
Weekly Industry Checkpoint Call

January 19, 2021

Agenda

- Production Statistics
- Open Issues
- General Announcements and Reminders
- Upcoming Key Dates
- Q&A

Production Statistics

Equities – Rolling Five Day Period

Initial T+1 vs. T+5 8 am Data Ready for Regulators

January 7, 2021 – January 12, 2021

| Trade Date | Late% | Rejection Initial | Rejection Adjusted | Intrafirm Initial | Intrafirm Adjusted | Interfirm Sent Initial | Interfirm Sent Adjusted | Interfirm Received Initial | Interfirm Received Adjusted | Exchange Initial | Exchange Adjusted | TRF Initial | TRF Adjusted | Overall Error Rate Initial | Overall Error Rate Adjusted |
|------------|--------|-------------------|--------------------|-------------------|--------------------|------------------------|-------------------------|----------------------------|-----------------------------|------------------|-------------------|-------------|--------------|----------------------------|-----------------------------|
| 1/7/2021 | .0004% | .0007% | .0003% | .0038% | .0029% | .0231% | .0190% | .0342% | .0330% | .1038% | .0912% | .2260% | .2003% | .0300% | .0259% |
| 1/8/2021 | .0058% | .0013% | .0009% | .0026% | .0019% | .0388% | .0207% | .0290% | .0170% | .1314% | .1297% | .2517% | .2109% | .0411% | .0357% |
| 1/11/2021 | .0847% | .0006% | .0003% | .0036% | .0028% | .2035% | .0195% | .4742% | .0530% | .1733% | .1458% | .2454% | .2274% | .2040% | .1173% |
| 1/12/2021 | .0032% | .0007% | .0002% | .0025% | .0019% | .0329% | .0249% | .0361% | .0163% | .1089% | .0946% | .2357% | .2141% | .0341% | .0273% |

Options - Rolling Five Day Period

Initial T+1 vs. T+5 8 am Data Ready for Regulators

January 7, 2021 - January 12, 2021

| Trade Date | Late% | Rejection Initial | Rejection Adjusted | Intrafirm Initial | Intrafirm Adjusted | Interfirm Sent Initial | Interfirm Sent Adjusted | Interfirm Received Initial | Interfirm Received Adjusted | Exchange Initial | Exchange Adjusted | Overall Error Rate Initial | Overall Error Rate Adjusted |
|------------|--------|-------------------|--------------------|-------------------|--------------------|------------------------|-------------------------|----------------------------|-----------------------------|------------------|-------------------|----------------------------|-----------------------------|
| 1/7/2021 | .0001% | 8.7247% | 8.7232% | .1653% | .1651% | .0749% | .0243% | .1017% | .1005% | .4835% | .3478% | 8.9763% | 8.9283% |
| 1/8/2021 | .0273% | 3.7621% | 3.7617% | .1734% | .1733% | .0576% | .0557% | .0925% | .0917% | .6185% | .4696% | 4.0720% | 4.0267% |
| 1/11/2021 | .0915% | .0025% | .0025% | .1023% | .1022% | .0559% | .0541% | 2.0620% | .1369% | .5374% | .3849% | .3569% | .2747% |
| 1/12/2021 | .0328% | .0036% | .0029% | .0767% | .0766% | .0213% | .0200% | .0914% | .0738% | .6178% | .3564% | .2609% | .2118% |

