

UNITED STATES OF AMERICA
Before the
SECURITIES AND EXCHANGE COMMISSION

SECURITIES EXCHANGE ACT OF 1934
Release No. 69655 / May 29, 2013

ADMINISTRATIVE PROCEEDING
File No. 3-15339

In the Matter of

**THE NASDAQ STOCK MARKET,
LLC and
NASDAQ EXECUTION SERVICES,
LLC**

Respondents.

**ORDER INSTITUTING
ADMINISTRATIVE AND CEASE-AND-
DESIST PROCEEDINGS PURSUANT TO
SECTION 19(h)(1) AND 21C OF THE
SECURITIES EXCHANGE ACT OF 1934,
MAKING FINDINGS AND IMPOSING
SANCTIONS AND A CEASE-AND-
DESIST ORDER**

I.

The Securities and Exchange Commission (“Commission”) deems it necessary and appropriate in the public interest and for the protection of investors that public administrative proceedings and cease-and-desist proceedings be, and hereby are, instituted pursuant to Section 19(h)(1) and 21C of the Securities Exchange Act of 1934 (“Exchange Act”) against The NASDAQ Stock Market, LLC (“NASDAQ”) and NASDAQ Execution Services, LLC (“NES”) (together, “Respondents”).

II.

In anticipation of the institution of these proceedings, Respondents have submitted Offers of Settlement (the “Offers”) which the Commission has determined to accept. Solely for the purpose of these proceedings and any other proceedings brought by or on behalf of the Commission, or to which the Commission is a party, and without admitting or denying the findings herein, except as to the Commission’s jurisdiction over them and the subject matter of these proceedings, which are admitted, Respondents consent to the entry of this Order Instituting Administrative and Cease-and-Desist Proceedings Pursuant to Sections 19(h)(1) and 21C of the Exchange Act, Making Findings, and Imposing Remedial Sanctions and a Cease-and-Desist Order (“Order”), as set forth below.

III.

On the basis of this Order and Respondents' Offers, the Commission finds that:

Introduction

1. National securities exchanges, which are registered by the Commission under Section 6 of the Exchange Act, are critical components of the National Market System, which provides the foundation for investor confidence in the integrity and stability of the United States' capital markets. The Exchange Act establishes a regulatory scheme that combines self-regulation by the exchanges with oversight by the Commission. NASDAQ, which is owned and operated by The NASDAQ OMX Group, Inc. ("NASDAQ OMX"), is one of the largest national securities exchanges. NASDAQ executes approximately 15% of U.S. equity securities transactions every day and NASDAQ OMX technology supports the operations of over 70 exchanges, clearing organizations and central securities depositories around the world.

2. More than 2,500 companies are listed on NASDAQ and it is one of the most active exchanges in listing companies that have just held their Initial Public Offering ("IPO"). The orderly initiation of secondary market trading after an IPO is one of the most fundamental functions of a national securities exchange, and affects not only the market for those individual companies but also investor confidence in the markets as a whole. Until trading in a company's security opens on its listing market on the day of its IPO, secondary market trading may not commence on any other market. When initiating an IPO, an exchange has an obligation to ensure that its systems, processes and contingency planning are robust and adequate to manage the IPO without disruption to the market, and that it complies with all rules regarding, among other things, order price and time priority.

3. In April 2012, Facebook, Inc. ("Facebook") announced that it had selected NASDAQ as its listing exchange. The Facebook IPO was widely anticipated to be among the largest in history, with huge numbers of institutional and retail investors expressing interest in participating. On May 18, 2012, the eyes of the investing world were focused on the Facebook IPO. Unfortunately, as a result of a design limitation in NASDAQ's IPO Cross system, neither the IPO itself nor secondary market trading in Facebook proceeded as expected. The decisions made by NASDAQ in response to trading disruptions that resulted from the design limitation led to further downstream systems issues and caused NASDAQ to violate a fundamental rule governing order priority as well as several other Commission and NASDAQ rules.

Respondents

4. NASDAQ is a national securities exchange registered with the Commission pursuant to Section 6 of the Exchange Act. NASDAQ is a Delaware limited liability company and a subsidiary of NASDAQ OMX.

5. NES is a broker-dealer registered with the Commission pursuant to Section 15 of the Exchange Act. NES is a facility and an affiliate of NASDAQ, and provides routing services to NASDAQ.

Facts

A. NASDAQ's Initial Public Offering Cross System Prior to May 18, 2012

6. In a typical IPO on NASDAQ, shares of the issuer are sold by the IPO's underwriters to participating purchasers at approximately midnight and secondary market trading begins later that morning. Secondary trading begins after a designated period – called the “Display Only Period” or “DOP” – during which members¹ can specify the price and quantity of shares that they are willing to buy or sell (along with various other order characteristics), and can also cancel and/or replace previous orders. The DOP usually lasts 15 minutes, although NASDAQ's rules permit the DOP to be extended by up to 30 minutes (in 5 minute intervals) if certain conditions related to the balance of buy and sell orders are met.²

7. At the end of the DOP, NASDAQ's “IPO Cross Application” analyzes all of the buy and sell orders to determine the price at which the largest number of shares will trade and then NASDAQ's matching engine matches buy and sell orders at that price. (The matching of the buy and sell orders is referred to as the “cross.”) The electronic calculation by the IPO Cross Application usually takes approximately one to two milliseconds to complete.

8. NASDAQ's systems ran a “validation check,” which would confirm that the orders in the IPO Cross Application were identical to those in NASDAQ's matching engine. One reason that the orders might not match is because NASDAQ allowed orders to be cancelled at any time up until the end of the DOP – including the very brief interval during which the IPO Cross Application was calculating the price and volume of the cross. If any of the orders used to calculate the price and volume of the cross had been cancelled during the IPO Cross Application's calculation process, the validation check would “fail” and the system would cause the IPO Cross Application to recalculate the price and volume of the cross. The validation check had been in place for NASDAQ's IPO cross process since December 2010, and a similar check had been in place in NASDAQ's market opening and closing cross processes since 2006.

