### **Industry Checkpoint Call**

October 26, 2021

### Agenda

- Production Statistics
- Open Issues
- General Announcements and Reminders
- Upcoming Key Dates
- Phase 2d Updates
- Q&A

#### **Production Statistics**

#### Equities - Rolling Five Day Period Initial T+1 vs. T+5 8 am Data Ready for Regulators October 7, 2021 - October 20, 2021

| Trade<br>Date | Late%   | Rejection<br>Initial | Rejection<br>Adjusted | Intrafirm<br>Initial | Intrafirm<br>Adjusted | Interfirm<br>Sent<br>Initial | Interfirm<br>Sent<br>Adjusted | Interfirm<br>Received<br>Initial | Interfirm<br>Received<br>Adjusted | Exchange<br>Initial | Exchange<br>Adjusted | TRF<br>Initial | TRF<br>Adjusted | Overall<br>Error Rate<br>Initial | Overall<br>Error Rate<br>Adjusted |
|---------------|---------|----------------------|-----------------------|----------------------|-----------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|---------------------|----------------------|----------------|-----------------|----------------------------------|-----------------------------------|
| 10/7/2021     | .0002%  | .0059%               | .0001%                | .0778%               | .0018%                | .0503%                       | .0010%                        | .0541%                           | .0393%                            | .0013%              | .0012%               | 1.0926%        | 1.0591%         | .0703%                           | .0080%                            |
| 10/8/2021     | 1.0079% | .0013%               | .0000%                | .0014%               | .0011%                | .0160%                       | .0007%                        | .6105%                           | .0030%                            | .0042%              | .0008%               | .1341%         | .1017%          | 1.0936%                          | 1.0093%                           |
| 10/11/2021    | .0246%  | .0013%               | .0000%                | .0019%               | .0017%                | .0110%                       | .0002%                        | .0565%                           | .0030%                            | .0031%              | .0007%               | .4827%         | .4486%          | .0366%                           | .0267%                            |
| 10/12/2021    | .0074%  | .0011%               | .0001%                | .0010%               | .0008%                | .0432%                       | .0006%                        | .0925%                           | .0044%                            | .0007%              | .0007%               | .1327%         | .0971%          | .0269%                           | .0088%                            |
| 10/13/2021    | .0088%  | .2635%               | .0001%                | .4186%               | .0022%                | .0462%                       | .0020%                        | .1007%                           | .0049%                            | .0703%              | .0007%               | .1356%         | .1089%          | .5721%                           | .0105%                            |
| 10/14/2021    | 1.3132% | .0016%               | .0000%                | .2443%               | .0011%                | .1262%                       | .0041%                        | 1.2603%                          | .6424%                            | .0786%              | .0007%               | .1304%         | .0997%          | 1.6575%                          | 1.3962%                           |
| 10/15/2021    | 1.0338% | .0023%               | .0008%                | .0020%               | .0018%                | .0128%                       | .0003%                        | .8498%                           | .0086%                            | .0690%              | .0008%               | .1378%         | .1022%          | 1.1613%                          | 1.0366%                           |
| 10/18/2021    | .0017%  | .0020%               | .0001%                | .0025%               | .0009%                | .0133%                       | .0004%                        | .0261%                           | .0035%                            | .0008%              | .0008%               | .1140%         | .0862%          | .0105%                           | .0032%                            |
| 10/19/2021    | .0097%  | .0013%               | .0009%                | .0022%               | .0010%                | .0552%                       | .0123%                        | .0764%                           | .0719%                            | .0010%              | .0008%               | .1151%         | .0856%          | .0296%                           | .0223%                            |
| 10/20/2021    | .0003%  | .0005%               | .0002%                | .0247%               | .0245%                | .0116%                       | .0111%                        | .0337%                           | .0306%                            | 5.6586%             | .0008%               | .1792%         | .1524%          | 1.0322%                          | .0220%                            |

