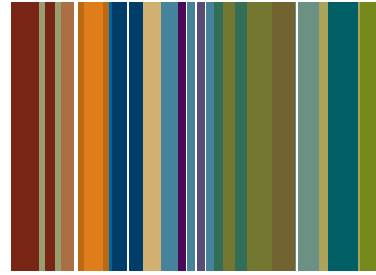


**SUNGARD**

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## REGULATION NMS

*Summary and Implications  
for Brokers/Dealers*

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## INTRODUCTION

On April 6th, 2005, the Securities and Exchange Commission (SEC) approved the Regulation NMS (“Reg NMS”) rule filing in a 3-2 vote. The approved version of Reg NMS was published on June 9, 2005.<sup>1</sup> The following summary document describes the Reg NMS rule filing and its implications.

The implementation of Regulation NMS, as viewed by the SEC, will modernize and strengthen the National Market System (“NMS”). The NMS consists of over 5000 listed companies representing \$14 trillion in market capitalization trading on nine different market centers. The NMS represents the essence of the US Equity Markets for the investor community. The original NMS structure was designed in the 1970s and 1980s; prior to the significant impact technology has had on the equity market structure. Technology has increased the speed of trading and has changed the profile of execution requirements that the investor expects. Additionally, competition among market centers has intensified, each focusing on differentiation and growing individual market share. These trends prompted the Commission to modernize and strengthen the NMS with the following objectives: 1) update antiquated rules, 2) promote equal regulation of different types of stocks and markets and 3) promote greater displayed liquidity.<sup>2</sup> It should be understood that the Commission is always working with a broader mandate and states multiple times that their mission is to promote the fairest and most efficient market structure. As evident within the filing, their interpretation of this mission is influenced by factors affecting the long-term investment needs of the public and the cost of capital for listed companies.

To address the Commission’s objectives, Reg NMS is focused on the following areas of market structure and regulation: 1) the “Order Protection Rule”, 2) the “Access Rule”, 3) the “Sub-Penny Rule” and 4) the “Market Data Rules”.<sup>3</sup> These rules are intended to serve the “interests of investors [retail and institutional], listed companies and the public”.<sup>4</sup>

Implementation will occur in different phases according to the specific sub-rule.<sup>5</sup> The Order Protection Rule will be implemented in two phases, with three additional key milestones. The first milestone, “Specifications Date”, will occur on October 16th, 2006. This is the deadline for publication of final technical specifications for Reg NMS-compliant trading systems that intend to publish protected quotations during the initial implementation phases of Reg NMS. The second milestone, “Trading Phase”, is February 7th, 2007. This is the date by which Reg NMS-compliant trading systems must be operational in order for the automated trading center to qualify for trade-through protection during the initial implementation phases. The Pilot Stocks Phase will begin May 21st, 2007, triggering full industry compliance for 100 NSYE, 100 OTC and 50 AMEX securities to be named later. Full

<sup>1</sup> Securities Exchange Act Release No. 51808 , 70 FR 37496 (June 29, 2005) (“Adopting Release”)

<sup>2</sup> Securities Exchange Act Release No. 50870 (Dec. 16, 2004), 69 FR 77424 (Dec. 27, 2004) (“Proposing Release”)

<sup>3</sup> Note that the Commission changed the name from “Trade-Through Rule” to “Order Protection Rule” in the Adopting Release. They believe that this term better captures the nature of the adopted rule, and helps distinguish the existing trade-through provisions for exchange-listed securities.

<sup>4</sup> Proposing Release at 77424 – 77426.

<sup>5</sup> Securities Exchange Act Release No. 52909 (May 19, 2006), 71 FR 30038 (May 24, 2006)

implementation occurs on July 9th, 2007. The final milestone, "Completion Date", is October 8, 2007. This is the time at which phase-in will be considered completed, and trading centers that were not part of the initial implementation of Reg NMS may potentially begin publishing protected quotations. Implementation of the Access rule will be phased in conjunction with the Order Protection Rule. The Sub-Penny rule was implemented on January 31st, 2006. The Market Data Rule and Plan Amendments will become effective on April 1, 2006.

