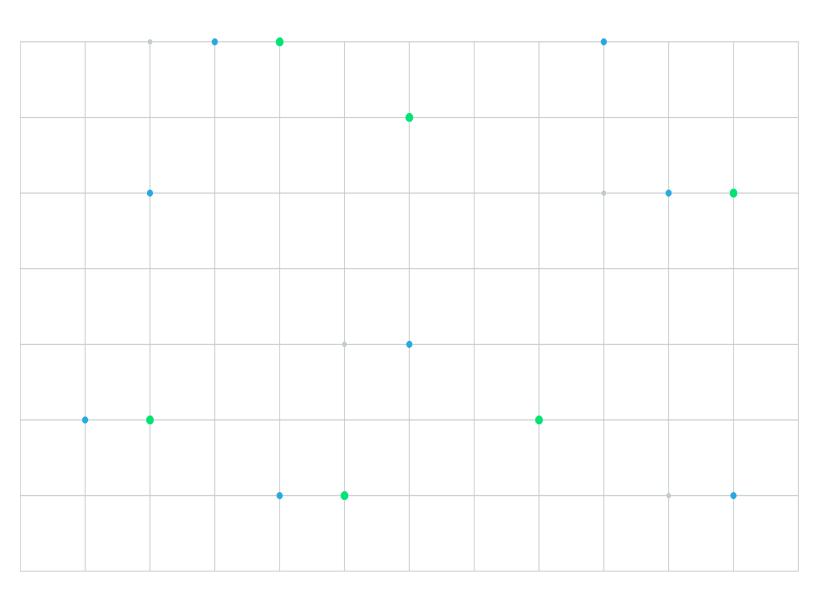


AutoCert+ CME STP FIX for BrokerTec User Manual

4 September 2025



Neither futures trading nor swaps trading are suitable for all investors, and each involves the risk of loss. Swaps trading should only be undertaken by investors who are Eligible Contract Participants (ECPs) within the meaning of Section 1a(18) of the Commodity Exchange Act. Futures and swaps each are leveraged investments and, because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for either a futures or swaps position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles and only a portion of those funds should be devoted to any one trade because traders cannot expect to profit on every trade. All examples discussed are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience.

CME Group, the Globe Logo and CME are trademarks of Chicago Mercantile Exchange Inc. CBOT is a trademark of the Board of Trade of the City of Chicago, Inc. NYMEX is a trademark of New York Mercantile Exchange, Inc. COMEX is a trademark of Commodity Exchange, Inc. All other trademarks are the property of their respective owners.

The information within this manual has been compiled by CME Group for general purposes only. CME Group assumes no responsibility for any errors or omissions. Additionally, all examples in this manual are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience. All matters pertaining to rules and specifications herein are made subject to and are superseded by official CME, CBOT and NYMEX rules. Current rules should be consulted in all cases concerning contract specifications.

Copyright © 2023 CME Group Inc. All rights reserved.

Table of Contents

Getting Started	4
What's New	5
Interview	6
Certification Tests	8
Session Management	9
Session Management Test - Detect a Gap	9
Session Management Test - Process a Test Request and Respond to Resend Request	10
Trade Capture Report Request	. 12
Standard Trade Capture Report Request Test	12
Filtered Trade Capture Report Request Test	13
Multiple Parties via Trade Capture Report Request Test	. 22
Bilateral Trade Capture Report Request	23
Snapshot Request	25
Standard Snapshot Request	. 25
Filtered Snapshot Request Test	26
Not sending Spread Type(MLegRptType) Filter for Snapshot Request	. 38
Multiple Parties via Snapshot Request	39
Bilateral Trade - Snapshot Request	40
Post Trade Event	41
Post-Trade Events - Trade Capture Report Request Tests (US Treasuries / EU Repo)	42
Post-Trade Events - Trade Amendment Report Request Tests	.46
Post-Trade Events - Trade Cancel Tests	. 50
CSET Assisted Tests - Post Trade Event - Trade Cancel / Offset with Allocated Collateral	I 54
Processing Additional Tags	. 66
Subscription Failover Recovery Test	. 67
Snapshot Failover Recovery Test	. 68

Getting Started

The AutoCert+ tool is an automated testing tool for validating application functionality. It provides an easy-to-use web interface for walking through CME Group certification scenarios.

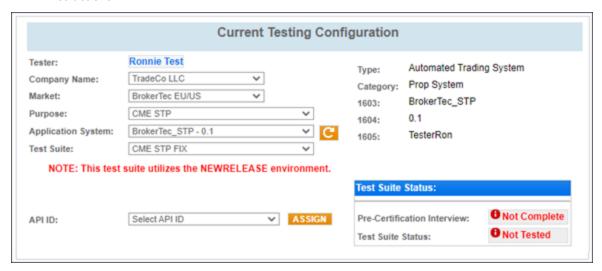
To facilitate the process of connecting a customer application, CME Group provides a dedicated certification environment to allow customers to test their systems before they complete certification.

This Help system accompanies the AutoCert+ CME STP FIX for BrokerTec test suite.

► To run and navigate AutoCert+:

- 1. Complete the steps detailed in the Process Summary: BrokerTec New Release Testing Setup.
- 2. Log into the automated certification tool.
- 3. Review general AutoCert+ test suite navigation and general interview information.
- 4. Navigate to the Autocert+ BrokerTec EU/US CME STP FIX test suite.
 - Tester: Automatically assigned based on the user's CME Group Login ID.
 - Company Name: Select the company to test
 - Market: BrokerTec EU/US
 - Purpose: CME STP
 - Application System: Select the client system to test. Use the refresh (≤) button to update the list to include a
 recently created application.
 - Test Suite: CME STP FIX
 - API ID: Assign an ID to use for the test

Assignment of a Sendercomp ID is also required to test with a valid instrument; refer to Certification test instructions.



- 5. Complete the Interview for this test suite.
- 6. Complete applicable <u>test cases</u>.
- 7. Complete the certification process from the Post Certification tab.

What's New

The list below illustrates the updates made to the AutoCert+ CME STP FIX for BrokerTec Help system.

Date	Topic	Description
4 September 2025	Certification Tests	Added CME STP FIX Recovery for BrokerTec tests to main test suite.
21 October 2022	Format	Website and PDF format changes only.
12 July 2022	Certification Tests	New test cases added: Post Trade Event
21 Jan 2022	Interview	Updated Interview screenshot with bilateral trades question
	Snapshot Request	Added "Bilateral Snapshot Request"
	Trade Capture Report Request	Added "Bilateral Trade Capture Report Request Test"
29 Jun 2020		Initial release

Interview

The interview consists of a series of questions about your application.

You must complete the pre-certification interview before running the tests.

1. Select a API ID from the drop-down menu and click ASSIGN.



2. Select the Interview tab, answer the questions, then click **Complete**.

Based on initial interview question selections additional questions may appear. Selected responses are used to determine applicable test cases and related test data.

	Aro you a Drimo Prokor?
	Are you a Prime Broker? Yes
)	No
	Does your system support multiple parties via a single Trade Capture Report Request?
	Yes
)	No
	Does your system support EU Products?
)	Yes
)	No
	What types of Product will your system support?
4	US Treasuries
	US Repo EU Bonds
	EU Repo
_	
	Does your system support GC Repo Trades?
	Yes No
_	How will your system be supporting multi-leg securities? Select one or more:
2	Spread Level (MLegRpTyp="3" / 442=3)
	Leg Level (MLegRpiTyp="2" / 442=2)
	None
	Will your application support Snapshot (263=0) Trade Capture Report Request?
	Yes
)	No
	Will your application support Snapshot + Updates (263=1) Trade Capture Report Request?
	Yes
)	No
	Which type of Trade Capture Report Requests will your application support (choose 1)
	Both Standard and Filtered Trade Capture Report Requests Only Filtered Trade Capture Report Requests
5	Only Standard Trade Capture Report Requests
	If your application can support Filtered Trade Capture Report Requests, please state which filters are supported? Select one or more. Please beware Without utilizing Last Update Time (Tag 779) on a Trade Capture Report/Subscription Request or supporting the Snapshot/Query Request, your software will be lacking any recovery method. In order to proceed, you must choose one of these solutions. If you have further questions, please
	contact your Global Account Manager.
4	Trade Input Source (578)
4	Security Exchange (207)
1	Security Type (167)
4	Security ID (48)
4	Last Update Time (779)
4	Trade Date (75)
4	Clearing Business Date (715)
	Which type of Snapshot Requests will your application support (choose 1)
	Both Standard and Filtered Snapshot Requests Only Filtered Snapshot Requests
5	Only Standard Snapshot Requests
	If your application can support Filtered Snapshot Requests, please state which filters are supported?***Start time is mandatory***Select one or more Please beware: Without utilizing Last Update Time (Tag 779) on a Trade Capture Report/Subscription Request or supporting the Snapshot/Query Request, your software will be lacking any recovery method. In order to proceed, you must choose one of these solutions. If you have further
	questions, please contact your Global Account Manager.
4	Trade ID (1003)
	Secondary Trade ID (1004) Client Order ID (11)
	Client Order ID (11) Trade Input Source (578)
	Trade Input Source (578) Security Exchange (207)
	Security Type (167)
	Security ID (48)
	Clearing Business Date (715)
2	Trade Date (75)
4	End Time (9594)
	Does your system support bilateral trades?
)	Yes
)	No
	When Performing a recovery, which request type does your application support?
]	Trade Capture Report Request - Subscription request with LastUpdateTm (Tag 779)
	Trade Capture Report Request - Snapshot with StartTime (Tag 9593)
	As part of the failover recovery process, you may receive a duplicate ticket(s). Attest that your system is able to properly recognize and handle
	duplicate ticket(s) received during recovery? NOTE: duplicate tickets can be identified and tracked using TrdReportID (Tag 571))
2	Acknowledge Not Acknowledge
	NOT ACCIONNEGGE Outages may span across trade dates. Customers must be able to recover messages from a previous trade date. Attest that your system is able to properly recognize and recover missed trades from a previous trade date.
	Acknowledge
)	

Certification Tests

The AutoCert+ CME STP FIX for BrokerTec certification tests consist of the following:

- Session Management
- Trade Capture Report Request
- Snapshot Request
- Post Trade Event
- Processing Additional Tags
- Subscription Failover Recovery Test
- Snapshot Failover Recovery Test

Session Management

The purpose of this test is to verify that the client system can successfully maintain an STP FIX Session.

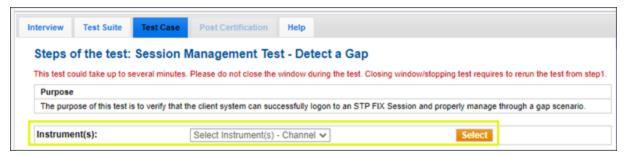
Available Tests

- Session Management Test Detect a Gap
- Session Management Test Process a Test Request and Respond to Resend Request

Session Management Test - Detect a Gap

The purpose of this test is to verify that the client system can successfully logon to an STP FIX Session and properly manage through a gap scenario.

- To run a Session Management Detect a Gap test:
 - 1. Select a API ID from the drop-down menu and click ASSIGN if not already selected.
 - 2. Select an **Instrument** from the drop-down menu and click **Select** if not already selected.