#### Options - Rolling Five Day Period Initial T+1 vs. T+5 8 am Data Ready for Regulators October 7, 2021 - October 20, 2021

| Trade<br>Date | Late%   | Rejection<br>Initial | Rejection<br>Adjusted | Intrafirm<br>Initial | Intrafirm<br>Adjusted | Interfirm<br>Sent<br>Initial | Interfirm<br>Sent<br>Adjusted | Interfirm<br>Received<br>Initial | Interfirm<br>Received<br>Adjusted | Exchange<br>Initial | Exchange<br>Adjusted | Overall<br>Error Rate<br>Initial | Overall<br>Error Rate<br>Adjusted |
|---------------|---------|----------------------|-----------------------|----------------------|-----------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|---------------------|----------------------|----------------------------------|-----------------------------------|
| 10/7/2021     | .0006%  | .0308%               | .0300%                | .0054%               | .0054%                | .0590%                       | .0499%                        | .0917%                           | .0202%                            | .0307%              | .0126%               | .0474%                           | .0393%                            |
| 10/8/2021     | .0002%  | .0438%               | .0427%                | .0074%               | .0071%                | .0689%                       | .0671%                        | .0822%                           | .0251%                            | .0203%              | .0196%               | .0576%                           | .0553%                            |
| 10/11/2021    | .0491%  | .0358%               | .0347%                | .0068%               | .0067%                | .0674%                       | .0476%                        | .1190%                           | .0073%                            | .0165%              | .0154%               | .0974%                           | .0941%                            |
| 10/12/2021    | .0011%  | .0119%               | .0111%                | .0058%               | .0056%                | .0585%                       | .0387%                        | .1255%                           | .0069%                            | .0158%              | .0147%               | .0243%                           | .0211%                            |
| 10/13/2021    | .0010%  | .0189%               | .0177%                | .0097%               | .0095%                | .0603%                       | .0407%                        | .1158%                           | .0078%                            | .0210%              | .0196%               | .0358%                           | .0320%                            |
| 10/14/2021    | 6.2894% | .0102%               | .0093%                | .0028%               | .0015%                | .0492%                       | .0395%                        | .9347%                           | .0152%                            | .0214%              | .0208%               | 6.3203%                          | 6.3002%                           |
| 10/15/2021    | .4161%  | .0218%               | .0179%                | .0079%               | .0075%                | .0619%                       | .0531%                        | 3.8274%                          | .0292%                            | .0174%              | .0149%               | .5210%                           | .4376%                            |
| 10/18/2021    | .2472%  | .0105%               | .0063%                | .0088%               | .0052%                | .0789%                       | .0465%                        | .2367%                           | .0076%                            | .0173%              | .0148%               | .2741%                           | .2626%                            |
| 10/19/2021    | .0013%  | .0135%               | .0131%                | .0063%               | .0057%                | .0548%                       | .0520%                        | .1313%                           | .0591%                            | .0234%              | .0225%               | .0297%                           | .0273%                            |
| 10/20/2021    | .0013%  | .0143%               | .0141%                | .0064%               | .0064%                | .0540%                       | .0523%                        | .1108%                           | .0576%                            | .0146%              | .0140%               | .0274%                           | .0260%                            |

### Open Issues (2c)

### FINRA CAT File Submission and Data Integrity 2c Open Issues List - As of 10/26/2021

| # | Status | Error<br>Code | Summary  | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>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      | Update: 2022  | Update: 2022  | Statistics      |
| 2 | Open   | N/A           | FINRA CAT did not recognize the early close and improperly marked events that occurred between 1:15 and 4:15 pm ET and were reported by 8 am ET on the next CAT Trading Day as late events. Impact is limited to two days - 11/27/2020 & 12/24/2020. | Code Release | Low      | Update: 2022  | Update: 2022  | Statistics      |
| 3 | Open   | N/A           | File statistics screen is incorrectly displaying a blank integrity status in instances where the failure was due to a timeout or a duplicate file submission.  | Code Release | Low      | Update: 2022  | Update: 2022  | Reporter Portal |
| 4 | Open   | N/A           | Industry Members are intermittently experiencing a delayed display of file submissions and status in the File statistics screen on the Reporter Portal.  This issue does not impact file feedback files.   | Code Release | Low      | Update: 2022  | Update: 2022  | Reporter Portal |

