Industry Test Release Status

May 12, 2020

Agenda

- Industry Test Release Update
- General Announcements & Reminders
- Upcoming Key Dates
- Q&A

Industry Test Release Update

Industry Member 2a/2b - Release 1 (File & Data Integrity) Release Rollout

Live in Industry Test

11/18/2019 Industry Test Release 1.1

- CAT Reporter Portal: ATS Order Types
- CAT Reporter Portal: CAT Reporting Relationships
- Multi-Factor
 Authentication Enabled
- Publication of IMID & Conflict List to catnmsplan.com
- Publication of Issue/Option Symbol Reference Lists to catnmsplan.com

12/16/2019 Industry Test Release

- Industry Test Open for Machine-to-Machine File
 Data Integrity
 Validations & Feedback
- CAT Reporter Portal: Basic File Statistics
- CAT Reporter Portal:
 Manual File Upload

2/24/2020 Industry Test Release 1.3

- CAT Reporter Portal: File Submission feedback
- CAT Reporter Portal: Reporting Statistics (i.e. number of records received, accepted, rejected and feedback summaries)
- CAT Reporter Portal: Error Rates
- CAT Reporter Portal: Direct data entry & corrections
- CAT Reporter Portal: Bulk Repair of applicable Syntax/Semantic Errors

03/23/2020 Industry Test Release 1.4

- Announcements
- System Status

Open

4/13/2020 Prod Environment Open

- 2a Go-Live June 22
- 2b Go-Live July 20

Industry Member 2a/2b - Release 2 (Intrafirm) Release Rollout

Intrafirm Release 2.1 Industry Test – 4/20/2020

- Industry Test Open for Machine-to-Machine Intrafirm Validations & Feedback
- CAT Reporter Portal: Basic Intrafirm Statistics

Intrafirm Release 2.1 Production – 5/4/2020

 Production Open for Machine-to-Machine Intrafirm Validations & Feedback Intrafirm Release 2.2
Industry Test – 5/18/2020
Production – 5/18/2020

CAT Reporter Portal

- Linkage File feedback
- Basic Intrafirm Statistics Simplified Screen-Intrafirm Errors/Warnings Counts
- Remove Error Codes 3008 and 3009

Intrafirm Release 2.3
Industry Test – 6/1/2020
Production – 6/1/2020

CAT Reporter Portal

- Linker Error Statistics

 (i.e. number of records with Linker Errors or Warnings by Error Codes)
- Comprehensive

 Intrafirm Statistics
 (including adding
 Attempted counts,
 Repaired Records and
 Adjusted Intrafirm
 Error Rates)

Intrafirm Release 2.4
Industry Test – 6/29/2020
Production – 6/29/2020

CAT Reporter Portal

 Ability to view and correct Intrafirm Linkage Errors

UPDATE: Route Linkage Key Validation

> Effective 5/18/2020

- Events having a duplicate Route Linkage Key will not be rejected
- Related error codes 3008 and 3009 are retired
- FINRA CAT will monitor duplicate Route Linkage Keys in Production and proactively work with firms

> Targeted for July 2020

- Events having a duplicate Route Linkage Key will be unlinked
- Unlinked error codes will be assigned
- Sender and Receiver must correct unlinked errors

Reminder: Requirements for Unique Identifiers

Currently in the Test and Production Environments

- > Firm ROE ID Facilitates Corrections
 - Must be unique for Event Date and CAT Reporter IMID
 - Formatted as <Event Date>_<Firm ROE Identifier>
 - Events with a duplicated Firm ROE ID are rejected
- > Order/Trade/Fulfillment/Quote Key Facilitates Intra-venue Linkages
 - Must be unique for Key Date, Key ID, CAT Reporter IMID and symbol
 - Refer to IM Specs 2.6.1, Table 5
 - All events with a duplicated key are rejected

Targeting July 2020

- Route Linkage Key Facilitates Inter-venue Linkages
 - MUST be unique for SenderIMID, Destination/ReceiverIMID, Event Date, Symbol/Option ID, Routed Order ID
 - Refer to IM Specs 2.6.3, Table 7
 - All events with a duplicated key are unlinked

