

# Update on the Consolidated Audit Trail (CAT) Industry Member Technical Specifications

*Consolidated Audit Trail National Market System Plan  
presented by the CAT NMS, LLC Operating Committee*



November 7, 2018

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# Overview

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- On October 30, 2018, the participants of the CAT NMS Plan (“Participants”) published the final version (Version 1.0) of the CAT Reporting Technical Specifications for Industry Members (“Technical Specifications”). This version incorporates industry feedback submitted to the Participants since publication of the Version 0.6 draft published on September 5, 2018.
- No further material changes to the Technical Specifications are planned for publication before the November 15, 2019 CAT implementation date.
- Version 1.0 covers Phases 2a and 2b of Industry Member reporting, in accordance with the phased-in approach to Industry Member Reporting to the CAT. Key dates for the implementation of Phases 2a and 2b are described in the Technical Specifications.
- Note that a proposed amendment to the CAT NMS Plan will be filed with the Securities and Exchange Commission (“Commission”) to reflect the phased approach for Industry Member reporting described in the Technical Specifications. That proposal is subject to the Commission’s approval.

# Industry Member Reporting Timelines (by Reporter Type)

Type of Reporter	Phase	Date
Large Broker-Dealers	2a – Equities Part 1 (includes Small Broker Dealers that are OATS Reporters)	November 15, 2019
	2b – Options Part 1	May 15, 2020
	2c – Equities Part 2	September 1, 2020
	2d – Options Part 2	May 15, 2021
	Customer and Account Data	November 15, 2021
Small Broker-Dealers <sup>1</sup>	2a – Equities Part 1 (excludes Small Broker-Dealers that are OATS Reporters)	November 15, 2020
	2b – Options Part 1	May 15, 2021
	2c – Equities Part 2	September 1, 2021
	2d – Options Part 2	May 15, 2022
	Customer and Account Data	November 15, 2022

<sup>1</sup>The SEC defines a small broker-dealer as a broker or dealer that: (a) had total capital (net worth plus subordinated liabilities) of less than \$500,000 on the date in the prior fiscal year as of which its audited financial statements were prepared pursuant to §240.17a-5(d) or, if not required to file such statements, a broker or dealer that had total capital (net worth plus subordinated liabilities) of less than \$500,000 on the last business day of the preceding fiscal year (or in the time that it has been in business, if shorter); and (b) is not affiliated with any person (other than a natural person) that is not a small business or small organization as defined in SEC Rule 0-10.

# Phase 2a Detailed Timelines

Event	Date
Detailed Scope Finalized	✓ August 1, 2018
FDID Guidance	✓ August 15, 2018
Mapping of OATS Interpretive Guidance to CAT	✓ August 15, 2018
Final Decision on Event Types (e.g., route modifications, etc.)	✓ August 15, 2018
Publication of first draft of Spec for Phase 2a and 2b	✓ September 5, 2018
Publish Technical Field Mapping of OATS Spec to CAT Spec	✓ September 5, 2018
Industry Feedback Due	✓ October 1, 2018
Publish Final Spec for Phase 2a and 2b	✓ October 30, 2018
Industry Test Opens	August 15, 2019
Conformance Period for 2a Starts	November 15, 2019
2a Go-live	November 15, 2019
Conformance Period for 2a Ends	February 24, 2020

# Phase 2a and 2b Detailed Scope (1/2)

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## Phase 2a – Equities Part 1

- All events and scenarios covered by OATS
- All proprietary orders including market maker orders
- Firm Designated ID (mandatory by end of regulatory conformance period)
- All street side representative orders (both agency and proprietary)
- Linkage is required between the representative street side order and the order being represented when the representative order was originated specifically to represent a single order (received either from a customer or another broker-dealer) and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system
- Electronic listed quotes (NMS stocks) sent to an exchange or the ADF \*assumes exemptive relief request for verbal quotes
- Unlisted quotes (OTC Equity Securities) received by a broker-dealer operating an inter-dealer quotation system (e.g., Global OTC, OTC Link) \*see above comment on verbal quotes
- Unlisted quotes that meet the definition of bid or offer under the Plan sent by a broker-dealer to a quotation venue not operated by an SRO or broker-dealer \*see above comment on verbal quotes
- Electronic capture time for manual orders
- Special Handling instructions on Route Reports (limited to a defined set of values)
- OATS guidance regarding firm modifications to previously routed orders (OATS FAQ C35) applies to CAT \*subject to Event Type Decision

# Phase 2a and 2b Detailed Scope (2/2)

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## Phase 2a – Equities Part 1 (Cont.)