Open Issues

FINRA CAT File Submission and Data Integrity

Open Issues List – As of 1/19/2021

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date/Workaround | Production Environment Targeted Release Date/Workaround | Area |
|---|--------|------------|--|--------------|----------|---|---|---------------------------------|
| 1 | Open | N/A | Successful file delete submissions are incorrectly getting counted in the rejected files count in the statistics. Does not impact Compliance Error Rate. | Code Release | Low | 2Q 2021 | 2Q 2021 | Statistics |
| 2 | Open | N/A | FINRA CAT is incorrectly accepting timeInForce of GTD without a valid date. | Code Release | Medium | 2c only: 1/25/2021 | 2c only: 4/26/2021 | Ingestion Feedback & Statistics |
| 3 | Open | N/A | FINRA CAT did not recognize the early close and improperly marked as late, events that occurred between 1:15 and 4:15 pm ET and were reported by 8 am ET on the next CAT Trading Day. Impact is limited to two days – 11/27/2020 & 12/24/2020. | Code Release | Low | 2021 | 2021 | Statistics |
| 4 | Open | N/A | The below values are not yet implemented: <ul style="list-style-type: none"> handlingInstructions values 'TTF', 'TTO', and 'TTS'. | Code Release | Medium | 2a/2b: 1/25/2021 | 2a/2b: 2/14/2021 | Ingestion |
| | | | | | | 2c: 1/25/2021 | 2c: 4/26/2021 | |

FINRA CAT Linkage

Open Issues List – As of 1/19/2021

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date/Workaround | Production Environment Targeted Release Date/Workaround | Area |
|---|--------|------------------------------|---|--------------|----------|---|---|--|
| 1 | Open | N/A | Parent not found and Named errors that are reconciled continue to be displayed as 'U' (Unrepaired) in Error Summary & Error Search screens. Feedback & Reporting Summary statistics are not impacted by this issue. | Code Release | High | Update: Currently evaluating alternative approach | Update: Currently evaluating alternative approach | Error Summary & Error Search Reporter Portal |
| 2 | Open | 3601 | Out of Sequence Errors that are caused by an incorrect Time Stamp on the parent event are not being properly reconciled when the parent Time Stamp is corrected. Repaired counts and Adjusted Unlinked Rate are impacted by this issue. | Code Release | High | 1Q 2021 | 1Q 2021 | Intrafirm Statistics |
| 3 | Open | Multiple | Parent not found errors are being generated for open option orders when the option symbol changes due to corporate action. | Code Release | Medium | 1Q 2021 | 1Q 2021 | Intrafirm Linker Feedback & Statistics |
| 4 | Open | 9004 8004 7004 5004 | FINRA CAT did not recognize the early close and improperly marked as unlinked, certain events that occurred between 1:15 and 4:15 pm ET and were reported by 8 am ET on the next CAT Trading Day. Any events that were marked as unlinked were automatically reconciled the following day. Impact is limited to two days – 11/27/2020 & 12/24/2020. | Code Release | Low | 2021 | 2021 | Interfirm Exchange Trade Linker Feedback |

FINRA CAT Linkage

Open Issues List – As of 1/19/2021

| # | Status | Error Code | Summary | Resolution | Priority | Test Environment Targeted Release Date/Workaround | Production Environment Targeted Release Date/Workaround | Area |
|---|--------|------------------------------|--|--------------|----------|---|---|--|
| 5 | Open | 5004 7004 8004 9004 | FINRA CAT is incorrectly removing from intervenue linkage route events for orders originated prior to Go-Live. | Code Release | Medium | Update: 1/25/2021 | Updated: 1/25/2021 | Interfirm Exchange Trade Linker Feedback |
| 6 | Open | 8003 8004 9003 9004 | FINRA CAT is incorrectly generating interfirm unlinked errors for OTC equity securities when both sides report but the destinationType/ senderType don't match. For example, destinationType= O and senderType= F. | Code Release | Medium | Update 2a/2b: 2/8/2021 | Update 2a/2b: 2/8/2021 | Interfirm Linker Feedback |
| | | | | | | Update 2c : 2/8/2021 | Update 2c : 4/26/2021 | |
| 7 | Open | 7004 | Named Errors related to exchange linkage are not reconciled when the CAT Reporter IMID and senderIMID are not the same on the late/corrected route. Does not impact Compliance Error Rate. | Code Release | Medium | 1/25/2021 | 1/25/2021 | Exchange Linkage Statistics |

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 | 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 | 2c only: March 2021 | 2c only: 4/26/2021 | Ingestion Validations |
| 2 | 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 |
| 3 | Open | 2027 | Incorrect error code is being generated when eventTimestamp is a future date (2027 – eventTimestamp must be in the correct format instead of 2139 – eventTimestamp is greater than the current date and time). | Code Release | Low | To be scheduled | To be scheduled | Ingestion Validations |

General Announcements and Reminders

Announcements

- The presentation and recording from the 1/19/21 Technical Specification Working Group has been posted to catnmsplan.com.
- Industry Checkpoint Calls will change to bi-weekly until further notice
 - The next Industry Checkpoint Call is scheduled for 2/2/21.