9. This second calculation by the IPO Cross Application, if necessary, incorporated only the first cancellation received during the first calculation, as well as any new orders that were received between the beginning of the first calculation and the receipt of that first cancellation. Thus, if there were multiple orders cancelled during the first IPO Cross Application's calculation, the validation check performed after the second calculation would fail again and the IPO Cross Application would need to be run a third time in order to include the second cancellation, as well as any orders received between the first and second cancellations.

¹ The term “member,” as defined in Section 3(a)(3)(A) of the Exchange Act, includes any registered broker or dealer permitted to effect transactions on an exchange and any person associated with such broker dealers. Only members of NASDAQ can submit orders to NASDAQ.

² Members are permitted to place certain types of buy and sell orders starting at 7 a.m. – before the Display Only Period begins – but such orders are placed in a “holding bin” until the beginning of the Display Only Period.

10. Because the share and volume calculations and validation checks occur in a matter of milliseconds it was usually possible for the system to incorporate multiple cancellations (and intervening orders) and produce a calculation that satisfies the validation check after a few cycles of calculation and validation. However, the design of the system created the risk that if orders continued to be cancelled during each re-calculation, a repeated cycle of validation checks and re-calculations – known as a “loop” – would occur, preventing NASDAQ’s system from: (i) completing the cross; (ii) reporting the price and volume of the executions in the cross (a report known as the “bulk print”); and (iii) commencing normal secondary market trading. This risk was greatest during crosses in which a large volume of orders and cancellations were submitted in rapid succession during the brief period of the cross calculation process.

B. The Facebook IPO

11. The Facebook IPO was one of the largest IPOs in history, and NASDAQ anticipated that the Facebook IPO cross would be the largest IPO cross in its history in terms of the number of orders. The IPO occurred on May 18, 2012, and Facebook’s underwriters selected 11:00 a.m.³ as the time of the cross, which would be followed immediately by the start of secondary trading. As detailed below, however, NASDAQ’s systems experienced several problems related to its efforts to complete the cross and to deliver execution reports (“confirmations”) to its members. The design limitation that led to these problems, and the decisions made by NASDAQ in response to those problems, directly resulted in many of the securities law violations described below.

12. Given the heightened anticipation for the Facebook IPO, NASDAQ took steps during the week prior to the IPO to test its systems in both live trading and test environments. Among other things, NASDAQ conducted intraday test crosses in NASDAQ’s live trading environment, which allowed member firms to place dummy orders in a test security (symbol ZWZZT) during a specified quoting period. NASDAQ limited the total number of orders that could be received in the test security to 40,000 orders. On May 18, 2012, NASDAQ members entered over 496,000 orders into the Facebook IPO cross.

13. At 7:56 a.m. on May 18, NASDAQ announced that the DOP for Facebook would begin at 10:45 a.m., and that secondary trading would begin at approximately 11:00 a.m. At 10:45 a.m., consistent with its normal practice, NASDAQ began providing indicative price and volume information in five second intervals via the Net Order Imbalance Indicator (“NOII”) on its website. The NOII showed the price at which Facebook shares would be traded if the IPO cross occurred at each time interval, and the number of shares (buys and sells) that would be matched in such a cross. NASDAQ also announced indicative pricing and volume information in five minute intervals over a market wide conference call that was open to members during the DOP.

³ All times referred to in this Order are in Eastern Daylight Time.

14. At 10:58 a.m., when the NOII displayed an indicative price of \$43.25, a large market making broker-dealer made a request to Facebook's lead underwriter that NASDAQ extend the DOP by five minutes. The underwriter then made the same request of NASDAQ, and NASDAQ agreed to the extension. Though underwriter requests for extensions are not unusual on NASDAQ, and are referred to in certain of NASDAQ's marketing materials, NASDAQ Rule 4120(c)(7)(C) only permits extensions of the DOP if certain conditions are met with respect to the balance of buy and sell orders received. These conditions were not met at the time that NASDAQ granted the five minute extension on May 18.

i. The Failed IPO Cross and NASDAQ's Response

15. At 11:05:10 a.m., NASDAQ attempted to execute the IPO Cross Application and begin secondary market trading in Facebook. The additional ten second delay (after the completion of the five minute extension initiated by Facebook's lead underwriter) was the result of a "randomization" function embedded in NASDAQ's systems that randomly selected a time for the cross during the fifteen seconds after the end of the DOP.

16. While NASDAQ's rules had previously provided for a randomization interval at the conclusion of the DOP, in 2007, NASDAQ filed a rule change removing the randomization period from its rule. Under the version of NASDAQ Rule 4120(c)(7)(B) in effect on May 18, 2012, trading was supposed to commence "immediately" after the end of the DOP. However, the randomization function had never been removed from NASDAQ's systems, and therefore the IPO Cross Application for Facebook – and for all other companies that had an IPO on NASDAQ since August 31, 2007 – was run after a randomized period of delay in contravention of NASDAQ's rules.

17. After the IPO Cross Application determined the price and volume of the cross, the matching engine performed a validation check to confirm that none of the orders on which the price and volume determination were based had been cancelled during the time that the IPO Cross Application was calculating the price and volume of the cross. The time that had elapsed during the price/volume calculation and validation check was 20 milliseconds, which is significantly longer than usual for an IPO cross, which usually takes 1 to 2 milliseconds. This additional length resulted from the larger than normal volume of orders received during the DOP.

18. The validation check found that a cancellation had been received during the calculation and thus the validation check failed. This caused the IPO Cross Application to recalculate the cross price and volume incorporating the cancellation.

19. During this second price/volume calculation, two additional cancellations were received and thus the validation check failed again because the second calculation did not account for those two additional cancellations. However, due to the design of the IPO Cross Application, only the first of those two cancellations was incorporated into a third price/volume calculation, and as a result the validation check failed again. And by the time that the IPO Cross Application had run for the fourth time – thereby including the second of the two cancellations

that came in during the second calculation – an additional cancellation had been received, thereby causing another failure of the validation check.

20. During the next price/volume calculation four more cancellations arrived. And because the system was designed to perform a separate recalculation for each of those cancellations, the validation check failed each time. As it did so, even more cancellations came in, and the system was unable to “catch up” and incorporate the cancellations (and intervening orders) received during each successive price/volume calculation. A loop resulted and prevented NASDAQ’s system from completing the cross, releasing the bulk print, and commencing normal secondary market trading at the scheduled time.