The following sections provide a summary description of the four filings within Regulation NMS and an initial discussion of their impact on the Broker/Dealer community.

## ORDER PROTECTION RULE

**The "Order Protection" Rule establishes intermarket protection against trade-throughs for all NMS stocks. Trading centers must establish policies and procedures designed to avoid executing trades at prices inferior to protected quotes displayed by other trading centers ("trading through"). The order protection extends to Market Center BBO only. In order to qualify for protection, a quotation must be immediately and automatically accessible.**

### **What's Protected?/What's Not?**

Protection is extended to displayed automated quotations that are immediately accessible through automatic execution. The markets covered include all nine of the Exchanges and The Nasdaq Stock Market. The protection also closes Intermarket Trading System Plan (ITS) gaps that allowed trade-throughs on block transactions greater than 10,000 shares and on 100-share quotations in exchange listed securities.

"Trade Through" protection is not extended to manual quotes, those primarily sourced by floor-based markets. Quotes that are not immediately accessible and require any human intervention do not receive order protection. This addresses inefficiencies that market participants currently face when waiting for a response from a manual market, potentially missing opportunities to trade at other, automated market centers with slightly inferior prices.

There are some exception scenarios which include the ability to trade through hidden liquidity, provide relief for customer stop orders, provide immediate access to market depth with intermarket sweep orders, and allow trading centers to trade through non-responding market centers and inaccessible (flickering) quotes. Also included are exceptions for orders that are benchmarked, such as VWAP orders. The exception scenarios are intended to promote the practicality of the rules and allow for speed, efficiency, and innovation to ensure that technology investment continues.<sup>6</sup>

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<sup>6</sup> Proposing Release at 77427

## Who's Affected?

The Order Protection Rule requires "Trading Centers" to establish, maintain, and enforce policies and procedures that are reasonably designed to prevent trade-throughs or to assure compliance with an exception. The definition of Trading Center includes not only Exchanges and SRO trading facilities, but also Automated Trading Systems ("ATs"), exchange and OTC Market Makers, and any other broker/dealer that internalizes or crosses orders.

## What's Required

Each trading center will have to:

- » develop and implement written policies and procedures on how the Firm will supervise and survey trade through and exception compliance.
- » programmatically code the trade through rules within their order management and execution systems. This would include order routing, adding market data elements to handle automated and manual quotes, exception management for intermarket sweeps and inaccessible quotations.
- » create the necessary private linkages to ensure that all protected quotes can be accessed.
- » develop surveillance systems to monitor compliance by traders with the trade through rules and ensure the integrity of automated systems.<sup>7</sup>

## Impact to Brokers/Dealers

- » Significant investment in OMS, Order Routing, Market Data Repository and Compliance systems to support rule compliance.
- » Requires that Broker/Dealers obtain access, directly or indirectly, to all protected liquidity sources.
- » Role of Floor Broker and Exchange Specialist will be further diminished.
- » Commitment of Capital Outside the Spread will be eliminated without taking on block loss upfront in the trade.
- » Agency block desk will lose service distinction and electronic trading services like algorithmic engines and crossing engines will be enhanced.
- » Evaluate alternatives to business models that will not be feasible under Order Protection rules (ex. Net Trading).

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<sup>7</sup> Proposing Release at 77427

## ACCESS RULE

The “Access” rule prohibits Market Centers from giving preferential treatment to member/subscriber orders that are accessing quotes protected by the “Order Protection” rule. The rule allows non-members/non-subscribers the same level of technology access, order handling priority and fee schedule for protected quotes that a member/subscriber receives. The rule limits access fees to a cap of \$0.003 per share on protected quotes. The rule also contains prohibitions against publishing locking or crossing quotations.

Proposed in tandem with the Order Protection rule, the Access rule is necessary to provide deterrence to gaming of the Order Protection rule. Market Centers could game the Order Protection rules and create fee disparities that enable revenue generating opportunities for their memberships. These practices would ultimately affect best execution decisions and hurt the investment community.

