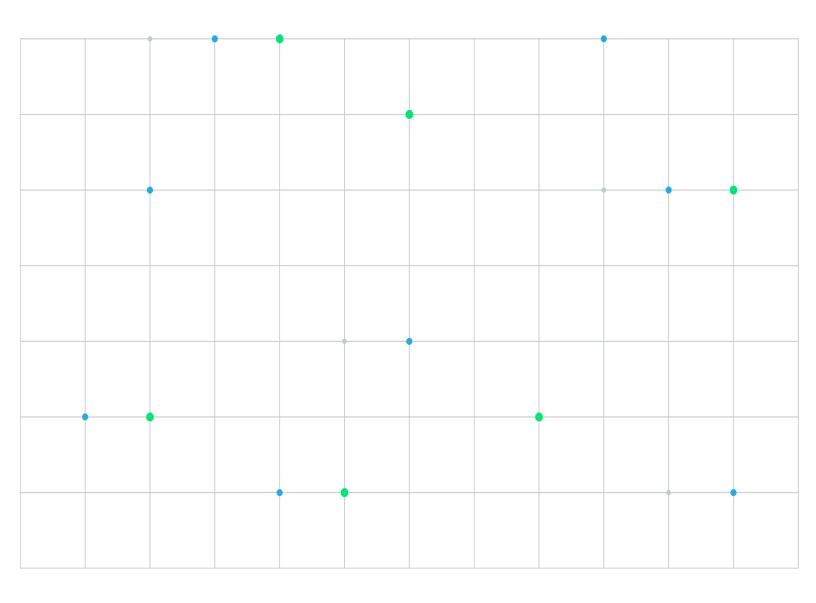


AutoCert+ BrokerTec Order Entry User Manual

29 April 2025



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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 to CME Globex, CME Group provides a dedicated certification environment to allow customers to test their systems before they complete certification.

The following apply to each AutoCert+ BrokerTec Order Entry test case:

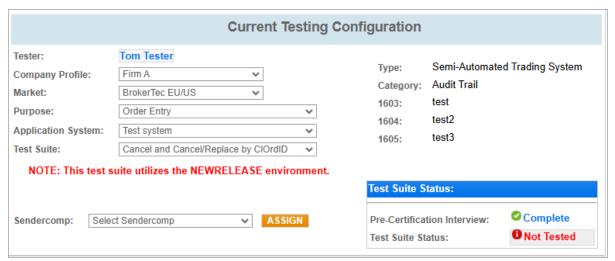
- The book is clear at the beginning of each test.
- · After the instrument is selected, the instrument is locked until the test is completed.
- If you submit an incorrect response to any question in a test case, you must repeat the test case from the beginning.
- For partial or complete fills, assume CME Group creates the appropriate orders in the book.

Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run and navigate AutoCert+:

- 1. Complete the steps detailed in the "Process Summary: BrokerTec New Release Testing Setup" topic.
- 2. Log into the automated certification tool.
- 3. Review general AutoCert+ test suite navigation and general interview information.
- 4. To access the AutoCert+ BrokerTec Order Entry test suite, select the following settings:
 - Company Name: Select a company profile
 - Market: BrokerTec EU/US
 - Purpose: Order Entry
 - Application System: Select a test system
 - Test Suite: BrokerTec Order Entry
 - Identifier: Select an identifier then click Assign.



- 5. Complete the Interview for this test suite.
- 6. Complete applicable test cases

- Session Layer
- Business Layer
- <u>Failover</u>
- 7. Complete the certification process from the <u>Post Certification</u> tab.

What's New

The list below illustrates the updates made to the AutoCert+ BrokerTec Order Entry Help system.

Date	Topic	Description
29 April 2025	Interview	 Added interview questions: Will your system support Order Cancel without OrderID-tag 37. Will your system support Order Cancel Replace without OrderID-tag 37. Will your system support Good Till Order for U.S. Treasuries Product? Which Good Till Order does your system support? GTC (Good Till Cancel) Order GTD (Good Till Date) Order Acknowledgements: That Cancel on Disconnect will NOT cancel GTC and GTD orders. GTC and GTD Orders beginning of Week processing will be tested for On-Demand Format during certification.
29 April 2025	Order Cancel without OrderID Order Cancel-Replace without OrderID Good Till Cancel Good Till Date Beginning of Week Connection with GT Orders for On-Demand Format	Added supplemental BrokerTec tests to order entry test suite
5 June 2023	Binary Trade Reporting	new test case/topic
7 October 2022	Format	Website and PDF format changes

Date	Торіс	Description
		only
11 Mar 2022	Processing Message Gaps of More than 2500 Mes- sages for Mass Quote Sys- tems	Added topic.
	Processing Message Gaps of More than 2500 Mes- sages	Updated screenshots and step 1.
	Mid-Week Connection for Mass Quote Systems (Binding without Initialization)	Updated screenshot, step 5 and 6.
19 Oct 2020	 Manual Order Indicator for ATS System (Mass Quotes) Manual Order Indicator for Manual System (Mass Quotes) 	Added topics.
26 May 2020	Manual Order Indicator for Semi Automated System (Mass Quotes) All	Initial release

Interview

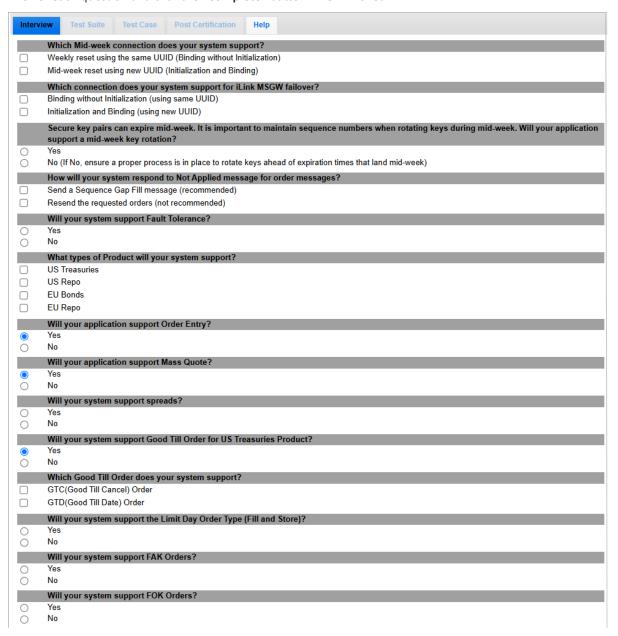
The interview consists of a series of questions about your trading application. Based on your responses, certain tests are required and others are optional. You must complete the pre-certification interview before running the test cases.

 \triangle Warning: In order to perform certification testing for MSGW failover with fault tolerance, you must test during the New Release Weekly Failover Testing Windows.



To complete the interview:

Answer each guestion and click the" Complete" button when finished.



AutoCert+ BrokerTec Order Entry

	Does your system support Mass Order Cancel functionality?
0	Yes
0	No
	Which Mass Order Cancel Functionality does your system support?
	Market Segment ID
	Instrument Group
	Instrument
	Does your system support Order Status functionality?
0	Yes
0	No
	Does your system support Mass Order Status functionality?
0	Yes
0	No
	Which Mass Order Status Functionality does your system support?
	Market Segment ID
	Instrument Group
	Instrument
	Will your system support Bilateral testing?
0	Yes
0	No
	How does your application register Administrative Information? (check all that apply)
	Pre-Registration (Service Gateway)
	On-Demand
	Tag 5290-Executor and tag 36023-IDMShortcode are available in New Release for customer testing. To facilitate client development and certification, in
	New Release the presence of these tags will be validated but the values are not required to be registered. In production, CME Globex will validate the
	short code presence, and reject if the short code is not a registered value. Acknowledge
0	Not Acknowledge
	Cancel on Disconnect will NOT chancel GTC and GTD orders
	Acknowledge
0	Not Acknowledge
	GTC and GTD Orders beginning of Week processing will be tested for On-Demand Format during certification. If you are supporting Pre-Registered
	Format, please test outside AutoCert+ in New Release test environment.
0	Acknowledge
Ö	Not Acknowledge
C	
Com	plete

Session Layer Tests

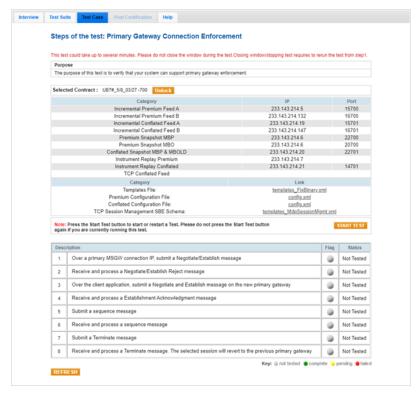
This section contains information on the Session Layer tests.