21. When the cross price and volume were not announced and secondary market trading did not commence as expected at 11:05 a.m., several members of NASDAQ’s senior leadership team convened a “Code Blue” conference call to discuss the situation. The participants on the call included, among other senior executives from various disciplines, NASDAQ OMX’s Chief Executive Officer; the Executive Vice-President for Transaction Services (U.S.) (“EVP/Transactions”); the Senior Vice-President for INET, Regulatory, and Data Services (“SVP/INET”); the Senior Vice-President, Equity Market Management and Strategy; the Senior Vice President and Head of Market Regulation for the U.S. Markets operated by NASDAQ; and the Executive Vice President, General Counsel and Chief Regulatory Officer of NASDAQ OMX.

22. A few minutes after the Code Blue call began, software engineers at NASDAQ (the “engineers”) determined that the failure to complete the cross resulted from a problem with the validation check process. The engineers were not then aware of the specific cause of the problem (i.e., the loop caused by the system’s inability to process all of the cancellation requests received during the price/volume calculation); they knew only that the validation check was preventing the cross from being completed. The engineers reported this information to their supervisor, SVP/INET, who relayed it to the other Code Blue call participants. Prior to receiving this report on May 18, the SVP/INET was unaware of the existence of the validation check. EVP/Transactions instructed the SVP/INET to investigate whether there was a way to resolve the problem and complete the cross.

23. First, NASDAQ attempted to change the commands in its IPO Cross system to override the validation check. This attempt was unsuccessful. Next, the engineers reported to the SVP/INET their belief that NASDAQ could complete the cross if it initiated a “failover” to a duplicate version of the matching engine and removed several lines of code that configured the validation check function from the failover system (the “failover system proposal”). This removal of code would allow the failover system to accept the price and volume calculated by the IPO Cross Application and complete the cross, but the cross would not take into account, as a NASDAQ cross typically did following the validation check, cancels received during the brief time interval of the calculation. Although NASDAQ does, as a typical practice, maintain failover systems for its applications, it had not tested for this situation leading up to the Facebook IPO and usually employs failovers as duplicates of its existing systems (for example, when there is a power outage), rather than as the vehicle for launching a new, modified version of those systems.

24. The SVP/INET recommended the failover system proposal to the other participants on the Code Blue call, who then discussed the failover system proposal and identified two related potential collateral consequences. First, during the switch to the failover system, NASDAQ's order ports would be disconnected for a second or less, meaning that NASDAQ's members would have to reconnect, though this very brief interruption was unlikely to have a significant effect on the performance of the IPO. Second, the orders that were cancelled during the IPO Cross Application's price/volume calculation would be included in the cross (instead of being cancelled pursuant to the validation check process). NASDAQ understood at the time that the IPO Cross Application would still give effect to those cancellations, but would do so by causing the exchange itself to take the opposite side of the mismatch caused by the last-moment cancels of orders. As a result, unless the same volume of cancels of buys and sells occurred, NASDAQ would acquire a position in Facebook.⁴ No additional collateral consequences of proceeding with the failover system proposal were discussed, and there was no discussion of cancelling the IPO or postponing it until later in the day on May 18.

25. At approximately 11:25 a.m., within a few minutes of learning of the failover system proposal, the EVP/Transactions approved using the failover system to complete the cross at 11:30 a.m. At that time, no one on the Code Blue call knew the precise cause of the error with the validation check. The EVP/Transactions recognized that this decision would very likely result in NASDAQ and NES assuming an error position in Facebook shares that resulted from the orders corresponding to the cancellations entered during the IPO Cross Application's price/volume calculation. At that time, NASDAQ believed that any such error position would be very small given the short duration (less than a second) of the IPO Cross Application's price/volume calculation.

26. At 11:30:09 a.m.,⁵ NASDAQ initiated the switch to the failover system, completed the cross, and released the bulk print, which showed that 75.7 million Facebook shares traded at \$42. Continuous trading in Facebook shares then commenced on NASDAQ and other exchanges. At the time, NASDAQ's leadership believed that the cross had included all orders entered up until 11:30:09 a.m. (including a small number of orders corresponding to

⁴ Another alternative would have been to inform those members who had entered cancellations during the time between the start of the price/volume calculation and the issuance of the bulk print that their orders had not been successfully cancelled, even though NASDAQ's system had, immediately upon submission, acknowledged these members' cancellations. However, this alternative was not discussed by any of the participants on the Code Blue call.

⁵ The nine second delay in the release of the bulk print from 11:30 a.m. was a result of the same randomization function that had caused the initial attempt to run the IPO Cross Application to occur at 11:05:10 a.m. NASDAQ's use of the "randomization" function was again a violation of its Rule 4120(c)(7)(B).

unsuccessful cancels).⁶ However, NASDAQ had not realized, and did not learn until after 1:50 p.m., that the continuing stream of cancellations and orders from members from 11:05:10 a.m. onward, and the IPO Cross Application's inability to escape the loop caused by the validation check up until the failover, had caused the IPO Cross Application to fall 19 minutes behind the orders received by NASDAQ. As a result, when NASDAQ switched to the failover system at 11:30:09 a.m., the IPO Cross Application calculated the price and volume of the cross based on the orders and cancellations received up until 11:11 a.m. This time discrepancy caused more than 38,000 marketable Facebook orders placed between 11:11 a.m. and 11:30:09 a.m. to not be included in the cross. Approximately 8,000 of those orders were entered into the market at 11:30 a.m. when continuous trading commenced. NASDAQ now refers to the more than 30,000 remaining orders not included in the cross as "stuck" orders. These orders were not only not included in the cross but, as described in paragraph 38 below, were either cancelled or not released to the secondary market for over two hours, causing a violation of NASDAQ's price/time priority rule (Rule 4757(a)(1)) with respect to each of those orders.