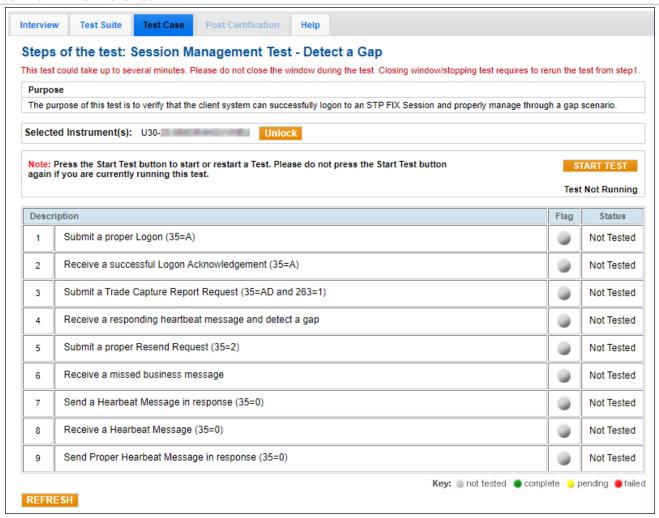


3. Click START TEST to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD | 263=1).
- 7. Receive a responding <u>heartbeat</u> message and detect a gap.
- 8. Submit a proper Resend Request (35=2).
- 9. Receive a missed business message.
- 10. Send a Heartbeat Message in response (35=0).
- 11. Receive a Heartbeat Message (35=0).
- 12. Send Proper <u>Heartbeat Message in response (35=0)</u>. View Session Management Detect a Gap screen

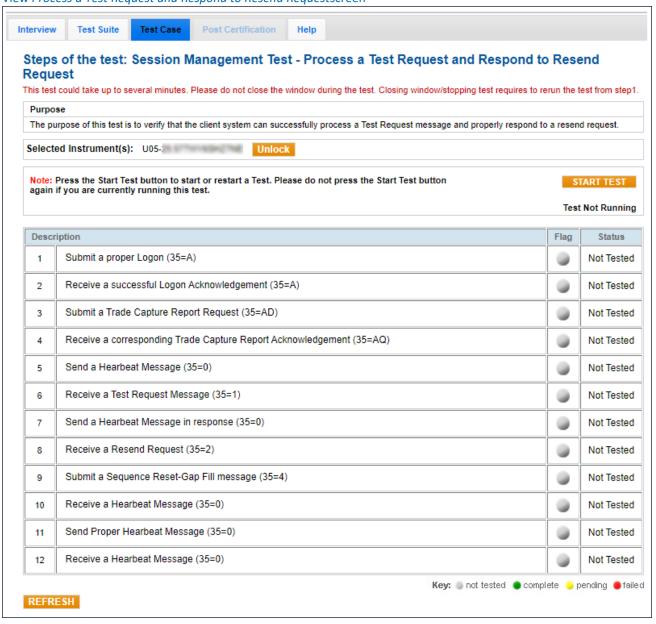


Session Management Test - Process a Test Request and Respond to Resend Request

The purpose of this test is to verify that the client system can successfully process a Test Request message and properly respond to a resend request.

- To run a Session Management Process a Test Request and Respond to Resend Request test:
 - 1. Select a SenderComp from the drop-down menu and click ASSIGN if not already selected.
 - 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
 - 3. Click **START TEST** to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
 - 4. Submit a proper Logon (35=A).
 - 5. Receive a successful Logon Acknowledgement (35=A).
 - 6. Submit a Trade Capture Report Request (35=AD).
 - 7. Receive a corresponding Trade Capture Report Acknowledgment (35=AQ).
 - 8. Send a Heartbeat Message (35=0).

- 9. Receive a Test Request Message (35=1).
- 10. Send a Heartbeat Message in response (35=0).
- 11. Receive a Resend Request (35=2).
- 12. Submit a Sequence Reset-Gap Fill message (35=4).
- 13. Receive a Heartbeat Message (35=0).
- 14. Send Proper Heartbeat Message (35=0).
- 15. Receive a <u>Heartbeat Message (35=0)</u>. View *Process a Test Request and Respond to Resend Requests*creen



Trade Capture Report Request

The purpose of this test is to verify that the client system can successfully submit and maintain a CME STP FIX Trade Capture Report Request while properly processing Trade Capture Reports.

Available Tests

- Standard Trade Capture Report Request Test
- Filtered Trade Capture Report Request Test
- Multiple Parties via Trade Capture Report Request Test
- Bilateral Trade Capture Report Request

Standard Trade Capture Report Request Test

The example test procedure below is for a **Standard Trade Capture Report Request (BTUS)** and may not appear in your test suite. The tests included in the test suite will depend on the answers provided in the **Interview**.

► To run a Standard Trade Capture Report Request test:

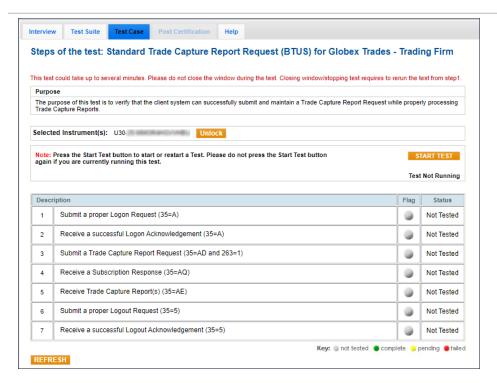
- 1. Select a SenderComp from the drop-down menu and click ASSIGN if not already selected.
- 2. Click START TEST to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

- 3. Submit a proper Logon (35=A).
- 4. Receive a successful Logon Acknowledgement Logon (35=A).
- 5. Submit a Trade Capture Report Request (35=AD and 263=1).
- 6. Receive a Subscription Response (35=AQ).
- 7. Receive Trade Capture Report(s) (35=AE).
- 8. Submit a proper Logout Request (35=5).
- 9. Receive a successful Logout Acknowledgement (35=5).

View Standard Trade Capture Report test screen



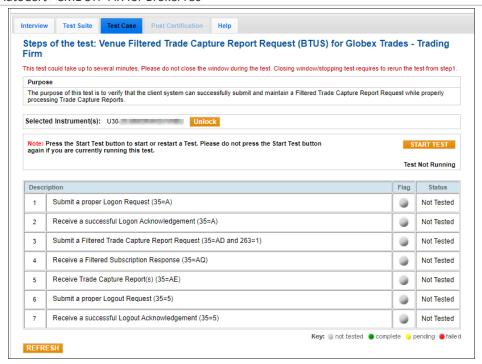
Filtered Trade Capture Report Request Test

The example test procedure below is for a **Venue Filtered Trade Capture Report Request** and may not appear in your test suite. The tests included in the test suite will depend on the answers you provided in the **Interview**.

To run a Filtered Trade Capture Report Request test:

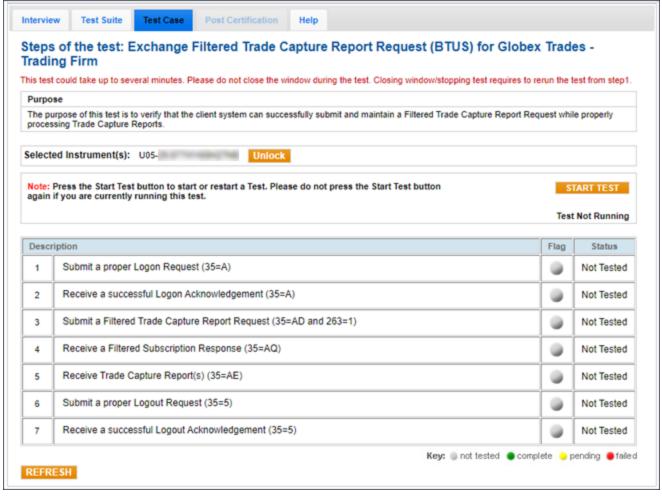
- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- 2. Select a **Contract** from the drop-down menu and select **Select** if not already selected.
- 3. Select START TEST to begin.
- **Note**: **DO NOT** select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement Logon (35=A).
- 6. Submit a Filtered Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Filtered Subscription Response (35=AQ).
- 8. Receive Trade Capture Report(s) (35=AE).
- 9. Submit a proper Logout Request (35=5).
- 10. Receive a successful Logout Acknowledgement (35=5).

View Filtered Trade Capture Report test screen

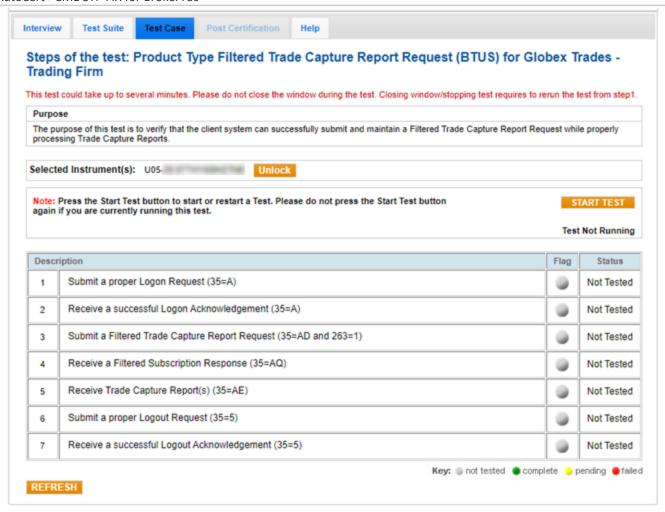


Additional Filtered Trade Capture Test screens: For test instructions, refer to the <u>Filtered Trade Capture Report Request</u> test.

