

CONSOLIDATED AUDIT TRAIL



CAPCO

White Paper





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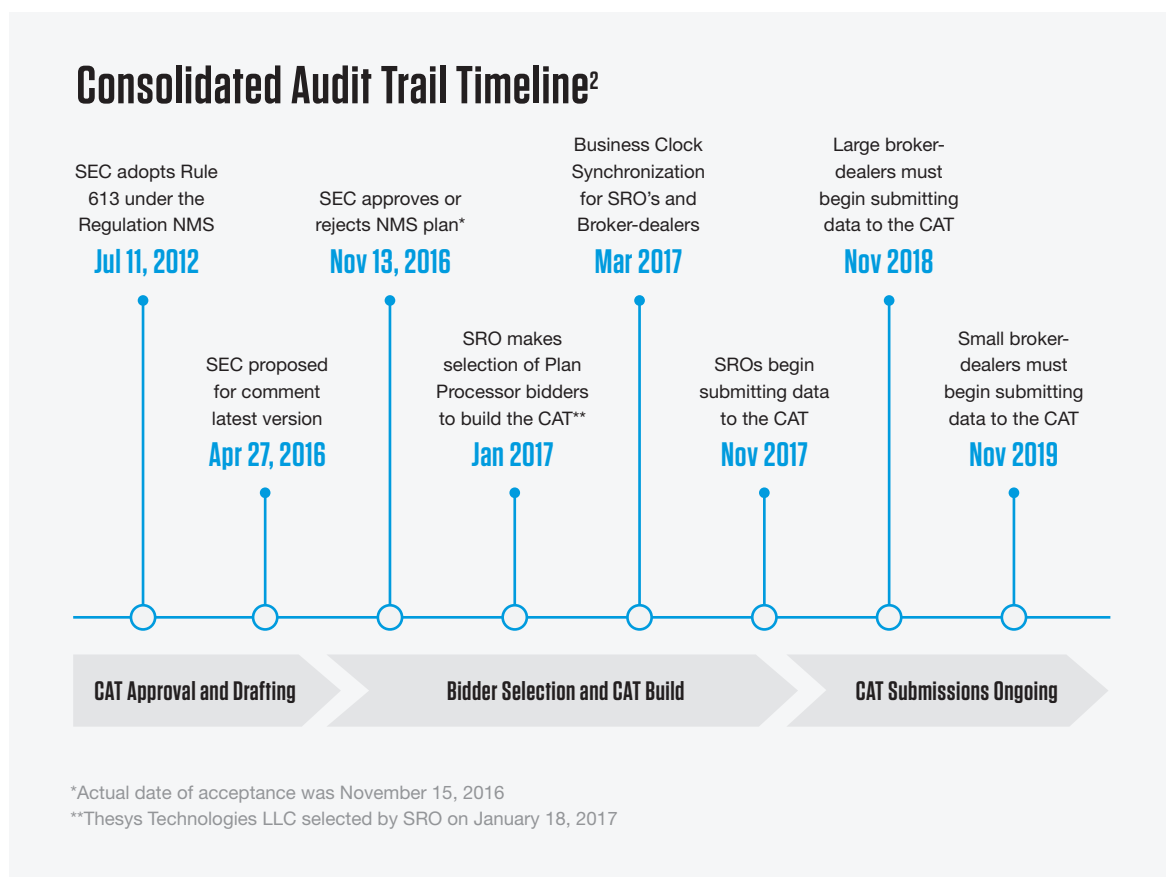
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What is it?

SEC Rule 613, otherwise known as the Consolidated Audit Trail (CAT), announces a plan to establish a central data repository to house a complete record of all equities and options trades in the U.S. National securities exchanges, and self-regulatory organizations (SROs) will be required to submit trade information to the CAT to allow regulators to efficiently and accurately track all activity through the U.S. market in National Market System (NMS) securities.¹ Over time, this single reporting process is expected to replace existing ones, such as Electronic Blue Sheets (EBS) and FINRA's Order Audit Trail System (OATS).

The existing market surveillance tools have various limitations that the CAT seeks to supplement. Current tools exhibit various shortcomings concerning the regularity of reporting, as well as the completeness, accuracy/validity and accessibility of data.¹ More specifically, present tools frequently lack a daily reporting requirement and the capacity to identify if multiple sets of orders were originated by the same customer. By aggregating information in an accessible, centralized location, the SEC expects CAT to address these deficiencies. The present lack of cohesion diminishes regulators' capability to survey and identify noncompliant trading activity in the market.



What's the impact?

Aside from it representing a paradigm shift in the regulation of U.S. markets, the CAT initiative demands changes to some of your firm's systems and processes. The implementation of CAT necessitates changes to equity and options trade reporting systems and the extent of attributes currently being reported. CAT will drive changes to the front-, middle- and back-office operations of approximately 2,000 firms and 19 self-regulatory organizations (SROs), and ingest upwards of 58 billion records of trading events daily.³ Some associated processes, including client onboarding and account relationship maintenance, will transform with this increased need for robust data retention infrastructure.