Industry Test Status – As of May 8, 2020 Statistics

| Item | Statistic – Last Week | Statistic – This Week | Increase/Decrease |
|---|---|---|---|
| Number of Firms Certified | 470 | 555 | Increased by 85 firms |
| Number of Firms operating under CAT Reporter Agreements | 1,393 | 1,394 | Increased by 1 firm |
| Number of Reporting Relationships Entered | 2,102 relationships from 1,110 firms | 2,132 relationships from 1,123 firms | Increased by 30 across 13 firms |
| Number of ATS Order Types Entered | 614 order types from 25 ATS firms | 614 order types from 25 ATS firms | No change |
| Number of Total Submitters | 192 | 198 | Increased by 6 submitters |
| Number of IMIDs | 1,520 from 1,074 firms | 1,549 from 1,096 firms | Increased by 29 across 22 firms |
| Number of Files Received | 2,639,155Reporter Portal: 25,045Private Line: 2,614,110 | 2,947,831Reporter Portal: 26,312Private Line: 2,921,519 | Increased by 308,676 Reporter Portal: 1,267 Private Line: 307,409 |
| Number of Files Rejected | 463,261 | 569,069 | Increased by 105,808 |
| File Reject Rate | 17.55% | 19.30% | Increased by 1.7% |

Industry Test Status – May 4– May 8, 2020 Statistics

| | Product Type | | | | | | | | | |
|---------------------|----------------|-------------|----------------|---------------|------------|----------------|----------------------|----------|----------------|--|
| CAT Processing date | Equities | | | Options | | | DEL/Unparsed records | | | |
| | Processed | Rejected | Rejection Rate | Processed | Rejected | Rejection Rate | Processed | Rejected | Rejection Rate | |
| 5/4/2020 | 7,889,633,923 | 11,607,388 | 0.15% | 364,803,972 | 20,114,692 | 5.51% | 2,012 | 1,996 | 99.20% | |
| 5/5/2020 | 7,156,569,638 | 14,817,764 | 0.21% | 270,016,933 | 121,683 | 0.05% | 54,627 | 503 | 0.92% | |
| 5/6/2020 | 9,115,334,647 | 24,294,897 | 0.27% | 322,365,508 | 617,660 | 0.19% | 48,820 | 48,707 | 99.77% | |
| 5/7/2020 | 6,509,896,450 | 9,473,112 | 0.15% | 300,785,019 | 88,625 | 0.03% | 43,070 | 43,053 | 99.96% | |
| 5/8/2020 | 6,117,808,317 | 74,808,553 | 1.22% | 224,288,589 | 411,330 | 0.18% | 79,450 | 79,427 | 99.97% | |
| Total | 36,789,242,975 | 135,001,714 | 0.37% | 1,482,260,021 | 21,353,990 | 1.44% | 227,979 | 173,686 | 76.19% | |

FINRA CAT Open Issues List – As of 5/12/2020 Release Planned/Workaround Provided

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date/Workaround | Production Environment Targeted Release Date/Workaround | Area |
|---|--------------|---------------|---|--------------|----------|--|--|--------------------------|
| 1 | Open | N/A | Linkage Warning count in Intrafirm statistics does not include Error Code 397 (Late Reported Intrafirm Event). | Code Release | Medium | 5/18/2020 | 5/18/2020 | Intrafirm Statistics |
| 2 | Open | N/A | Reporter Portal is not accurately reflecting Repair Count and Adjusted Error Rate when corrections submitted for a single day per firm exceed 100,000. Additionally, Error Counts on Error Summary screen do not reflect errors in excess of 100,000. | Code Release | Medium | Workaround: FINRA CAT Helpdesk will support Long term fix: Release planning in progress | Workaround: FINRA CAT Helpdesk will support Long term fix: Release planning in progress | Events Statistics |
| 3 | Open | N/A | Few firms are experiencing isolated timeout issues errors when accessing the Error Summary Screen in the Portal. | Code Release | Low | 4/20/2020 | 5/18/2020 | Reporter Portal |
| 4 | Open | N/A | FINRA CAT is incorrectly accepting pipe () value in text fields within multi-dimensional array (e.g. orderID in aggregatedOrders). | Code Release | Medium | To be scheduled | To be scheduled | Ingestion Validations |
| 5 | NEW– Open | 3502 | FINRA CAT is generating Unlinked Error instead of a Warning when the order referenced in the side details of the trade originated prior to go-live. | Code Release | Medium | 5/12/2020 | 5/18/2020 | Intrafirm Feedback |