### FINRA CAT File Submission and Data Integrity 2c Open Issues List - As of 10/26/2021

| # | Status | Error<br>Code | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>Date/Workaround | Area        |
|---|--------|---------------|---|--------------|----------|---|---|-------------|
|   | Open   | 2129          | FINRA CAT is incorrectly accepting firmDetails with no firmDesignatedID populated on Fulfillment and        | Code Release | Low      | 2c: 10/11/2021  | 2c: 10/11/2021  | Ingestion   |
| 3 | Ореп   | 2129          | Fulfillment Amendment Events.   | Code Nelease | LOW      | 2d: 10/11/2021  | 2d: 12/13/2021  | Validations |
|   | Onon   | 2121          | FINRA CAT is incorrectly accepting clientDetails with no  | Codo Pologra | Low      | 2c: 10/11/2021  | 2c: 10/11/2021  | Ingestion   |
| 0 | Open   | 2122          | orderID populated on Fulfillment and Fulfillment Amendment Events.  | Code Release | Low      | 2d: 10/11/2021  | 2d: 12/13/2021  | Validations |
| _ | Onon   | 2098          | FINRA CAT is incorrectly rejecting allocation events  | Codo Pologo  | Madium   | 2d Only Change  | 2d Only Change  | Ingestion   |
|   | Open   | 2060          | when the symbol was effective on the tradeDate but not effective on the event date on the allocation event. | Code Release | Medium   | 2d: 10/25/2021  | 2d: 12/13/2021  | Validations |

### FINRA CAT Linkage 2c Open Issues List - As of 10/26/2021

| # | Status | Error<br>Code                | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround                           | Production Environment<br>Targeted Release<br>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<br>evaluating alternative<br>approach                           | Update: Currently evaluating alternative approach  | Error Summary &<br>Error Search<br>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     | Update: 1Q 2022   | Update: 1Q 2022  | Intrafirm<br>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 | Low      | Update: 2021 Note that this issue only impacts Options Intravenue Exchange Errors | Update: 2021<br>Note that this issue only impacts<br>Options Intravenue Exchange<br>Errors | Intrafirm<br>Linker Feedback &<br>Statistics       |
| 4 | Open   | 9004<br>8004<br>7004<br>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      | Update: 2022  | Update: 2022   | Interfirm<br>Exchange<br>Trade<br>Linker Feedback  |

### FINRA CAT Linkage 2c Open Issues List - As of 10/26/2021

| # |   | Status | Error<br>Code | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>Date/Workaround | Area                                |
|---|---|--------|---------------|---|--------------|----------|---|---|-------------------------------------|
| ! | 5 | Open   | 396           | FINRA CAT is incorrectly generating warnings on secondary events in instances where the parent DAY order was subsequently modified to a GTC order.  | Code Release | Medium   | 2Q 2022   | 2Q 2022   | Intrafirm<br>Linker Feedback        |
|   | 6 | Open   | 6003          | Industry Members are incorrectly receiving options exchange unlinked errors for subsequent day order modifications/ adjustments to long lived orders previously routed to the exchange.  Options exchanges must report modifications in these instances. Nine firms impacted. | N/A          | Medium   | Update: 4Q 2021   | Update: 4Q 2021   | Options Exchange<br>Linker Feedback |

## FINRA CAT Open Issues List 2c Planned Enhancements

| # | Status | Error<br>Code | Summary  | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date | Production Environment<br>Targeted Release<br>Date | Area                     |
|---|--------|---------------|--|--------------|----------|--|--|--------------------------|
| 1 | Open   | 2122          | Incorrect error code is generated when an array field (e.g., clientDetails) is populated as a Name/Value pair.   | Code Release | Low      | To be scheduled                              | To be scheduled                                    | Ingestion<br>Validations |
| 2 | 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<br>Validations |
|   |        |               | Enhance OSI symbol validations to accept symbols that  |              |          | 2c: 9/20/2021                                | 2c: 9/20/2021                                      | Ingestion                |
| 3 | Open   | 2060          |  | Code Release | Low      | 2d: 10/11/2021                               | 2d: 12/13/2021                                     | Validations              |
|   |        |               | Accept, rather than reject, routes to a foreign  |              |          | 2c: 10/13/2021                               | 2c: 10/13/2021                                     | Ingestion                |
| 4 | Open   | 2101          | destination when the date in the name/value pair for timeInForce values of 'DAY' and 'GTX' is T+2 to accommodate orders routed on a foreign holiday.   | Code Release | Low      | 2d: 10/11/2021                               | 2d: 12/13/2021                                     | Validations              |