The rule also contains a major shift in the Commission’s approach to inter-market linkage, creating a structure in which trading center linkages are established through private lines or network carriers instead of the traditional ITS approach that centralized market infrastructure. Private linkages are common for the OTC market and many trading centers already have much of the connectivity in place. The Commission expects that a de-centralized technology infrastructure will enable technology innovation and control cost to the ultimate benefit of the NMS.<sup>8</sup>

Finally, the Access rule requires SROs to create rules that prohibit their members from displaying quotations that lock or cross protected quotations of other market centers. The goal of this provision is to promote fair and orderly markets, establishing that the first market center to set a protected quotation price should receive an execution rather than be locked or crossed by another market center.

### **What’s In?/What’s Not?**

The Access Rule address three main areas: 1) Access to quotes, 2) Limitation of Access Fees and 3) Guidelines on Locked/Crossed quotes.

#### **Access to Quotes**

Market Centers are expected to provide non-discriminatory access to protected quotes. This means that member and non-member status are the same as it pertains to level of technology access and order handling priority. Essentially Market Centers must maintain technology links with each other to ensure protection of the Trade Through rules. Subsequently when intermarket routing of orders is required to satisfy trade through protection, fair and equal handling can be expected by the receiving Market Center. The intermarket technology access will be allowed through private linkages instead of a centralized ITS-like plan. The Commission considered this important to allow for the adoption of new technologies in a timely fashion, avoiding the creation of a bureaucratic decision making process that forced strict technology uniformity.

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<sup>8</sup> Proposing Release at 77447

The rule does not force the non-discriminatory practices for depth of book quotes. In the Adopting Release, the Commission eliminated the “Voluntary Depth Alternative”.<sup>9</sup>

### **Limitation of Access Fees**

Trading Centers will have a cap of \$0.003 per share for transactions involving protected quotes. Additional services, order types and depth of book transactions are not subject to the proposed fee cap. However, language in the Adopting Release, clarified further in “FAQ” guidance<sup>10</sup> requires that market centers that will charge fees higher than the fee cap for depth-of-book access must only execute trades at the higher fee if the order sender specifically indicates their willingness to trade at that higher rate.<sup>11</sup>

The rule also covers a restatement of the Quote Rule that currently prohibits Market Makers from charging for access to their quotes. Market Makers will be allowed to charge for access to their protected quotes, subject to the same fee caps.<sup>12</sup>

### **Guidelines on Locked/Crossed Quotes**

The Access rule stipulates that a national securities exchange or national securities association (“Market”) must:

- » require its members to reasonably avoid posting quotes that lock or cross other protected quotations,
- » create a process to clear locked/crossed conditions and
- » prohibit members from engaging in a pattern of posting locking/crossing protected quotes.

The Market participants will be held to a “reasonable” standard on locking/crossing automated quotes because technology race conditions could accidentally create such a locked or crossed scenario. The Market participant will be allowed to lock/cross manual quotes with an automated quote in recognition of the time delay typically associated with manual quotes. The Market will also be expected to enforce that its members do not engage in a pattern of locking/crossing.

Each Market will be required to have a protocol that is used when its posted quotes either locks or crosses another automated quote with time priority. This protocol should trigger “reasonable action” to resolve the locked or crossed condition.<sup>13</sup>

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<sup>9</sup> Adopting Release at 37528

<sup>10</sup> Division of Market Regulation: Responses to Frequently Asked Questions Concerning Rule 611 and 610 of Regulation NMS, January 27, 2006, available at <http://www.sec.gov/spotlight/regnms.htm> (“FAQ”)

<sup>11</sup> FAQ Question 9

<sup>12</sup> Adopting Release at 37545

<sup>13</sup> Adopting Release at 37550

## Impact to Brokers/Dealers

- » Provides for non-discriminatory access for all market participants to protected quotations.
- » Limits the fees charged by Trading Centers (including ECNs) for access to protected quotations.
- » Creates greater competition in the connectivity space.
- » Allows Market Makers to charge a fee for access to quotes.
- » Reduces disparity of Locked/Crossed compliance rules per Market Center.
- » Protects differentiated services that Market Centers will provide including volume discounts and special order types.