The scope for each phase as described in the previous slide is in Version 1.0, with the exception of the following equity items that have been deferred to Phase 2c:

- Electronic quotes in listed securities not sent to an exchange or the ADF
- Marking of representative orders related to price guaranty scenarios (e.g., guaranteed VWAP)
- Reporting changes to client instructions regarding modifications to algos
- Linkage of duplicate electronic messages related to a manual order event between the electronic event and the original manual route

## Phase 2b – Options Part 1

- During Phase 2b of the revised implementation schedule, Industry Members will be required to report to the CAT Industry Member Data related to Eligible Securities that are options and that is related to Simple Electronic Option Orders, excluding Electronic Paired Option Orders.
- “Simple Electronic Option Orders” mean orders to buy or sell a single option that are not related to or dependent on any other transaction for pricing or timing of execution that are either received or routed electronically by an Industry Member CAT Reporter.
- “Electronic Paired Option Orders” mean electronic option orders that contain both the buy and sell side that is routed to another Industry Member or exchange for crossing and/or price improvement as a single transaction on an exchange. Further, the events related to Simple Electronic Option Orders subject to reporting in Phase 2b are limited to those events which involve electronic receipt of an order, or electronic routing of an order.
- Electronic receipt of an order is defined as the initial receipt of an order by an Industry Member in electronic form in standard format directly into an order handling or execution system.
- Electronic routing of an order is the routing of an order via electronic medium in standard format from one Industry Member’s order handling or execution system to an exchange or another Industry Member.

# Key Changes to Technical Specifications

Item	Change Description
<b>Session ID</b>	Removed Session ID as a component of the IM to IM linkage criteria and require routed order ID be unique for each calendar day/symbol/IMID combination.
<b>OTC Equity Quote Events</b>	Added solicited/unsolicited code, sequence number and quote condition to OTC equity quote events.
<b>Option Origin Code</b>	Added Origin Code to Option New Order Event and replaced occClearingRange with Origin Code on other events.
<b>Optional reporting of linked multi-leg option orders in special circumstances</b>	In the narrow circumstances of a multi-leg linked complex order being sent or received in order routing protocols as multiple messages containing the single legs, it is preferred to not report the event associated with the messages to CAT in Phase 2b. However, if the CAT Reporter cannot suppress the events, they may report with the individual legs marked with handlingInstructions value of CMPX (complex order) and with the appropriate Prior Unlinked and Next Unlinked fields. It should be noted that the reporting of this scenario will change in Phase 2c.
<b>Preventing errors on unlinked events due to the definition of 2b scope</b>	Two fields have been added to most option events to indicate circumstances where due to the definition of Phase 2b scope, unlinked events would occur. By appropriately using the Prior Unlinked and Next Unlinked fields, the CAT Reporter can indicate that the prior or next event is not being reported because it involves a manual order, a complex order, or a paired order. This will indicate to the Plan Processor to not attempt linkage.
<b>Duplicate Electronic Messages Related to Manual Order Events</b>	Added electronic duplicate indicator for electronic messages that duplicate previously reported manual orders and optional Manual Order ID field on the electronic message that will be used in Phase 2c to link the electronic duplicate to the original manual order.
<b>Reporting Changes to Client Instructions regarding modifications to Algos</b>	Added ALG and ALGMod as optional values in the handlingInstructions field as optional in Phase 2b.
<b>Representative Order Flags</b>	Modified values for representative order flags and order fulfillment linkage flags and added an appendix providing detailed guidance on the representative order linkage requirements.
<b>Child Order Events</b>	Added child order events for options.
<b>Internalized Trades</b>	Updated Trade Event to allow for the reporting of FDID and account type for the firm side of an internalized trade instead of an order ID.
<b>IMID usage in IM to IM linkage</b>	A methodology for determining which IMID to use when routing to or receiving an order from another Industry Member has been published in CAT Alert 2018-003.