Connection Tests

This section contains information on the Connection tests.

Primary Gateway Connection Enforcement

The purpose of this test is to verify that your system can support primary gateway enforcement.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Primary Gateway Connection Enforcement test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



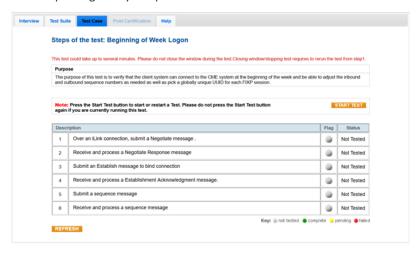
- 4. Over a primary MSGW connection IP, submit a Negotiate/Establish message.
- 5. Receive and process a Negotiate Reject/Establish Reject message.
- 6. Over the client application, submit a Negotiate and Establish message on the new primary gateway.
- 7. Receive and process an Establishment Acknowledgment message.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.

- 10. Submit a Terminate message.
- 11. Receive and process a Terminate message. The selected session will revert to the previous primary gateway.

Beginning of Week Logon

The purpose of this test is to verify that the client system can:

- · connect to the CME system at the beginning of the week
- adjust the inbound and outbound sequence numbers as needed
- pick a globally unique UUID for each FIXP session



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Beginning of Week Logon test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. Select the START TEST button.



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

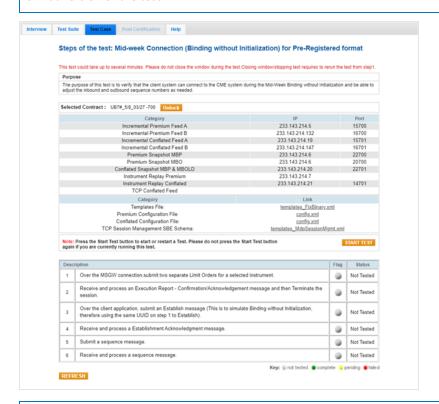
- 3. Over an iLink connection, submit a Negotiate message.
- 4. Receive and process a Negotiate Response message.
- 5. Submit an Establish message to bind connection.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 7. Submit a Sequence message.
- 8. Receive and process a Sequence message.

Mid-Week Connection (Binding without Initialization)

The purpose of this test is to verify that the client system can connect to the CME system during the Mid-Week Binding without Initialization and adjust the inbound and outbound sequence numbers as needed.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Mid-Week Connection (Binding without Initialization) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



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

- 4. Over the MSGW connection, submit two separate Limit orders for a selected outright instrument.
- 5. Receive and process an Execution Report New Order message and then Terminate the session.
- 6. Over the client application, submit an <u>Establish</u> message using the same UUID from step 1 to simulate Binding without Initialization.
- 7. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.

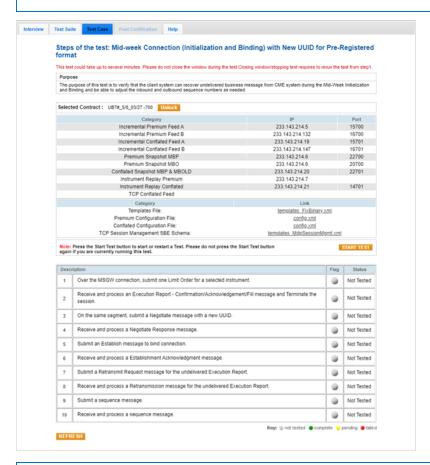
Mid-Week Connection (Initialization and Binding) with New UUID

The purpose of this test is to verify that the client system can:

- recover undelivered business messages from the CME system during the mid-week initialization and binding
- · adjust the inbound and outbound sequence numbers as needed

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Mid-Week Connection (Initialization and Binding) with New UUID test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over the MSGW connection, submit one Limit order for a selected outright instrument
- 5. Receive and process an Execution Report New Order message and Terminate the session
- 6. On the same segment, submit a Negotiate message with a new UUID.
- 7. Receive and process a Negotiate Response message.

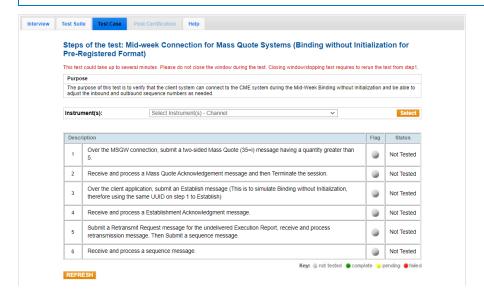
- 8. Submit an Establish message to bind connection.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 10. Submit a Retransmit Request message for the undelivered Execution Report.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the <u>Retransmission</u> message for the undelivered Execution Report.
- 12. Submit a Sequence message.
- 13. Receive and process a Sequence message.

Mid-Week Connection for Mass Quote Systems (Binding without Initialization)

The purpose of this test is to verify that the client system can connect to the CME system during the Mid-Week Binding without Initialization and adjust the inbound and outbound sequence numbers as needed.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Mid-Week Connection for Mass Quote Systems (Binding without Initialization) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over the MSGW connection, submit a two-sided Mass Quote (35=i) message having a quantity greater than 5.
- 5. Receive and process a Mass Quote Acknowledgment message and then Terminate the session.

- 6. Over the client application, submit an <u>Establish</u> message using the same UUID on step 1 to simulate binding without initialization
- 7. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 8. Submit a <u>Retransmit Request</u> message for the undelivered Execution Report, receive and process <u>Retransmission</u> message. Then submit a <u>Sequence</u> message.
- 9. Receive and process a Sequence message.

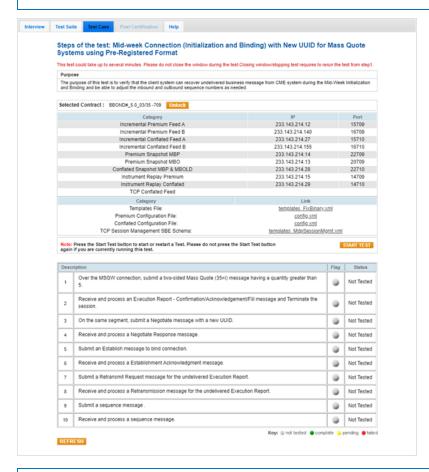
Mid-Week Connection (Initialization and Binding) with New UUID for Mass Quote Systems

The purpose of this test is to verify that the client system can:

- · recover undelivered business messages from the CME system during the mid-week initialization and binding
- · adjust the inbound and outbound sequence numbers as needed

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Mid-Week Connection (Initialization and Binding) with New UUID for Mass Quote Systems test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



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

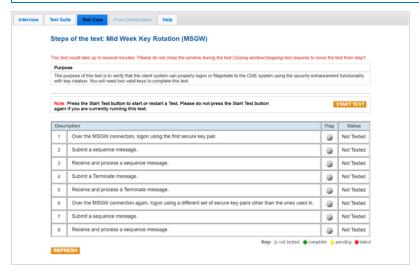
- 4. Over the MSGW connection, submit a two-sided Mass Quote (35=i) message having a quantity greater than 5
- 5. Receive and process an Execution Report New Order message and Terminate the session
- 6. On the same segment, submit a Negotiate message with a new UUID.
- 7. Receive and process a Negotiate Response message.
- 8. Submit an Establish message to bind connection.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 10. Submit a Retransmit Request message for the undelivered Execution Report.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the <u>Retransmission</u> message for the undelivered Execution Report.
- 12. Submit a Sequence message.
- 13. Receive and process a Sequence message.

Mid-Week Key Rotation (MSGW)

The purpose of this test is to verify that the client system can properly logon or Negotiate to the CME system using the security enhancement functionality with key rotation.



Note: You will need two valid keys to complete this test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To complete the Mid-Week Key Rotation (MSGW) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. Select the START TEST button.