## SUB-PENNY RULE

**The “Sub-Penny” rule establishes a quote minimum price variation (MPV) of \$0.01 for NMS securities greater than \$1.00 in price value. Market participants are prohibited from accepting, ranking or displaying quotes priced in increments of less than one penny for NMS securities that are priced \$1.00 or greater. The MPV for quotes priced under \$1.00 is set at \$0.0001.**

The least contested rule filing within Reg NMS is the “Sub-Penny” rule. The rule is a clear definition of a minimum price variation (MPV) for NMS securities. The transition to decimalization allowed market forces to dictate a MPV for securities. The Commission concluded that a clear MPV definition would prohibit step ahead orders to be submitted that gain execution priority for economically insignificant amounts. Studies showed that step ahead orders actually discouraged displayed liquidity, reduced price clarity (created flickering quotes), reduced best execution, and impacted compliance with Order Handling rules. It was also found that sub-penny pricing created additional stress on the operation and capacity of market computer systems without benefit to the NMS. Concluding that sub-penny pricing created market inefficiency, reduced liquidity and ultimately higher trading costs.<sup>14</sup>

Although initially believed to be a simple, non-controversial rule by both the SEC and most commenters, implementation proved to be more difficult than originally envisioned. The effective date of this rule was moved from August 29, 2005 to January 31, 2006. Some issues around the rule still remain, primarily around how the allowed sub-penny activity works in conjunction with certain rules, such as Limit Order Protection and Best Execution.

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<sup>14</sup> Proposing Release at 77455

## What's In?/What's Not?

The Sub-Penny rule does not allow the acceptance, display or ranking of priced orders, indications of interest or quotations that are priced in an increment of less than \$0.01 unless they are priced under \$1.00. The rule does not prohibit trading in sub-penny increments, which will continue to allow trading at the mid-point, providing price improvement and VWAP pricing.

Orders received for \$1.00 or above must have an MPV of \$0.01 and orders received for \$0.9999 or less are subjected to an MPV of \$0.0001. Although the Commission left room in the Adopting Release to grant exceptions on a case-by-case basis for ETFs, which would allow for sub-penny quoting, ranking and trading of these instruments, no such exemptions have been granted to date. Listed and OTC options are not covered by this rule filing.<sup>15</sup>

## Impact to Brokers/Dealers

- » Removes the ability to step ahead of displayed orders without much risk.
- » Requires modifications to order entry systems to reject sub-penny orders
- » Improves customer service by protecting customer orders without the risk of specialist or market makers trading ahead.
- » Enables better price concentration.
- » Reduces the load on current systems and simplifies capacity planning by limiting quote increments (significantly reduces the number of different potential price levels that have to be modeled).

## MARKET DATA RULES AND PLAN

**The Market Data Rules and Plan Amendments update the revenue allocation formulas to reflect the value of a SRO's quotes and trades. The SRO's role in price discovery, quotes at the BBO, as well as traded volume are more heavily weighted in the new revenue allocation formulas.**

The current plan allocates on a formula primarily based on trade activity, it does not reflect any value for price discovery through quotes or size traded. The Commission expects that these updated

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<sup>15</sup> Proposing Release at 77456

formulas will help limit manipulative behavior that had developed to generate larger market data allocations. The rule also gives more freedom in the distribution of exclusive data by the market center and its members.<sup>16</sup>

## What's In?/What's Out?

The proposed market data allocations will reward price discovery participation and trades of size, as well as more smoothly distribute revenues across heavily- and thinly-traded securities. In the past a trade of 20,000 shares and 100 shares were the same for revenue allocation purposes. The new formulas, while more complex, try to value the role a market center plays in finding the right price (amount of time at the BBO) and ultimately transacting for size. For data distribution, each SRO and member is still required to report core data through a Securities Information Processor (SIP) (BBO, last sale) but both SROs and their members will have the opportunity to distribute core data and depth-of-book data independently with or without a fee.