# CAT Reporting Scenarios for Industry Members

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- The Participants have created a separate companion document to be used in conjunction with the Technical Specifications, the CAT Reporting Scenarios for Industry Members (“Reporting Scenarios”).
- The Reporting Scenarios document contains detailed reporting guidance on how to report various equity and options order handling and execution scenarios for Phases 2a and 2b.
- The Reporting Scenarios section of the Technical Specification has been removed in lieu of this new companion document.
- This document will be updated periodically as new scenarios are presented to the Participants.
- The Reporting Scenarios document is subject to the same Operating Committee approval process as the Technical Specifications.

# Industry Member CAT Registration Timelines

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Event	Date
CAT registration starts with collection of basic company info	December 10, 2018
All IMs self-declare CAT Phase and begin connectivity registration process	January 1, 2019 – March 29, 2019
Primary Administrator Contact (phase 2a) delegates Administrators and system Users	March 29, 2019 – June 28, 2019
Deadline for B/Ds to provide connectivity details to Thesys CAT	May 15, 2019
Reporter Portal registration and login setup (start)	June 28, 2019
Thesys CAT completes connectivity set-ups	July 26, 2019 – August 15, 2019
Industry Testing Period for Phase 2a starts	August 15, 2019

# CAT Alert for Industry Member IDs (1/2)

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Industry member IDs (IMIDs) that appear in order event reports submitted to CAT must conform to rules established to minimize ID conflicts and streamline event processing. Rules/standards related to proper IMID representation in order event records are described below.

## **Orders routed to an exchange**

- Firms routing an order to an exchange must populate the Sender IMID field in the Order Route Event with the identifier used when the order was submitted to the exchange. This identifier should be the same as Routing Party ID reported by the Participant Exchange on its own CAT Order Accept Event. This requirement is consistent with current OATS guidance which requires that the Exchange Participant ID is populated with the exchange identifier used when entering the order.

## **Orders routed to another industry member**

- When orders are routed between two Industry Members, the same IMID (defined here as any SRO-assigned identifier) must be used by both the sender and receiver or the events cannot be unlinked.

# CAT Alert for Industry Member IDs (2/2)

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## Default CAT reporting IMID

- The Plan Processor is required to publish each day a list of all SRO-assigned identifiers that includes a designated Default CAT Reporting IMID. The default IMID is selected by each CAT Reporter when they register as a CAT Reporter.
- If two parties do not have a pre-determined agreement as to which IMID should be used when reporting the receipt or route of an order from another IM CAT Reporter, the published default CAT Reporting IMID should be used.
- The default IMID can be either an equity- or options-assigned identifier and can be used on both equity and options events regardless of whether it was assigned by an equity or options exchange.

## Conflicts with SRO-assigned IMIDs

- Because a single Industry member ID (IMID) might be used by different SROs for different entities, the Plan Processor shall publish a daily file highlighting any conflicts among the SRO-assigned IMIDs.
- If such a conflict exists for a specific IMID, the Industry Member can choose to use either 1) the IMID assigned by an SRO that is not in conflict with other IDs, or 2) the IMID field may be populated with the combination of the issuing SRO and that specific SRO-assigned Industry Member Identifier.

# **Addenda to Technical Specifications – March 2019 (1/2)**

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By no later than March 31, 2019, the participants of the CAT NMS Plan (“Participants”) will publish a set of addenda to the CAT Reporting Technical Specifications for Industry Members (“Technical Specifications”).

The addenda will include further details surrounding several key implementation issues, as summarized in the subsections below.

## **Industry Member and Security Master Daily Lists**

The 3/31/19 addenda will include additional information surrounding the following items, including file formats, retrieval instructions and sample files.

