

CLIENT MEMORANDUM

Self-Regulatory Organizations Appoint Thesys Technologies LLC as the Plan Processor of the Consolidated Audit Trail

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AUTHORS

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On January 17, 2017, a consortium of self-regulatory organizations (“SROs”), acting pursuant to the National Market System Plan Governing the Consolidated Audit Trail (the “NMS Plan”) that was unanimously approved by the U.S. Securities and Exchange Commission (the “SEC”) on November 15, 2016, selected Thesys Technologies LLC (“Thesys”), a trading platform and analytics software developer, as the plan processor (the “Plan Processor”) for the consolidated audit trail (the “CAT”), a database designed to track the entire life cycle of orders and transactions in the U.S. equity and options markets.¹ The SROs selected Thesys over two other finalists, the Financial Industry Regulatory Authority, Inc. and SunGard.

Although the CAT will dwarf other trading databases currently in existence, the entity selected to develop and operate the CAT has experience among its affiliates assembling SEC data systems. Specifically, the SEC commissioned Thesys’ affiliate, Tradeworx Inc., in 2012 to assemble the Market Information Data Analytics System (“MIDAS”). MIDAS collects approximately one billion records from proprietary feeds of each of the 13 national equity exchanges, each time-stamped to the microsecond, and has served as an analytical tool to review trading activity and inform policy making by the SEC’s Division of Trading and Markets.

¹ Thesys to Build System Tracking All Stock and Options Orders, Dave Michaels, The Wall Street Journal (Jan. 17, 2017) *available* [here](#).

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Pursuant to the NMS Plan, Thesys will be responsible as the Plan Processor for: (1) building, operating, maintaining, and upgrading the digital database (the “Central Repository”) that holds trading information from the U.S. equity and options markets (the “CAT Data”); (2) ensuring the security and confidentiality of all CAT Data reported to the Central Repository; (3) publishing technical specifications containing detailed instructions for the submission of data by the SROs and broker-dealers to the Central Repository; and (4) maintaining policies and procedures related to the CAT.

The CAT will significantly increase U.S. equity and options market information available to regulators and will afford them the ability to analyze the complete life cycle of orders and transactions in equities and options by broker-dealers, investment advisers, and other market participants.² SEC Chair Mary Jo White noted that the “expected benefits of the CAT for regulators include improving our ability to conduct market research, reconstruct market events, monitor market behavior, and identify and investigate market misconduct.”³

Compliance Timeline

The SEC has confirmed the NMS Plan’s staggered timetable implementing the CAT as follows:

- Within four months of November 15, 2016 (the “Effective Date”), each national securities exchange and national securities association currently registered with the SEC (each, a “Participant”) will synchronize its business clocks (and will require its industry members to synchronize their business clock);
- Within one year of the Effective Date, each Participant must report CAT Data to the Central Repository;
- Within 14 months of the Effective Date, SROs must implement enhanced surveillance using CAT Data;
- Within two years of the Effective Date, each Participant must require its industry members (other than certain smaller broker-dealers) to report data to the Central Repository; and
- Within three years after the Effective Date, each Participant must require its smaller industry members to provide data to the Central Repository.

² See SEC Approves Plan to Create Consolidated Audit Trail, SEC Press Release 2016-240 (Nov. 15, 2016); Joint Industry Plan, Order Approving the National Market System Plan Governing the Consolidated Audit Trail, Exchange Act Release No. 34-79318 (Nov. 15, 2016) (the “Order”).

³ Statement at Open Meeting: Order Approving the Consolidated Audit Trail National Market System Plan, Public Statement by SEC Chair Mary Jo White (Nov. 15, 2016).