#### FINRA CAT Linkage 2c Recently Closed Issues - As of 10/26/2021

| # | Status | Error<br>Code                                | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>Date/Workaround | Area                               |
|---|--------|--|---|--------------|----------|---|---|------------------------------------|
| 1 | Closed | 8003<br>8004<br>9003<br>9004<br>4003<br>5004 | FINRA CAT is incorrectly generating an unlinked error for the first time on T+4 for previously linked events in scenarios when the two events that were initially linked occurred on two separate trade dates. For example, an order routed at 6 pm on one calendar day and is reported as accepted by the receiving firm at 8 am on the next calendar day. | Code Release | Medium   | 10/24/2021  | 10/24/2021  | Interfirm & TRF<br>Linker Feedback |

Open Issues (2d)

### FINRA CAT File Submission and Data Integrity 2d Open Issues List - As of 10/26/2021

| # |   | Status | Error<br>Code | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>Date/Workaround | Area                     |
|---|---|--------|---------------|---|--------------|----------|---|---|--------------------------|
|   | 1 | Open   | 2023          | FINRA CAT is incorrectly rejecting MEMR, MOMR, and MLMR events when <i>destinationType</i> = 'F' and <i>dupROIDCond</i> is populated. | Code Release | Medium   | <b>Update</b> : 11/15/2021                              | Not Applicable  | Ingestion<br>Validations |

## FINRA CAT Linkage 2d Recently Closed Issues List - As of 10/26/2021

| # | Status | Error<br>Code | Summary   | Resolution   | Priority | Test Environment<br>Targeted Release<br>Date/Workaround | Production Environment<br>Targeted Release<br>Date/Workaround | Area                                    |
|---|--------|---------------|---|--------------|----------|---|---|---|
| 1 | Closed | NA            | FINRA CAT is incorrectly counting MEOMR events as eligible for interfirm linkage. Link eligible counts on Reporting Summary and Counterparty statistics are impacted by this issue. There is no impact to linkage feedback. | Code Release | Medium   | 10/25/2021  | Not Applicable  | Interfirm Reporter<br>Portal Statistics |

#### **Upcoming Technical Specification Updates**

| # | Status    | Summary  | Spec Publish Date | Spec Version | Validation Effective<br>Date |
|---|-----------|--|-------------------|--------------|------------------------------|
| 1 | Published | Change <i>electronicTimestamp</i> field on MEOT and MOOT events from conditional to optional.  | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |
| 2 | Published | Clarify that <i>legDetails.openCloseIndicator</i> must be blank for equity orders.   | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |
| 3 | Published | Reject MEOT records if <i>buyDetails.side</i> field is populated with values SL, SS, SX or if the <i>sellDetails.side</i> field is populated with value B. | 10/8/2021         | 4.0.0 r11    | Q1 2022                      |
| 4 | Published | For Multi-Leg Option Events, clarify that <i>price</i> must be blank when <i>orderType</i> is 'MKT'.   | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |
| 5 | Published | Add handlingInstructions value 'MAX' (OTC Link ATS Message MAX instruction).   | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |
| 6 | Published | Add <i>deptType</i> as an optional field to the MLOA event. In Q1 2022, this field will be changed from optional to required.                              | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |
| 7 | Published | Add <i>clearingFirm</i> as an optional field to the MOOT event. In Q1 2022, this field will be changed from optional to required.                          | 10/8/2021         | 4.0.0 r11    | 11/15/2021                   |

#### **General Announcements and Reminders**

#### Announcements

- ➤ Update on 2021 SIFMA Test
- ➤ Since the last Checkpoint on October 12, 2021, the following documents have been posted to the CAT website:
  - Updated <u>Option Exchanges Trade Field Mapping</u> to include mapping tables for existing UTP platform prior to the ARCAOP Pillar Migration
  - Updated <u>Order Routing Field Mapping between CAT and Exchanges</u> to update the ARCAOP Pillar Migration date