Capco's view

To fully comply with the intended requirements of CAT, Capco suggests clients perform impact assessments to determine changes to their operations and technology systems, data processing, and risk and regulatory compliance processes. The following sections highlight the challenges we anticipate these three broker-dealer functions will experience during and after implementation, and our recommendations for how to prepare.

OPERATIONS AND TECHNOLOGY

The CAT will have a significant impact on broker-dealers and SROs operations and technology. Operationally, the adoption of the CAT may necessitate the identification and purchase of new trading order management infrastructure to accommodate the new reporting process. The current version of the CAT includes equities and options; however, it may be extended to cover other products in the future, in which case any infrastructure should be flexible enough to permit expansions.⁵

Additional cost increases may result from the simultaneous implementation of the CAT and maintenance of legacy reporting systems. Existing reports (OATS, EBS, Large Trade Reports, etc.) should be phased out over time, but the duration of these reports' overlap with CAT is currently unknown.

Technologically, to ensure that the SROs and SEC can use the collected data, the CAT will unavoidably need to overcome various obstacles.³ The CAT could potentially constitute a major change to client onboarding tools and other supporting technological substructures. There will be an increased need for robust client information security and privacy, as well as various technology and data processing tools.⁵ Clients may need to redefine and expand their processes for data retention from a customer onboarding perspective. When a third party is involved in data processing or clearing, clients will experience a further challenge in fully realizing the audit trail CAT requirements.

Compliance with the CAT initiative will require SROs to begin submitting data to the central repository within a year of its acceptance by the SEC. This fact alone indicates a quick timeline to develop and implement any requisite system changes. An example of one of the distinct reporting features required by the CAT that may mandate system changes is that firms must report trade events to the nearest millisecond, a divergence from the current mandate to report to the nearest second.

Similarly, within four months of the acceptance of the NMS Plan (March 2017), CAT requires SROs and broker-dealers to synchronize their business clocks and time stamps to 50 milliseconds against the National Institute of Standards and Technology clock, posing an interesting technological challenge in itself.⁶ Firms will likely incur costs developing and maintaining software programs that synchronize to within 50 milliseconds or if purchasing external programs to fill that need. Firms may also need to update their technology hardware and servers to report to the millisecond or finer increment and maintain the 50 millisecond standard.

To prepare for the CAT and all of its operational and technological implications, broker-dealers should begin to classify how their current systems will experience change, identify any dependencies or unique challenges, and locate gaps in reporting coverage. **Capco can help to assess the integrity of your firm's reporting systems and legacy infrastructure with respect to the impact the CAT will have, as well as help formulate strategies to ensure the smooth adoption of the rule.**

DATA SECURITY

The adoption of the CAT evokes concern about how the central repository will use, secure, and synchronize the aggregated data among the players in the U.S. securities market. The plan sets forth various data security requirements that will have an impact on connectivity, data transfer, encryption, storage, access, breach management and personally identifiable information (PII).⁵

A major concern arises from the increased accuracy of customers' PII, which makes customers more easily identifiable and therefore more susceptible. The CAT Plan Processor will establish an inclusive security plan which will specify encryption and security requirements of data at the time of submission and also while it exists in the central repository. The CAT Plan Processor will designate various procedures necessary to support cybersecurity as well as data stability.⁵ Once the data is extracted from the central repository for analysis, however, the challenge of how to maintain cybersecurity and stability will be thrown into sharp relief.

Firms are required to designate a chief information security officer to create and enforce policies to monitor data security. All customer and customer account data captured in the CAT must be stored in a physically separate secure database, segregated from all other nonregulatory systems' infrastructure.⁷ Additionally, regular penetration testing and code security audits must be incorporated into a data security plan, and all data centers must receive audits at least once annually and be SOC-2 certified.⁷

The SEC will most likely rely on individual SROs to be able to validate that customer identifiers (name, Social Security numbers, Individual Taxpayer Identification numbers, etc.) are correct. The CAT itself will be unable to achieve this type of complex customer identification. Therefore, firms must implement a separate process for the request, access and retrieval of PII.⁷ Additionally, clients may need to update their customer onboarding processes to verify that unique identifiers are accurate.

To prepare for the need for heightened data security, firms should begin analyzing points of vulnerability and existing cybersecurity systems. Firms should also take time to validate the accuracy and completeness of current customer databases. **Capco can assist with the assessment of your firm's data security and help set the course to fill in any gaps in data storage, security threats and governance processes.**

RISK AND REGULATORY COMPLIANCE

FINRA members must enhance reporting protocols to include all orders, quotes and associated trade life cycle events (origination, routing/rerouting, modifications, cancellations, executions).¹ The CAT also requires the creation of an industrywide unique client identifier system to enhance market surveillance, detection of unauthorized account holders and reconstruction. The CAT database will include account number and type, the date the account was opened, large trader ID if applicable, as well as customer type, ID and PII.⁴

The risk and regulatory compliance requirements of the CAT surpass the scope of EBS and OATS, so firms will need to adapt to include the new measures. Adherence to the regulatory reporting requirements of the CAT is expected to add significant costs to broker-dealers, who are already expending substantial efforts to maintain current regulatory requirements.