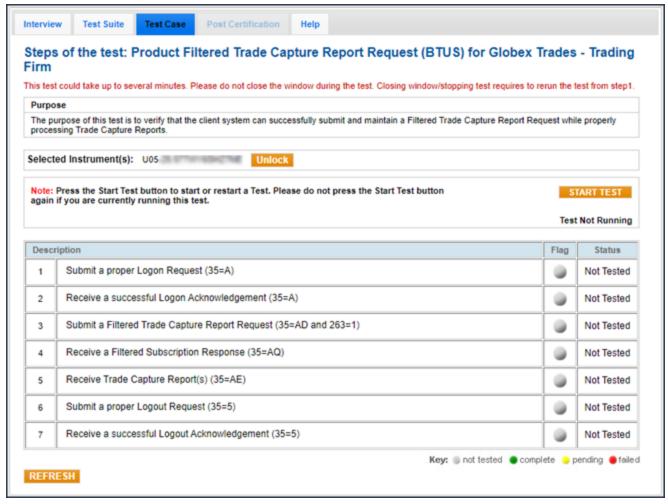
Exchange Filtered test screen



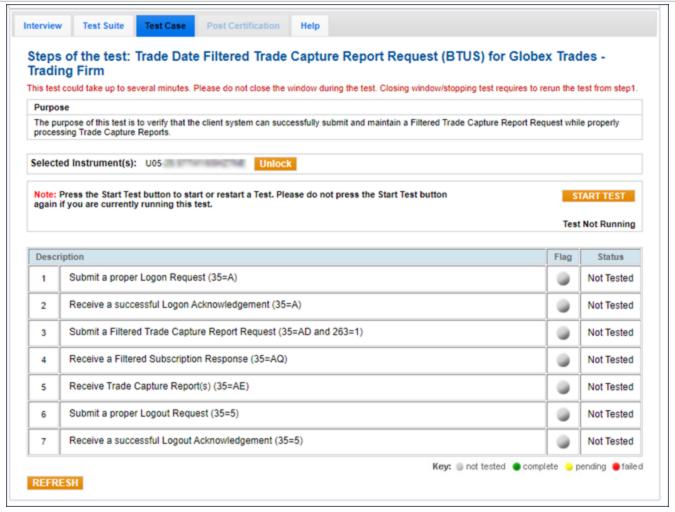
Product Type Filtered test screen



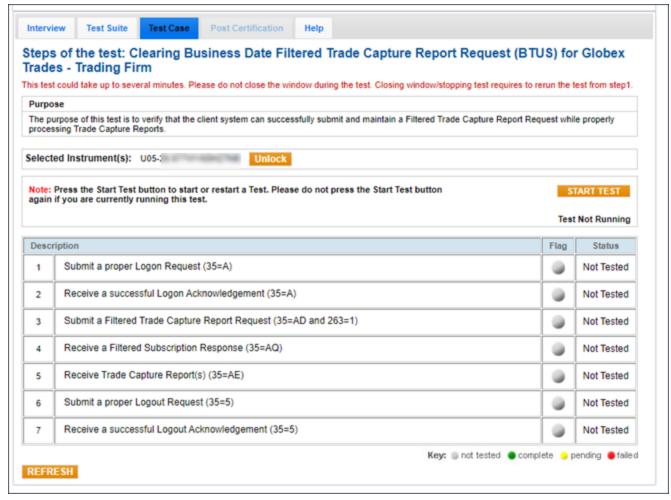
Product Filtered test screen



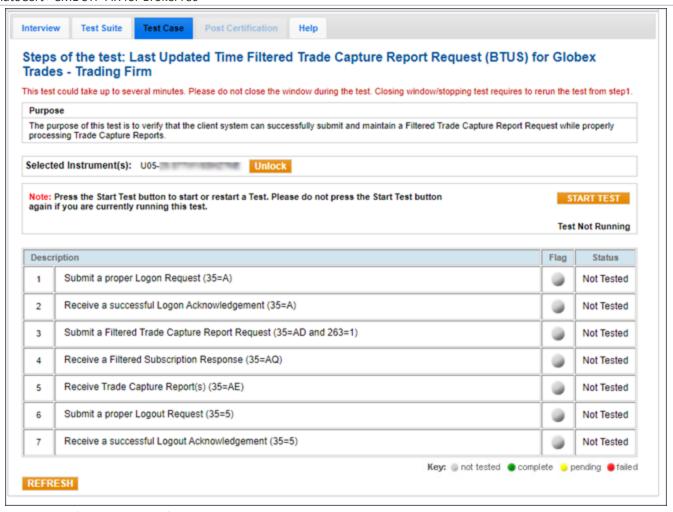
Trade Date Filtered test screen



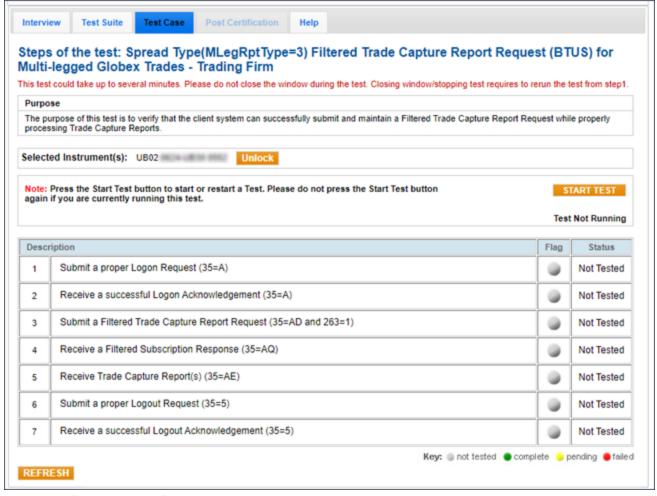
Clearing Business Date Filtered test screen



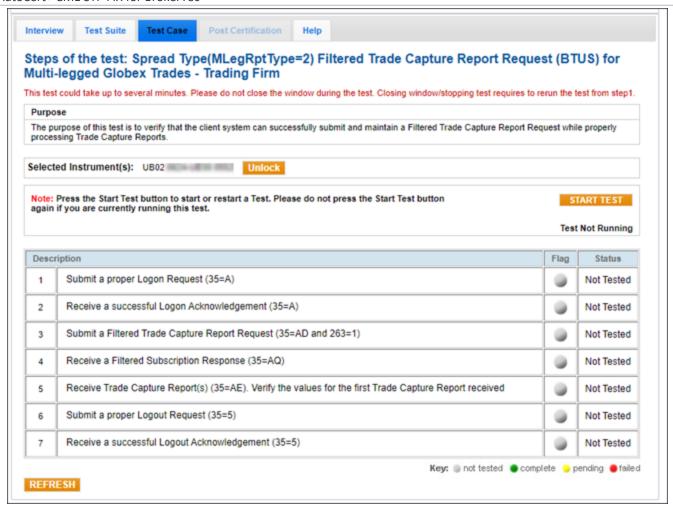
Last Updated Time Filtered test screen



Spread Type (MLegRptType=3) Filtered test screen



Spread Type(MLegRptType=2) Filtered test screen



Multiple Parties via Trade Capture Report Request Test

These tests appear because you selected **Yes** for the <u>Interview</u> question "Does your system support multiple parties via a single Trade Capture Report Request?"

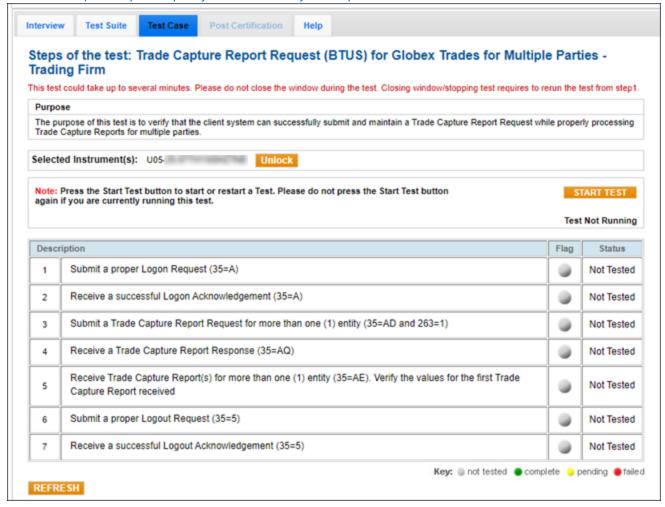
The example test procedure below is for a **Trade Capture Report Request (BTUS) for Multiple Parties** and may not appear in your test suite. The tests included in the test suite will depend on the answers you provided in the Interview.

- Trade Capture Report Request (BTUS) for Globex Trades for Multiple Parties Trading Firm
- Multiple Parties via Snapshot Request (BTUS) for Globex Trades Trading Firm



- To run a Multiple Parties via Trade Capture Report Request test:
 - 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
 - 2. Select a **Contract** from the drop-down menu and select **Select** if not already selected.
 - 3. Select START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement Logon (35=A).
- 6. Submit a Trade Capture Report Request for more than one (1) entity (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive Trade Capture Report(s) for more than one (1) entity (35=AE).
- 9. Submit a proper Logout Request (35=5).
- Receive a successful Logout Acknowledgement (35=5).
 View Trade Capture Report Request for Globex Trades for Multiple Parties test screen



Bilateral Trade Capture Report Request

The purpose of this test is to verify that the client system can successfully submit and maintain a CME STP FIX Trade Capture Report Request while properly processing Trade Capture Reports.

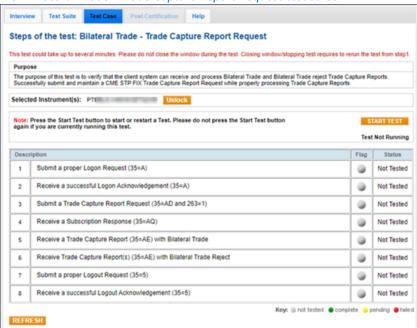
- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
- 3. Select **START TEST** to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

To run a Bilateral Trade Capture Report Request test:

- 1. Submit a Logon (35=A).
- 2. Receive a successful Logon Acknowledgement (35=A).
- 3. Submit a Trade Capture Report Request (35=AD and 263=1).
- 4. Receive a Trade Capture Report Response (35=AQ).
- 5. Receive Trade Capture Report(s) (35=AE) with a bilateral trade.
- 6. Receive Trade Capture Report(s) (35=AE) with a bilateral trade reject.
- 7. Submit a proper Logout Request (35=5).
- 8. Receive a successful <u>Logout Acknowledgement (35=5)</u>. View *Bilateral Trade Trade Capture Report Request* test screen

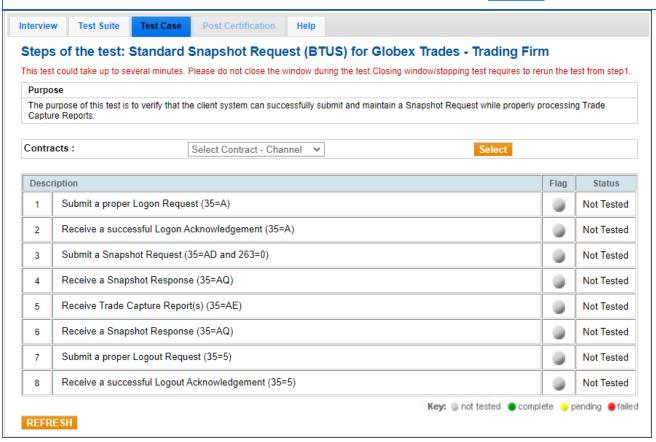


Snapshot Request

The purpose of this test is to verify that the client system can successfully submit CME STP FIX API Snapshot (Query) Requests and receive CME STP FIX API Snapshot (Query) Responses.

Standard Snapshot Request

Note: The example test procedure below is for a **Standard Snapshot Request (BTUS)** and may not appear in your test suite. The tests included in the test suite will depend on the answers you provided in the **Interview**.

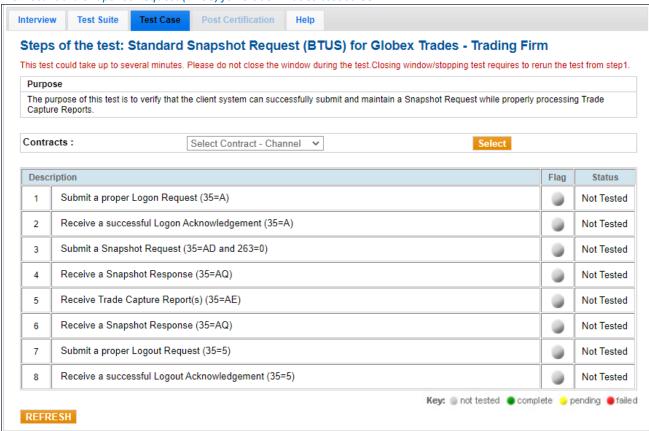


► To run a Standard Snapshot Request test:

- 1. Select a SenderComp from the drop-down menu and click ASSIGN if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
- 3. Click START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon Request (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Snapshot Request (35=AD and 263=0).
- 7. Receive a Snapshot Response (35=AQ).
- 8. Receive Trade Capture Report(s) (35=AE).
- 9. Receive a Snapshot Response (35=AQ).

- 10. Submit a proper Logout Request (35=5).
- 11. Receive a successful Logout Acknowledgement (35=5).