- SRO-assigned Industry Member Identifiers
- Conflicts in SRO-Assigned Industry Member Identifiers
- Start-of-day Security Master
- End-of-day Security Master

## **JSON Schema**

- The 3/31/19 addenda will include the JSON schema file (noted in Section 2.4 of the Technical Specifications). The schema file will be posted on the CAT NMS public website.

# **Addenda to Technical Specifications – March 2019 (2/2)**

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## **Registering instructions for ATS Order Types**

- The 3/31/19 addenda will include specific instructions for registering ATS Order Types. This information will be published in a CAT alert.
- Note that all ATS Order Types must be registered with CAT twenty (20) business days prior to the order type becoming effective.

# Upcoming Activities and Events

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## **OATS to CAT FAQs**

- The SROs Participants published an OATS to CAT FAQ mapping on August 15, 2018.
- The SROs Participants plan to publish a CAT specific version of these FAQs by November 15, 2018 to assist Industry Members in their development efforts.

## **Upcoming Webinars**

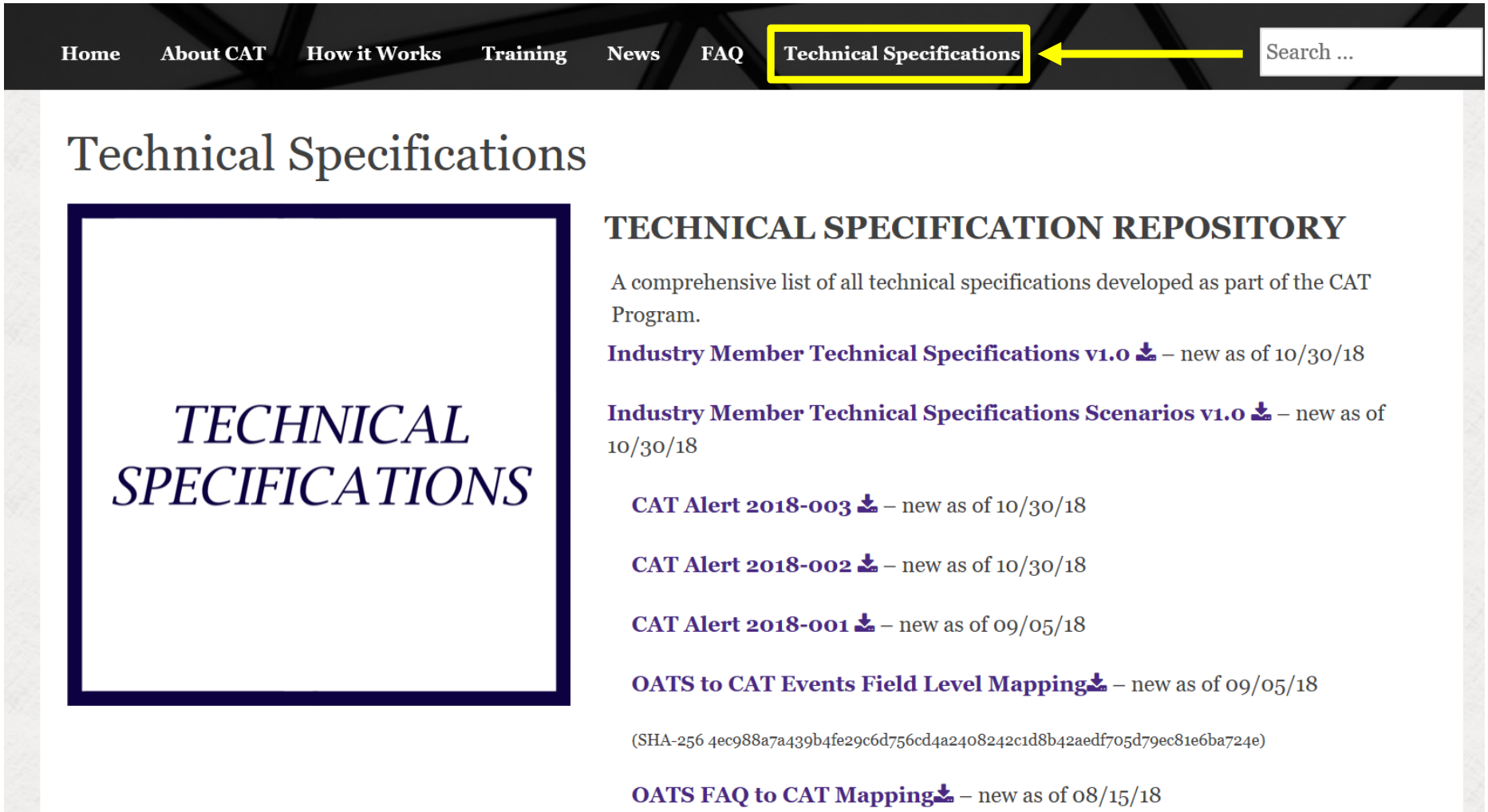
- Options webinar – Thursday, November 8, 2018
- Equity webinar – Wednesday, November 14, 2018