EBS will need to be maintained until all broker/dealers submit their data to CAT, historical investigations are supported by the CAT and any missing data attributes are included or remediated. OATS must be maintained until the CAT contains ample data for FINRA to conduct surveillance for potential violations of rules and regulations, and the SEC approves the elimination or amendment of OATS rules. Preservation of these and other legacy regulatory systems must occur in parallel with preparation for and adoption of the CAT, putting stress on a firm's ability to maintain a cohesive and efficient compliance infrastructure. To account for this maintenance challenge, changes to the front- and middle-office infrastructure, reporting and client onboarding processes may be necessary.

Furthermore, compliance and risk management policies and procedures may require updates. Recurrent reports with the current list of authorized users and date of latest access must be provided to SROs, SEC and the CAT Operating Committee. Procedures must be in place to grant appropriate access to all CAT Data to authorized regulators, to limit the use of data obtained for regulatory purposes and to verify the list of active users in regular intervals, with firm barriers implemented and penalties imposed for noncompliant access.⁷

Clients can also expect to spend more in the immediate months during and after implementation of Rule 613 to increase both internal and external compliance awareness and training. Firms must ensure all individuals who have access to the CAT are trained to address the confidentiality and security of information, as well as any operational risks associated with accessing the CAT.⁷

Capco can assess your firm's current Risk Culture and adherence to regulatory requirements and create a strategic plan to manage the additional regulatory and compliance demands of the CAT.

Why should you care?

The CAT is one of the most comprehensive private sector data projects ever undertaken. The CAT will require an innovative approach to big data analytics to provide a secure platform with the agility to evolve with the changing demands of regulatory institutions. CAT will need to support multiple transport mechanisms – such as FIX, NDM, MQ and web-based – and the creation of standards to protect nonpublic information in reporting.⁵ The CAT should have the ability to suggest corrections and be able to correct erroneous information without maiming any parties.⁵

SIFMA's preliminary review of the likely costs broker-dealers will face reveal that the CAT will impact the whole enterprise (trading, order routing/management, compliance, risk, middle- and back-office processes, and data management).⁵ In addition, during and immediately after the implementation, when the CAT exists beside existing regulatory reporting systems such as EBS and OATS, costs will exceed normal operating costs until the former tools are phased out. Overall, new costs will be incurred from investments in infrastructure, amendments to existing order management systems, new processes and training, building out third-party interfaces, and project team salaries.⁵

The NMS CAT plan was accepted this past November, and the participating SROs selected Thesys Technologies LLC in January of 2017 as the vendor to build the central repository. The CAT will be built out over the year, and SROs are expected to begin reporting their trade data by November 2017.² Broker-dealers should take advantage of the time before the CAT is implemented to survey their internal processes to confirm they can provide thorough and correct information to the repository. Firms should seek to understand how much additional work and capital will be needed to be able to comply with the demands of the rule.

Capco is counseling clients to be proactive in their approach to managing the adoption of this initiative. We encourage clients to think critically about establishing practical plans for the facilitation and execution of testing, both internally and externally across the industry. Once the effectiveness of the approved NMS CAT Plan is determined, firms should implement strategies and begin to coordinate execution broadly across internal channels.

Capco has a unique approach to solving for various regulatory considerations and has expertise in leading large transitional initiatives with a focus on readiness. Our methodology targets assessments in the following key areas:

- 1. Integrity of reporting systems and legacy infrastructure from creation to submission**
- 2. Data security related to data storage, security threats and governance**
- 3. Current adherence to regulatory requirements and additional regulatory and compliance demands**

Our approach helps to define readiness by ensuring data protection and security throughout the implementation without compromising on efficiency.

SOURCES

- 1. SECURITIES AND EXCHANGE COMMISSION**
[Release No. 34-67457; File No. S7-11-10]
Consolidated Audit Trail
- 2. SEC Rule 613:** Consolidated Audit Trail (CAT) <http://www.catnmsplan.com/implementationtimeline/>
- 3. NMS Plan:** Summary of the Consolidated Audit Trail Initiative (May 2016) http://www.catnmsplan.com/web/groups/catnms/@catnms/documents/appsupportdocs/cat_consortium_process_background_050516.pdf
- 4. SEC Rule 613:** Consolidated Audit Trail (CAT) FAQ http://www.catnmsplan.com/cat_faq/index.html
- 5. SIFMA** “Industry Recommendations for the Creation of a Consolidated Audit Trail (CAT)” (2013)
- 6. FINRA** Regulatory Notice 16-23 Clock Synchronization https://www.finra.org/sites/default/files/notice_doc_file_ref/Regulatory-Notice-16-23.pdf
- 7. High Level CAT Security Requirements** http://www.catnmsplan.com/web/groups/catnms/@catnms/documents/appsupportdocs/cat_nms_security_requirements_032416.pdf



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ABOUT CAPCO

Capco, an FIS™ company, is a global management consultancy with a focus in financial services including banking and payments, capital markets, and wealth and asset management, plus a dedicated energy division. We combine innovative thinking with unrivalled industry knowledge to deliver business consulting, digital, technology and transformational services. Our collaborative and efficient approach helps clients reduce costs, manage risk and regulatory change while increasing revenues.

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