

Industry Update on the Consolidated Audit Trail

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



June 28, 2018

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CAT Leadership Team

On June 7, 2018, the SROs voted to appoint the following individuals to the CAT Leadership Team to further enhance the governance and project management of CAT:

- **Cindy Retterer (Nasdaq):** Lead person overseeing the CAT project, the various workstreams, and identifying and resolving issues
- **Soniya Shrivastav (NYSE):** Responsible for driving decisions, deliverables, and project planning to meet CAT-related milestones
- **Shelly Bohlin (FINRA):** Responsible for driving the completion of the Industry Member Reporting Specifications, including resolution of all related interpretive issues
- **Tom Busch (Cboe):** Serves as a technology advisor, with a primary focus on User Acceptance Testing

CAT Master Plan

- On May 25, 2018 the Participants submitted a Master Plan to the SEC, including revised implementation timelines for Industry Member reporting as initially proposed in the November 13, 2017 Exemptive Request submitted to the SEC
- Although the Master Plan has not been approved by the SEC, the Participants will be operating under the timelines outlined in the Master Plan
- Under the proposed Master Plan timelines, Industry Members will begin reporting to CAT using a phased approach beginning in November 2019, with final implementation of all phases by November 2022

Implementation Update: Phased-In Approach

- The Participants have proposed a phased approach for Industry Members that includes five phases. While this phased approach was informed by the FIF Alternative Approach presented to the SROs by the FIF, there are substantive differences in both the timelines and the scope of each phase from that of the FIF Alternative Approach
- The Participants also have proposed allowing Industry Members to submit data using either an OATS-based format or the native CAT format. Data submitted in an OATS-based format would be converted by Thesys CAT to the native CAT format for use by regulators
- On June 7, 2018, the Participants presented the proposed phase-in approach below to the Industry Member Tech Specs Working Group (incl. FIF, STA and SIFMA) to solicit feedback on the proposed approach

Order Reporting Phase	Description	Who Must Report?	Reporting Format	Implementation Date*
2a	All equity events and scenarios captured by OATS plus equity MM orders, FDID and one for one representative order linkages	<ul style="list-style-type: none"> • Large Broker-Dealers • Small Broker-Dealers that are OATS Reporters (requires SEC action) 	<ul style="list-style-type: none"> • OATS-based format, or • Native CAT format 	November 15, 2019
2b	Simple Electronic Options	<ul style="list-style-type: none"> • Large Broker-Dealers 	<ul style="list-style-type: none"> • Native CAT format 	May 31, 2020
2c	All additional equity reporting: full representative order linkages, Equity Quotes, Allocations	<ul style="list-style-type: none"> • Large Broker-Dealers 	<ul style="list-style-type: none"> • OATS-based format, or • Native CAT format 	September 1, 2020
2d	Options- Manual and Complex Orders	<ul style="list-style-type: none"> • Large Broker-Dealers 	<ul style="list-style-type: none"> • Native CAT format 	May 15, 2021
2e	Small Industry Members report all events for equities and options	<ul style="list-style-type: none"> • Small Broker-Dealers 	<ul style="list-style-type: none"> • OATS-based format, or • Native CAT format 	November 15, 2022
Customer and Account Information Reporting (Large Broker-Dealers): PII Alternatives are still under consideration				November 15, 2021

IM Tech Specs: Proposed Reporting Format Options

The SROs have presented details of the two proposed reporting format alternatives to the Industry Member Tech Specs Working Group (incl. FIF, STA and SIFMA).

➤ Two alternatives:

- Native CAT: reflected in the current working draft of the native CAT format IM Tech Specs (current working draft is modified from v0.1 published in September 2017)
- OATS-Based:
 - Specific amendments to the current OATS reporting format will be required for such submissions to be compliant with the CAT NMS Plan. Specific amendments are expected to be provided to the Industry Member Tech Specs Working Group during the week of July 9th.
 - Thesys CAT will convert these submissions to the internal binary CAT format for regulatory use

➤ Use of the formats:

- Native CAT format may be used for equities and options
- OATS-based format may only be used for equities

➤ Sunsetting of the OATS format:

- The OATS-based format will be sunset at some time in the future
- The determination of when to sunset the OATS-based format will be subject to a cost-benefit analysis and notice and comment period for Industry Members to provide feedback
- The decision will be finalized after this feedback process

IM Tech Specs: Key Changes to v0.1

In response to industry and SRO feedback, Thesys CAT has made the following key changes to the current draft of the IM Tech Specs:

- Updated Trading Day definition to 4:15PM ET
- Use of any SRO-assigned Industry Member IDs
- Sequence numbers and NBBO are required for ATS reports only
- Use of OSI symbol for Options is allowed
- Basket Order ID is no longer required on New Order
- All free-form fields are removed
- Many additional changes to events and specific fields
- Updates to ensure all data needed for OATS retirement is included

Schedule for Publication of IM Tech Specs

- Under the Master Plan, the proposed schedule for publication of IM Tech Specs is outlined below. The SROs shared an updated working draft of the native CAT format IM Tech Specs with the IM Tech Specs Working Group on June 14, 2018 in an effort to determine if the changes made address industry concerns prior to public dissemination and to determine the feasibility and benefits of offering two formats (native CAT and OATS-based).

