Weekly Industry Checkpoint Call

September 22, 2020

Agenda

- Production and Industry Test Release Updates
- Test and Production Statistics
- Interfirm Linkage Updates
- General Announcements & Reminders
- Upcoming Key Dates
- Q&A

Production and Industry Test Release Updates

Industry Member 2a/2b – Release 3 & 4 (Interfirm, Exchange & TRF) Release Rollout

Interfirm Release 3.1
Industry Test – 7/27/2020
Production – 8/10/2020

- Machine-to-Machine Interfirm Validations & Feedback including Named Errors

CAT Reporter Portal
- Download Interfirm Feedback including Named Errors
- Set preference for Named Feedback (JSON vs CSV)

Interfirm Release 3.2
Industry Test – 8/10/2020
Production – 8/10/2020

CAT Reporter Portal
- **Reporting Summary** (Interfirm Link Eligible, Errors, Warnings and Adjusted Error Rate)
- Counterparty statistics downloadable for Interfirm Unlinked and Unlinked Named Errors
- **Error Code Count** screen to include Interfirm Errors and Warning including Named Errors
- **Error Search** screen ability to view and correct Interfirm Linkage Errors (No Named Errors)

Exchange/TRF Release 4.1
Industry Test – 9/9/2020
Production – 9/28/2020

- Machine-to-Machine Exchange/TRF Validations & Feedback including Named Errors.

CAT Reporter Portal
- Download Exchange/TRF Feedback including Named Errors.

Interfirm Release 3.3
Exchange/TRF Release 4.2
Industry Test – 9/21/2020
Production – 9/28/2020

CAT Reporter Portal
- **Reporting Summary** (Exchange/TRF Link Eligible, Errors and Adjusted Error Rate).
- **Error Code Count** screen to include Exchange/TRF Errors including Named Errors.
- **New Screen including Export** for Interfirm, Exchange & TRF statistics by counterparty.
- **Error Search** screen
  - View and correct Exchange & TRF Linkage Errors.
  - View Interfirm Named Errors (not repairable via the Portal).

Phase 2a Interfirm/Exchange/TRF Compliance Date – 10/26/2020
Phase 2b Interfirm/Exchange Compliance Date – 1/4/2021

Production Statistics

Production Statistics
September 14 – September 18, 2020

Product Type	Firm Count	Total Weekly Aggregate Accepted Count	Late %	Initial Rejection %	Initial Intrafirm Unlinked %	Initial Error %	Adjusted Error %	Interfirm Sent Unlink %	Interfirm Received Unlink%
Equities	1,178	71,522,247,406	.1936%	.1835%	.5454%	.7237%	.6001%	15.2212%	17.4738%
Options	684	7,887,039,823	.0801%	.9264%	.0856%	1.0549%	1.0525%	23.1433%	7.3406%
Unknown	97	148,623	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:
1. File Rejection Rate is 0.61%
2. Average daily Accepted volume is about 14.3B for Equities and 1.5B for Options
3. Initial & Adjusted Error Rates include Late + Rejections + Intrafirm Errors

Interfirm Linkage Updates

Interfirm Results
September 14 – September 18, 2020

Process Date	EQUITIES		OPTIONS	
	Interfirm Sent Unlinked %	Interfirm Received Unlinked %	Interfirm Sent Unlinked %	Interfirm Received Unlinked %
9/14/2020	16.1469%	18.0071%	25.0254%	5.5919%
9/15/2020	15.7328%	17.2980%	17.3042%	4.2632%
9/16/2020	15.2428%	17.0965%	22.5746%	4.5642%
9/17/2020	14.6489%	17.5350%	25.4792%	17.4852%
9/18/2020	14.7069%	17.4416%	25.6458%	4.5568%

Interfirm Results
September 14 – September 18, 2020

➤ Breakdown of Overall Error Rate

REASONS:	Percentage of Overall Error Rate	
	Sender (Routes)	Receiver (Accept/Modify)
Routed Order ID mismatch (8003/9003)	72.57%	74.80%
SenderIMID mismatch (8005/9005)	12.55%	10.82%
ReceiverIMID mismatch (8007/9007)	11.08%	9.55%
Symbol mismatch (8009/9009)	0.10%	0.02%
Multiple mismatches (8011/9011)	2.53%	2.00%
Route key duplicate (8013/9013)	1.17%	2.81%

Interfirm Linkage Updates

- ➢ Effective September 28, 2020, FINRA CAT will remove leading zeros from the *routedOrderID* field for linkage purposes only in both CSV and JSON format.