FINRA CAT Open Issues List - Planned Enhancements

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date | Production Environment Targeted Release Date | Area |
|---|--------|---------------|--|--------------|----------|--|--|--------------------------|
| 1 | Open | 2019 | FINRA CAT is accepting the following scenario instead of rejecting – <i>destinationType</i> = F and <i>destination</i> not provided on Order Route. | Code Release | High | 5/11/2020 | 5/18/2020 | Ingestion Validations |
| 2 | Open | Multiple | FINRA CAT is accepting negative values in quantity fields. | Code Release | High | 5/11/2020 | 5/18/2020 | Ingestion Validations |
| 3 | Open | Multiple | FINRA CAT is accepting the following scenario instead of rejecting – Future dates in some fields. | Code Release | Low | 5/11/2020 | 5/18/2020 | Ingestion Validations |
| 4 | Open | 2133 | For Name/Value Pair Data type fields, providing a value that is not in allowable values list returns error code 2133 (Additional Field) instead of error code 2101 (Missing or Invalid timeInForce). | Code Release | Low | To be scheduled | To be scheduled | Ingestion Validations |
| 5 | Open | 2122 | Incorrect error code is generated when an array field (e.g., clientDetails) is provided as a Name/Value pair. | Code Release | Low | To be scheduled | To be scheduled | Ingestion Validations |

FINRA CAT Recently Closed Issues

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date/Workaround | Production Environment Targeted Release Date/Workaround | Area |
|---|--------|---------------|---|---------------------------|-----------|---|---|-------------------------|
| 1 | Closed | N/A | In Industry Test only, Intrafirm statistics beyond T+1 are not correctly displayed. | Code Release | Very High | 5/7/2020 | N/A | Intrafirm Statistics |
| 2 | Closed | 398 | FNRA CAT had an incorrect prior to CAT go-live date in Industry Test for 2 days (5/5/2020 and 5/6/2020) resulting in a Warning instead of Unlinked Error. | Code Release | Very High | 5/7/2020 | N/A | Intrafirm Feedback |
| 3 | Closed | N/A | Isolated issue with Timeout Warnings at Integrity phase resulting in missing File Integrity feedback. | Monitoring for recurrence | Low | N/A | N/A | Integrity Feedback |
| 4 | Closed | 1121 | Few firms are incorrectly receiving file integrity errors due to pairing issues between the meta and data files. | Monitoring for recurrence | Low | N/A | N/A | Integrity Feedback |
| 5 | Closed | N/A | Firms are unable to edit a record in the Pending Submissions screen if they are using Firefox browser and have logged into the Portal via SRG. This issue does not impact creating or submitting an event via the Portal. | Monitoring for recurrence | Low | N/A | N/A | Reporter Portal |

Planned Industry Member Technical Specification Updates – Last Updated 5/12/2020

| # | Status | Summary | Release Date | Spec Version |
|---|--------------|--|--------------|--------------|
| 1 | Open | Add clarification surrounding feedback file naming constructs for ingestion and linker stages Clarify process for naming linkage feedback files in section 7.5.1 Section 7.1.2, #6 incorrectly includes '_Group' in the example. | 5/18/2020 | 2a/2c |
| 2 | Open | JSON Delete file examples in Appendix H were updated in v2.21 r4 and v3.1.0 r2 to remove Ingestion feedback on delete file instruction. This needs to be updated in CSV examples. | 5/18/2020 | 2a/2c |
| 3 | Open | Inconsistencies between Spec versions: 2c Spec - JSON success example in 7.5.2 should align with CSV example - meta file should read empty. This is reflected in 2a Spec. 2c Spec - JSON Example for linkage discovery errors - meta file shouldn't be empty. This is reflected in the 2a Spec. | 5/18/2020 | 2c |
| 4 | New- Open | Clarify linkage key uniqueness requirements in Section 2.6 | 5/18/2020 | 2a/2c |
| 5 | New- Open | Update the definition of <i>reportingExceptionCode</i> 'P' to include all trades where there is no change in beneficial ownership (not just desk to desk prop trades) | 5/18/2020 | 2a/2c |
| 6 | New– Open | Error Codes: Retiring error codes 894-896 and 898-899 Retiring error codes 3008-3009 and introducing new error codes Updating the requirements for error code 2190 Clarifying requirements for error codes 397 and 398 Adding new error code for Invalid combination of orderID and orderID in aggregatedOrders | 5/18/2020 | 2a/2c |
| 7 | New- Open | New handlingInstructions "DAC" (Delta Adjust at Close) | 5/18/2020 | 2b/2d |
| 8 | New- Open | Updates to Table 1 (Phase Table) | 5/18/2020 | 2a/2c |