27. Immediately prior to the cross, the final indicative pricing and volume totals on NASDAQ's internal systems indicated that the cross would occur at a price of \$42 and with approximately 82 million shares traded. When the bulk print was released, certain NASDAQ executives, including its Senior Vice President and Chief Economist ("Chief Economist"), noticed the approximately 6.3 million share difference between the final indicative volume total (82 million) and the actual volume in the print (75.7 million). This discrepancy indicated to NASDAQ's Chief Economist that there was still a problem with the cross, and that some cross-eligible orders may not have been handled properly in the cross but NASDAQ did not address this issue during the minutes and hours following the cross. In addition, NASDAQ could have run a real-time status check of its applications, which would have indicated that the cross executed at 11:30 a.m. did not include any orders entered after 11:11 a.m.

28. The fact that the IPO Cross Application failed to include 19 minutes of orders in its price/volume calculation also substantially impacted the error position that NASDAQ assumed based on its decision at 11:25 a.m. to eliminate the validation check when it moved to the failover system. Instead of assuming a position covering an imbalance created during the expected fraction of a second between the start and the completion of the cross calculation, NASDAQ ended up assuming a position resulting from the imbalance between buy cancels and sell cancels entered between 11:11 a.m. and 11:30:09 a.m. Because more sell shares than buy shares were cancelled during this period, NASDAQ had a more than 3 million share short position in Facebook that it needed to cover in order to fill the excess buy orders. As detailed further below, as of May 18, 2012, NASDAQ did not have a rule that allowed NASDAQ or NES to assume an error position in any listed security.⁷

⁶ From 11:05 a.m. until 11:30 a.m. NASDAQ members had been able to submit orders and cancellations, although the NOII had not been disseminated every five seconds during that period.

⁷ In April 2012, NASDAQ submitted a proposed rule change to the Commission addressing various circumstances in which NES may assume a position in a listed security in an error

ii. NASDAQ's Failure to Deliver Confirmations for IPO Cross Orders

29. Within seconds of the release of the bulk print at 11:30:09 a.m., NASDAQ learned of an additional problem concerning the Facebook IPO. Based on telephone complaints from its members and its own monitoring of its trading systems, NASDAQ determined that confirmations were not being delivered to members that placed orders into the cross. This meant that NASDAQ members that placed marketable orders in Facebook before 11:30:09 a.m. were not able to determine whether their orders had been included in the cross and, therefore did not know what position they held in Facebook securities.

30. NASDAQ did not realize it at the time, but its inability to deliver confirmations for orders included in the cross resulted from its decision to complete the cross by removing the validation check function from the failover system it used to complete the cross. On NASDAQ's trading system, delivery of confirmations is controlled by the Execution Application ("Execution App"), which communicates with the main order matching system to ensure the accuracy of executions before confirmations are delivered. Following an IPO cross, information concerning all of the orders in the cross is delivered to the Execution App, and the Execution App must reconcile the price and volume of the cross with its view of the total shares that were eligible for the cross before it will deliver confirmations. For the Facebook IPO, the Execution App, having not been affected by the validation loop, viewed orders and cancels up until the time the cross occurred at 11:30:09 a.m. The Execution App was therefore unable to reconcile its share count with the cross as executed, since the cross as executed contained only orders and cancels entered as of 11:11 a.m. Almost immediately after the bulk print was released, the Execution App marked the cross as being in error and did not disseminate confirmations for orders executed in the cross.

31. The Execution App's inability to reconcile its view of the orders eligible for the cross with the share count in the executed cross led to an additional Facebook-related problem concerning NASDAQ's data feeds. In addition to preventing the delivery of confirmations to members, the Execution App's marking the cross in error also prevented accurate quoting data from being delivered to NASDAQ's proprietary feed ("Prop Feed") and the Securities Information Processor quotation data feed ("SIP Quotation Data Feed"). Following the cross, the Prop Feed showed a stale, crossed quote (bid price higher than ask price) for Facebook on the "top of book" because orders from the cross were still appearing in the Prop Feed. However, market participants with access to the Prop Feed could determine the actual best bid and offer on NASDAQ by looking at the "depth of book" and filtering out the obviously incorrect crossed quotes at the top of the book. The SIP Quotation Data Feed showed only the crossed, incorrect top of book quote, although it was marked "non-firm" such that it was not included in the SIP's calculation of the national best bid and offer.

account. NASDAQ was aware on May 18, 2012, that it did not have authority to act in accordance with any rule submitted to, but not yet effective pursuant to Section 19(b) of Exchange Act and Rule 19b-4 thereunder.

32. At approximately 11:35 a.m., the participants on the Code Blue call discussed whether to halt trading in Facebook.⁸ NASDAQ's Rule 4120(a) provides the exchange with the authority to initiate trading halts under various circumstances, including when NASDAQ determines that "extraordinary market activity in the security is occurring." NASDAQ determined not to halt Facebook trading because, in the view of the participants on the Code Blue call, continuous trading was operating normally,⁹ with active trading on NASDAQ and other exchanges. The participants, including the EVP/Transactions, the Head of Market Regulation for the U.S. Markets operated by NASDAQ, and the Senior Vice-President, Equity Market Management and Strategy decided that "extraordinary market activity" was not occurring, and the EVP/Transactions concluded that NASDAQ therefore did not have the authority to halt trading.

33. At the time of this decision, NASDAQ was still not aware that the IPO cross included only orders and cancels entered as of 11:11 a.m., but the Code Blue call participants were aware that the Prop Feed and SIP Quotation Data Feed were not functioning properly and were also aware that IPO cross execution confirmations had not been delivered to members. The participants on the Code Blue call did not know why confirmations for trades executed in the IPO cross were not being delivered to members, but they believed that the problem would be corrected within minutes.

34. After deciding not to halt Facebook trading, NASDAQ began trying to find a way to deliver IPO cross execution confirmations to its members. Over approximately the next half hour, it made two attempts to alter the commands in the Execution App to force it to issue the confirmations, but neither attempt was successful. Despite these failures, NASDAQ never revisited its 11:35 a.m. decision to not halt Facebook trading.