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Structure and Oversight of the Consolidated Audit Trail

Under the terms of the NMS Plan, each Participant will jointly own a not-for-profit Delaware limited liability company (the “CAT LLC”) that will create, implement and maintain the CAT. The CAT LLC will be managed by an operating committee (the “Operating Committee”) that will consist of one voting member and one alternate voting member to vote in the voting member’s absence, representing each Participant. The CAT LLC will also have an advisory committee (the “Advisory Committee”) that will advise the Participants on the implementation, operation, and administration of the Central Repository. The Operating Committee will select one member from representatives of certain specified categories to serve on the Advisory Committee on behalf of himself or herself individually and not on behalf of the entity for which the individual is then currently employed.⁴ Additionally, no member of the Advisory Committee may be employed or affiliated with any Participant or any of its affiliates or facilities. The Advisory Committee has the right, among others, to: (1) receive the same documents and information concerning the operation of the Central Repository as the Operating Committee (unless the Operating Committee deems certain information confidential); (2) attend Operating Committee meetings, subject to certain exceptions; and (3) submit its view prior to a decision by the Operating Committee. The Operating Committee may solicit and consider views of other stakeholders on the operation of the Central Repository, including from the Advisory Committee.

SEC’s Response to Commenters on the Originally Proposed NMS Plan

In an April 27, 2016 proposing release, the SEC staff requested public comment on a number of different aspects of the NMS Plan. This request included 456 specific questions, covering a range of topics including costs and benefits; impact on efficiency, competition, and capital formation; and the appropriateness of the proposed organizational, governance, and managerial framework.⁵

⁴ See Order at pages 27, 153-154. The categories are: (1) a broker-dealer with no more than 150 registered persons; (2) a broker-dealer with at least 151 and no more than 499 registered persons; (3) a broker-dealer with 500 or more registered persons; (4) a broker-dealer with a substantial wholesale customer base; (5) a broker-dealer that is approved by a national securities exchange: (a) to effect transactions on an exchange as a specialist, market maker or floor broker; or (b) to act as an institutional broker on an exchange; (6) a proprietary-trading broker-dealer; (7) a clearing firm; (8) an individual who maintains a securities account with a registered broker or dealer but who otherwise has no material business relationship with a broker or dealer or with a Participant; (9) a member of academia who is a financial economist with expertise in the securities industry or any other industry relevant to the operation of the CAT; (10) three institutional investors; (11) an individual with significant and reputable regulatory expertise; and (12) a service bureau representative; provided that the above categories must include, in aggregate, no fewer than three broker-dealers that are active in the options business and no fewer than three broker-dealers that are active in the equities business.

⁵ Exchange Act Release No. 34-77724 (Apr. 27, 2016). See Willkie Farr & Gallagher LLP Client Memorandum, “Potential Effects of the Proposed Consolidated Audit Trail on Investment Advisers, Broker-Dealers, and Other Market Participants,” May 18, 2016, [available here](#).

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The SEC amended certain provisions of the NMS Plan, in part due to industry feedback to the original plan, including: (1) CAT funding; (2) reporting obligations; (3) increased data security requirements; and (4) tightening synchronization standards.

Funding Model

The NMS Plan contemplates a bifurcated funding model where the cost of building and operating the Central Repository will be borne by: (1) Participants and industry members that are execution venues through fixed-tier fees; and (2) by industry members other than Alternative Trading Systems (“ATs”) through fixed-tier fees based on message traffic. With respect to execution venues, the Operating Committee will establish at least two, and no more than five, tiers of fixed-fees based on the: (1) execution venue’s NMS stock and over-the-counter equity securities market share, as calculated by share volume; and (2) execution venue’s list options market shares, as calculated by contract volume. With respect to industry members, the Operating Committee will establish fixed fees to be payable by industry members based on the message traffic generated by such industry member. This funding model excludes consideration of the volume of over-the-counter equity securities and NMS stocks at an ATS for fee-computation purposes and prevents a scenario where ATS trade volume results in additional funding obligations for ATS operators.

In the proposed plan, the SEC estimated that initial aggregate implementation cost of the CAT would be approximately \$2.4 billion, and \$1.7 billion in ongoing annual costs. In the NMS Plan, the SEC increased its estimate to include an additional \$55 million in system retirement costs. We expect it will be difficult for the SROs to absorb all the costs of creating, maintaining, and fulfilling reporting obligations under the NMS Plan. As a result, we would expect these costs to be passed on to customers to some degree—typically broker-dealers in the first instance, and in turn, investment advisers sending orders for execution, and finally investors, who may see increases in transaction costs.