Another key element of the rule dictates that no market data revenues are allocated to manual quotations. It is believed this promotes an allocation of revenues to the various SROs that more closely reflects the usefulness to investors of that SRO's market information.

The market data rules also allow for a kind of unbundling of data products, so an investor can choose which data they want to use and pay for. Included is the ability to limit the depth of market information distributed in most cases. This will reduce the system infrastructure required by some firms to support large market data requirements even though they may not use the full complement of data elements.

Advisory committees will also be established as part of the rule filing, having five industry participants plus some ad-hoc members to review and respond to any operating matters or amendments for the Market Data Plan Operating Committee.<sup>17</sup>

## Impact to Brokers/Dealers

- » Ability to distribute proprietary information independently in addition to the processing by the SIP, and charge for it.
- » Ability to reduce market data distributed to customers, e.g. distribute only 5 price levels via B/D supplied application instead of full montage.
- » Possible reinstatement of revenue-sharing programs which compensate market participants for market data contributions in Nasdaq securities
- » Potential changes to quoting and trade reporting practices to maximize market data

<sup>16</sup> Proposing Release at 77460

<sup>17</sup> Proposing Release at 77461

## IMPLEMENTATION EFFORT

The SEC completed an initial survey of the Trading Centers to begin estimated cost of Reg NMS to the industry.<sup>18</sup> Most industry comments believe these initial estimates to be low. While it's not yet clear what the cost of Reg NMS will be to the Broker/Dealer and SRO community, it is clear that the burden of proof on the Broker/Dealer community will be greater as defined by Reg NMS. The overall Reg NMS program for a Broker/Dealer can be broken down into three work streams: 1) Reg NMS Governance, 2) Reg NMS Technology Changes and 3) Reg NMS Opportunities.

The Reg NMS Governance effort reflects the effort required to develop and institutionalize the necessary Reg NMS policies and procedures. The policies and procedures will develop the protocols needed to deal with the various market centers when flickering quotes appear, how to reasonably identify trade through scenarios and identify corrective action. The Reg NMS Technology Change effort will define and develop the required systematic changes to support the rules. The scope of these changes in a typical Broker/Dealer extends to an organization's Order Management System (OMS), Trade Entry and Order Routing Systems. An important component will be the technology required to support the boundaries of trade through surveillance and data management strategies to retain and recall order and trade history to demonstrate Reg NMS compliance. The Reg NMS Opportunities effort should be focused on strategic leverage that can be identified to further

## BOTTOM LINE

differentiate a Broker/Dealer's client service and/or product offerings.

The impact of Reg NMS on the US Equities market structure has yet to be seen. One thing we can count on is that there will be unintended consequences, just as we saw with Decimalization. Increased fragmentation; deeper, darker pools of liquidity; shifting broker business models; and increased reliance on smart market access technology are just a few of the trends that have been predicted.

In the compliance space, Reg NMS will be a data management challenge for the broker/dealer community. With Reg NMS a broker/dealer must retain the appropriate market data, order status and execution report elements to reconstruct its decision making process for order routing to satisfy future regulatory inquiries. Most broker/dealers retain this information in today's environment; the difference will be the need to synchronize the time sequencing of this data. The situation increases in complexity if multiple routing technologies are used in the order management process. No longer will a broker/dealer be able to use third party time and sales services to join as reference to its order status and execution reports to satisfy regulatory inquiries. The rules are generally policies and procedures-

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<sup>18</sup> Proposing Release at 77441, 77474, 77475, 77477, 77480, 77488, 77489

based. However, firms must still be prepared to defend themselves against an inquiry by showing exactly how their order routing system operated on a given day or for a given transaction; thus driving the need for sophisticated tools to recreate the market conditions and the order event trail for any NMS security.

The fight over Reg NMS is not complete and there is a great deal of work necessary before technology teams get to the point of getting the full requirements picture. The SEC has given some guidance, but there is much more to come. SRO rules are still undefined and unapproved. Only one of the new SRO systems, the NYSE Hybrid, has been approved by the SEC. The October 16th deadline approaches

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quickly, and market participants need to be preparing now for the host of changes coming their way.