Reference Data Updates

- Existing versions of the Options Start of Day and End of Day symbol files without the test flag will continue to be available until January 29, 2021, when they will be retired. Firms that use these files should plan to transition to the new versions with the test flag prior to that time.
- Effective December 21, 2020, FINRA CAT began publishing two additional symbol master files to the Reference Data page on the CAT NMS Plan website, one to provide intraday updates to the Equity Securities list and one for intraday Options symbol updates. The intraday files are updated approximately every two hours, beginning at 10:30 a.m. ET, until the End of Day files are published.

Upcoming Key Dates

Upcoming Key Dates for Phases 2c and 2d

| Topic | Event | Date |
|--|--|--------------------------------------|
| Industry Call: Industry Testing Checkpoint | Industry Testing Checkpoint Calls – Bi-weekly, on Tuesdays at 4:15 pm (ET) | January 7, 2020 until further notice |
| Release Availability | Test Environment Opens for Equities Phase 2c reporting requirements | January 25, 2021 |
| Compliance Go-Live | Production Go-Live for Equities 2c reporting requirements | April 26, 2021 |
| Release Availability | Test Environment Opens for Options Phase 2d reporting requirements | June 28, 2021 |
| Compliance Go-Live | Production Go-Live for Options 2d reporting requirements | December 13, 2021 |

How to Ask a Question during Today's Call

- **For participants using computer audio:**
 - Click the “Raise Hand” button at the bottom of the participant’s 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.

Phase 2c Cutover

Industry Webinar – 1/19/2021

Phase 2c Agenda

- Test Environments
- Changes to existing Phase 2a/2b events
- Schema Transition Requirements
- Phase 2c Deployment Timeline

Test Environments

- The current Test Environment will be used for Phase 2c testing
 - The Phase 2c Test Period begins January 26, 2021
- A *new* Prod-Mirror Environment will be used for IM testing of Phase 2a/2b code
 - Currently available for Connectivity testing only
 - new URLs assigned
 - existing Test user accounts leveraged to access Prod-Mirror
 - Connectivity Guide updated in December to include new URLs
 - AWS PrivateLink users were contacted by FINRA CAT with installation information
 - Reporting Relationships and ATS Order Types were replicated from Industry Test to Prod-Mirror on December 18, 2020. Any changes made to Reporting Relationships and ATS Order Types on/after December 18, 2020 will need to be made directly in Prod-Mirror if needed for testing.

Prod-Mirror URLs

SFTP:

- Private Line: sftp.prodmirror.ct.catnms.com
- AWS Private Link: sftp-pl.prodmirror.ct.catnms.com

IM Reporter Portal:

- SRG: <https://srg.prodmirror.ct.catnms.com>
- Private Line: <https://reporterportal.prodmirror.ct.catnms.com>
- AWS Private Link: <https://reporterportal-pl.prodmirror.ct.catnms.com>

Schema Changes for Existing Phase 2a/2b Events

| Event Type Code | Change Description | Seq# and Field Name |
|-----------------|--|-----------------------|
| MEOJ | New required field added | 31. timeInForce |
| MEOA | New required field added | 44. solicitationFlag |
| MEQR | New required field added | 24. unpricedInd |
| MEOT | New conditional field added | 32. quotingIDQS |
| | New conditional field added | 33. clearingFirm |
| | New conditional field added | 34. counterparty |
| MENO | New required field added to <i>reserved for future</i> use position | 16. solicitationFlag |
| | New conditional field added to <i>reserved for future</i> use position | 17. RFQID |
| MEOR | Updated from optional to required | 29. routeRejectedFlag |
| MENQ | Updated from optional to required | 24. mpStatusCode |
| | Updated from optional to required | 25. quoteRejectedFlag |
| | New required field added | 26. unpricedInd |