View Standard Snapshot Request (BTUS) for Globex Trades test screen



Filtered Snapshot Request Test

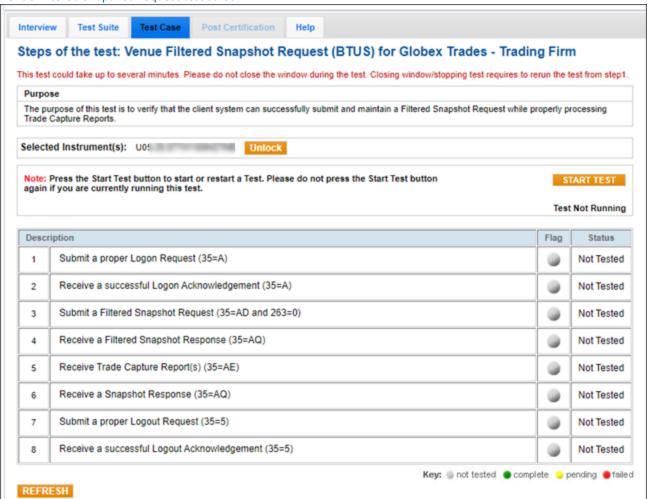
Note: The example test procedure below is for a Venue Filtered Snapshot Request (BTUS) and may not appear in your test suite. The tests included in the test suite will depend on the answers you provided in the Interview.

To run a Filtered Snapshot Request test:

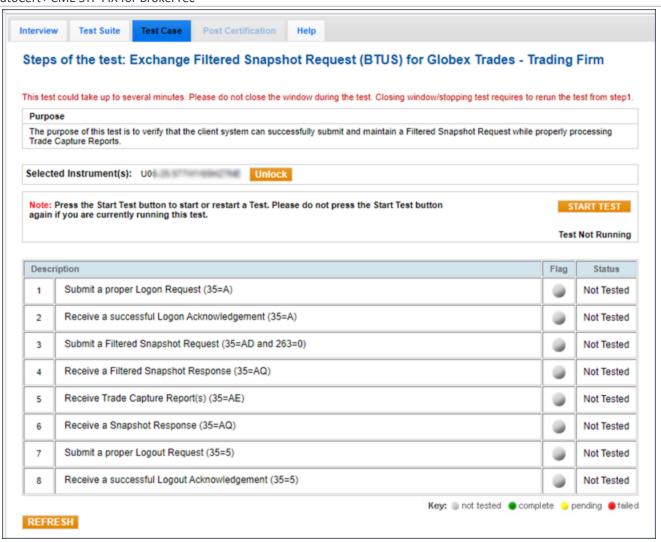
- 1. Select a **SenderComp** from the drop-down menu and click **ASSIGN** if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
- 3. Click **START TEST** to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon Request (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Filtered Snapshot Request (35=AD and 263=0).
- 7. Receive a Filtered Snapshot Response (35=AQ).
- 8. Receive Trade Capture Report(s) (35=AE).
- 9. Receive a Snapshot Response (35=AQ).

- 10. Submit a proper Logout Request (35=5).
- 11. Receive a successful Logout Acknowledgement (35=5).

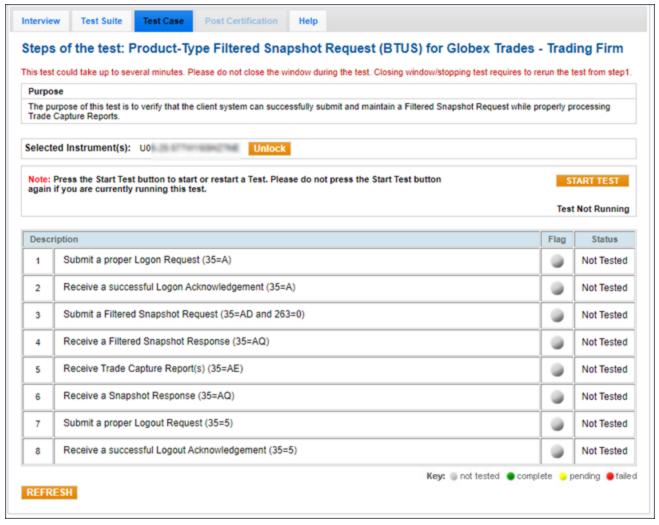
Additional Filtered Snapshot Test screens: For test instructions, refer to the *Filtered Snapshot Report Request* test. Venue Filtered Snapshot Request test screen



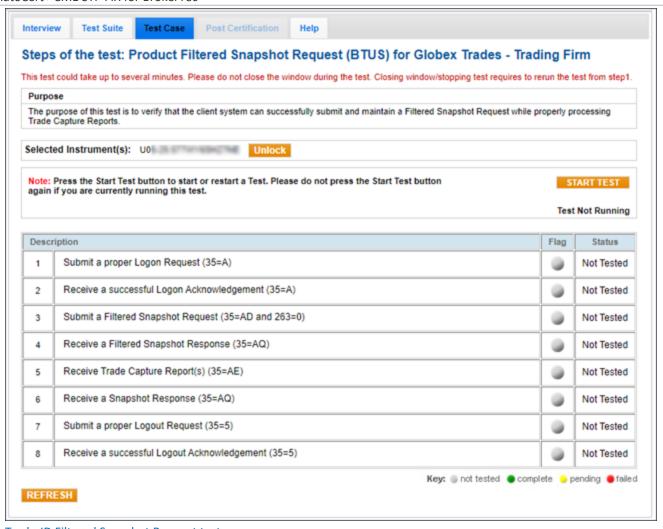
Exchange Filtered Snapshot Request test screen



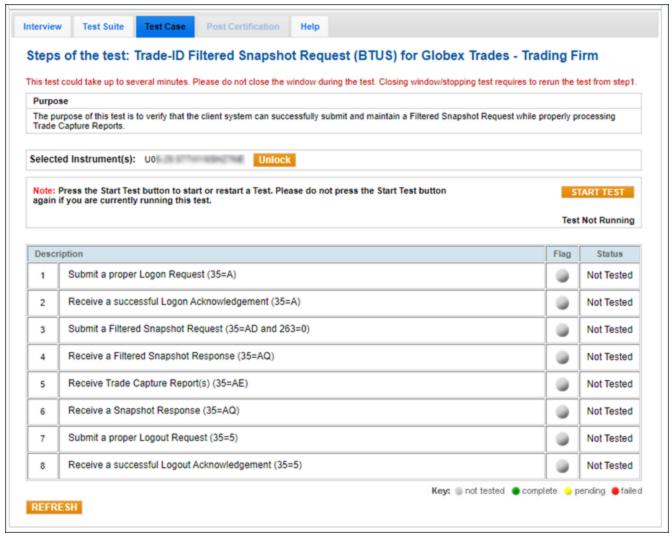
Product Type Filtered Snapshot Request test screen



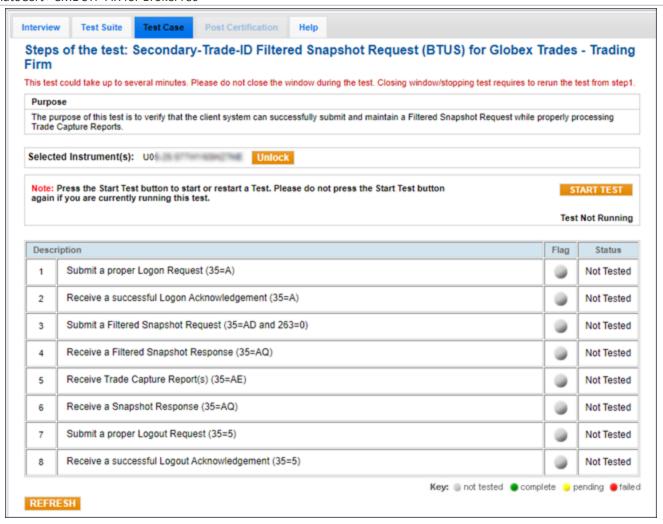
Product Filtered Snapshot Request test screen



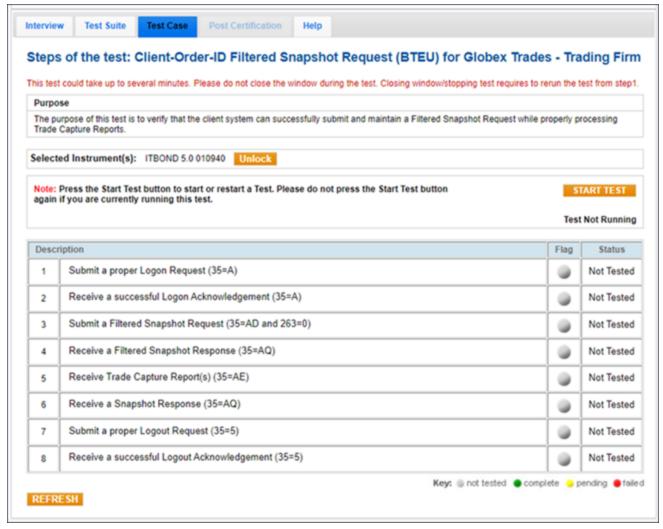
Trade-ID Filtered Snapshot Request test screen



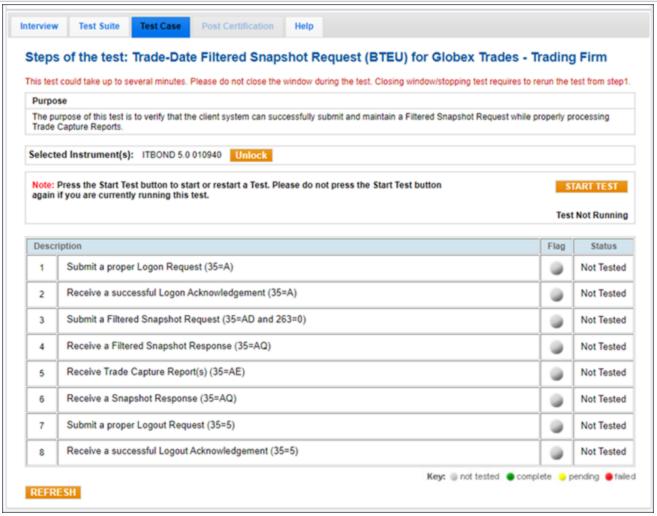
Secondary-Trade-ID Filtered Snapshot Request test screen



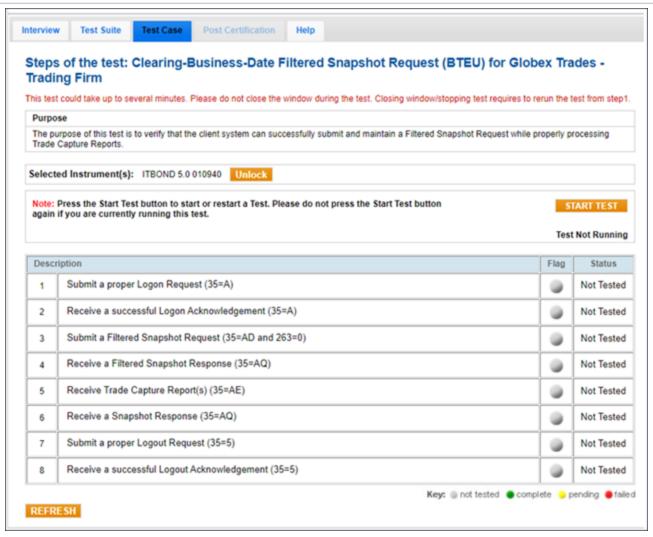
Client-Order ID Filtered Snapshot Request test screen



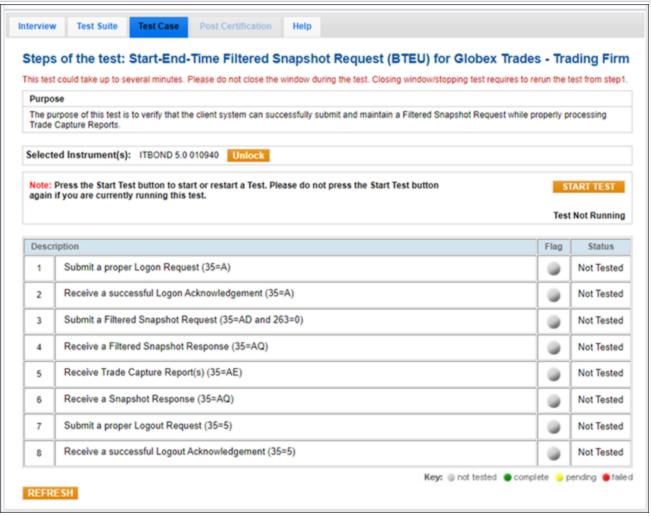
Trade-Date Filtered Snapshot Request test screen