Certain commenters to the proposed plan advocated for greater transparency into CAT funding, including a recommendation that the CAT be required to file “publicly disclosed annual reports, audited financial statements, and executive compensation disclosure.”⁶ In response to these commenters, the NMS Plan requires Participants to provide to the SEC, in a public filing, an independent audit of fees, costs and expenses incurred by the Participants, prior to the effective date, and at least one month prior to submitting any rule to establish initial fees. The SEC noted that “any such filing will be published for notice and comment, and that such an audit would facilitate public comments and the [SEC]’s review of these filings to ensure the fees imposed on [i]ndustry [m]embers are reasonable, equitable and not unfairly

⁶ See Theodore R. Lazo, Managing Director and Associate General Counsel, and Ellen Greene, Managing Director, Financial Services Operations, Securities Industry and Financial Markets Association, dated July 18, 2016.

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discriminatory.”⁷ The SEC also highlighted that the funding model is intended to operate the CAT on a “Break-even basis, without creating profits for individual Participants.”⁸

Reporting Obligations

Duplicative Reporting

Pursuant to Rule 613, the NMS Plan contains a framework for eliminating rules and systems that would be rendered duplicative by the CAT. The proposed plan required Participants to analyze which of their rules and systems would be: (1) duplicative of the CAT within 12 months from the onset of Central Repository reporting; and (2) partially duplicative or non-duplicative of the CAT within 18 months from the onset of Central Repository reporting. The final NMS Plan accelerated the deadline for Participants to report duplicative, partially duplicative and non-duplicative rules and systems to six months from the NMS Plan approval date. The SEC noted that the change is intended to reduce the burden on broker-dealers reporting duplicative trade data to multiple systems, but recognized that the accelerated filing deadline “will not effectuate an immediate retirement of duplicative rules and systems—the actual retirement of such rules and systems must depend upon the availability of comparable data in the CAT of sufficient accuracy and reliability for regulatory oversight purposes.”⁹ The NMS Plan also requires each Participant to propose rule-change filings with the SEC within six months of determining that an existing system or rule should be modified or eliminated. Accordingly, the final implementation of the CAT will require additional regulatory action to modify or eliminate certain rules and regulations.

Additionally, some commenters to the proposed plan suggested that the SEC eliminate requirements such as Rule 13h-1 under the Exchange Act and Form 13H regarding large trader filings because the SEC staff “will have access to the same information that they are receiving through Form 13H through CAT.”¹⁰ In response, the SEC noted that Form 13H collects information to identify a large trader, its securities affiliates, and its operations, and does not collect audit trail data on effected transactions, which does not render Form 13H filing requirements duplicative or redundant. However, the SEC staff was directed to amend Rule 13h-1 to eliminate the transaction reporting requirements effective at such time as CAT data meets minimum standards of accuracy and reliability.¹¹

⁷ Order at 412.

⁸ *Id.*

⁹ *Id.* at 319.

¹⁰ *Id.* at 331.

¹¹ *Id.* at 333.

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SRO Reporting

SROs will be required to submit an annual written assessment to the SEC, which will include discussion and analysis of critical technological developments, including upgrades, information security, and industry standards to ensure that the CAT remains at the operational frontier of data collection and storage. The SEC amended the NMS Plan to enhance the specificity of these assessments, including required discussion of backup restoration capabilities, error reporting and date modifications, and clock synchronization.

SROs also will be required to submit a one-time report once the CAT is operational, which will include: (1) an independent audit of fees incurred by Participants to ensure that fees passed on to industry members from the SROs are “reasonably equitable and not unfairly discriminatory”;¹² (2) assessments of synchronization before reporting begins; (3) a surveillance-related report; (4) a report that addresses the feasibility of a bulk download by a reporting entity; (5) error and correction reporting; (6) the impact of tiered fees on market liquidity; and (7) an assessment of the impact of a material systems change.