## **Upcoming Options In-Person Meetings**

- Chicago
- New York City

# Accessing Technical Specifications/Scenarios on the CAT Website

- The below snapshot illustrates how to access the Tech Specs through the CAT NMS website



Home About CAT How it Works Training News FAQ **Technical Specifications** Search ...

## Technical Specifications

### TECHNICAL SPECIFICATION REPOSITORY

A comprehensive list of all technical specifications developed as part of the CAT Program.

**Industry Member Technical Specifications v1.0** 📄 – new as of 10/30/18

**Industry Member Technical Specifications Scenarios v1.0** 📄 – new as of 10/30/18

**CAT Alert 2018-003** 📄 – new as of 10/30/18

**CAT Alert 2018-002** 📄 – new as of 10/30/18

**CAT Alert 2018-001** 📄 – new as of 09/05/18

**OATS to CAT Events Field Level Mapping** 📄 – new as of 09/05/18

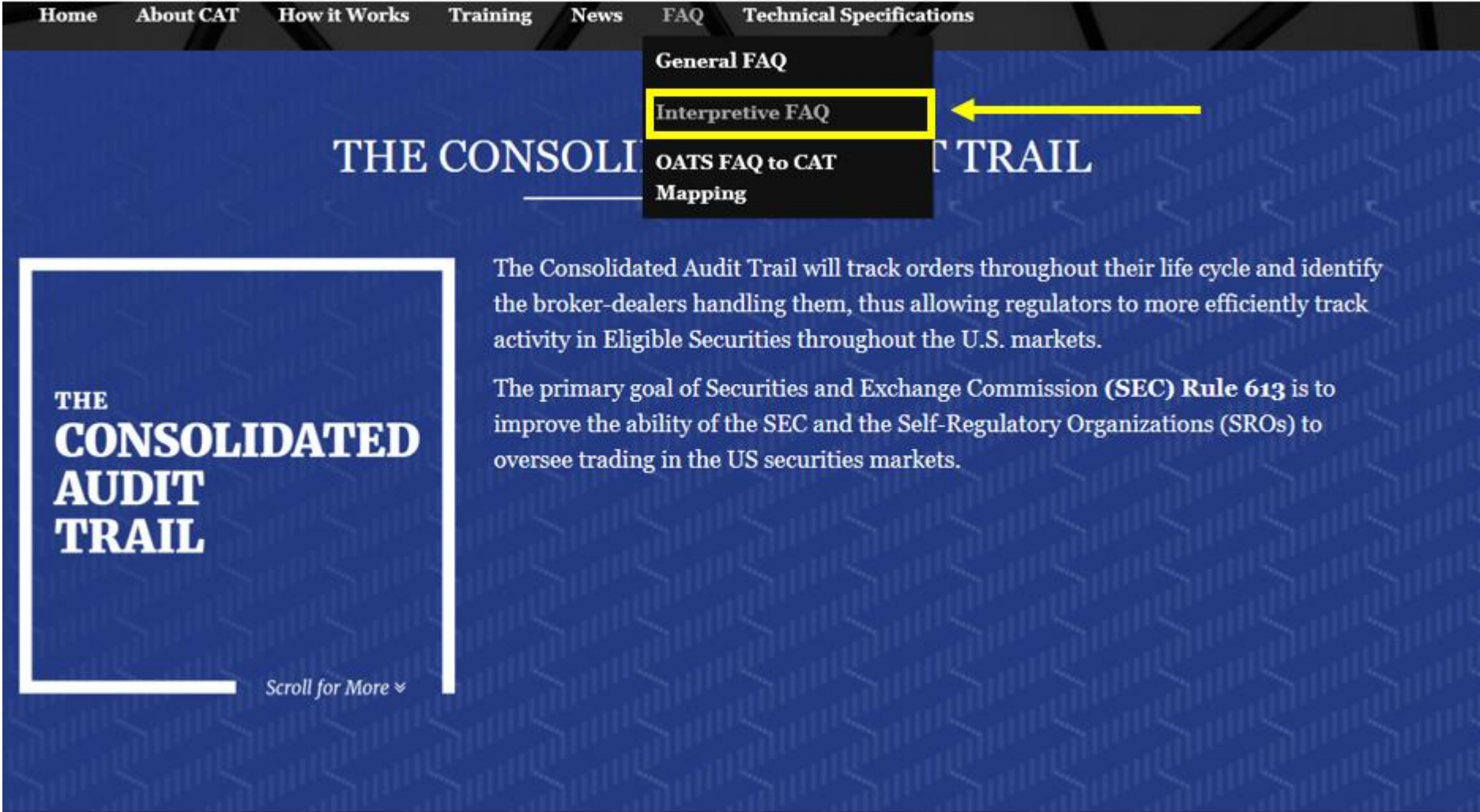
(SHA-256 4ec988a7a439b4fe29c6d756cd4a2408242c1d8b42aedf705d79ec81e6ba724e)