Changes to Allowable Values on Existing Events

➤ Added/Updated

| Field name | Allowable Values |
|---------------------|---|
| handlingInstruction | SWQ, J3 |
| fulfillmentLinkType | YS |
| timeInForce | GTX – <i>updated</i> to require the expiration date; Must be equal to Event Date or Event Date plus one Trading Day |

➤ Removed

| Field name | Allowable Values |
|---------------------|------------------|
| fulfillmentLinkType | YF |
| representativeInd | YF |

Changes to Conditional Validations

| Field name | Validation | Applicable Event Types |
|------------------------------------|---|------------------------|
| clearingFirm | Must be populated with <i>reportingExceptionCode</i> is 'C'; Must be blank with <i>reportingExceptionCode</i> <>'C' | MEOT |
| counterparty | | |
| bidPrice, bidQty, askPrice, askQty | Must be populated with a value greater than 0 when <i>unpricedInd</i> is false Must NOT be populated with a value greater than 0 when <i>unpricedInd</i> is true | MEQR |
| manualOrderID | Must be populated when <i>electronicDupFlag</i> is true; Must be blank when <i>electronicDupFlag</i> is false | MENO, MEOA, MEOM |
| aggregatedOrders | Must be blank when <i>representativeInd</i> is in ('YP','YE','N'); Must be populated when <i>representativeInd</i> is 'Y' | MENO, MEOM |
| firmDetails, clientDetails | Must be blank when <i>fulfillmentLinkType</i> is in ('YP','YE','N'); Must be populated when <i>fulfillmentLinkType</i> is 'Y' | MEOF |
| firmDetails, clientDetails | If populated, must be in the correct format | MEFA |

Phase 2c Submissions

- **Beginning with the CAT Processing Date of April 26, 2021, all Data Submissions must be in the Phase 2c Format**
 - All events, including lates, repairs/corrections for events that originated prior to April 26, 2021, must be reported in the Phase 2c format
 - **All metadata files must populate the *fileVersion* = 3.1.0; Files received with a prior version will reject**
 - All data files must be formatted as per the schema definition and requirements for Phase 2c
- **Error Feedback and Corrections**
 - Linkage feedback includes the **original submitted record** with additional correction related fields prepended
 - Firms using CAT provided machine formatted feedback to build their corrections files to repair Unlinked Errors must take steps to ensure all correction events meet the Phase 2c schema requirements including new fields and required values not present in the Phase 2a/2b schema

Linkage Error Feedback Transition

- Linkage errors submitted in Phase 2a/2b format must be converted to Phase 2c format if correcting on/after April 26, 2021
- Unlinked feedback for processing dates of April 26, April 27 and April 28, 2021 *may* include unlinked errors in BOTH Phase 2a/2b format and Phase 2c format

| Submission Date | Submission Format | Feedback Processing Date | | | | | | | |
|-----------------|-------------------|--------------------------|------|------|------|------|------|------|------|
| | | 4/20 | 4/21 | 4/22 | 4/23 | 4/26 | 4/27 | 4/28 | 4/29 |
| 4/20 | 2a/2b | 1 | 2 | 3 | 4 | | | | |
| 4/21 | 2a/2b | | 1 | 2 | 3 | 4 | | | |
| 4/22 | 2a/2b | | | 1 | 2 | 3 | 4 | | |
| 4/23 | 2a/2b | | | | 1 | 2 | 3 | 4 | |
| 4/26 | 2c | | | | | 1 | 2 | 3 | 4 |
| 4/27 | 2c | | | | | | 1 | 2 | 3 |
| 4/28 | 2c | | | | | | | 1 | 2 |
| 4/29 | 2c | | | | | | | | 1 |

-
- FINRA CAT is prepared to support the Phase 2c cutover by providing certain 2a/2b linkage error feedback staged for 2c schema format submission. Because this conversion from 2a/b format to 2c format adds processing time during the initial four hour window on T+1, the Participants have conditionally approved this 2c cutover support dependent on SEC approval of the requested exemptive relief to move the T+1 noon ET processing deadline to 4 pm ET. If such relief is not granted, FINRA CAT will not convert feedback to the 2c schema and Industry Members must convert to the new 2c schema prior to submitting error corrections.
 - Given that data integrity errors can include malformed messages, FINRA CAT is not planning to provide the same support for data integrity error feedback.