  - Unlike OATS, leading zeros in the *routedOrderID* field are not rejected in CAT.

- ➢ Beginning on October 26, 2020, 9003 and 9004 Error Codes for unlinked order modification events will be eliminated from linkage feedback and linkage rate calculations.

FINRA CAT File Submission and Data Integrity Open Issues List – As of 9/22/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	Open	N/A	FINRA CAT is incorrectly marking New Order Supplements as late that were submitted on a subsequent date to update an FDID of 'PENDING'. DeMinimis impact to Daily Compliance Rate and Report Cards.	Code Release	Medium	4Q 2020	4Q 2020	Statistics
2	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	To be scheduled	To be scheduled	Statistics
3	Open	N/A	FINRA CAT is incorrectly accepting timeInForce of GTD without a valid date.	Code Release	Medium	4Q 2020	4Q 2020	Ingestion Feedback & Statistics
4	Open	2007	Unable to group repair Error Code 2007 (Missing or Invalid atsDisplayInd) when the CAT Reporter IMID is a non ATS firm.	Code Release	High	9/21/2020	9/28/2020	Reporter Portal
5	NEW–Open	2060	Intraday additions of FLEX options received by FINRA CAT after 6 pm are added to the FINRA CAT Options list effective the next day resulting in rejections for events reported for the prior day.	Code Release	Low	10/31/2020	10/31/2020	Reference Data Issue

FINRA CAT Intrafirm
Open Issues List – As of 9/22/2020

#	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 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	Solution and/or Workaround to be provided no later than October 26, 2020	Solution and/or Workaround to be provided no later than October 26, 2020	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	4Q 2020	4Q 2020	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	4Q 2020	4Q 2020	Linker Feedback & Statistics

*** The Known Issues List is published on www.catnmsplan.com under "Industry Member Specifications" ***

FINRA CAT Interfirm
Open Issues List – As of 9/22/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	NEW– Open	N/A	FINRA CAT is incorrectly providing Route/Accept unlinked feedback to small firms not required to report until 2d	Code Release	Medium	10/26/2020	10/26/2020	Reporter Portal

*** The Known Issues List is published on www.catnmsplan.com under "Industry Member Specifications" ***

FINRA CAT Exchange/TRF
Open Issues List – As of 9/22/2020

#	Status	Error Code	Summary	Resolution	Priority	Test Environment Targeted Release Date/Workaround	Production Environment Targeted Release Date/Workaround	Area
1	NEW–Open	N/A	Named Exchange Errors (CBOE Exchange) to include firmID concatenated with firmSubId (8 character value) in sessionID in error feedback file	Code Release	High	9/28/2020	N/A	Linker Feedback
2	NEW–Open	Multiple	Named TRF Errors includes blank value for issue symbol and an incorrect eventTimestamp format in error feedback file	Code Release	High	9/21/2020	N/A	Linker Feedback

*** The Known Issues List is published on www.catnmsplan.com under "Industry Member Specifications" ***

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	To be scheduled	To be scheduled	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

Early Observations with Differences in Exchange Linkages Key

The following scenarios are generating unlinked events and have been observed across many firms:

1. Firm populating incorrect Exchange ID in destination field
2. Industry Member and Exchange populating different IMIDs
3. Session IDs incorrectly populated
4. Firms improperly marking an Exchange Route as an Interfirm Route

Session Differences:

1. NYSE – For Options Exchange, NYSE will eliminate prefix
2. Cboe – 8 characters expected as per CAT guidance; Note this is different than OATS for Cboe equities where only 4 characters are required; FINRA CAT is aware that Cboe equities named feedback reflects only 4 characters. This issue is under review.