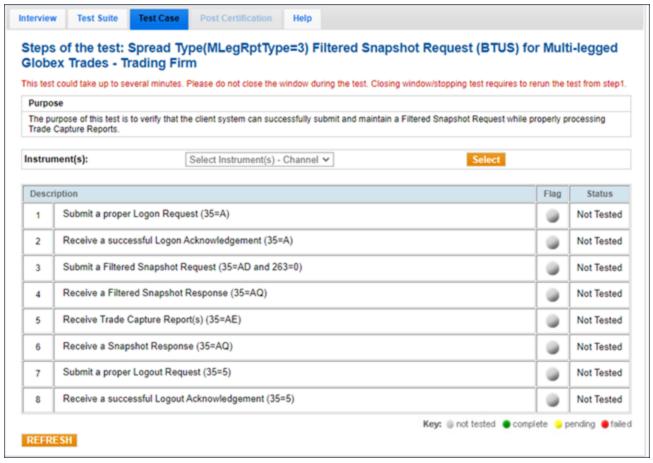
Clearing-Buiness-Date Filtered Snapshot Request test screen



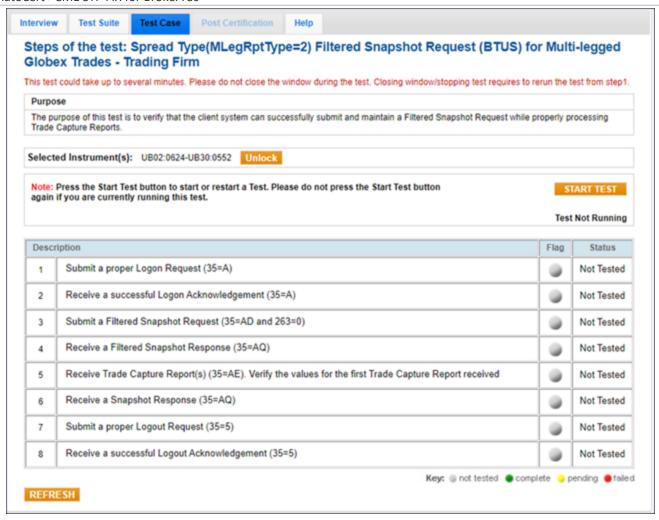
Start-End-Time Filtered Snapshot Request test screen



Spread Type(MLegRptType=3) Filtered Snapshot Request test screen



Spread Type(MLegRptType=2) Filtered Snapshot Request test screen



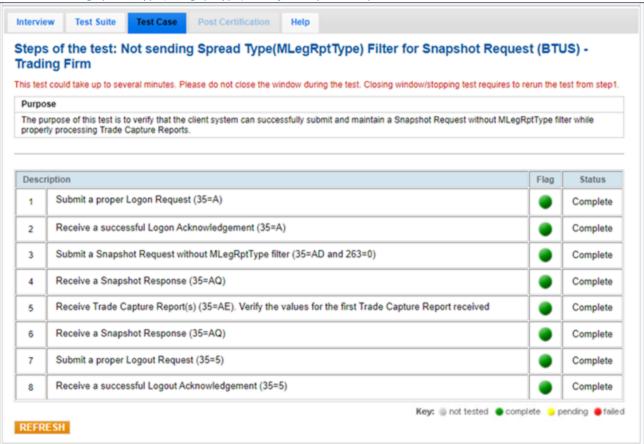
Not sending Spread Type(MLegRptType) Filter for Snapshot Request

The purpose of this test is to verify that the client system can successfully submit and maintain a Snapshot Request without MLegRptType filter while properly processing Trade Capture Reports.

- 1. Select a SenderComp from the drop-down menu and click ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Click START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- Submit a proper Logon Request (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Snapshot Request (35=AD and 263=0).
- 7. Receive a Snapshot Response (35=AQ).
- 8. Receive Trade Capture Report(s) (35=AE).
- 9. Receive a Snapshot Response (35=AQ).

- 10. Submit a proper Logout Request (35=5).
- 11. Receive a successful Logout Acknowledgement (35=5).

View Not sending Spread Type(MLegRptType) Filter for Snapshot Request test screen



Multiple Parties via Snapshot Request

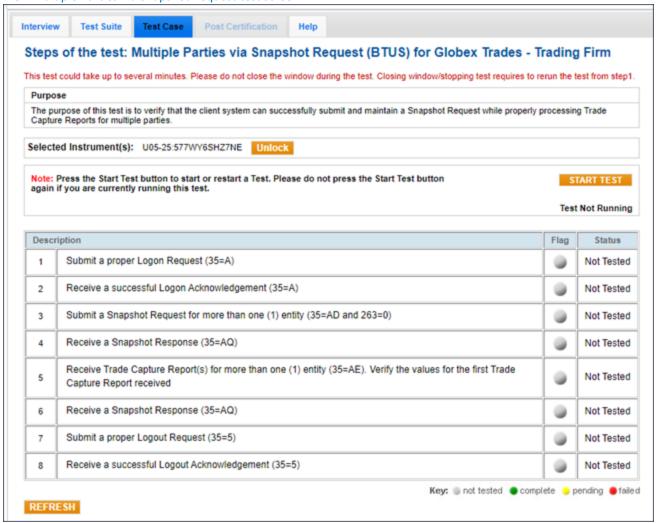
Note: The example test procedure below is for a Multiple Parties via Snapshot Request (BTUS) and may not appear in your test suite. The tests included in the test suite will depend on the answers you provided in the Interview.

To run a Multiple Parties via Snapshot Request test:

- 1. Select a SenderComp from the drop-down menu and click ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Click **START TEST** to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon Request (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Snapshot Request (35=AD and 263=0).
- 7. Receive a Snapshot Response (35=AQ).
- 8. Receive Trade Capture Report(s) (35=AE).

- 9. Receive a Snapshot Response (35=AQ).
- 10. Submit a proper Logout Request (35=5).
- 11. Receive a successful Logout Acknowledgement (35=5).

View Multiple Parties via Snapshot Request test screen



Bilateral Trade - Snapshot Request

- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Select **START TEST** to begin.



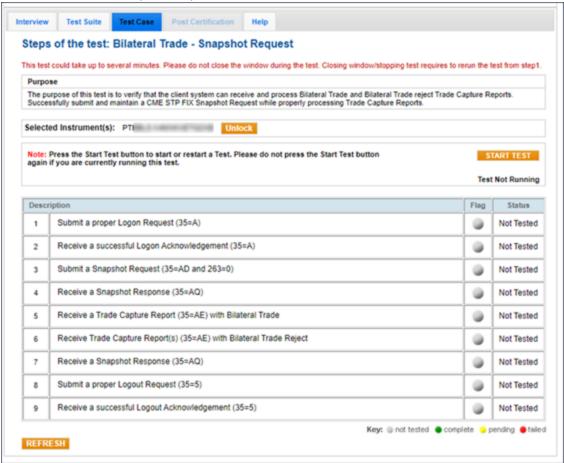
Note: **DO NOT** select the "START TEST" button once the test is in progress.

► To run a Bilateral Snapshot Request test:

- 1. Submit a proper Logon Request (35=A).
- 2. Receive a Logon Acknowledgement (35=A).
- 3. Submit a Snapshot Request (35=AD and 263=0).

- 4. Receive a Snapshot Response (35=AQ).
- 5. Receive Trade Capture Report(s) (35=AE) with a bilateral trade.
- 6. Receive Trade Capture Report(s) (35=AE) with a bilateral trade reject.
- 7. Receive a Snapshot Response (35=AQ).
- 8. Submit a Logout Request (35=5).
- 9. Receive a Logout Acknowledgement (35=5).

View Bilateral Trade - Snapshot Request test screen



Post Trade Event

The purpose of this test is to verify that the client system can successfully submit and maintain a Trade Capture / Amendment / Cancel Request while properly processing Trade Capture Reports for Post-Trade Events.

Available Tests:

- Trade Capture Test Cases
- Trade Amendment Test Cases
- Trade Cancel Test Cases

Post-Trade Events - Trade Capture Report Request Tests (US Treasuries / EU Repo)

The example test procedure below is for a **Post-Trade Events via Trade Capture Report Request (US Treasuries)** and may not appear in your test suite. Available tests depend on the answers provided in the Interview.

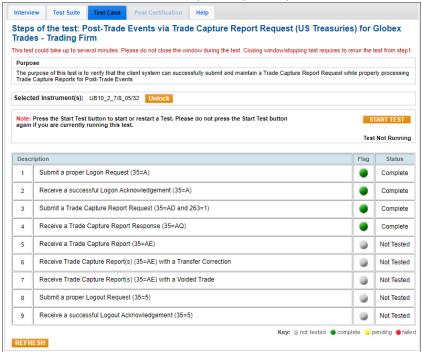
To run a Post-Trade Events via Trade Capture Report Request test:

- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Select START TEST to begin.
 - 0

Note: DO NOT select the "START TEST" button once the test is in progress.

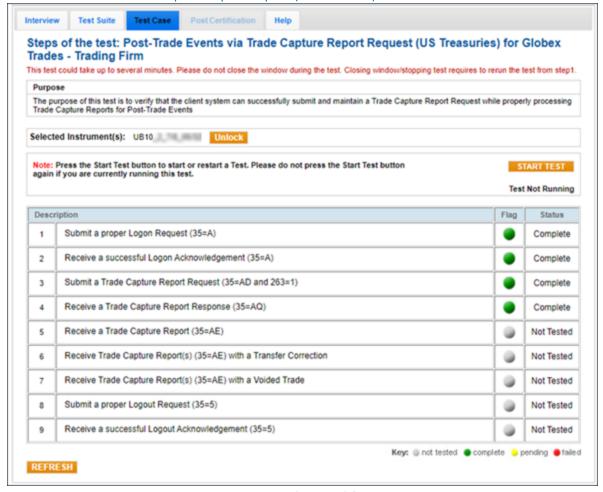
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE).
- 9. Receive Trade Capture Report(s) (35=AE) with a Transfer Correction.
- 10. Receive Trade Capture Report(s) (35=AE) with a Voided Trade.
- 11. Submit a proper Logout Request (35=5).
- 12. Receive a successful Logout Acknowledgement (35=5).

View Post Trade Events via Trade Capture Report Request test screen

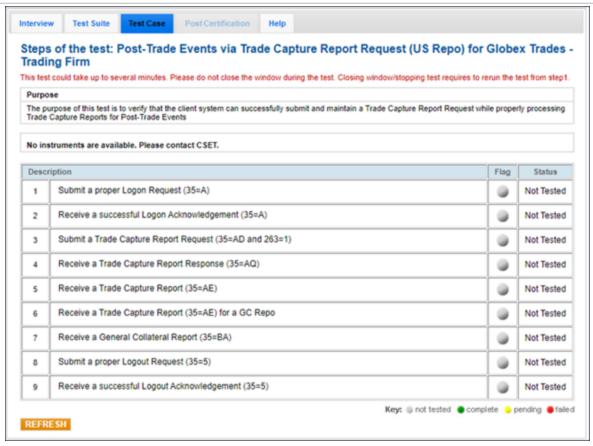


Additional Post Trade Events - Trade Capture Report tests: For the following tests refer to the instructions above (Post-Trade Events via Trade Capture Report Request (US Treasuries) for Globex Trades).