35. At 12:01 p.m., the chief executive of a large market making broker-dealer sent an email to NASDAQ's Chief Executive Officer. The email stated that "since NASDAQ is still unable to send out reports we are all trading blind. Should you stop trading for some period of time so we can all catch up and actually understand our exposure?" The EVP/Transactions, the SVP/INET, and NASDAQ's Executive Vice President, Global Technology Services and Chief Information Officer, received this information at 12:06 p.m., but did not change their view of whether to halt trading in Facebook. As of that time, members had been waiting 36 minutes for their IPO cross execution confirmations, the Prop Feed top of book still showed crossed quotes, and the quotes that NASDAQ sent to the SIP Quotation Data Feed remained stale and crossed.¹⁰

⁸ NASDAQ OMX's Chief Executive Officer had left the Code Blue call after the bulk print appeared to have been executed successfully at 11:30 a.m.

⁹ Following the IPO cross, secondary trading did begin, and NASDAQ members received confirmations for trades resulting from orders they placed after 11:30:09.

¹⁰ At certain times between 11:30 a.m. and 1:50 p.m., NASDAQ changed the crossed quote on the SIP Quotation Data Feed to a zero for both the bid and ask.

36. After failing to force out the confirmations by changing the commands for the Execution App, NASDAQ pursued two separate methods for delivering confirmations. One team of engineers was assigned to create manual execution reports that would list all confirmations for each member and be delivered by email. Another team of engineers was tasked with determining an electronic solution to the Execution App problem. This work was performed between approximately 12:00 p.m. and 1:45 p.m. During this time period, NASDAQ's member call center continued to receive numerous complaints from members who were seeking to determine their position in Facebook securities.

37. At approximately 1:45 p.m., NASDAQ determined that it could configure the Execution App to ignore the IPO Cross Application's error in calculating the volume of the bulk print – essentially bypassing the Execution App's reconciliation of its share total and the bulk print – and thereby deliver confirmations to members. The EVP/Transactions approved this proposal after consulting with the SVP/INET, and NASDAQ alerted members at 1:47 p.m. that it would be delivering electronic confirmation reports at approximately 1:50 p.m.

iii. NASDAQ's Delivery of Confirmations and its Realization of Additional Problems

38. At 1:49:49 p.m., NASDAQ delivered to members all confirmation messages for orders executed in the cross. NASDAQ also released into the market or canceled the more than 30,000 cross-eligible "stuck" orders entered between 11:11 a.m. and 11:30:09 a.m., which had not been included in the cross. It was not until 1:49:49 p.m. that members who entered these orders – as well as NASDAQ itself – learned that they had incorrectly not been included in the cross. Further, by not releasing or canceling these stuck orders until approximately 1:50 p.m., NASDAQ violated its own Rule 4757(a)(1) concerning price/time priority. Each of the more than 30,000 "stuck" orders was not given priority over same or worse-priced orders executed in secondary trading between 11:30:09 a.m. and 1:49:49 p.m.

39. Of the more than 30,000 "stuck" orders, approximately 13,000 were released into the secondary market at 1:49:49 (the other "stuck" orders were canceled). The release of these approximately 13,000 orders in the secondary market at approximately 1:50 p.m. altered the composition of the resting order book in Facebook (across all public markets), such that there were orders for approximately 3 million more shares on the sell side. This was the largest sell imbalance in the aggregate order book over the course of the entire trading day, and correlated with a 93-cent decrease in Facebook's share price between 1:50 p.m. and 1:51 p.m. With the delivery of the IPO cross execution confirmations, the Execution App began to function normally again, allowing the Prop Feed to provide accurate top of book information, and the SIP Quotation Data Feed to provide a firm quote for the first time since the IPO cross occurred almost two-and-a-half hours earlier.

40. During the minutes following the delivery of confirmations, NASDAQ, in addition to learning about the "stuck" orders, learned that the systems errors that kept these orders out of the cross had also caused NASDAQ's error position in Facebook to become massively greater than NASDAQ had envisioned at 11:25 a.m. Because substantially more shares in sell orders than in buy orders had been cancelled between 11:11 a.m. and

11:30:09 a.m., NASDAQ assumed a short position of more than 3 million Facebook shares that was valued at approximately \$129 million. After learning the size and direction of its position, NASDAQ quickly contacted its designated non-affiliated third-party broker with instructions to fully cover the position by buying Facebook shares.¹¹ Because Facebook's share price had sunk since the IPO cross, NASDAQ profited by approximately \$10.8 million from trading in Facebook shares through its error account.¹²

41. As of May 18, 2012, NASDAQ's rules did not permit it or its affiliated broker-dealer, NES, to assume an error position in a listed security for any reason, and it therefore was also not permitted to engage in trading to cover any position it did assume.

42. As a result of NES's error account activity on May 18, 2012, NES experienced a net capital deficiency of approximately \$26.5 million in violation of Exchange Act Section 15(c)(3) and Rule 15c3-1 thereunder.¹³ This deficiency resulted from the requirement that NES take a haircut of \$35.3 million due to its error account activity related to the Facebook IPO. Prior to the haircut, NES's excess net capital was approximately \$8.8 million.

iv. Problems in Zynga Trading Caused by NASDAQ's Facebook Issues on May 18, 2012

43. On May 18, 2012, trading in Zynga was halted twice pursuant to NASDAQ Rule 4120(a)(11), after Zynga's share price moved more than 10% in a five-minute window. The first Zynga halt occurred at 11:37 a.m., with Zynga stock trading at \$7.15. Under Rule 4120(a)(11), trading was to resume after a halt cross at 11:42 a.m.¹⁴ However, NASDAQ uses the IPO Cross Application for halt crosses as well as IPO crosses, and the IPO Cross Application – which had

¹¹ NASDAQ also instructed the third-party broker to sell a long position that NASDAQ assumed in Zynga, Inc. ("Zynga") as a result of the problems associated with trading in Zynga that were caused by the issues surrounding the Facebook IPO. See paragraph 43, below.

¹² NASDAQ announced on May 21, 2012 that it would contribute the \$10.8 million in profits from its May 18, 2012 Facebook trading towards funding an accommodation policy. In a rule filing dated July 26, 2012, NASDAQ voluntarily proposed a \$62 million accommodation program to compensate certain members for their losses in connection with the Facebook IPO. On March 22, 2013, the Commission approved NASDAQ's proposed accommodation policy as consistent with the requirements of the Exchange Act. See Exchange Act Rel. No. 69216 (March 22, 2013), 60 F.R. 19040 (March 28, 2013).

