.90	10	National	BBO	PACF	20.70	10
15:16:21.050	CBOE	16.90	10	National	BBO	CBOE	21.10	10
15:16:21.050	PACF	16.90	10	National	BBO	CBOE	21.20	31
15:16:21.050	CBOE	16.80	21	National	BBO	CBOE	21.20	31
15:16:21.075	CBOE	16.80	21	National	BBO	PACF	20.80	10
15:16:21.075	CBOE	16.90	10	National	BBO	PACF	20.80	10
15:16:21.075	CBOE	16.80	21	National	BBO	PACF	20.80	10

PHLX and PSE play games with CBOE's PGN Ask.

There were over 1.3 Million unnecessary quotes on PGN options. In this example the PHLX and PSE play games with the CBOE's fixed ask of 3.10 on the PGN Aug 43 Call.

14:05:37.000	CBOE	0.75	33	National	BBO	PHIL	3.10	56
14:05:37.000	CBOE	0.75	33	National	BBO	CBOE	3.10	51
14:05:37.025	CBOE	0.75	33	National	BBO	PACF	3.00	10
14:05:37.025	CBOE	0.75	33	National	BBO	PHIL	3.10	56
14:05:37.025	CBOE	0.75	33	National	BBO	CBOE	3.10	51
14:05:37.050	CBOE	0.75	33	National	BBO	PACF	3.00	10
14:05:37.050	CBOE	0.75	33	National	BBO	PHIL	3.10	56
14:05:37.050	CBOE	0.75	33	National	BBO	CBOE	3.10	51
14:05:37.075	CBOE	0.75	33	National	BBO	PACF	3.00	10

PHLX, CBOE & ISE flip-flop NDX options.

There were over 1.2 Million unnecessary quotes on NDX options. In this example the PHLX, CBOE and ISE use various algos to flip flop the quotes for the NDX Aug 2240 Call. NDX is the NASDAQ 100 index.

13:39:24.050	PHIL	36.30	11	National	BBO	PHIL	37.00	10
13:39:24.050	ISEX	36.30	11	National	BBO	CBOE	37.00	10
13:39:24.050	ISEX	36.30	11	National	BBO	PHIL	37.00	10
13:39:24.075	ISEX	36.30	11	National	BBO	ISEX	37.10	10
13:39:24.225	PHIL	36.10	10	National	BBO	ISEX	37.10	10
13:39:24.225	PHIL	36.10	10	National	BBO	CBOE	37.20	20
13:39:24.250	ISEX	36.30	3	National	BBO	CBOE	37.20	20
13:39:24.250	ISEX	36.30	3	National	BBO	PHIL	37.20	10
13:39:24.275	ISEX	36.10	12	National	BBO	PHIL	37.20	10
13:39:24.300	ISEX	36.30	2	National	BBO	PHIL	37.20	10
13:39:24.300	ISEX	36.30	2	National	BBO	CBOE	37.20	10
13:39:24.300	PHIL	36.10	21	National	BBO	CBOE	37.20	10
13:39:24.300	ISEX	36.20	3	National	BBO	CBOE	37.20	10
13:39:24.325	ISEX	36.10	13	National	BBO	CBOE	37.20	10
13:39:24.550	ISEX	36.20	10	National	BBO	CBOE	37.20	10
13:39:24.550	ISEX	36.20	10	National	BBO	ISEX	37.20	10
13:39:24.575	ISEX	36.20	13	National	BBO	PHIL	37.20	10

AMEX attacks MUB options.

There were just over a million unnecessary quotes on MUB options. In this example the AMEX attacks the MUB Nov 103 Call. Note the bid/ask spread is almost \$5!

13:19:57.025	PACF	0.00	0	National	BBO	PACF	4.70	10
13:19:57.025	AMEX	0.05	1	National	BBO	PACF	4.70	10
13:19:57.025	PACF	0.00	0	National	BBO	PACF	4.70	10
13:19:57.025	AMEX	0.05	1	National	BBO	PACF	4.70	10
13:19:57.050	PACF	0.00	0	National	BBO	PACF	4.70	10
13:19:57.075	AMEX	0.05	1	National	BBO	PACF	4.70	10
13:19:57.075	PACF	0.00	0	National	BBO	PACF	4.70	10
13:19:57.075	AMEX	0.05	1	National	BBO	PACF	4.70	10

PSE attacks INHX.

There were just over a million unnecessary quotes on INHX options. In this example the PSE attacks the INHX Sept 2.50 Put. Note the bid/ask spread is \$5!

12:09:19.000	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.025	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.025	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.050	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.050	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.075	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.075	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.075	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.125	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.150	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.150	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.175	PACF	0.00	0	National	BBO	PACF	4.70	10
12:09:19.175	PACF	0.00	0	National	BBO	PACF	5.00	20
12:09:19.175	PACF	0.00	0	National	BBO	PACF	4.70	10

It is expected that quote data will again be close to records on Monday the 8th. Quote Stuffing in the options market is a waste of valuable data bandwidth and must be stopped!