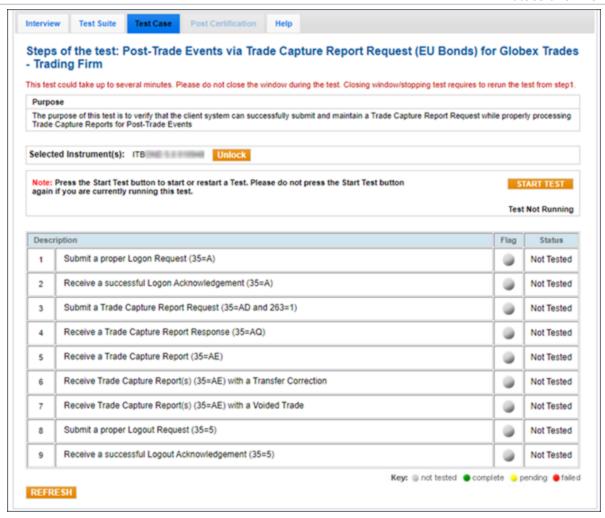
Post-Trade Events via Trade Capture Report Request (US Treasuries) for Globex Trades test screen



Post-Trade Events via Trade Capture Report Request (US Repo) for Globex Trades test screen



Post-Trade Events via Trade Capture Report Request (EU Bonds) for Globex Trades test screen



To run a Post-Trade Events via Trade Capture Report Request (EU Repo) test:

The purpose of this test is to verify that the client system can successfully submit and maintain a Trade Capture Report Request while properly processing Trade Capture Reports for Post-Trade Events.

The example test procedure below is for a Post-Trade Events via Trade Capture Report Request (EU Repo) for Globex Trades and may not appear in your test suite. Available tests depend on the answers provided in the Interview.

- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Select **START TEST** to begin.

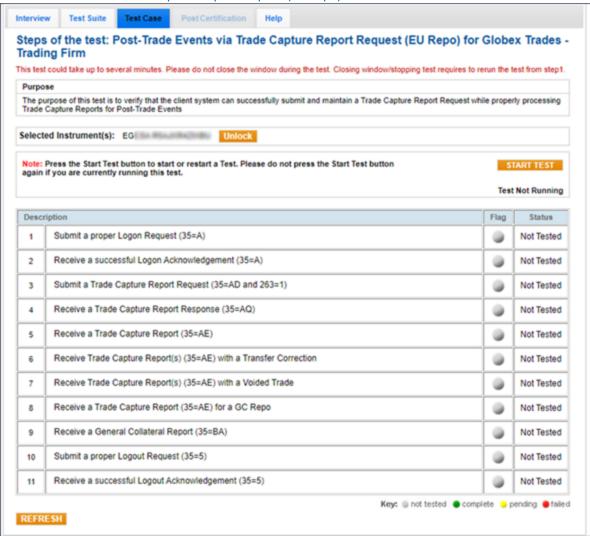


Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE).
- 9. Receive Trade Capture Report(s) (35=AE) with a Transfer Correction.

- 10. Receive Trade Capture Report(s) (35=AE) with a Voided Trade.
- 11. Receive a General Collateral Report (35=BA).
- 12. Submit a proper Logout Request (35=5).
- 13. Receive a successful Logout Acknowledgement (35=5).

Post-Trade Events via Trade Capture Report Request (EU Repo) for Globex Trades test screen



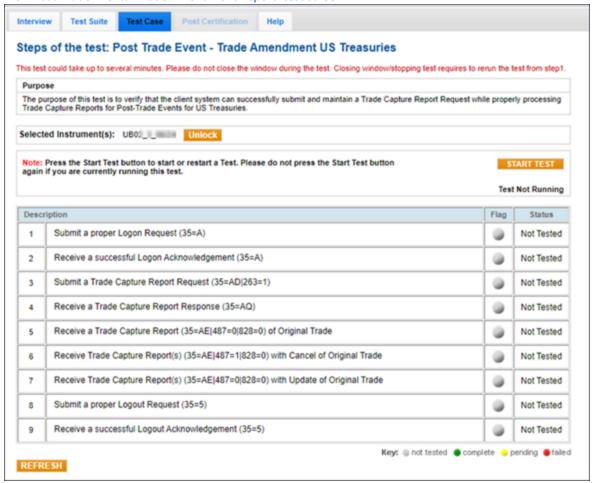
Post-Trade Events - Trade Amendment Report Request Tests

The example test procedure below is for a **Post-Trade Events via Trade Capture Report Request (US Treasuries)** and may not appear in your test suite. Available tests depend on the answers provided in the Interview.

- To run a Post Trade Event Trade Amendment US Treasuries test:
 - 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
 - 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
 - 3. Select **START TEST** to begin.
 - **Note**: **DO NOT** select the "START TEST" button once the test is in progress.

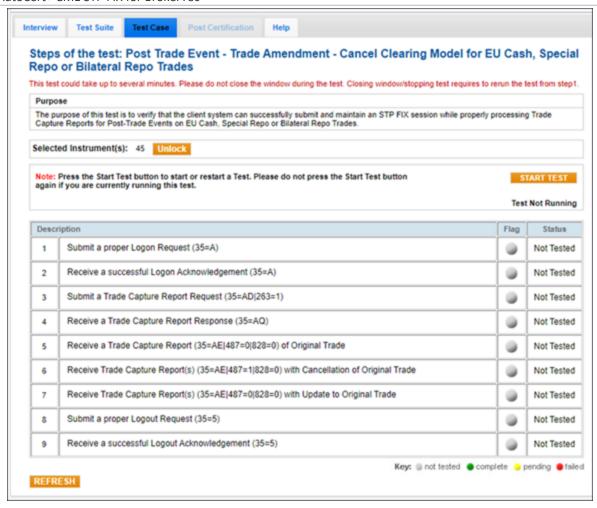
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE).
- 9. Receive Trade Capture Report(s) (35=AE) with a Transfer Correction.
- 10. Receive Trade Capture Report(s) (35=AE) with a Voided Trade.
- 11. Submit a proper Logout Request (35=5).
- 12. Receive a successful Logout Acknowledgement (35=5).

View Post Trade Events -Trade Amendment Report test screen



Additional Post Trade Event - Trade Amendment Report test: For the following test refer to the instructions above (Post-Trade Events - Trade Amendment US Treasuries).

View Trade Amendment - Cancel Clearing Model for EU Cash, Special Repo or Bilateral Repo Trades test screen



To run a Post Trade Event - Trade Amendment US Treasuries test:

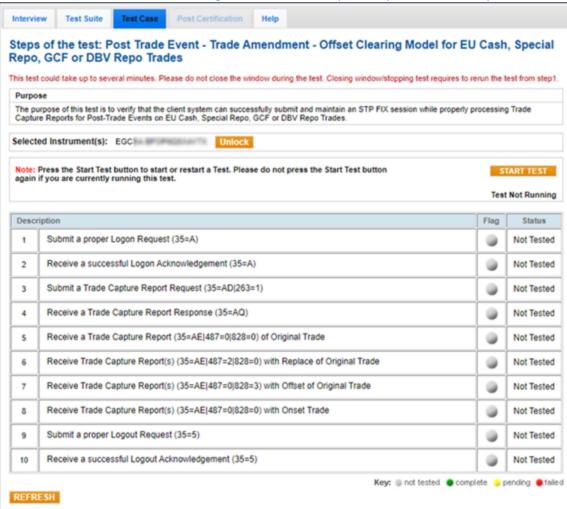
The example test procedure below is for a **Post-Trade Event - Trade Amendment - Offset Clearing Model for EU Cash, Special Repo, GCF or DBV Repo trade** and may not appear in your test suite. Available tests depend on the answers provided in the **Interview**.

The purpose of this test is to verify that the client system can successfully submit and maintain an STP FIX session while properly processing Trade Capture Reports for Post Trade Events on EU Cash, Special Repo, GCF or DBV Repo Trades.

- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
- 3. Select **START TEST** to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a <u>Trade Capture Report Response (35=AQ)</u>.
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the original trade.
- 9. Receive Trade Capture Report (35=AE | 487=0 | 828=0) with a replacement of the original trade.

- 10. Receive Trade Capture Report (35=AE | 487=0 | 828=3) with an offset of the original trade.
- 11. Receive Trade Capture Report (35=AE | 487=0 | 828=0) with an onset (tag 10021) trade.
- 12. Submit a proper Logout Request (35=5).
- 13. Receive a successful Logout Acknowledgement (35=5).

View Trade Amendment - Offset Clearing Model for EU Cash, Special Repo, GCF or DBV Repo Trades screen



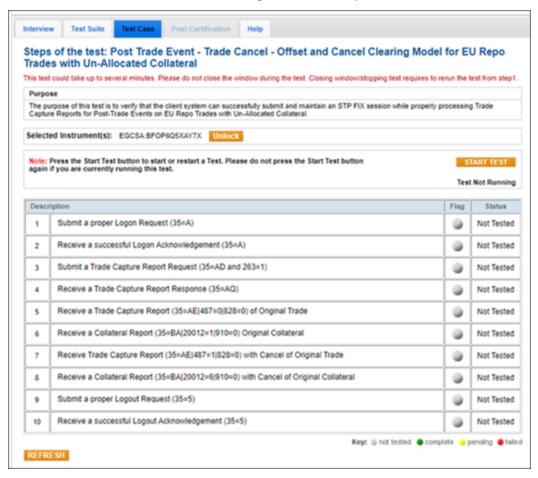
The example test procedure below is for a **Post-Trade Event - Trade Cancel - Offset and Cancel Clearing Model for EU Repo Trades with Un-Allocated Collateral** and may not appear in your test suite. Available tests depend on the answers provided in the **Interview**.

The purpose of this test is to verify that the client system can successfully submit and maintain an STP FIX session while properly processing Trade Capture Reports for Post Trade Events on EU Repo Trades with un-allocated collateral.

- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.
- 3. Select START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).

- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the original trade.
- 9. Receive Trade Capture Report(s) (35=BA|20012=1|910=0) of the original collateral.
- 10. Receive Trade Capture Report(s) (35=AE | 487=1 | 828=0) with the cancel of the original trade.
- 11. Receive Trade Capture Report(s) (35=AE|20012=6|910=0) with an onset trade.
- 12. Submit a proper Logout Request (35=5).
- 13. Receive a successful Logout Acknowledgement (35=5).

Trade Amendment - Offset and Cancel Clearing Model for EU Repo Trades with Un-Allocated Collateral



Post-Trade Events - Trade Cancel Tests

The example test procedure below is for a **Post Trade Event - Trade Cancel US Treasuries** and may not appear in your test suite. Available tests depend on the answers provided in the Interview.