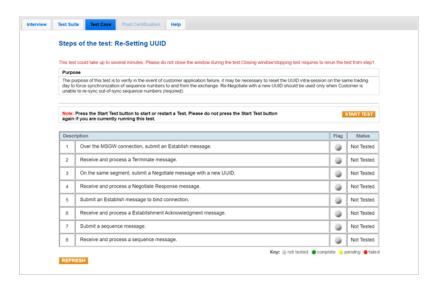


- 3. Over the MSGW connection, logon using the first secure key pair.
- 4. Submit a Sequence message.
- 5. Receive and process a Sequence message.
- 6. Submit a Terminate message.
- 7. Receive and process a Terminate message.
- 8. Over the MSGW connection again, logon using a different set of secure key pairs other than the ones used in step 1.
- 9. Submit a Sequence message.
- 10. Receive and process a Sequence message.

Re-Setting UUID

The purpose of this test is to verify that, in the event of customer application failure, the application system can reset the UUID intra-session on the same trading day to force synchronization of sequence numbers to and from the exchange.

Note: Re-Negotiate with a new UUID should be used only when the customer is unable to re-sync out-of-sync sequence numbers (required).



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

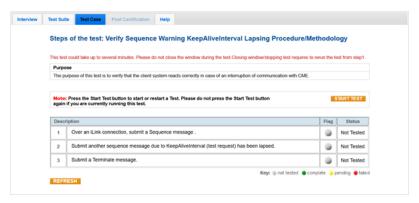
To run a Re-Setting UUID test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. Select the **START TEST** button.
 - 0

- 3. Over the MSGW connection, submit an Establish message.
- 4. Select **Yes** or **No** to indicate whether your system received and processed the **Terminate** message.
- 5. On the same segmen, submit a Negotiate message with a new UUID.
- 6. Receive and process a Negotiate Response message.
- 7. Submit an Establish message to bind connection.
- 8. Select **Yes** or **No** to indicate whether your system received and processed the <u>Establishment Acknowledgment</u> message.
- 9. Submit a Sequence message.
- 10. Receive and process a Sequence message.

Verify Sequence Warning KeepAliveInterval Lapsing Procedure/Methodology

The purpose of this test is to verify that the client system reacts correctly in the case of an interruption of communication with CME.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Verify Sequence Warning KeepAliveInterval Lapsing Procedure/Methodology test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. Select the **START TEST** button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 3. Over an iLink connection, submit a Sequence message.
- 4. Submit another Sequence message due to the KeepAliveInterval (test request) lapsing.
- 5. Submit a Terminate message.

Warning: This test creates a sequence number gap that could interfere with the logon process of your next test.

Message Gap Tests

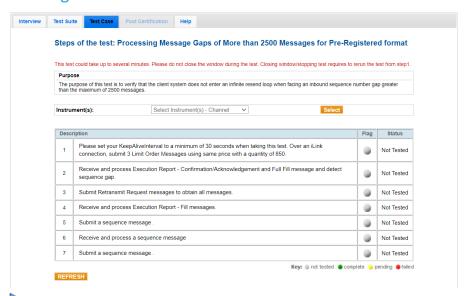
This section contains information on the Message Gap tests.

Processing Message Gaps of More than 2500 Messages

The purpose of this test is to verify that the client system does not enter an infinite resend loop when facing an inbound sequence number gap greater than the maximum of 2500 messages.

- · Pre-Registered Format
- · On-Demand Format

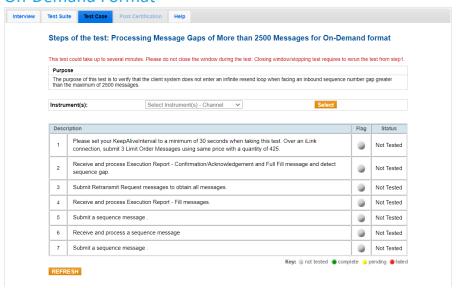
Pre-Registered Format



To run a Processing Message Gaps of More than 2500 Messages for Pre-Registered Format test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Please set your KeepAliveInterval to a minimum of 30 seconds when taking this test. Over an iLink connection, submit 3 Limit Order messages with a quantity of 850.
- 5. Receive and process an Execution Report New Order and Execution Report Trade Outright [39=2 (Filled)] message and detect a sequence gap.
- 6. Submit a Retransmit Request message to obtain all messages.
- 7. Receive and process an Execution Report Trade Outright [39=2 (Filled)] message.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

On-Demand Format





To run a Processing Message Gaps of More than 2500 Messages for On-Demand Format test

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



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

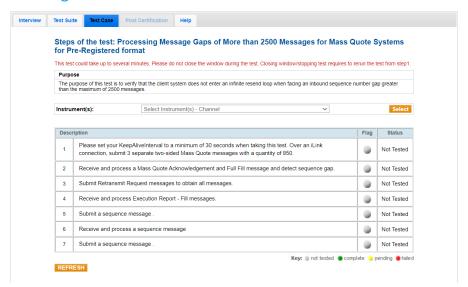
- 4. Please set your KeepAliveInterval to a minimum of 30 seconds when taking this test.Over an iLink connection, submit 3 <u>Limit Order</u> Messages with a quantity of 425.
- 5. Receive and process an Execution Report New Order and Execution Report Trade Outright [39=2 (Filled)] message and detect a sequence gap.
- 6. Submit a Retransmit Request message to obtain all messages.
- 7. Receive and process an Execution Report Trade Outright [39=2 (Filled)] message.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

Processing Message Gaps of More than 2500 Messages for Mass Quote Systems

The purpose of this test is to verify that the client system does not enter an infinite resend loop when facing an inbound sequence number gap greater than the maximum of 2500 messages.

- Pre-Registered Format
- On-Demand Format

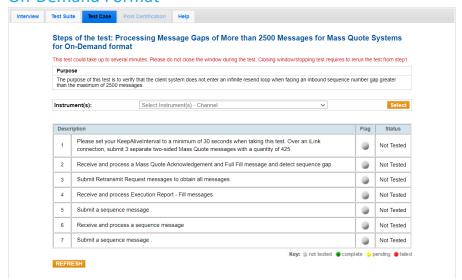
Pre-Registered Format



To run a Processing Message Gaps of More than 2500 Messages for Mass Quote Systems with Pre-Registered Format test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Please set your KeepAliveInterval to a minimum of 30 seconds when taking this test. Over an iLink connection, submit 3 separate two-sided Mass Quote messages with a quantity of 850.
- 5. Receive and process a Mass Quote Acknowledgment and Execution Report Trade Outright [39=2 (Filled)] message and detect a sequence gap.
- 6. Submit a Retransmit Request message to obtain all messages.
- 7. Receive and process an Execution Report Trade Outright [39=2 (Filled)] message.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

On-Demand Format



To run a Processing Message Gaps of More than 2500 Messages for Mass Quote Systems with On-Demand Format test

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - 0

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

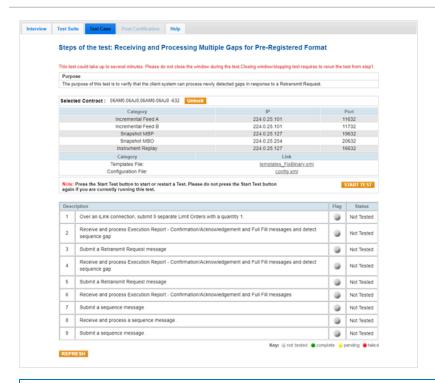
- 4. Please set your KeepAliveInterval to a minimum of 30 seconds when taking this test. Over an iLink connection, submit 3 separate two-sided Mass Quote messages with a quantity of 425.
- 5. Receive and process a Mass Quote Acknowledgment and Execution Report Trade Outright [39=2 (Filled)] message and detect a sequence gap.
- 6. Submit a Retransmit Request message to obtain all messages.
- 7. Receive and process an Execution Report Trade Outright [39=2 (Filled)] message.
- 8. Submit a <u>Sequence</u> message.
- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

Receiving and Processing Multiple Gaps

The purpose of this test is to verify that the client system can process newly detected gaps in response to a <u>Retransmit Request</u>.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

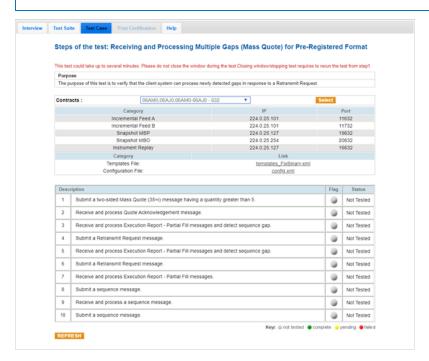
To run a Receiving and Processing Multiple Gaps test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit 5 separate Limit Orders with a quantity of 1.
- 5. Receive and process <u>Execution Report New Order</u> and <u>Execution Report Trade Outright [39=2 (Filled)]</u> and detect a sequence gap.
- 6. Submit a Retransmit Request message.
- 7. Receive and process Execution Report New Order and Execution Report Trade Outright [39=2 (Filled)] and detect sequence gap.
- 8. Submit a Retransmit Request message.
- 9. Receive and process Execution Report New Order and Execution Report Trade Outright [39=2 (Filled)].
- 10. Submit a Sequence message.
- 11. Receive and process a Sequence message.
- 12. Submit a Sequence message.