Technical Specifications Dates			
Phase 2a	First Draft August 1, 2018 (with Interp Issues resolved) Industry feedback due September 1, 2018	Second Draft October 15, 2018	Final November 15, 2018
Phase 2b	First Draft August 1, 2018 (with Interp Issues resolved) Industry feedback due September 1, 2018	Second Draft October 15, 2018	Final November 15, 2018
Phase 2c	First Draft March 15, 2019 (with Interp Issues resolved) Industry feedback due April 30, 2019	Second Draft May 15, 2019	Final June 15, 2019
Phase 2d	First Draft June 1, 2019 (with Interp Issues resolved) Industry feedback due July 15, 2019	Second Draft August 15, 2019	Final October 15, 2019

Industry Member Reporting

- Currently, the requirements set forth in Section 6.7(a)(v) of the CAT NMS Plan state that each Participant must require its Industry Members (other than Small Industry Members) to report to the Central Repository Industry Member Data by November 15, 2018
- The CAT System will not be able to accept Industry Member Data on the November 15, 2018 reporting date, and the regulators will not expect Industry Members to report such data until the System is ready to accept Industry Member reports. Under the proposed Master Plan timelines, Industry Members will begin reporting data related to equities to CAT in November 2019.
- Paraphrasing SEC Chairman Clayton's response to a question on Industry Members reporting to the CAT at a Security Traders Association event in April 2018: "If you're supposed to mail a letter but there's no mailbox . . . you hold the letter until they build the mailbox."

Update on PII

- The CAT NMS Plan currently requires that PII be reported to CAT so that customers can be uniquely identified across broker-dealers for use in cross market surveillance, market reconstruction, and investigative efforts
- In an effort to minimize the PII captured and stored in CAT, while still achieving the regulatory objectives of CAT, the SROs, in consultation with the Advisory Committee, have evaluated possible alternatives to the current Plan requirements
- The alternative we are currently focusing on, which was suggested by the SEC staff, is to keep the current Rule 613 Customer and Account Information database requirements but instead of the Plan Processor retaining an actual SSN for natural persons, the Plan Processor would maintain a non-reversible secure hash of the SSN. There are several variations of this approach under consideration (i.e., is the secure hash performed by Plan Processor, industry members, or both?; is date of birth included as part of such a hash?)
- On June 8, 2018, the SROs presented the SEC staff alternative to the Industry Member Tech Specs Working Group (incl. FIF, STA and SIFMA). The industry groups and associations are in the process of providing feedback on this alternative, which is now targeted for mid-July.
- The Participants will prepare a summary of the advantages and disadvantages of the current approach, the SEC Staff approach, and the SRO Alternative approach previously vetted with the industry, and are targeting providing that summary to the SEC the week of July 16, 2018
- By August 15, 2018, the CAT Operating Committee will decide which, if any, of the alternatives to PII to pursue as part of the Customer and Account Information specifications

Participant (SRO) Testing

- The SROs have submitted test data to Thesys CAT and are in the process of testing their submission files and query capabilities of the Central Repository. Thesys CAT began to accept SRO data in January, 2018
- The SROs and Thesys CAT have finalized the Test Plan and test scripts for User Acceptance Testing (UAT). The SROs are on track to commence the first UAT Cycle on July 18, 2018 following completion of the third party security assessment, which is currently in progress.
- Subsequent UAT Cycles (Cycle 2 and 3) are scheduled to commence on August 24, 2018 and September 21, 2018 respectively before the SRO go-live date of November 15, 2018

Interpretive FAQs on the CAT NMS Website

Since the previous Industry Update Webcast, the following **FAQs/Guidance** for CAT requirements applicable to Industry Members have been **published on the CAT NMS website**:

- Reportable Events priced in a non-U.S. dollar currency
- Industry Member timestamps if order handling and order execution systems use different timestamp increments
- Reporting of all messages related to the transmission of an order
- Reporting the receipt of an order if the Industry Member rejects the order
- Reporting the routing of an order if the routed order is rejected by the Industry Member or Participant to which the order is routed
- Determining the time of order receipt
- Reporting a modification to a peg order every time the market moves
- Commencement of Industry Member reporting
- Trading Day definition/timeframe

The Interpretive FAQs page will be updated as new interpretive items are resolved. Questions regarding the FAQs should be directed to the **CAT Help Desk**.

Accessing Interpretive FAQs on the CAT NMS Website

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



Accessing Tech Specs on the CAT NMS Website

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

The screenshot shows the top navigation bar of the CAT NMS website with the following items: Home, About CAT, How it Works, Training, News, FAQ, and Technical Specifications. The 'Technical Specifications' item is highlighted with a yellow box and a yellow arrow pointing to it from the right.