¹³ NASDAQ, acting on behalf of NES, reported this deficiency to the Commission and FINRA in accordance with Exchange Act Rule 17a-11.

¹⁴ A "halt cross" is analogous to the IPO cross and is the process by which NASDAQ determines the price at which a security in which trading has been halted on NASDAQ will start continuous trading again. See NASDAQ Rule 4753(a)(3).

fallen behind the pace of Facebook orders by 19 minutes – was still occupied with orders from the Facebook IPO cross.

44. Thus, when NASDAQ was finally able to issue the bulk print for Zynga and resume continuous trading at 12:27 p.m., the IPO Cross Application had only processed orders received between 11:37 a.m. and 11:55 a.m. And, as with the more than 30,000 orders in the Facebook IPO cross, approximately 365 cross-eligible orders in Zynga that were received between 11:55 a.m. and 12:27 p.m. were processed in violation of NASDAQ’s price-time priority rules. Those orders were not placed into the continuous trading book for Zynga and confirmations for orders executed in the halt cross were not sent out to members until approximately 1:50 p.m.

45. At 12:29 p.m. – just two minutes after Zynga trading had resumed on NASDAQ and other markets – the halt threshold was crossed again when Zynga’s share price moved more than 10% (from \$7.18 to \$7.81), and trading was halted once more. Following this second halt of Zynga trading, NASDAQ violated its Rule 4120(c)(7)(A), which requires NASDAQ to have a five minute DOP prior to terminating any halt. NASDAQ knew that the DOP would require the proper functioning of the Execution App which at the time had still not disseminated IPO cross execution confirmations for the Facebook IPO cross or the Zynga halt cross. Therefore, not knowing how long those issues would remain unresolved, NASDAQ decided to end the second halt at 1:35 p.m. without any DOP.

C. NASDAQ’s Failure to Comply with Regulations NMS and SHO in October 2011

46. Rule 611 of Regulation NMS requires, subject to certain exceptions, that trading centers establish, maintain, and enforce written policies and procedures reasonably designed to prevent “trade-throughs” in NMS stocks. Trade-throughs are the purchases or sales of NMS stocks at prices inferior to the national best bid (for sell orders) or the national best offer (for buy orders). In order to comply with Rule 611, NASDAQ, among other things, employs an application within its trading systems called “Trade Through,” which automatically cancels non-displayed sell orders priced at or below the national best bid, and non-displayed buy orders priced at or above the national best offer, for a covered security.

47. Rule 201 of Regulation SHO requires trading centers to establish, maintain, and enforce written policies and procedures reasonably designed to prevent the execution or display of a short sale order of covered securities (as defined by Regulation SHO) at a price that is less than or equal to the current national best bid if the price of that covered security decreases by ten percent or more from the covered security’s closing price from the prior day (as determined by the listing market for the covered security). Rule 201 requires that this short sale price test restriction remain in force for the remainder of the day and the following day.

48. In order to comply with the short sale price test requirements of Rule 201 of Regulation SHO, NASDAQ, as a trading center, employs an application within its trading systems called “SHO Through,” which automatically cancels non-displayed short sale orders priced at or below the national best bid for a covered security if the covered security has decreased at least ten percent from the prior day’s closing price.

49. NASDAQ's efforts to prevent trade-throughs and to comply with the Regulation SHO price test are based in part on its continuous calculation of the current national best bid and offer ("NBBO") for each security traded on the exchange. On October 7, 2011, NASDAQ modified the data sources that were used to calculate its trading system's view of the NBBO. Specifically, NASDAQ began calculating the NBBO based on both the prices contained in the publicly reported SIP Quotation Data Feed as well as data that it received directly from certain trading centers.

50. However, in implementing this modification, NASDAQ's technology team erroneously altered the configuration files used by the application that computes the NBBO. As a result, the Trade Through and SHO Through applications ceased operating since they were not receiving the underlying NBBO data that allowed them to cancel or reprice orders that violated the price tests in Rule 611 of Regulation NMS and Rule 201 of Regulation SHO. After becoming aware of this problem as a result of a member complaint, NASDAQ implemented a change to ensure that the affected applications began receiving the data as of 12:55 p.m. on October 10, 2011.

51. NASDAQ self-reported this incident to the Commission staff on October 19, 2011. In November 2011, NASDAQ informed the Commission staff that it had reviewed trading on the exchange on October 7 and 10, 2011 and determined that the exchange's incorrect determination of the NBBO on those dates had resulted in approximately 595 short sale executions at prices that were less than or equal to the then-current national best bid, but that there had been no trade-throughs as a result of the data feed modification. However, in January 2012, NASDAQ determined that 2,004 trade-throughs had occurred on those dates (although NASDAQ did not report this finding to the Commission staff until September 2012).

D. Problems with NASDAQ's Regulation SHO Compliance Systems in August 2012

52. On the evening of Friday, August 10, 2012, NASDAQ installed an upgrade to its trading systems. This system upgrade – which did not relate to the SHO Through application – was implemented by an information technology employee in NASDAQ's Operations Center. This employee misinterpreted the instructions associated with the upgrade and assumed that the SHO Through application was not needed and could be removed from the system. As a result, the employee removed the SHO Through application. According to NASDAQ's internal protocols for implementing changes to its trading systems, a second Operations Center employee was responsible for checking the work of the employee who implemented the upgrade. However, this second employee also misinterpreted the upgrade instructions to mean that the SHO Through application could be removed. Neither of these Operations Center employees had compliance responsibilities and, at the time, their implementation of systems upgrades was not overseen by employees who were familiar with regulatory and compliance requirements.

53. On the morning of August 13, 2012, while running the daily configuration test for the exchange's trading systems, Operations Center personnel received a system alert based on the fact that the SHO Through application was no longer part of the system. Operations Center personnel acknowledged the alert but continued with the startup processes because they also

thought the SHO Through application could be removed. As a result, there were no further alerts regarding the missing SHO Through application.