Receiving and Processing Multiple Gaps (Mass Quote)

The purpose of this test is to verify that the client system can process newly detected gaps in response to a <u>Retransmit</u> Request.

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.





To run a Receiving and Processing Multiple Gaps (Mass Quote) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Submit a two-sided Mass Quote (35=i) message having a quantity greater than 5.
- 5. Receive and process a Quote Acknowledgment message.
- 6. Receive and process Execution Report Trade Outright [39=1 (Partially Filled)] messages and detect a sequence gap.
- 7. Submit a Retransmit Request message.
- 8. Receive and process Execution Report Trade Outright [39=1 (Partially Filled)] messages and detect a sequence gap.
- 9. Submit a Retransmit Request message.
- 10. Receive and process Execution Report Trade Outright [39=1 (Partially Filled)] messages.
- 11. Submit a Sequence message.
- 12. Receive and process a Sequence message.
- 13. Submit a Sequence message.

Bi-Directional Gap Scenario (Resend Orders) - (Day or FAK/FOK Orders)

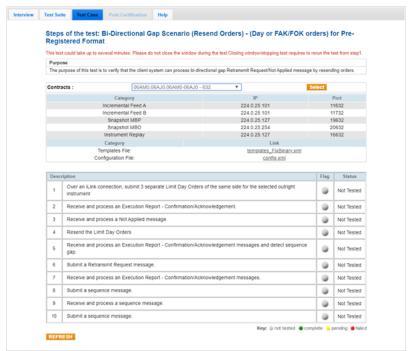
The purpose of this test is to verify that the client system can process bi-directional gap Retransmit Request/Not Applied messages by resending orders.



Note: FOK functionality is not available for Futures and Options.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



To run a Bi-Directional Gap Scenario (Resend Orders) - (Day or FAK/FOK orders) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, submit 3 separate Limit Day orders of the same side for the selected outright instrument.
- 5. Receive and process an Execution Report New Order.
- 6. Receive and process a Not Applied message.
- 7. Resend the Limit Day orders.
- 8. Receive and process Execution Report New Order messages and detect sequence.
- 9. Submit a Retransmit Request message.
- 10. Receive and process Execution Report New Order messages.

- 11. Submit a Sequence message.
- 12. Receive and process a Sequence message.
- 13. Submit a Sequence message.

Bi-Directional Gap Scenario (Sequence Gap Fill) - (Day or FAK/FOK Orders)

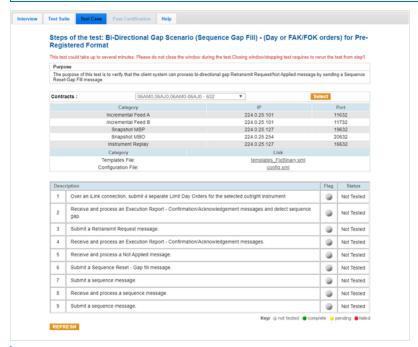
The purpose of this test is to verify that the client system can process bi-directional gap Retransmit Request/Not Applied messages by sending a Sequence Reset-Gap Fill message.



Note: FOK functionality is not available for Futures and Options.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



To run a Bi-Directional Gap Scenario (Sequence Gap Fill) - (Day or FAK/FOK Orders) fill test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit 4 separate Limit Day Orders for the selected outright instrument.
- 5. Receive and process Execution Report New Order messages and detect sequence gap.
- 6. Submit a Retransmit Request message.
- 7. Receive and process an Execution Report New Order messages.
- 8. Receive and process a Not Applied message.

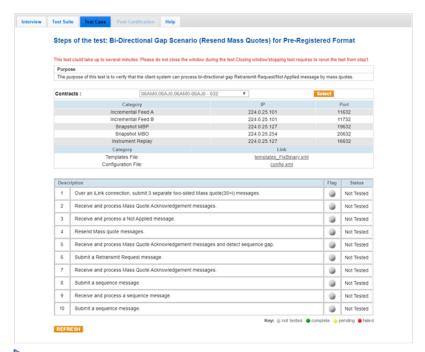
- 9. Submit a Sequence Reset Gap fill message.
- 10. Submit a Sequence message.
- 11. Receive and process a Sequence message.
- 12. Submit a Sequence message.

Bi-Directional Gap Scenario (Resend Mass Quotes)

The purpose of this test is to verify that the client system can process bi-directional gap Retransmit Request/Not Applied messages for mass quotes.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



To run a Bi-Directional Gap Scenario (Resend Mass Quotes) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit 3 separate two-sided Mass Quote (35=i) messages
- 5. Receive and process Mass Quote Acknowledgment messages.
- 6. Receive and process a Not Applied message.
- 7. Resend Mass Quote messages.
- 8. Receive and process Mass Quote Acknowledgment messages and detect sequence gap.

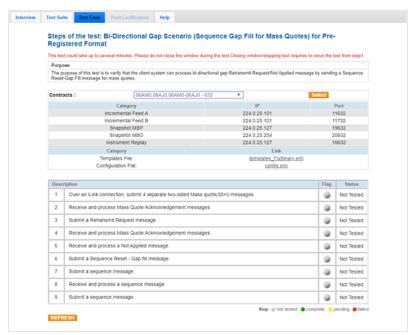
- 9. Submit a Retransmit Request message.
- 10. Receive and process Mass Quote Acknowledgment messages.
- 11. Submit a Sequence message.
- 12. Receive and process a Sequence message.
- 13. Submit a Sequence message.

Bi-Directional Gap Scenario (Sequence Gap Fill for Mass Quotes)

The purpose of this test is to verify that the client system can process bi-directional gap Retransmit Request/Not Applied messages by sending a Sequence Reset-Gap Fill message for mass quotes.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.





To run a Bi-Directional Gap Scenario (Sequence Gap Fill for Mass Quotes) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, submit 4 separate two-sided Mass quote (35=i) messages
- 5. Receive and process Mass Quote Acknowledgment messages.
- 6. Submit a Retransmit Request message
- 7. Receive and process Mass Quote Acknowledgment messages.
- 8. Receive and process a Not Applied message.

- 9. Submit a <u>Sequence</u> Reset Gap fill message
- 10. Submit a Sequence message.
- 11. Receive and process a Sequence message.
- 12. Submit a Sequence message.

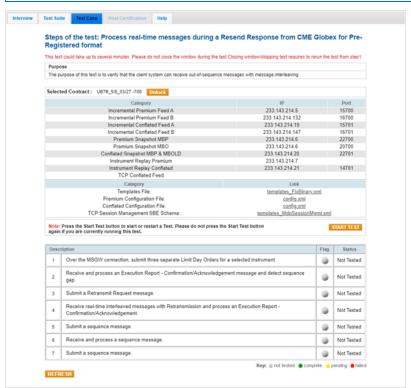
Real-Time Message Tests

This section contains information on the Real-Time message tests.

Process Real-Time Messages During a Resend Response from CME Globex

The purpose of this test is to verify that the client system can receive out-of-sequence messages with message interleaving. Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.





To run a Process Real-Time Messages During a Resend Response from CME Globex test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over the MSGW connection, submit three separate Limit Day Orders for the selected outright instrument.
- 5. Receive and process an Execution Report New Order message and detect sequence gap.
- 6. Submit a Retransmit Request message.
- 7. Receive real-time interleaved messages with Retransmission and process an Execution Report New Order message.
- 8. Submit a Sequence message.

- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

Process Real-Time Messages for FAK/FOK During a Resend Response from CME Globex

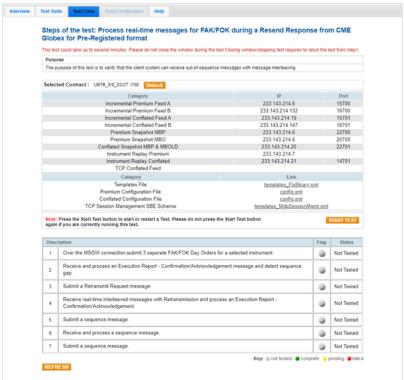
The purpose of this test is to verify that the client system can receive out-of-sequence messages with message interleaving.



Note: FOK functionality is not available for Futures and Options.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.





To run a Process Real-Time Messages for FAK/FOK During a Resend Response from CME Globex test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over the MSGW connection, submit 3 separate FAK/FOK Orders for the selected outright instrument.
- 5. Receive and process an Execution Report New Order message and detect sequence gap.
- 6. Submit a Retransmit Request message.
- 7. Receive real-time interleaved messages with Retransmission and process an Execution Report New Order message.

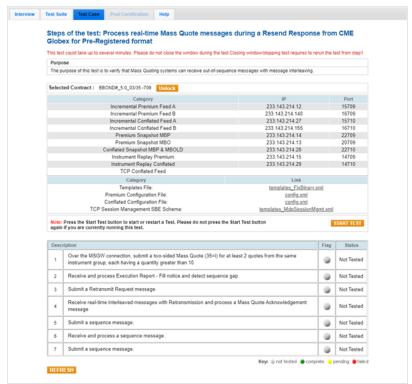
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a Sequence message.

Process Real-Time Mass Quote Messages During a Resend Response from CME Globex

The purpose of this test is to verify that Mass Quoting systems can receive out-of-sequence messages with message interleaving.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.





To run a Process Real-Time Mass Quote Messages During a Resend Response from CME Globex test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over the MSGW connection, submit a two-sided Mass Quote (35=i) for at least 2 quotes from the same selected outright instrument group, each having a quantity greater than 10.
- 5. Receive and process Mass Quote Acknowledgment message and detect sequence gap.
- 6. Submit a Retransmit Request message.

- 7. Receive real-time interleaved messages with Retransmission and process Mass Quote Acknowledgment message(s).
- 8. Submit a <u>Sequence</u> message.
- 9. Receive and process a sequence message.
- 10. Submit a sequence message.

Business Layer Tests

This section contains information on the Business Layer tests.

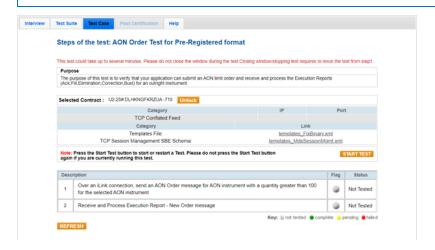
AON Order

The purpose of this test is to verify that your application can perform the following for an outright instrument:

- · submit an AON limit order
- receive and process the Execution Reports (Ack)

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an AON Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



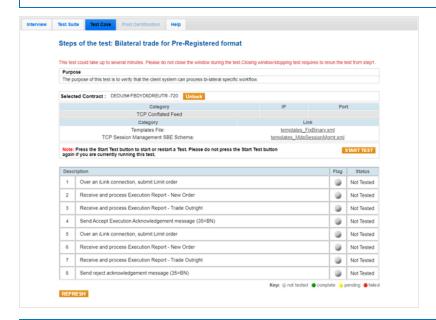
- 4. Over an iLink connection, send an AON Order message for AON instrument with a quantity greater than 100 for the selected AON instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message.

Bilateral Trade

The purpose of this test is to verify that the client system can process the bi-lateral specific workflow.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Bilateral Trade test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



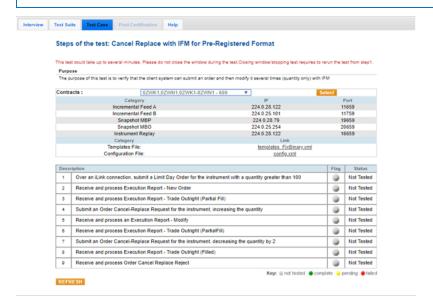
- 4. Over an iLink connection, submit a Limit order.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Receive and process Execution Report Trade Outright.
- 7. Send Accept Execution Acknowledgement (35=BN) message.
- 8. Over an iLink connection, submit a Limit order.
- 9. Receive and process Execution Report New Order.
- 10. Receive and process Execution Report Trade Outright.
- 11. Send Reject Execution Acknowledgement (35=BN) message.

Cancel/Replace with IFM

The purpose of this test is to verify that the client system can submit an order and then modify it several times (quantity only) with in-flight mitigation (IFM).

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Cancel Replace with IFM test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, submit a Limit Day Order for the instrument with a quantity greater than 100.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report New Order.
- 6. Enter the following tag values to indicate that your system received and processed the Execution Report Trade
 Outright (Partial Fill):
 - tag 31-LastPx
 - tag 151-LeavesQty
- 6. Submit an Order Cancel-Replace Request for the instrument, increasing the quantity.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report Modify.
- 8. Enter the tag 151-LeavesQty value to indicate that your system received the Execution Report Trade Outright (PartialFill).

- 9. Submit an Order Cancel-Replace Request for the instrument, decreasing the quantity by 2.
- 10. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Outright (Filled).
- 11. Select Yes or No to indicate whether your system received and processed the Order Cancel Replace Reject.

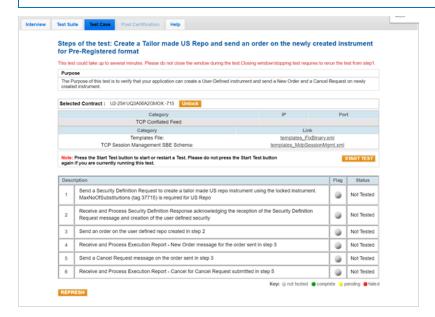
Create a Tailor Made US Repo and Send an Order on the Newly Created Instrument

The purpose of this test is to verify that your application can perform the following for newly created instrument:

- · create a User-Defined instrument
- send a New Order and a Cancel Request for the newly created instrument

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Create a Tailor Made Repo and Send an Order on the Newly Created Instrument test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Send a <u>Security Definition Request</u> to create a tailor made US repo instrument using the locked instrument. MaxNoOfSubstituitions (tag 37715) is required for US Repo.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Security Definition Response</u>

 <u>Response</u> acknowledging the reception of the Security Definition Request message and creation of the user defined security.
- 6. Send an order on the user defined repo created in step 2.
- Select Yes or No to indicate whether your system received and processed the <u>Execution Report New Order</u> message for the order sent in step 3.



Note: The following steps are not used for FAK only and FOK only systems.

- 8. Send a Order Cancel Request message on the order sent in step 3.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Cancel for the Cancel Request submitted in step 5.

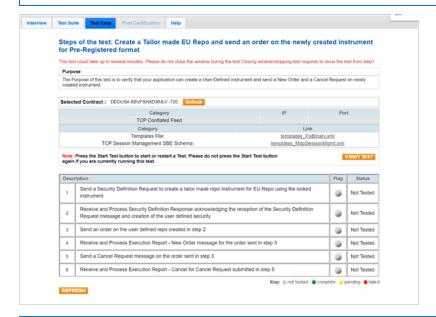
Create a Tailor Made EU Repo and Send an Order on the Newly Created Instrument

The purpose of this test is to verify that your application can perform the following for newly created instrument:

- · create a User-Defined instrument
- send a New Order and a Cancel Request for the newly created instrument

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Create a Tailor Made Repo and Send an Order on the Newly Created Instrument test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



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

- 4. Send a Security Definition Request to create a tailor made EU repo using the locked instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Security Definition Response</u> acknowledging the reception of the Security Definition Request message and creation of the user defined security.
- 6. Send an order on the user defined repo created in step 2.
- 7. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message for the order sent in step 3.



Note: The following steps are not used for FAK only and FOK only systems.