SunGard Consulting Services has helped customers comply with numerous rules and regulations, including NASD OATS, NYSE OTS, DPTR reporting, SEC and NASD "Know Your Customer" compliance, Sarbanes-Oxley, and Regulation NMS. SunGard Consulting Services has developed models based on field work that illustrate the requirements of a comprehensive compliance process and detail the design of an effective compliance infrastructure. We are able to compare these models to customer requirements and efficiently deliver customized compliance solutions.

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### **About SunGard Consulting Services**

Our deep understanding of business processes in financial services and energy, together with our expertise in information technology and knowledge of SunGard products, helps us mitigate project risk and provide a single point of accountability for SunGard projects that differentiates us from other consulting organizations.

For more information about SunGard Consulting Services, email [consulting.marketing@sungard.com](mailto:consulting.marketing@sungard.com) or call (713) 350-1027.

## SUNGARD BRASS ENGARD

BRASS EnGard is a Web-based, real-time, compliance lifecycle and business management solution for institutional equities trading businesses. BRASS EnGard helps firms to automate and manage the compliance lifecycle including surveillance, internal investigations, documentation and reporting, helping firms to monitor and reduce risk and opportunity cost, improve workflow and automation of

surveillance, and streamline operations.

BRASS EnGard, a trading system independent solution, also provides a data warehouse that receives, organizes and consolidates data in real time to help management gain enhanced insight into profitability and performance. The comprehensive data warehouse, hosted by SunGard, helps alleviate the need for firms to store the increasing volumes of data necessary to effectively meet their compliance obligations. This helps firms to reduce costs associated with infrastructure and support, as well as helps firms to redeploy scarce technology resources on solutions that enhance profitability or other business opportunities.

## About BRASS

BRASS is an integrated solution suite for institutional, retail and wholesale firms, providing equity trading, market access, FIX order routing, allocation matching, and trade compliance. BRASS includes a trade order management system for Nasdaq, listed, listed market making and sales trading; the Broker Direct U2 set of direct market access tools; IOIs, for automated indications of interest and advertised trades; Allocations for trade matching; and EnGard for compliance, business analysis and reporting.

For more information on BRASS solutions, e-mail [sales@brass.com](mailto:sales@brass.com) or call (201) 499-5900.

## ABOUT THE AUTHORS

**Jeffrey Wallis** has been involved in the financial services industry, as both a client and a vendor, for the past eight years. He has led multiple broker/dealers through significant market structure changes like Limit Order Display, Electronic Connectivity, SuperSOES, Decimalization, Automated Trading strategies, and now Regulation NMS. While with SunGard Consulting Services, Mr. Wallis' organizational and consulting projects have been comprised of business strategy design and implementation, enterprise systems implementation, and custom development. Mr. Wallis is also a recognized expert in SunGard's Common Services Architecture (CSA), a service-oriented architecture that enables components from SunGard's product portfolio to be plugged together to form configurable, composite applications that easily integrate with a client's architecture.

**Deborah Mittelman** has worked in the financial services industry for over 20 years. She is currently senior vice president of compliance and product management at SunGard's BRASS business unit. She is also BRASS' chief compliance officer. Her primary responsibilities include oversight of the Compliance product and ensuring that all products in the BRASS product suite are up-to-date with the latest regulatory requirements. Prior to SunGard, Ms. Mittelman worked at Instinet for 8 years where she held various positions in Compliance, Business Development and Technology. Before joining Instinet, Deborah worked at Goldman, Sachs for 12 years in the technology division. She has been a speaker at many industry conferences and events sponsored by the Securities Industry Association, Securities Industry News, and others. She has also served on several industry committees such as the SIA Trading Committee and the SIA Ad-Hoc OATS committee, and currently serves as co-Chair of the FIF Service Bureau Committee as well as an active participant in the SIA/FIF Reg NMS Implementation Committee.

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