Technical Specifications

*TECHNICAL
SPECIFICATIONS*

TECHNICAL SPECIFICATION REPOSITORY

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

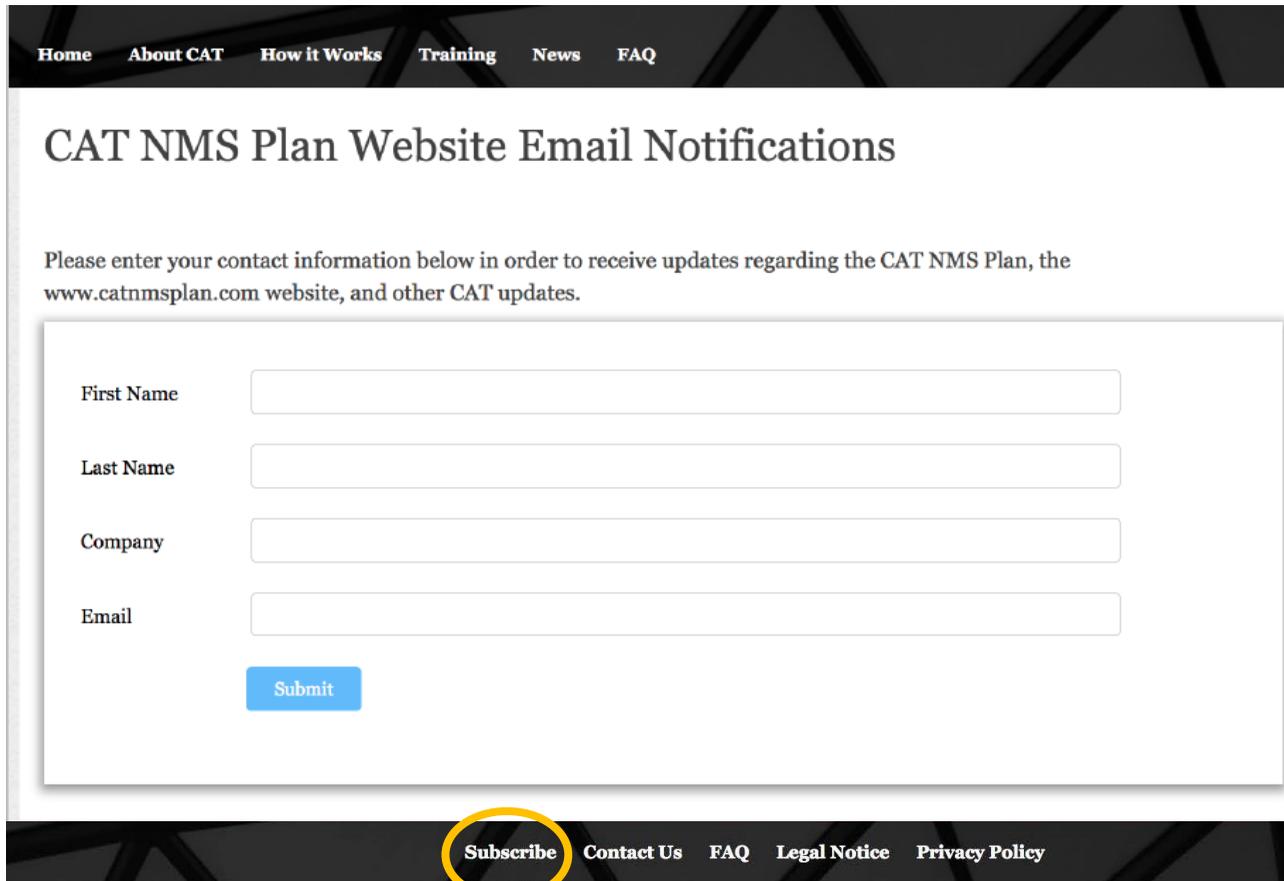
Participant Technical Specifications v1.6 📄 – new as of 03/08/18

Industry Member Technical Specifications v0.1 📄 – new as of 09/07/17

Industry Member Technical Specifications Excerpt v0.2 📄 – new as of 02/21/18

CAT NMS Plan Website Subscription

The CAT NMS website (www.catnmsplan.com) has launched a subscription feature to receive periodic updates regarding CAT implementation



The screenshot shows the website's navigation menu at the top with links for Home, About CAT, How it Works, Training, News, and FAQ. The main heading is "CAT NMS Plan Website Email Notifications". Below this is a text prompt: "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 contains four input fields: "First Name", "Last Name", "Company", and "Email". A blue "Submit" button is located below the "Email" field. At the bottom of the page, a dark navigation bar contains links for "Subscribe", "Contact Us", "FAQ", "Legal Notice", and "Privacy Policy". The "Subscribe" link is highlighted with a yellow circle and a yellow arrow pointing upwards.

CAT Help Desk

- The CAT help desk is now live and can be reached in the following ways:
 - **Email Address:** 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
 - Billing
- For additional information please visit the CAT NMS website (www.catnmsplan.com)

Questions?