- 8. Send a Order Cancel Request message on the order sent in step 3.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Cancel</u> for the Cancel Request submitted in step 5.

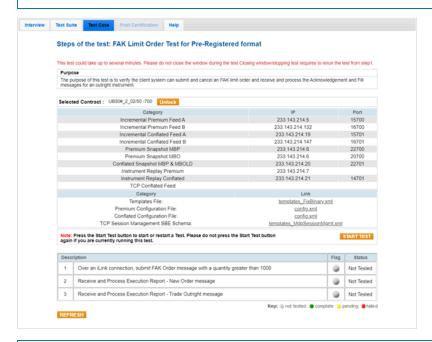
FAK Limit Order

The purpose of this test is to verify that the client system can perform the following for an outright instrument:

- · submit and cancel an FAK limit order
- · receive and process the Acknowledgment and Fill messages

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an FAK Limit Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



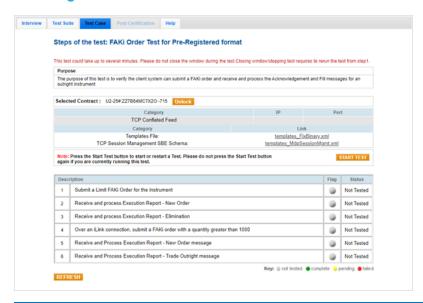
- 4. Over an iLink connection, submit an FAK Order message with a quantity greater than 10.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> message.

FAKi Order

The purpose of this test is to verify that the client system can perform the following for an outright instrument:

- · submit an FAKi order
- receive and process the Acknowledgment and Fill messages

Pre-Registered Format



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a FAKi Order Pre-Registered Format test:

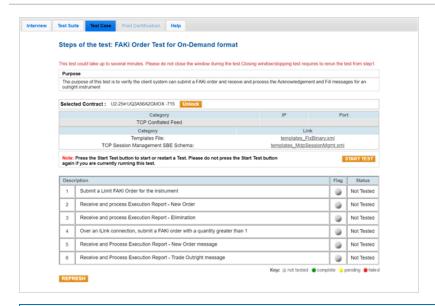
- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



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

- 4. Submit a Limit FAKi Order for the instrument
- 5. Select **Yes** or **No** to indicate whether your system received and processed the **Execution Report New Order**.
- 6. Select Yes or No to indicate whether your system received and processed the Execution Report Elimination.
- 7. Over an iLink connection, submit a FAKi order with a quantity greater than 1000.
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report New Order message.
- Select Yes or No to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> message.

On-Demand Format



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a FAKi Order On-Demand Format test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Submit a Limit FAKi Order for the instrument
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Select Yes or No to indicate whether your system received and processed the Execution Report Elimination.
- 7. Over an iLink connection, submit a FAKi order with a quantity greater than 1.
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report New Order message.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> message.

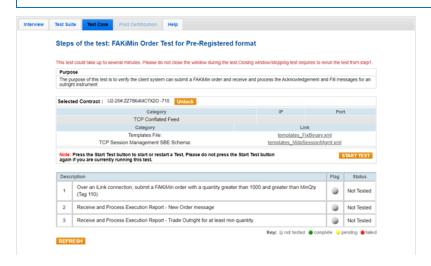
FAKiMin Order

The purpose of this test is to verify the client system can perform the following for an outright instrument:

- · submit an FAKiMin order
- receive and process the Acknowledgement and Fill messages

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an FAKiMin Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a FAKiMin order with a quantity greater than MinQty (Tag 110).
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> for at least min quantity.

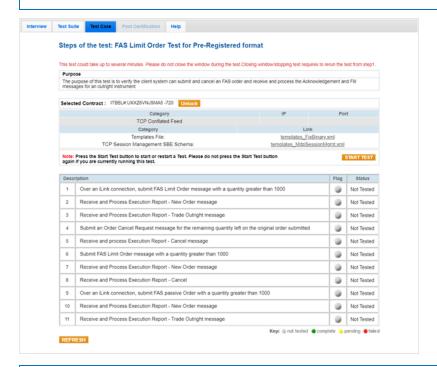
FAS Limit Order

The purpose of this test is to verify that the client system can perform the following for an outright instrument:

- · submit and cancel an FAS order
- · receive and process the Acknowledgment and Fill messages

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a FAS Limit Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a FAS Limit Order message with a quantity greater than 1000.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> message.

- 7. Submit an Order Cancel Request message for the remaining quantity left on the original order submitted.
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report Cancel message.
- 9. Submit a FAS Limit Order message with a quantity greater than 1000.
- 10. Select Yes or No to indicate whether your system received and processed the Execution Report New Order message.
- 11. Select Yes or No to indicate whether your system received and processed the Execution Report Cancel.



Note: The steps below are only used for Limit Passive orders.

- 12. Over an iLink connection, submit FAS passive Order with a quantity greater than 1000.
- 13. Select Yes or No to indicate whether your system received and processed the Execution Report New Order message.
- 14. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Outright message.

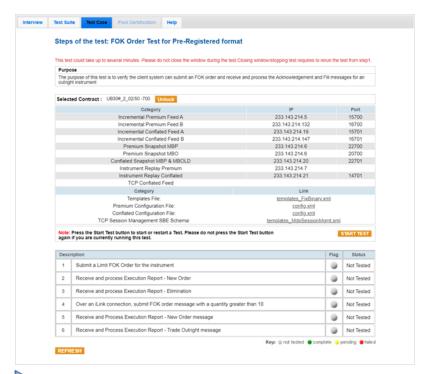
FOK Order

The purpose of this test is to verify that the client system can perform the following for an outright instrument:

- submit an FOK (Fill or Kill) order
- · receive and process the acknowledgment and fill messages

Pre-Registered and On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



To run an FOK test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



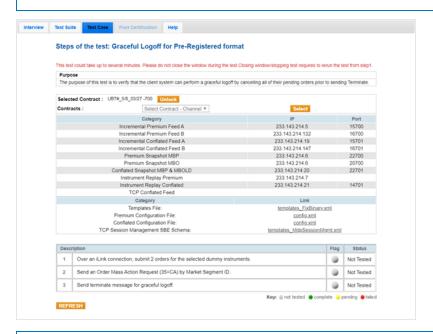
- 4. Submit a Limit FOK Order for the instrument.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Select Yes or No to indicate whether your system received and processed the Execution Report Elimination.
- 7. Submit a Limit FOK Order for the instrument with a quantity greater than 10.
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report Trade Outright.

Graceful Logoff

The purpose of this test is to verify that the client system can perform a graceful logoff by cancelling all of their pending orders prior to sending a Terminate message.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Primary Gateway Connection Enforcement test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



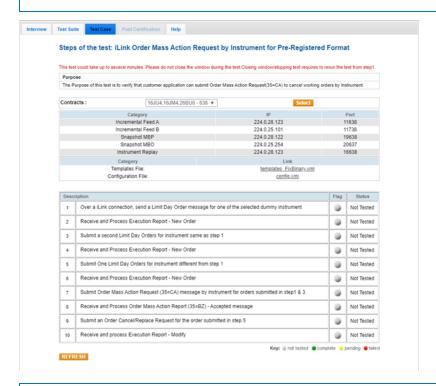
- 4. Over an iLink connection, submit 2 orders for the selected dummy instruments.
- 5. Send an Order Mass Action Request (35=CA) by Market Segment ID
- 6. Send Terminate message for graceful logoff.

iLink Order Mass Action Request by Instrument

The Purpose of this test is to verify that customer application can submit an Order Mass Action Request (35=CA) message to cancel working orders by instrument.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Mass Action Request by Instrument test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over a iLink connection, send a Limit Day Order message for one of the selected dummy instrument.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Submit a second Limit Day Orders for the same instrument as step 1.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Submit One Limit Day Order for an instrument different from step 1.
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 10. Submit Order Mass Action Request (35=CA) message by instrument for orders submitted in step 1 & 3.

- 11. Enter the following tag values to indicate that your system received and processed the Order Mass Action Report

 (35=BZ) Accepted message:
 - tag 1374-MassActionScope
 - tag 1375-MassActionResponse



Note: The next 2 steps are only required for client systems that support Order Cancel-Replace functionality.