54. Trading continued on NASDAQ without the SHO Through application until the morning of August 21, 2012, when a member inquired about a short sale order resting on NASDAQ's order book. This led NASDAQ to determine that the SHO Through application had been removed, after which the application was re-installed and NASDAQ alerted the market that resting non-displayed short sale orders may have been executed in violation of Regulation SHO Rule 201. The next day, NASDAQ officially notified the Commission staff of the issue.

55. The inadvertent removal of the SHO Through application, which was discovered as a result of a member inquiry, affected 3,820 executions (of 1,745,623 shares) in 92 separate securities between August 13 and August 21, 2012. These trades were all executed at prices that were less than or equal to the then-current national best bid in securities that had decreased more than ten percent from the prior day's closing price.

Violations

56. In determining to accept the Offers, the Commission has considered the remedial efforts and initiatives undertaken by NASDAQ and determined that at this time it is not in the public interest to impose limitations upon the activities, functions, or operations of NASDAQ pursuant to Section 19(h)(1) of the Exchange Act.

A. Section 19(g)(1) of the Exchange Act

57. Section 19(g)(1) of the Exchange Act requires every exchange to comply with the provisions of the Exchange Act, the rules and regulations thereunder, and its own rules, and, absent reasonable justification or excuse, to enforce compliance by its members with such provisions. Article IX, Section 5 of NASDAQ's Bylaws grants NASDAQ the authority to take action in an emergency to fulfill its mandate under the Exchange Act. While trading disruptions arising from internal technology problems may in certain circumstances constitute an emergency justifying the invocation of Article IX, Section 5 of NASDAQ's Bylaws, the Commission finds that the events of May 18, 2012 within NASDAQ did not constitute such an emergency.

58. NASDAQ violated Section 19(g)(1) of the Exchange Act by not complying with several of its own rules on May 18, 2012. These rules violations included:

- a. NASDAQ failed to comply with its own Rule 4757(a)(1) when it failed to execute equally priced or better priced trading interest in Facebook in price/time priority. As detailed above, more than 30,000 Facebook orders placed before the IPO Cross were not included in the Cross and were "stuck" in NASDAQ's trading system until approximately 1:50 p.m. on May 18. Between the IPO Cross and 1:50 p.m., equally or worse priced Facebook orders placed after the IPO Cross received price/time priority over the "stuck" orders in violation of Rule 4757(a)(1).

- b. Similarly, approximately 365 Zynga orders placed between 11:55 a.m. and 12:27 p.m. were not accorded proper price/time priority in accordance with Rule 4757(a)(1).
- c. NASDAQ's rules did not permit it to engage in activities in relation to its error account. As detailed above, NASDAQ assumed an error position of more than 3 million Facebook shares valued at almost \$129 million and traded these shares in its error account through NES to close the position, resulting in profits of approximately \$10.8 million.
- d. NASDAQ failed to comply with its own Rule 4120(c)(7) in three respects on May 18:
 - i. NASDAQ failed to immediately initiate trading in Facebook at the conclusion of the DOP, as required by Rule 4120(c)(7)(B). NASDAQ's use of a randomization period, which was removed from this rule in August 2007, delayed secondary trading after the end of the DOP by approximately nine seconds. NASDAQ likewise failed to comply with this rule during every other IPO between August 2007 and January 2013, using a randomization period at the end of the DOP in each instance.
 - ii. NASDAQ agreed to extend the DOP for Facebook by five minutes at the request of Facebook's lead underwriter. An underwriter request is not a permitted justification for extending the DOP. Rule 4120(c)(7) allows such extensions only if NASDAQ detects a liquidity imbalance in the security at the end of the DOP.
 - iii. NASDAQ reopened trading in Zynga at approximately 1:35 p.m. on May 18, following the second circuit-breaker-related Zynga halt on that day, without first initiating a five minute DOP, as is required by Rule 4120(c)(7).

B. Regulation SHO

59. As detailed above in paragraphs 46 to 55, on nine separate trading days in October 2011 and August 2012, NASDAQ's actions resulted in the disabling of its SHO Through application, which is the application through which NASDAQ effects compliance of the price test requirements of Rule 201 of Regulation SHO. The disabling of the application resulted in over 4,400 short sales that did not comply with the price test.

60. As noted above in paragraph 47, Rule 201(b) requires trading centers to establish, maintain, and enforce written policies and procedures reasonably designed to ensure compliance with the price test rule of Rule 201. Because the SHO Through application was not operational during these nine trading days, NASDAQ, as a trading center, was not maintaining and enforcing policies and procedures for compliance with the Rule 201 price test. In addition, because the inoperative SHO Through application was only uncovered through a member complaint,

NASDAQ, as a trading center, was not carefully and adequately monitoring for Rule 201 compliance. Accordingly, NASDAQ's conduct violated Rule 201(b) of Regulation SHO.

C. Regulation NMS

61. As noted above in paragraph 46, Rule 611 of Regulation NMS requires, subject to certain exceptions, that trading centers establish, maintain, and enforce written policies and procedures reasonably designed to prevent "trade-throughs" in NMS stocks.

62. As detailed above in paragraphs 49 through 51, between October 7 and 10, 2011, NASDAQ's Trade Through application, through which NASDAQ effects compliance with Rule 611, was effectively disabled and therefore NASDAQ was not enforcing its policies and procedures with respect to trade-throughs. Accordingly, NASDAQ's conduct violated Rule 611 of Regulation NMS.

D. Section 15(c)(3) of the Exchange Act and Rule 15c3-1 Thereunder

63. A broker-dealer violates Section 15(c)(3) of the Exchange Act and Rule 15c3-1 thereunder when it uses the mails, or any means or instrumentality of interstate commerce, to effect any transaction in, or to induce or attempt to induce the purchase or sale of, any security (other than exempt securities) while not maintaining its required minimum net capital.

64. As detailed above in paragraph 42, NES violated Section 15(c)(3) of the Exchange Act and Rule 15c3-1 thereunder on May 18, 2012, as a result of its handling of its error account activity related to the Facebook IPO, which caused a net capital deficiency for NES of approximately \$26.5 million.