To run a Post Trade Event - Trade Cancel US Treasuries test:

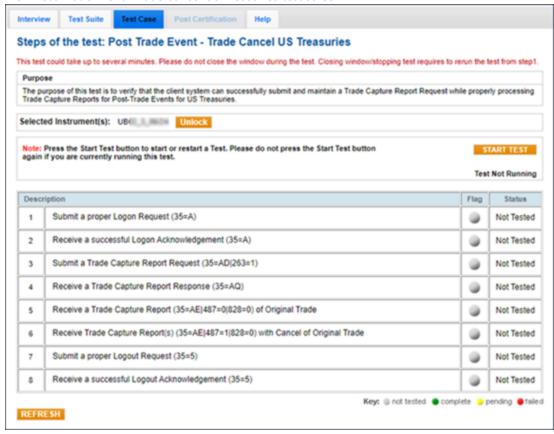
- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.
- 3. Select **START TEST** to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

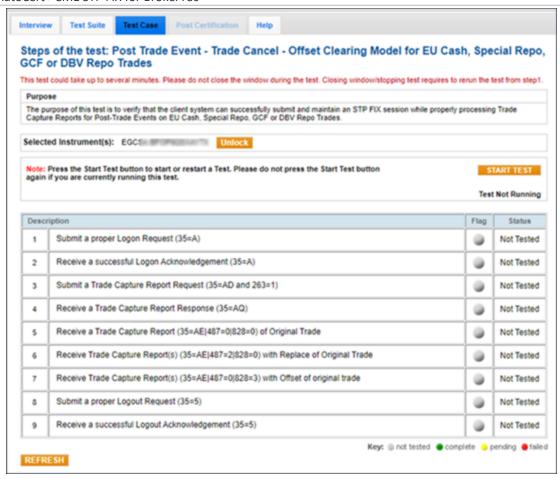
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE).
- 9. Receive Trade Capture Report(s) (35=AE) with a Transfer Correction.
- 10. Receive <u>Trade Capture Report(s)</u> (35=AE) with a Voided Trade.
- 11. Submit a proper Logout Request (35=5).
- 12. Receive a successful Logout Acknowledgement (35=5).

View Post Trade Event -Trade Cancel US Treasuries test screen

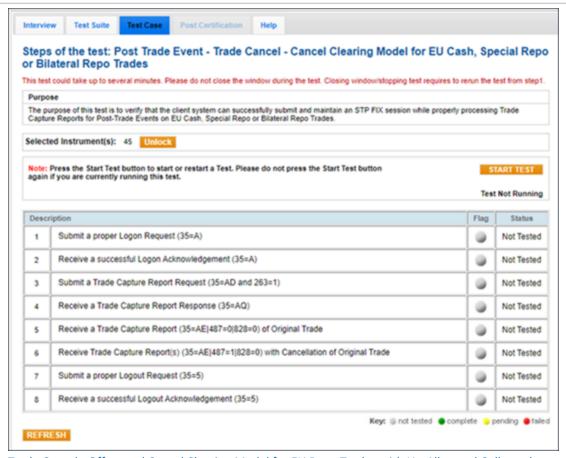


Additional Post Trade Events - Trade Cancel tests: For the following tests refer to the instructions above (Post-Trade Events - Trade Cancel US Treasuries).

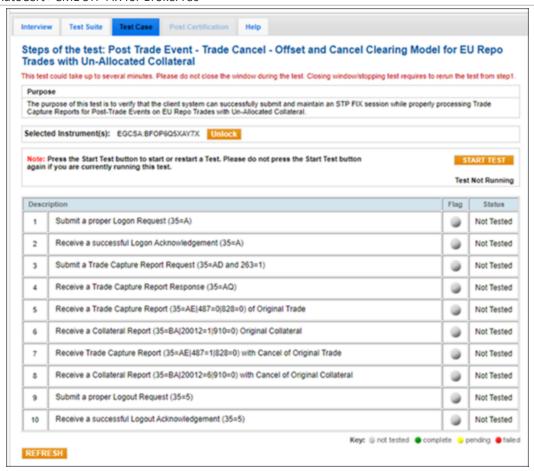
Trade Cancel - Offset Clearing Model for EU Cash, Special Repo, GCF or DBV Repo Trades



Trade Cancel - Cancel Clearing Model for EU Cash, Special Repo or Bilateral Repo Trades



Trade Cancel - Offset and Cancel Clearing Model for EU Repo Trades with Un-Allocated Collateral



CSET Assisted Tests - Post Trade Event - Trade Cancel / Offset with Allocated Collateral

The example test procedure below is for a **Post Trade Event - Trade Cancel / Offset with Allocated Collateral** and may not appear in your test suite. These tests appear if the following interview responses are selected:

- 3. Does your system support EU Products? Yes
- 4. What types of Product will your system support? EU Bonds and/or EU Repo
- 5. Which of the following Clearers does your EU Trades utilize? BME

To run a Post Trade Event - Trade Cancel - Cancel Clearing Model for EU Repo with Allocated Collateral test:

The purpose of this test is to verify that the client system can successfully submit and maintain an STP FIX session while properly processing Trade Capture Reports for Post-Trade Events on EU Repo with Allocated Collateral.

- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- Select a Contract from the drop-down menu and click Select if not already selected.
 CSET staff will assist with test steps beginning with the Trade Capture Report (#7 of the instructions)
- 3. Select START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon (35=A).

- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263- SubscriptionRequest=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the Original Trade

Enter responses for:

- Tag 48-SecurityID
- Tag 31-LastPx
- Tag 32-LastQty

CSET Assisted test begins: Contact the CSET team via the hotline numbers listed on the test screen.

9. Receive Collateral Report (35=BA|20012=1|910=3|20015=2) Original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 48-Security ID
- 10. Receive a Second Collateral Report Allocation Message (35=BA|20012=2|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 11. Receive a Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus

CSET manually cancels / voids the collateral report in GC Allocation UI (New Release environment)

12. Receive a Second Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus
- 13. Receive <u>Trade Capture Report (35=AE | 487=1 | 828=0)</u> with Cancel of original trade.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 487-TransTyp

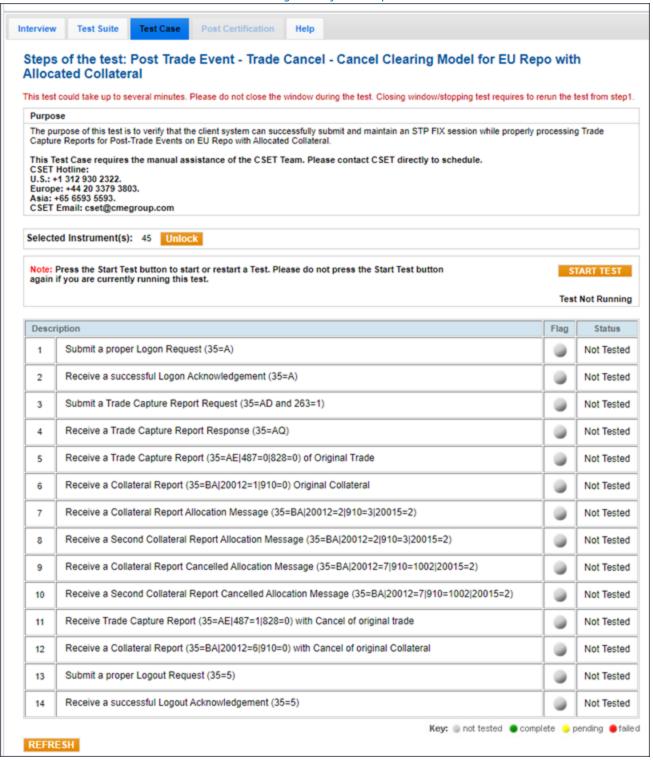
CSET manually cancels / voids the trade Capture report (New Release environment)

14. Receive a Collateral Report (35=BA | 20012=6 | 910=0) with Cancel of original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 15. Submit a proper Logout Request (35=5).
- 16. Receive a successful Logout Acknowledgement (35=5).

View Post Trade Event -Trade Cancel - Cancel Clearing Model for EU Repo with Allocated Collateral test screen



To run a Post Trade Event - Trade Amendment - Cancel Clearing Model for EU Repo with Allocated Collateral test:

The purpose of this test is to verify that the client system can successfully submit and maintain a STP FIX session while properly processing Trade Capture Reports for Post-Trade Events on EU Repo with Allocated Collateral.

- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a **Contract** from the drop-down menu and click **Select** if not already selected.

CSET staff will assist with test steps beginning with the Trade Capture Report (#7 of the instructions)

3. Select **START TEST** to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263- SubscriptionRequest=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the Original Trade

Enter responses for:

- Tag 48-SecurityID
- Tag 31-LastPx
- Tag 32-LastQty

CSET Assisted test begins: Contact the CSET team via the hotline numbers listed on the test screen.

9. Receive Collateral Report (35=BA|20012=1|910=3|20015=2) Original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 48-Security ID
- 10. Receive a Second Collateral Report Allocation Message (35=BA|20012=2|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 11. Receive a Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus

CSET manually cancels / voids the collateral report in GC Allocation UI (New Release environment)

12. Receive a Second Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus
- 13. Receive Trade Capture Report (35=AE | 487=1 | 828=0) with Cancel of original trade.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 487-TransTyp

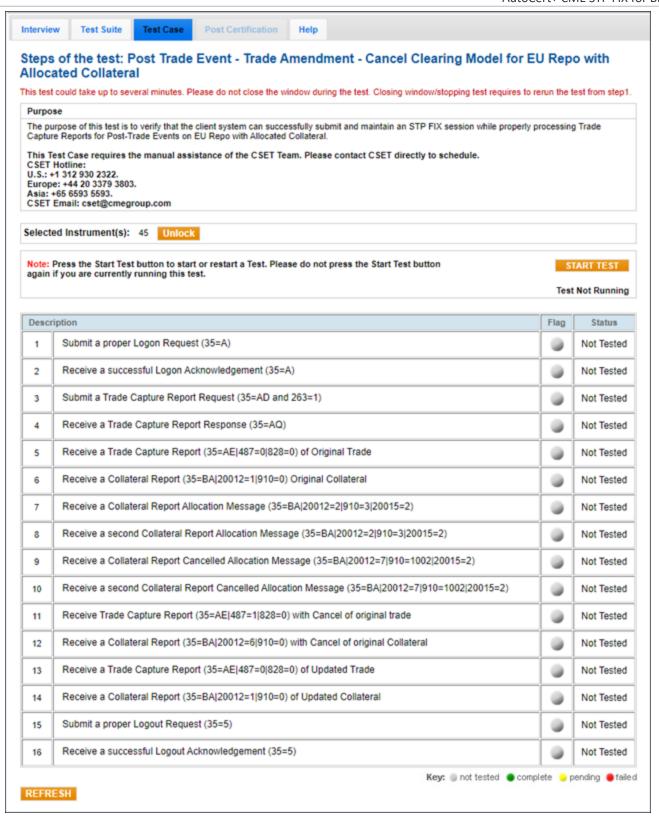
CSET manually cancels / voids the trade Capture report (New Release environment)

14. Receive a Collateral Report (35=BA | 20012=6 | 910=0) with Cancel of original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 15. Submit a proper Logout Request (35=5).
- 16. Receive a successful Logout Acknowledgement (35=5).

View Trade Amendment - Cancel Clearing Model for EU Repo with Allocated Collateral screen



To run a Post Trade Event - Trade Cancel - Offset Clearing Model for EU Repo with Allocated Collateral test:

The purpose of this test is to verify that the client system can successfully submit and maintain a STP FIX session while properly processing Trade Capture Reports for Post-Trade Events on EU Repo with Allocated Collateral.

- 1. Select a SenderComp from the drop-down menu and select ASSIGN if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.

CSET staff will assist with test steps beginning with the Trade Capture Report (#7 of the instructions)

3. Select **START TEST** to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263- SubscriptionRequest=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the Original Trade

Enter responses for:

- Tag 48-SecurityID
- Tag 31-LastPx
- Tag 32-LastQty

CSET Assisted test begins: Call the CSET team via the hotline numbers listed on the test screen.