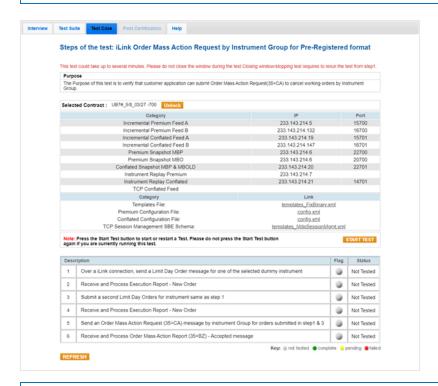
- 11. Submit an Order Cancel/Replace Request for the order submitted in step 5.
- 12. 1Select Yes or No to indicate whether your system received and processed the Execution Report Modify.

iLink Order Mass Action Request by Instrument Group

The Purpose of this test is to verify that customer application can submit Order Mass Action Request (35=CA) to cancel working orders by Instrument Group.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Mass Action Request by Instrument Group test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over a iLink connection, send a Limit Day Order message for one of the selected dummy instruments.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Submit a second Limit Day Orders for the same instrument as step 1.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Send an Order Mass Action Request (35=CA) message by instrument Group for orders submitted in step 1 & 3.

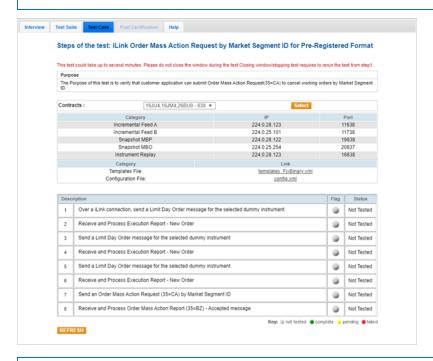
- 9. Enter the following tag values to indicate that your system received and processed the <u>Order Mass Action Report</u> (35=BZ) Accepted message:
 - tag 1374-MassActionScope
 - tag 1375-MassActionResponse

iLink Order Mass Action Request by Market Segment ID

The Purpose of this test is to verify that customer application can submit Order Mass Action Request (35=CA) to cancel working orders by Market Segment ID.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Mass Action Request by Market Segment ID test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over a iLink connection, send a Limit Day Order message for the selected dummy instrument
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u>.
- 6. Send a Limit Day Order message for the selected dummy instrument.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Send a Limit Day Order message for the selected dummy instrument.
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 10. Send an Order Mass Action Request (35=CA) by Market Segment ID.

- 11. Enter the following tag values to indicate that your system received and processed the Order Mass Action Report

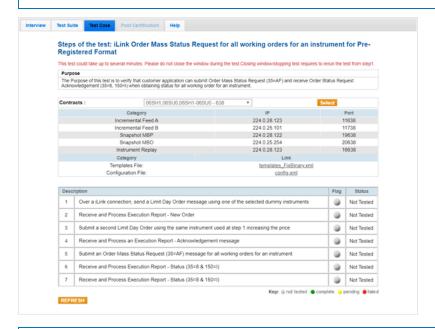
 (35=BZ) Accepted message:
 - 1300-MarketSegmentID
 - 1374-MassActionScope
 - 1375-MassActionResponse

iLink Order Mass Status Request for All Working Orders for an Instrument

The Purpose of this test is to verify that customer application can submit Order Mass Status Request (35=AF) and receive Order Status Request Acknowledgment (35=8, 150=I) when obtaining status for all working order for an instrument.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Mass Action Request for all Working Orders for an Instrument test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over a iLink connection, send a Limit Day Order message using one of the selected dummy instruments.
- 5. Select "Yes" or "No" to indicate whether or not your system processed the Execution Report New Order.
- 6. Submit a second Limit Day Order using the same instrument used at step 1 increasing the price.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order message.
- 8. Submit an Order Mass Status Request (35=AF) message for all working orders for an instrument.
- 9. Enter the following tag values to indicate that your system received and processed the Execution Report Status (35=8 & 150=I):

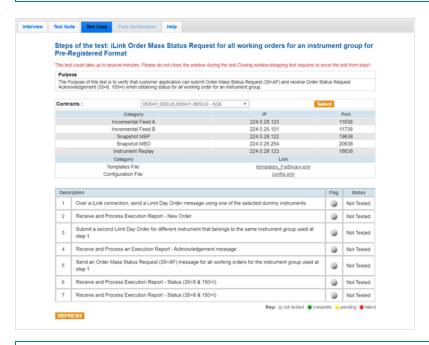
- tag 39-OrdStatus
- tag 912-LastRptRequested
- tag 584-MassStatusReqID
- 10. Enter the following tag values to indicate that your system received and processed the Execution Report Status (35=8 & 150=I):
 - tag 39-OrdStatus
 - tag 912-LastRptRequested
 - tag 584-MassStatusReqID

iLink Order Mass Status Request for All Working Orders for an Instrument Group

This test verifies that you can submit an (Order Mass Status Request (tag 35-MsgType=AF) and receive an Order Status Request acknowledgment (35-8, 150-I) when requesting the current state of all working orders for an instrument group.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Mass Status Request for All Working Orders for an Instrument Group test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over a iLink connection, send a <u>Limit Day Order</u> message using one of the selected dummy instruments.
- 5. Select "Yes" or "No" to indicate whether your system processed the Execution Report New Order.
- 6. Submit a second Limit Day Order for different instrument that belongs to the same instrument group used at step 1.
- 7. Select "Yes" or "No" to indicate whether your system processed the Execution Report New Order message.
- 8. Send an Order Mass Status Request (35=AF) message for all working orders for the instrument group used at step 1.
- 9. Enter the values from the following tags to confirm that your system received and processed the Execution Report-Status (35=8 & 150=I).

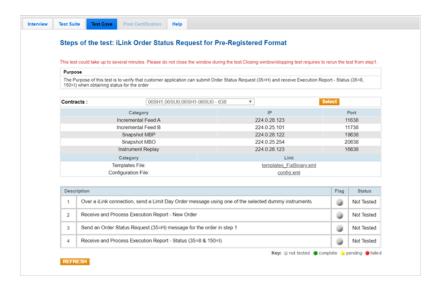
- Tag 39-OrdStatusTag 912-LastRptRequested
- Tag 584-MassStatusReqID
- 10. Enter the values from the following tags to confirm that your system received and processed the Execution Report -Status (35=8 & 150=I).
 - Tag 39-OrdStatus
 - Tag 912-LastRptRequested
 - Tag 584-MassStatusReqID

iLink Order Status Request

The Purpose of this test is to verify that your application can submit an <u>Order Status Request (35=H)</u> message and receive an <u>Execution Report - Status (35=8, 150=I)</u> message when obtaining status for the order.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an iLink Order Status Request test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



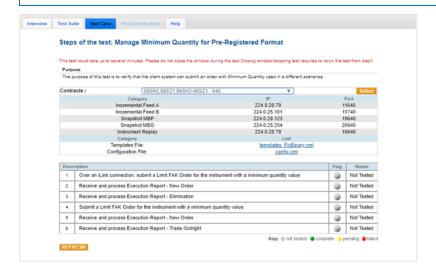
- 4. Over a iLink CGW connection, send a Limit Day Order message using one of the selected dummy instruments.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Send an Order Status Request (35=H) message for the order in step 1.
- 7. Enter the tag 39-OrdStatus value to indicate that your system received and processed the Execution Report Status (35=8 & 150=I).

Manage Minimum Quantity

The purpose of this test is to verify that the client system can submit an order with Minimum Quantity used in different scenarios.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manage Minimum Quantity test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



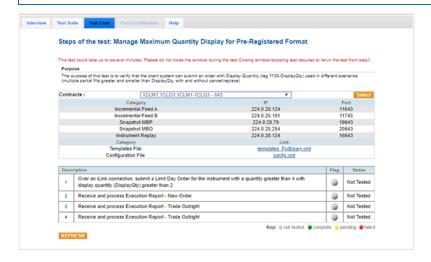
- 4. Over an iLink connection, submit a Limit FAK Order for the instrument with a minimum quantity value.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report New Order.
- 6. Select Yes or No to indicate whether your system received and processed the Execution Report Elimination.
- 7. Submit a Limit FAK Order for the instrument with a minimum quantity value.
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report Trade Outright.