**OATS FAQ to CAT Mapping** 📄 – new as of 08/15/18



# Accessing Interpretive FAQs on the CAT NMS Website

- The below snapshot illustrates how to access the interpretive FAQs through the CAT NMS website



# CAT NMS Plan Website Subscription

- The CAT NMS website ([www.catnmsplan.com](http://www.catnmsplan.com)) has launched a subscription feature to receive periodic updates regarding CAT implementation

The screenshot shows the 'CAT NMS Plan Website Email Notifications' form. At the top, there is a navigation bar with links: Home, About CAT, How it Works, Training, News, FAQ, and Technical Specifications. Below the navigation bar, the title 'CAT NMS Plan Website Email Notifications' is displayed. A paragraph of text reads: 'Please enter your contact information below in order to receive updates regarding the CAT NMS Plan, the www.catnmsplan.com website, and other CAT updates.' The form itself contains four input fields: 'First Name', 'Last Name', 'Company', and 'Email'. Below these fields is a blue 'Submit' button. At the bottom of the form area, there is a link: 'Please click **HERE** if you would like to unsubscribe from notifications'. The footer of the page features a dark background with a yellow arrow pointing to a 'Subscribe' button, followed by links for 'Contact Us', 'FAQ', 'Legal Notice', and 'Privacy Policy'. The copyright notice 'Copyright 2018 CAT NMS LLC' is also present.

# CAT Help Desk

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- The CAT help desk is now live and can be reached in the following ways:
  - **Email Address:** [helpdesk@thesyscat.com](mailto:helpdesk@thesyscat.com)
  - **Phone Number:** (833) CAT-SERV or (833) 228-7378
  - **Hours of Operation:** 9AM-5PM Eastern Time (Weekdays only)
- Currently, the help desk is available to address general questions relating to the following topics:
  - CAT NMS website
  - Media relations
  - Go-live dates
  - Technical Specifications (e.g., publication schedule)
  - CAT users
  - System security
- For additional information please visit the CAT NMS website ([www.catnmsplan.com](http://www.catnmsplan.com))

**Questions?**