#### Phase 2d Coordinated Industry Tests

- The lists of participating IMIDs from the three previous tests are posted to the CAT website
- The next Phase 2d coordinated industry test is on CAT Trading Day Friday, October 29, 2021
  - Participation in the industry tests is optional, but all Industry Members are encouraged to participate
  - Please refer to <u>CAT Alert 2021-03</u> for additional information

| <u>Test Number</u> | CAT Trading Day of the Coordinated Industry Test | Data Due to Industry Test | List of Participating IMIDs Posted as  Reference Data on the CAT Website |
|--------------------|--|---------------------------|--|
| 4                  | 10/29/21   | By 8 am on 11/1/21        | By 9 am on 11/3/21   |
| 5                  | 11/12/21   | By 8 am on 11/15/21       | By 9 am on 11/17/21  |
| 6                  | 11/26/21   | By 8 am on 11/29/21       | By 9 am on 12/1/21   |

### **Industry Webinars**

- ➤ The Industry Testing Checkpoint Calls will be held weekly, at 4:15 pm ET on Tuesdays, starting on November 9, 2021.
- The next Monthly CAT Implementation Update will be Thursday, November 18, 2021 at 4:15 pm ET.
- Recently posted industry webinar:
  - Monthly CAT Implementation Update (October 21, 2021)

### **Upcoming Key Dates**

### **Upcoming Key Dates for Phase 2d**

| Topic                                      | Event  | Date                                 |  |  |
|--|--|--------------------------------------|--|--|
| Industry Call: Industry Testing Checkpoint | Periodic Industry Testing Checkpoint Calls – Designated Tuesdays at 4:15 pm (ET) | January 7, 2020 until further notice |  |  |
| Compliance Go-Live                         | Production Go-Live for Phase 2d reporting requirements                           | December 13, 2021                    |  |  |

### Phase 2d Updates

### Industry Member 2d Release Rollout

Release 2d1
Industry Test – 6/28/2021

#### Ingestion

Industry Test Open for Machineto-Machine File & Data Integrity Validations & Feedback

- Syntax Validations
- Conditional Validations

#### **CAT Reporter Portal**

- Manual File Upload
- Reporting Summary Statistics

Release 2d2
Industry Test – 7/19/2021

#### **Intrafirm Linkage**

Industry Test Open for Machineto-Machine Intrafirm Linkage Validations & Feedback

 Reference Data Validations on senderIMID, receiverIMID, destination and legDetails OptionID/Symbol

#### **CAT Reporter Portal**

- Linkage File feedback
- Linkage Statistics
- Error Summary and Error Search including Error Correction
- Direct Data Entry

Release 2d3
Industry Test – 8/2/2021

#### **Interfirm Linkage**

Industry Test Open for Machineto-Machine Interfirm/Exchange Linkage Validations & Feedback

- Interfirm Quote Linkage
- Interfirm/Exchange linkage for Route Modification Events including Unlinked feedback for Routed Order ID Mismatch
- Firm to Exchange Trade Linkage for MOOT Events

#### **CAT Reporter Portal**

 Support Clearing Firm View of Correspondent Reporting Feedback submitted by Third-Party Vendor Release 2d4
Industry Test – 8/23/2021

#### Multi-leg Linkage

Industry Test Open for Machine-to-Machine Multi-leg Linkage Validations & Feedback

- Interfirm & Exchange for Multi-leg Events
- Intrafirm Out of Sequence checks

#### **CAT Reporter Portal**

- Reconciliation Statistics
- Counterparty Statistics for MOOT linkages

2d Go-live Production – 12/13/2021

#### **Ingestion & All Linkage**

Production Open for Machine-to-Machine File, Data Integrity and All Linkage Validations & Feedback

#### **CAT Reporter Portal**

- Manual File Upload
- Reporting Summary Statistics including reconciliation
- Counterparty Statistics for MOOT linkages
- Linkage File Feedback
- Error Summary and Error Search including Error Correction
- Direct Data Entry
- Support Clearing Firm View of Correspondent Reporting Feedback submitted by Third-Party Vendor

Phase 2d Compliance Date - 12/13/2021

## 2d Statistics & Observations As of October 20, 2021

- Total **673** Unique Firms in Industry Test
  - **362** unique IMIDs participated in the 9/10 Industry Test
  - 505 unique IMIDs participated in the 10/1 Industry Test
  - **561** unique IMIDs participated in the 10/15 Industry Test
- Total **145** Unique Submitters in Industry Test
- ➤ Overall File Rejection Rate is **4.64**%
- Approximately 9.91% of submissions are New 2d Events; 0.38% of submissions are Multi-leg Events
- Most of the Unlinked Interfirm, Exchange and Trade are due to:
  - Not all firms reporting in Test Environment
  - Firms reporting test symbols that are matched with production data for Exchange and Trade Linkage