Linkage Error Transition Support *(Pending Approval)*

- Beginning with Linkage feedback for April 23, 2021, CAT would return errors in the Phase 2c format:
 - For errors returned in CSV format, new fields would be represented with a delimiter; No values would be populated in those fields
 - For errors returned in JSON format
 - New required non-Boolean field (TIF code on MEOJ event), would be added with a “dummy” value populated
 - New required Boolean fields would not be added since the spec interprets a Boolean that is not present as false
 - New conditional fields would not be added
 - Corrections submissions must be populated as per the Tech Specs or the events will be rejected

| Submission Date | Submission Format | Feedback Processing Date | | | | | | | |
|-----------------|-------------------|--------------------------|------|------|------|------|------|------|------|
| | | 4/20 | 4/21 | 4/22 | 4/23 | 4/26 | 4/27 | 4/28 | 4/29 |
| 4/20 | 2a/2b | 1 | 2 | 3 | 4 | | | | |
| 4/21 | 2a/2b | | 1 | 2 | 3 | 4 | | | |
| 4/22 | 2a/2b | | | 1 | 2 | 3 | 4 | | |
| 4/23 | 2a/2b | | | | 1 | 2 | 3 | 4 | |
| 4/26 | 2c | | | | | 1 | 2 | 3 | 4 |
| 4/27 | 2c | | | | | | 1 | 2 | 3 |
| 4/28 | 2c | | | | | | | 1 | 2 |
| 4/29 | 2c | | | | | | | | 1 |

Transition Support for Changes to Existing Phase 2a/2b Events *(Pending Approval)*

| Event Type Code | Change Description | Seq# and Field Name | CSV Feedback | JSON Feedback |
|-----------------|--|-----------------------|-------------------------------|--|
| MEOJ | New required field added | 31. timeInForce | Delimiter added | Field added with dummy value populated |
| MEOA | New required field added | 44. solicitationFlag | Delimiter added | Boolean field not added |
| MEQR | New required field added | 24. unpricedInd | Delimiter added | Boolean field not added |
| MEOT | New conditional field added | 32. quotingIDQS | Delimiter added | Conditional field not added |
| | New conditional field added | 33. clearingFirm | Delimiter added | Conditional field not added |
| | New conditional field added | 34. counterparty | Delimiter added | Conditional field not added |
| MENO | New required field added to <i>reserved for future</i> use position | 16. solicitationFlag | n/a; position already present | Boolean field not added |
| | New conditional field added to <i>reserved for future</i> use position | 17. RFQID | n/a; position already present | Conditional field not added |
| MEOR | Updated from optional to required | 29. routeRejectedFlag | n/a; position already present | Boolean field not added |
| MENQ | Updated from optional to required | 24. mpStatusCode | n/a; position already present | Boolean field not added |
| | Updated from optional to required | 25. quoteRejectedFlag | n/a; position already present | Boolean field not added |
| | New required field added | 26. unpricedInd | Delimiter added | Boolean field not added |

CAT will format events so that they can be ingested by firms who have transitioned to the Phase 2c format; Firms must update the corrections with values in accordance with the Phase 2c requirements

Phase 2c Code Deployment Timeline

- The Transition from Phase 2a/2b to Phase 2c schema will begin at approximately 8 am ET on April 26, 2021
- FINRA CAT will communicate via email and system announcements when the code deployment is complete

Recommendation:

Submissions for the April 26, 2021 CAT Processing Date should not begin until notice that the Phase 2c deployment is complete.

If submissions occur prior to deployment complete, the File Acknowledgement may be delayed.

Release Communications

- Industry Webinar 11/17/2020 and 1/19/2021
- Connectivity Guide Updated to include Prod-Mirror environment
- System Notifications via email and portal announcement prior to release and when deployment is complete

How to Ask a Question during Today's Call

- **For participants using computer audio:**
 - Click the “Raise Hand” button at the bottom of the participant’s 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