Reporter Portal – Download Feedback Screen

➤ Effective 9/28/20, all linkage errors available in machine formatted files via Portal Download
  • Record limits no longer imposed at the firm level
  • Approximately 400,000 records per file

Outstanding Linker Errors Update

➢ Beginning October 26, 2020 a daily outstanding errors file will be delivered in machine readable format available via SFTP and Reporter Portal Download

➢ The feedback file(s) will follow the current construct of the linkage feedback files (Meta & Data Pair)

- Metafile feedback will include the file extension .linkage.outstanding

- Datafile will include linkage.outstanding.error

- A firm whose linkage errors have all been repaired will get an empty file with a .outstanding.success extension

➢ The outstanding errors feedback will include all repairable linker errors (NOT WARNINGS) including named errors that are unrepaired as of a processing date for three prior trade dates. For example:

| Events Reported by 9/22 8 am | Linker Feedback 9/22 @ noon → | 1. Linker Errors for 9/21 Process Date |
| | | 2. Outstanding Linker Errors for Trade Date 9/16, 9/17 and 9/18 |
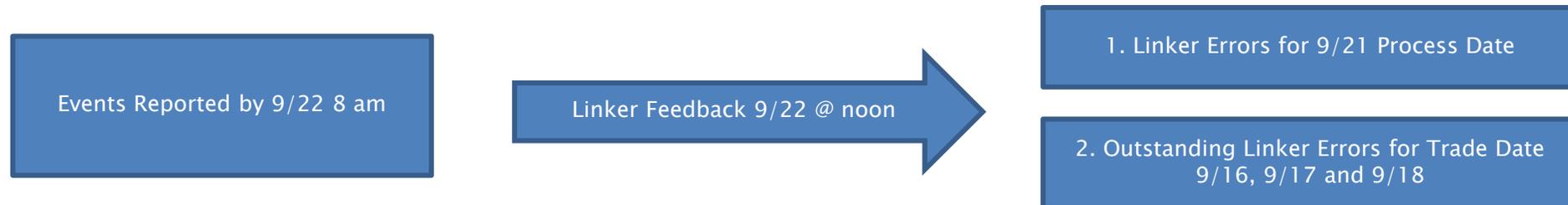
Planned Industry Member Technical Specification Updates– Last Updated 9/22/2020 – 2a/2b

#	Status	Summary	Release Date	Spec Version
1	Open	Clarify that leading zeros will also be removed for Interfirm Linkage in addition to Exchange Linkage	11/6/20	2.2.1 r8
2	Open	Clarify that 6000 and 7000 series error codes apply to both sending IMs (MEORs) and receiving outbound routers (MEOAs)	11/6/20	2.2.1 r8
3	Open	Clarify the definition of *handlingInstructions* value 'BIN' (Buy-In) – "An order placed to comply with the close out requirements of Regulation SHO Rules 203(b)(3) or 204, or FINRA Rule 4320."	11/6/20	2.2.1 r8
4	Open	Add Error Codes to support Exchange Linkage: • 6017 destination did not match: A matching routedOrderID was identified in an exchange order; however, the destination on the Order Route event did not match the exchange ID on the exchange order. • 7018 Named – destination did not match: Named on an exchange order, but the exchange ID on the exchange order does not match the destination reported on the corresponding Order Route event.	11/6/20	2.2.1 r8

General Announcements & Reminders

Reminder

➤ Effective at the end-of-day September 25, 2020, approximately 2,000 new test symbols will be added to the SOD/EOD lists.

  • These will be identified with the Test Flag (as test equity symbols are currently).

Latest Updates

➢ Published on September 15, 2020

- Industry Member Schema v2.2.1 r7 (2a/2b)
- Industry Member Schema v3.1.0 r6 (2c)

Upcoming Industry Webinars

➢ On Wednesday, September 23, 2020 at 10 am ET, Consolidated Audit Trail, LLC and FINRA CAT, LLC will host an [Industry Webinar focusing on Phase 2c](#), highlighting the differences from Phase 2a/2b with a specific focus on allocations.

➢ On Tuesday, September 29, 2020 at 10 am ET, Consolidated Audit Trail, LLC and FINRA CAT, LLC will host an industry webinar focusing on [TRF Linkage](#).

Upcoming Key Dates

Upcoming Key Dates for Release 2a/2b

Topic	Event	Date
Industry Call: Industry Testing Checkpoint	Weekly Industry Testing Checkpoint Calls on Tuesdays at 4:15 pm ET	Tuesdays, until further notice
Compliance Go-Live	Compliance Go-Live for Equities Phase 2a Interfirm, Exchange and TRF Compliance Date	October 26, 2020
Compliance Go-Live	Compliance Go-Live for Options Phase 2b Interfirm and Exchange Compliance Date	January 4, 2021

The Timeline can be found at https://catnmsplan.com/timeline

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