Respondents' Remedial Efforts

In determining to accept the Offers, the Commission considered remedial acts undertaken by Respondents and cooperation afforded the Commission staff.

Undertakings

Respondents have undertaken to implement the following measures, many of which have already been completed:

65. NASDAQ will make technical changes to its IPO/Halt Crosses, and to its Opening and Closing Crosses, designed to prevent a recurrence of the persistent recalculation problem that affected the Facebook IPO. For IPO and Halt Crosses, NASDAQ will close its order ports to new Cross orders and cancels of orders in the security involved in the Cross after the calculation of the Cross is triggered. For Opening and Closing Crosses, NASDAQ will change its system to take into account bursts of changes to orders that would affect the result of the Cross in one recalculation of the Cross rather than in multiple recalculations. For all types of crosses, NASDAQ will also enhance the system log entry that results from a failed Cross

validation check to give NASDAQ more data about the failed validation, and therefore greater insight into the nature of the problem.

66. NASDAQ will amend NASDAQ Rule 4120 to provide for a randomization interval at the conclusion of the DOP in an IPO Cross.

67. NASDAQ will amend NASDAQ Rule 4120 to provide for an underwriter-requested extension of the DOP for an IPO Cross.

68. NASDAQ will implement additional automated and operational processes for monitoring compliance with Regulation NMS and Regulation SHO. These include: a new Regulation SHO alert that detects any non-exempt short sale execution that executes at a price equal to or below the best current bid price potentially violating Rule 201 of Regulation SHO, and that operates independently of NASDAQ's trading system; a new automated tool for regulatory and operational staff to monitor trade-throughs on an hourly basis; new procedures for ensuring that proper closing price values are used for Regulation SHO enforcement; and new procedures for ensuring that applications that receive market data for purposes of Regulation NMS and Regulation SHO are receiving market data.

69. NES will revise its written supervisory procedures pertaining to moment-to-moment net capital to ensure compliance with net capital requirements.

70. NASDAQ will enhance its technology change process by, among other things: expanding and formalizing participation by stakeholders across NASDAQ – including technology, business, legal, and regulatory personnel – in the product development lifecycle to promote greater transparency and communication, and enhanced supervision, in the design, deployment, project management, and approval phases. NASDAQ will adopt a Global Change Management Policy that formalizes the role and responsibility of its Change Approval Board, which includes technology, business, and legal personnel, the formal requirements to request a change, and unified standards for documenting change development and implementation.

71. NASDAQ will expand the scope of its Regulatory Group's coverage of the rules governing NASDAQ's trading platforms. NASDAQ will also expand and formalize the role of the group in the technology change process such that, among other things, the Group participates in daily software change review discussions, participates in the initial project planning phase for all major trading system software changes, and must approve all major trading system software changes before they are implemented into production.

72. NASDAQ will deploy new standardized global change management software to provide technology personnel a unified single view into changes made throughout the NASDAQ enterprise, and enhanced risk management capability and expedited incident response/management.

73. NASDAQ will dedicate a system and performance engineering team to daily monitoring and analysis of system performance, and will establish a new quality assurance organization reporting to the Senior Vice President, Market Systems, NASDAQ OMX, to focus on integration of testing of trading systems.

74. When NASDAQ's Chief Executive Officer concludes that, to the best of his or her knowledge based on reasonable inquiry, NASDAQ and NES have achieved all of the Undertakings set forth in this Order, he or she shall certify, in writing, compliance with the Undertakings set forth above. Such certification shall be reviewed and accepted for filing by the Board of Directors of NASDAQ. The certification shall identify the Undertakings, provide written evidence of compliance in the form of a narrative, and be supported by exhibits sufficient to demonstrate compliance. The Commission staff may make reasonable requests for further evidence of compliance, and Respondent agrees to provide such evidence. The certification and supporting material shall be submitted to Amelia A. Cottrell, Assistant Director, Market Abuse Unit, New York Regional Office, with a copy to the Office of Chief Counsel of the Enforcement Division, no later than sixty (60) days from the date of the completion of the undertakings, or, in any event, no later than December 31, 2013.

IV.

In view of the foregoing, the Commission deems it appropriate, in the public interest and for the protection of investors to impose the sanctions agreed to in Respondents' Offers.

Accordingly, pursuant to Section 19(h)(1) and 21C of the Exchange Act, it is hereby ORDERED that:

- A. Respondent NASDAQ cease and desist from committing or causing any violations and any future violations of Section 19(g)(1) of the Exchange Act, Rule 201(b) of Regulation SHO, and Rule 611(a) of Regulation NMS.
- B. Respondent NES cease and desist from committing or causing any violations and any future violations of Section 15(c)(3) of the Exchange Act and Rule 15c3-1 thereunder.
- C. Respondents NASDAQ and NES are censured.
- D. Respondent NASDAQ shall, within ten (10) days of the entry of this Order, pay a civil money penalty in the amount of \$10 million to the United States Treasury. If timely payment is not made, additional interest shall accrue pursuant to 31 U.S.C. § 3717. Payment must be made in one of the following ways: (1) Respondent NASDAQ may transmit payment electronically to the Commission, which will provide detailed ACH transfer/Fedwire instructions upon request; (2) Respondent NASDAQ may make direct payment from a bank account via Pay.gov through the SEC website at <http://www.sec.gov/about/offices/ofm.htm>; or (3) Respondent NASDAQ may pay by certified check, bank cashier's check, or United States postal money order, made payable to the Securities and Exchange Commission and hand-delivered or mailed to:

Enterprise Services Center
Accounts Receivable Branch
HQ Bldg., Room 181, AMZ-341
6500 South MacArthur Boulevard
Oklahoma City, OK 73169

Payments by check or money order must be accompanied by a cover letter identifying NASDAQ as a Respondent in these proceedings, and the file number of these proceedings; a copy of the cover letter and check or money order must be sent to Sanjay Wadhwa, Division of Enforcement, Securities and Exchange Commission, New York Regional Office, 3 World Financial Center, Room 400, New York, New York 10281.

- E. Respondents shall comply with the undertakings enumerated above.

By the Commission.

Elizabeth M. Murphy
Secretary