9. Receive Collateral Report (35=BA|20012=1|910=3|20015=2) Original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 48-Security ID
- 10. Receive a Second Collateral Report Allocation Message (35=BA|20012=2|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 11. Receive a Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus

CSET manually cancels / voids the collateral report in GC Allocation UI (New Release environment)

12. Receive a Second Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus
- 13. Receive <u>Trade Capture Report (35=AE | 487=1 | 828=0)</u> with Cancel of original trade.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 487-TransTyp

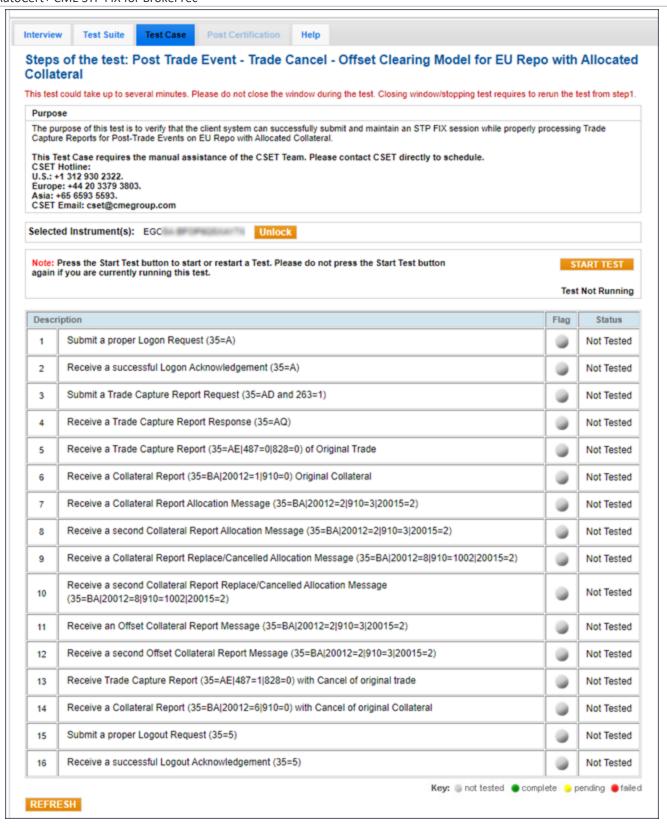
CSET manually cancels / voids the trade Capture report (New Release environment)

14. Receive a Collateral Report (35=BA | 20012=6 | 910=0) with Cancel of original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 15. Submit a proper Logout Request (35=5).
- 16. Receive a successful Logout Acknowledgement (35=5).

View Trade Cancel - Offset Clearing Model for EU Repo with Allocated Collateral screen



▶ To run a Post Trade Event - Trade Amendment - Offset Clearing Model for EU Repo with Allocated Collateral test:

The purpose of this test is to verify that the client system can successfully submit and maintain a STP FIX session while properly processing Trade Capture Reports for Post-Trade Events on EU Repo with Allocated Collateral.

- 1. Select a **SenderComp** from the drop-down menu and select **ASSIGN** if not already selected.
- 2. Select a Contract from the drop-down menu and click Select if not already selected.

CSET staff will assist with test steps beginning with the Trade Capture Report (#7 of the instructions)

3. Select **START TEST** to begin.



Note: DO NOT select the "START TEST" button once the test is in progress.

- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgement (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263- SubscriptionRequest=1).
- 7. Receive a Trade Capture Report Response (35=AQ).
- 8. Receive a Trade Capture Report (35=AE | 487=0 | 828=0) of the Original Trade.

Enter responses for:

- Tag 48-SecurityID
- Tag 31-LastPx
- Tag 32-LastQty

CSET Assisted test begins: Call the CSET team via the hotline numbers listed on the test screen.

9. Receive Collateral Report (35=BA|20012=1|910=3|20015=2) Original Collateral.

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 48-Security ID
- 10. Receive a Second Collateral Report Allocation Message (35=BA|20012=2|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 11. Receive a Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus

CSET manually cancels / voids the collateral report in GC Allocation UI (New Release environment).

12. Receive a Second Collateral Report Canceled Allocation Message (35=BA|20012=7|910=1002|20015=2).

Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 910-CollStatus
- 13. Receive Trade Capture Report (35=AE | 487=1 | 828=0) with Cancel of Original Trade.

Enter responses for:

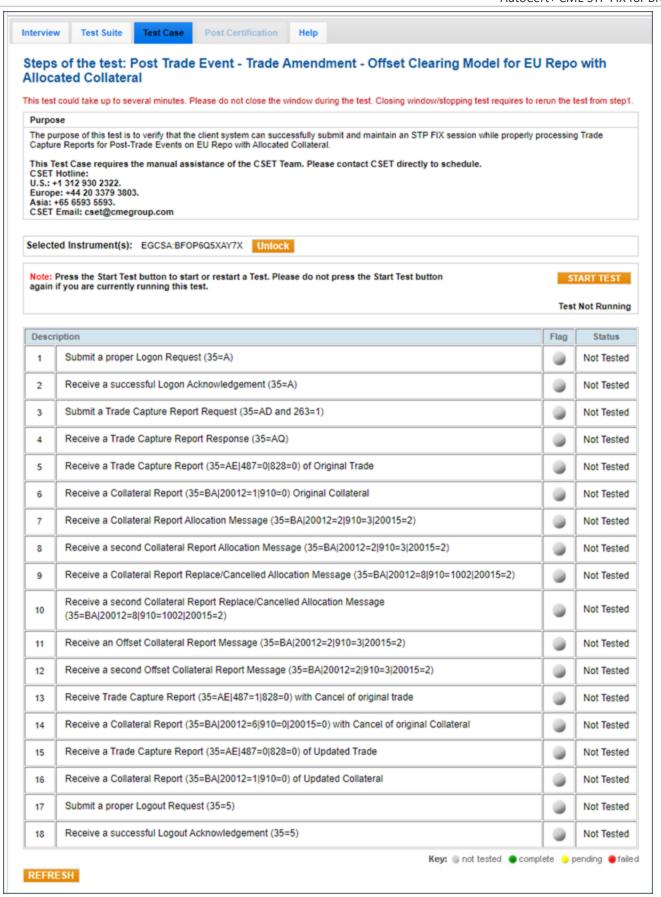
- Tag 1040-SecondaryTradeID
- Tag 487-TransTyp

CSET manually cancels / voids the trade Capture report (New Release environment)

14. Receive a Collateral Report (35=BA | 20012=6 | 910=0) with Cancel of Original Collateral.

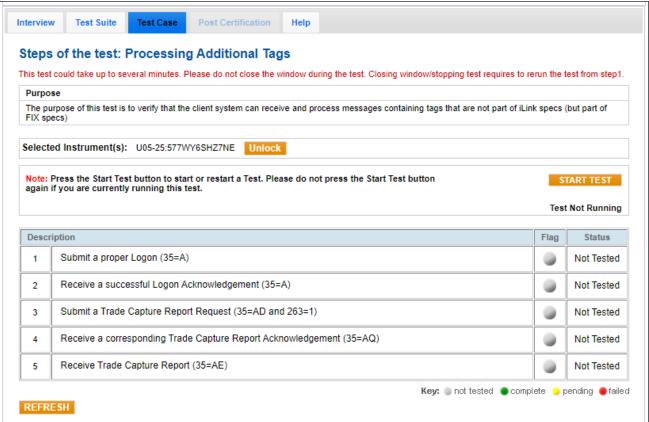
Enter responses for:

- Tag 1040-SecondaryTradeID
- Tag 20012-CollateralReportTransactionType
- 15. Submit a proper Logout Request (35=5).
- 16. Receive a successful <u>Logout Acknowledgement (35=5)</u>. View Trade Amendment Offset Clearing Model for EU Repo with Allocated Collateral screen



Processing Additional Tags

The purpose of this test is to verify that the client system can receive and process messages containing tags that are not part of iLink specs (but part of FIX specs).



► To run a Processing Additional Tags test:

- 1. Select a Instrument from the drop-down menu and click Select if not already selected.
- 2. Click START TEST to begin.
 - Note: DO NOT select the "START TEST" button once the test is in progress.
- 4. Submit a proper Logon (35=A).
- 5. Receive a successful Logon Acknowledgment (35=A).
- 6. Submit a Trade Capture Report Request (35=AD and 263=1).
- 7. Receive a corresponding Trade Capture Report Acknowledgement (35=AQ).
- 8. Receive Trade Capture Report (35=AE).

Subscription Failover Recovery Test

The purpose of this test is to verify that the client system can recover all missed trades in case of a disconnect or outage. The test uses LastUpdateTime (Tag 779) to help recover missed trades.

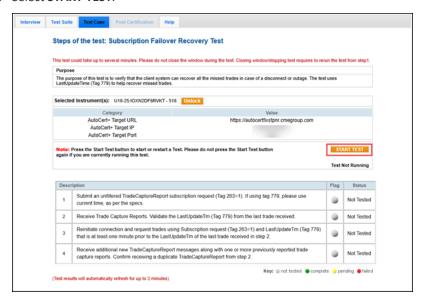
This test is mandatory if you selected "Trade Capture Report Request subscription request with LastUpdateTm (Tag 779)" in the interview question "Which type of recovery your application support?"

To run the test

1. On the Test Case tab, use the Instrument(s) drop down menu to choose an instrument and channel and click SELECT.



2. Select START TEST.





Note: Do not select START TEST while a test is running. Restarting a test deletes the current test results.

- 3. Submit an unfiltered Trade Capture Report subscription request (263=1). If using Tag 779, please use the current time.
- 4. Receive Trade Capture Report messages. Validate LastUpdateTm (Tag 779) from the last trade received.
- 5. Reinitiate the connection and request trades using a subscription request (263=1) and LastUpdateTm (Tag 779) that is at least one minute prior to the LastUpdateTm of the last trade received in step 4.
- 6. Select **Yes** or **No** to confirm that your system received additional new Trade Capture Report messages along with one or more previously sent Trade Capture Reports, including a duplicate report from step 4.

Snapshot Failover Recovery Test

The purpose of this test is to verify that you can recover all missed trades in case of a disconnect or outage using the Snapshot recovery process. The test uses StartTime (Tag 9593) to recover missed trades.

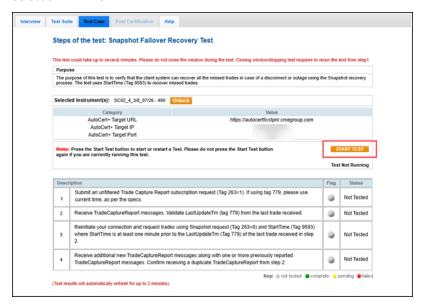
This test is mandatory if you selected "Trade Capture Report Request - Snapshot with StartTime (tag 9593)" in the interview question "Which type of recovery does your application support?"

To run the test

1. On the **Test Case** tab, use the Instrument(s) drop down menu to choose an instrument and channel and click **SELECT**.



2. Select START TEST.



Note: Do not select **START TEST** while a test is running unless instructed to do so. Restarting a test deletes the current test results.

- 3. Submit an unfiltered Trade Capture Report subscription request (263=1). If using Tag 779, please use the current time
- 4. Receive Trade Capture Report messages. Validate LastUpdateTm (Tag 779) from the last trade received.
- 5. Reinitiate the connection and request trades using a Snapshot request (Tag 263=0) and StartTime (Tag 9593) that is at least one minute prior to the LastUpdateTm (Tag 779) of the last trade received in step 4.
- 6. Select **Yes** or **No** to confirm that your system received additional new Trade Capture Report messages along with one or more previously sent Trade Capture Report messages, including a duplicate message from step 4.