### Multi-leg Event Observations

- ▶ For the 10/15/21 Industry Test date:
  - Approximately 85 Industry Members submitted multi-leg events to the Industry Test environment
- Multi-leg events data quality observations:
  - legDetails block includes duplicate leg optionID values
  - legRatioQuantity contains zero or fractional quantities
  - 'OPT' handlingInstructions erroneously reported on multi-leg event

#### Equities - Rolling Five Day Period (CT) Initial T+1 vs. T+5 8 am Data Ready for Regulators October 07, 2021 - October 20, 2021

| Trade<br>Date | Late%    | Rejection<br>Initial | Rejection<br>Adjusted | Intrafirm<br>Initial | Intrafirm<br>Adjusted | Interfirm<br>Sent<br>Initial | Interfirm<br>Sent<br>Adjusted | Interfirm<br>Received<br>Initial | Interfirm<br>Received<br>Adjusted | Exchange<br>Initial | Exchange<br>Adjusted | TRF<br>Initial | TRF<br>Adjusted | Overall<br>Error Rate<br>Initial | Overall<br>Error Rate<br>Adjusted |
|---------------|----------|----------------------|-----------------------|----------------------|-----------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|---------------------|----------------------|----------------|-----------------|----------------------------------|-----------------------------------|
| 10/7/2021     | 14.3845% | .1933%               | .1933%                | .1525%               | .1525%                | 82.5080%                     | 82.2866%                      | 13.4456%                         | 13.3977%                          | .3843%              | .0057%               | .0196%         | .0173%          | 23.3558%                         | 23.2575%                          |
| 10/8/2021     | 6.2711%  | .7203%               | .7203%                | .1013%               | .1013%                | 70.3224%                     | 67.3287%                      | 55.5093%                         | 54.4498%                          | .5427%              | .0055%               | .0693%         | .0680%          | 18.6723%                         | 18.1269%                          |
| 10/11/2021    | .0835%   | .1649%               | .1649%                | .1253%               | .1253%                | 79.4654%                     | 79.4584%                      | 10.7835%                         | 10.7830%                          | .3472%              | .0006%               | .0213%         | .0190%          | 9.8518%                          | 9.7684%                           |
| 10/12/2021    | .4538%   | .1508%               | .1508%                | .1342%               | .1342%                | 78.2478%                     | 78.2478%                      | 12.4713%                         | 11.8658%                          | 1.1819%             | .0009%               | .0534%         | .0491%          | 11.0377%                         | 10.7352%                          |
| 10/13/2021    | 7.4750%  | .1790%               | .1790%                | 3.7548%              | .2460%                | 70.8489%                     | 70.1968%                      | 35.1123%                         | 28.7363%                          | 1.4743%             | .0125%               | .1040%         | .0988%          | 19.9525%                         | 16.8194%                          |
| 10/14/2021    | 4.3525%  | .2196%               | .2196%                | 1.3490%              | 1.3490%               | 82.5598%                     | 82.5591%                      | 20.9294%                         | 19.5375%                          | .1061%              | .0129%               | .5679%         | .5643%          | 13.8260%                         | 13.7510%                          |
| 10/15/2021    | 10.7085% | .8042%               | .8042%                | .4499%               | .4459%                | 63.2500%                     | 61.4172%                      | 62.6642%                         | 60.3499%                          | .0465%              | .0118%               | .0217%         | .0213%          | 23.4083%                         | 22.9990%                          |
| 10/18/2021    | 6.9522%  | .6195%               | .6195%                | .3807%               | .3782%                | 82.1047%                     | 80.5308%                      | 26.8346%                         | 25.3887%                          | .0236%              | .0236%               | .5102%         | .5057%          | 16.1207%                         | 15.9085%                          |
| 10/19/2021    | 5.9172%  | 1.0834%              | 1.0834%               | .3851%               | .3851%                | 80.9106%                     | 80.8076%                      | 20.9679%                         | 19.2119%                          | .0123%              | .0123%               | .5577%         | .5570%          | 15.5291%                         | 15.4488%                          |
| 10/20/2021    | 53.7809% | .2356%               | .2356%                | 1.1584%              | 1.1584%               | 47.1956%                     | 47.0833%                      | 76.9455%                         | 76.9334%                          | 2.1136%             | .0661%               | .3049%         | .3027%          | 67.9577%                         | 67.8617%                          |