General Announcements & Reminders

FINRA CAT Announcements

- Revised Phase 2a/2b (and conforming changes to Phase 2c) IM Technical Specification scheduled to be published by May 18, 2020.
- ➤ Effective June 1, 2020, all CAT users enrolled in Duo multi-factor authentication (MFA) must authenticate via Duo Push or USB-enabled security key to access CAT. One-time password authentication will no longer be permitted. An e-mail notification will be sent to impacted users today.
- On Wednesday, May 20, 2020 at 2:30 pm ET, Consolidated Audit Trail, LLC and FINRA CAT, LLC will host an industry webinar focusing on Intrafirm Linkage.

FINRA CAT Reminders

- Industry Members will not receive details for the records that were marked as late. FINRA CAT is analyzing the possibility of providing the file names containing records that were marked as late.
- All Test Symbols (equity and options) will be rejected in the Production Environment.
- ➤ The processing date of all submissions will be assigned based on the received timestamp of the associated metadata file. If a data file is received prior to T+1 8:00 AM EST with the associated metadata file submitted after T+1 8:00 AM EST, the submissions will be considered late.

FINRA CAT Reminders

- > File Acknowledgement is anticipated to be delivered within 10 minutes of file submission and no later than 1 hour of file submission. Submitters should not resubmit files earlier than 1 hour after original file submission.
- ➤ Consolidated Audit Trail, LLC and FINRA CAT, LLC will maintain our Weekly Industry Checkpoint Calls on Tuesdays at 4:15 pm ET until further notice.

Upcoming Key Dates

Upcoming Key Dates for Release 2a/2b

| Торіс | Event | Date |
|--|---|--------------------------------------|
| Industry Call: Industry Testing Checkpoint | Weekly Industry Testing Checkpoint Calls – Every Tuesday at 4:15 pm (ET) | January 7, 2020 until further notice |
| Release Availability | Production Open for CAT Reporter Portal Intrafirm Validations & Feedback | May 18, 2020 |
| Industry Call | Industry Webinar: Intrafirm Linkage Overview | May 20, 2020 |
| Industry Test Certification | Industry Members and CAT Reporting Agents must complete production readiness testing for 2a reporting | June 8, 2020 |
| Compliance Go-Live | Compliance Go-Live for Equities 2a file submission and data integrity validations | June 22, 2020 |
| Industry Test Certification | Industry Members and CAT Reporting Agents must complete production readiness testing for 2b reporting | July 6, 2020 |
| Compliance Go-Live | Compliance Go-Live for Options 2b file submission and data integrity validations | July 20, 2020 |
| Compliance Go-Live | Compliance Go-Live for Equities Phase 2a Intrafirm Compliance Date | July 27, 2020 |
| Compliance Go-Live | Compliance Go-Live for Options Phase 2b Intrafirm Compliance Date | August 24, 2020 |

How to Ask a Question during Today's Call

For participants using computer audio:

- Click the "Raise Hand" button at the bottom of the participants window.
- A visual prompt will indicate that your line has been unmuted.

For participants using phone audio:

- Enter *9 on your phone keypad.
- An audio prompt will indicate that your line has been unmuted.

FINRA CAT Helpdesk

Questions may be directed to the FINRA CAT Helpdesk at 888-696-3348 or help@finracat.com

Appendix

Onboarding – Certification of Production Readiness Testing

- Once CAT Reporters have completed all onboarding steps, including the successful completion of the Production Readiness Testing, each IM and CRA must contact the FINRA CAT Helpdesk (888-696-3348 or help@finracat.com).
- > The FINRA CAT Helpdesk will require the Processing Date(s) on which the testing occurred.
- Upon verification of the Production Readiness Testing and all other Onboarding Steps by FINRA CAT, CAT Reporters will be granted access to the CAT Production Environment, and a notification confirming access will be sent.

FINRA CAT Onboarding Guide is posted at https://catnmsplan.com/registration/