Data Security

The SEC noted that “[s]everal commenters believed that the CAT NMS Plan did not provide enough detail regarding the security and confidentiality of CAT Data.”¹³ In response, the NMS Plan subjects the Plan Processor to the full National Institute of Standards and Technology Cybersecurity Framework (“NIST Framework”) and requires that the Plan Processor implement security controls and protocols with respect to: (1) physical assets and personnel of the CAT; (2) training of all persons who have access to the Central Repository; (3) encryption at rest and in transit of CAT Data; (4) remote access to the CAT; (5) handling of personally identifiable information; (6) data transmission and storage (including penetration testing and third-party audits); (7) access to personally identifiable information and other CAT Data including network security, firewalls, systems management, and data loss prevention; and (8) minimum industry standards that must be followed by the Plan Processor.¹⁴

Under the NMS Plan, the Plan Processor must appoint a Chief Information Security Officer (“CISO”) who “has a broad range of responsibilities regarding the security of the CAT Data.”¹⁵ For example, the CISO will review the data security policies and procedures of all Participants that extract CAT Data on their own systems, whether on a local server or in the cloud, to determine whether their policies and procedures are comparable to the data security policies and procedures applicable to the Central Repository. The CISO must provide notice to the Operating Committee of any cybersecurity

¹² *Id.* at 963.

¹³ *Id.* at 228.

¹⁴ *Id.* at 230-231.

¹⁵ *Id.* at 235.

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breaches or deficiencies such as abnormal usage of CAT Data containing customer-related and personally identifiable information. The NMS Plan notes that the Plan Processor, subject to the Operating Committee's oversight, will ensure that the CISO has appropriate resources to fulfill the obligations of CISO, including providing appropriate responses to questions posed by the Participants and the SEC.¹⁶

For Commissioner Michael S. Piwowar, "the need for robust protection of customer data trumps all the other issues that have been raised."¹⁷ He noted that with respect to data security, the NMS Plan "as amended establishes significant data security obligations for the SROs, but the [SEC] itself is not subject to those requirements."¹⁸ Although the SEC takes the position that it is not legally required to apply the data security provision of the NMS Plan to itself, the SEC has stated its intention to supplement its policies and procedures and adhere to a rigorous set of standards that will adequately safeguard CAT Data.

Clock Synchronization

In the proposed plan, Participants were required to synchronize their business clocks to within 50 milliseconds of the NIST Framework at a minimum and consistent with industry standards. In an effort to enhance the accuracy of CAT reporting and provide better sequencing across markets, the NMS Plan requires SROs to initially synchronize their clocks to within 100 microseconds subject to certain exceptions. This amendment requires SROs to assess industry standards for clock synchronization based on the particular type of Participant or system as opposed to the industry overall. Reportable order events must be reported to the millisecond, except for manual order events, which are subject to reporting to the second.

The NMS Plan imposes a more stringent standard for clock synchronization; however, Commissioner Kara M. Stein asserted that "the revisions do not go far enough because only the exchanges are subject to the more stringent standard. At a minimum, alternative trading venues and high speed algorithmic traders need to have a similar standard."¹⁹ She noted that the NMS Plan requires Participants to conduct a study on clock synchronization and to propose appropriate amendments to the NMS Plan within six months and that the SEC "needs to constantly monitor going forward to ensure that appropriate and timely amendments are made."²⁰

¹⁶ *Id.* at 159.

¹⁷ Statement on the Joint Industry Plan on the Consolidated Audit Trail ("CAT"), Public Statement by SEC Commissioner Michael S. Piwowar (Nov. 15, 2016).

¹⁸ *Id.*

¹⁹ Statement on the Joint Industry Plan on the Consolidated Audit Trail ("CAT"), Public Statement by SEC Commissioner Kara M. Stein (Nov. 15, 2016).

²⁰ *Id.*

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Conclusion

Although the selection of the Plan Processor represents an early stage in the implementation of the CAT, affected SROs, broker-dealers, and service providers should identify and sharpen their focus on the compliance and technology changes that will be required to comply with the NMS Plan. For an even broader set of market participants, including investment advisers and trading firms, the selection of the Plan Processor is a reminder that significant changes in the way the SEC is able to surveil the activities of intermediaries and market participants are on the near horizon.

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