# Options – Rolling Five Day Period (CT) Initial T+1 vs. T+5 8 am Data Ready for Regulators October 07, 2021 – October 20, 2021

| Trade<br>Date | Late%    | Rejection<br>Initial | Rejection<br>Adjusted | Intrafirm<br>Initial | Intrafirm<br>Adjusted | Interfirm<br>Sent<br>Initial | Interfirm<br>Sent<br>Adjusted | Interfirm<br>Received<br>Initial | Interfirm<br>Received<br>Adjusted | Exchange<br>Initial | Exchange<br>Adjusted | Overall<br>Error Rate<br>Initial | Overall<br>Error Rate<br>Adjusted |
|---------------|----------|----------------------|-----------------------|----------------------|-----------------------|------------------------------|-------------------------------|----------------------------------|-----------------------------------|---------------------|----------------------|----------------------------------|-----------------------------------|
| 10/7/2021     | 36.7981% | .8576%               | .8576%                | .6453%               | .6453%                | 16.9518%                     | 12.5511%                      | 6.9271%                          | 6.9036%                           | .4305%              | .4305%               | 39.1774%                         | 38.8583%                          |
| 10/8/2021     | 2.6344%  | 1.8346%              | 1.8346%               | .5893%               | .5893%                | 13.8949%                     | 12.7874%                      | 6.8626%                          | 6.8613%                           | .6547%              | .6547%               | 6.3397%                          | 6.2507%                           |
| 10/11/2021    | .0930%   | .8290%               | .8290%                | 1.4068%              | 1.4068%               | 13.2434%                     | 13.2434%                      | 5.9370%                          | 5.9247%                           | .4407%              | .4407%               | 3.3632%                          | 3.3622%                           |
| 10/12/2021    | 3.0518%  | .5748%               | .5747%                | .8630%               | .8630%                | 12.8733%                     | 12.8572%                      | 10.7850%                         | 7.2105%                           | .7009%              | .7009%               | 5.1762%                          | 4.8918%                           |
| 10/13/2021    | 11.8053% | 3.8636%              | 3.8636%               | 6.1418%              | .7403%                | 13.3465%                     | 11.9489%                      | 55.1220%                         | 52.8660%                          | 7.8637%             | 7.8624%              | 23.4457%                         | 19.8406%                          |
| 10/14/2021    | 6.9917%  | .4542%               | .4542%                | 5.1199%              | 5.1199%               | 13.9721%                     | 13.9721%                      | 10.7725%                         | 6.2145%                           | .6231%              | .6231%               | 8.6328%                          | 8.3582%                           |
| 10/15/2021    | 15.4249% | 4.2640%              | 4.2636%               | .7653%               | .4349%                | 4.8210%                      | 4.7953%                       | 47.6322%                         | 45.2331%                          | 4.9551%             | 4.9551%              | 20.6239%                         | 20.2282%                          |
| 10/18/2021    | 5.7783%  | .5479%               | .5479%                | .5217%               | .5214%                | 13.9491%                     | 13.0915%                      | 11.7009%                         | 7.3235%                           | 1.6206%             | 1.6206%              | 7.7539%                          | 7.4404%                           |
| 10/19/2021    | 16.1313% | .2630%               | .2630%                | .4153%               | .4152%                | 13.4167%                     | 12.5702%                      | 10.3826%                         | 6.1854%                           | .8633%              | .8633%               | 17.6017%                         | 17.3030%                          |
| 10/20/2021    | .0588%   | .2107%               | .2107%                | 2.5580%              | 2.5580%               | 13.9919%                     | 13.9919%                      | 5.7629%                          | 5.7562%                           | .6680%              | .6680%               | 3.2571%                          | 3.2567%                           |

### FINRA CAT Helpdesk

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

#### 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.