Manage Maximum Quantity Display

The purpose of this test is to verify that the client system can submit an order with Display Quantity (tag 1138-DisplayQty) used in different scenarios (multiple partial fills greater and smaller than DisplayQty, with and without cancel/replace)

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manage Maximum Quantity Display test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



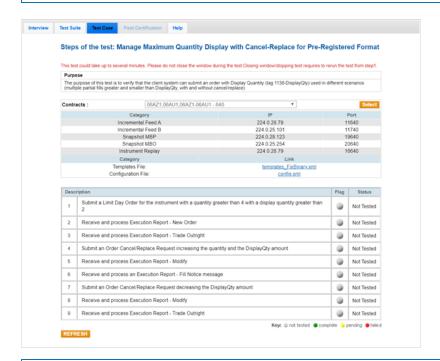
- 4. Over an iLink connection, submit a <u>Limit Day Order</u> for the instrument with a quantity greater than 4 with display quantity (DisplayQty) greater than 2
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Outright.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report Trade Outright.

Manage Maximum Quantity Display with Cancel/Replace

The purpose of this test is to verify that the client system can submit an order with Display Quantity (tag 1138-DisplayQty) used in different scenarios (multiple partial fills greater and smaller than DisplayQty, with and without cancel/replace).

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manage Maximum Quantity Display with Cancel/Replace test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- Submit a <u>Limit Day Order</u> for the instrument with a quantity greater than 4 with a display quantity greater than 2
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u>
- 6. Select Yes or No to indicate whether your system received and processed the Execution Report Trade Outright
- 7. Submit an Order Cancel/Replace Request increasing the quantity and the DisplayQty amount
- 8. Select Yes or No to indicate whether your system received and processed the Execution Report Modify
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report Fill Notice message
- 10. Submit an Order Cancel/Replace Request decreasing the DisplayQty amount

11.	Select Yes or No	to indicate whether	your system received and r	processed the Execution Report -	Modify

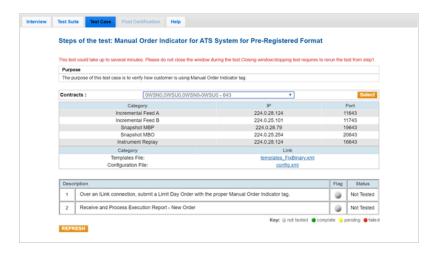
12.	Select Yes (or No to inc	dicate whethe	r your syste	m received and	d processed	l the Ex	ecution Re	port - Trac	de Outrig	ght
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Manual Order Indicator for ATS System

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manual Order Indicator for ATS System test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



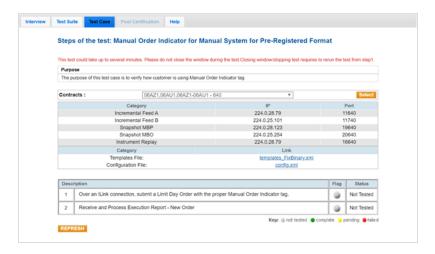
- 4. Over an iLink connection, submit a Limit Day Order with the proper Manual Order Indicator tag.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the **Execution Report New Order**.

Manual Order Indicator for Manual System

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manual Order Indicator for Manual System test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



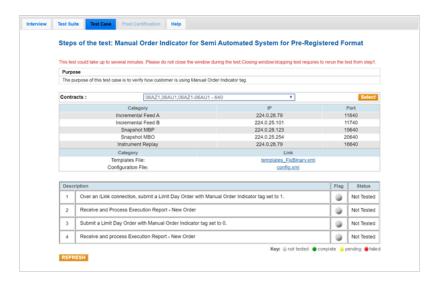
- 4. Over an iLink connection, submit a Limit Day Order with the proper Manual Order Indicator tag.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u>.

Manual Order Indicator for Semi Automated System

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manual Order Indicator for Semi Automated System test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



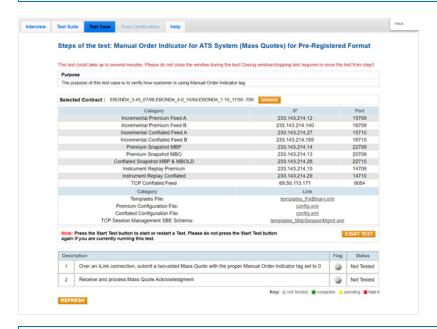
- 4. Over an iLink connection, submit a <u>Limit Day Order</u> with the Manual Order Indicator (tag 1028-ManualOrderIndicator) set to 1.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 6. Submit a Limit Day Order with Manual Order Indicator tag set to 0.
- 7. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report New Order.

Manual Order Indicator for ATS System (Mass Quotes)

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Manual Order Indicator for ATS System (Mass Quotes) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - Note

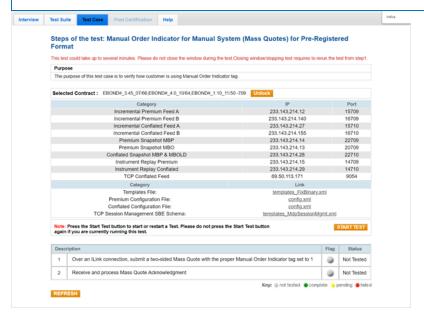
- 4. Over an iLink connection, submit a two-sided Mass Quote with the Manual Order Indicator tag set to 0.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.

Manual Order Indicator for Manual System (Mass Quotes)

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manual Order Indicator for Manual System (Mass Quotes) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



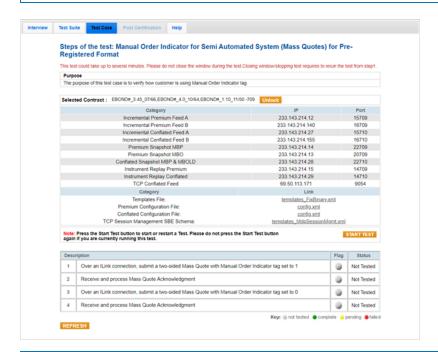
- 4. Over an iLink connection, submit a two-sided Mass Quote with the Manual Order Indicator tag set to 1.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.

Manual Order Indicator for Semi Automated System (Mass Quotes)

The purpose of this test case is to verify how the client system is using the Manual Order Indicator tag.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Manual Order Indicator for Semi Automated System (Mas Quotes) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



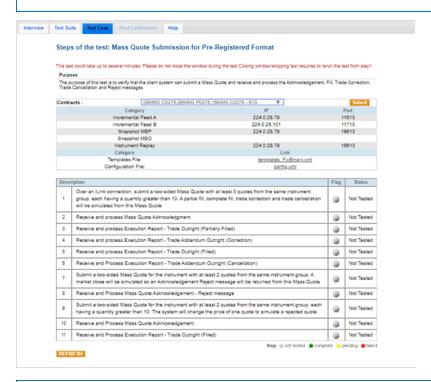
- 4. Over an iLink connection, submit a two-sided Mass Quote with the Manual Order Indicator tag set to 1.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Over an iLink connection, submit a two-sided Mass Quote with the Manual Order Indicator tag set to 0.
- 7. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.

Mass Quote Submission

The purpose of this test is to verify that the client system can submit a Mass Quote and receive and process the Acknowledgment, Fill, Trade Correction, Trade Cancellation and Reject messages.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Mass Quote Submission test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, submit a two-sided <u>Mass Quote</u> with at least 3 quotes from the same instrument group, each having a quantity greater than 10. A partial fill, complete fill, trade correction and trade cancellation will be simulated from this Mass Quote.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u> (Partially Filled).
- 7. Enter the tag 31-LastPx value to indicate that your system received the Execution Report Trade Addendum Outright (Correction).

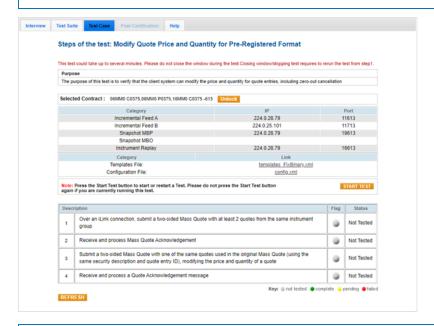
- 8. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Outright (Filled).
- 9. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Addendum Outright (Cancellation).
- 10. Submit a two-sided Mass Quote for the instrument with at least 2 quotes from the same instrument group. A market close will be simulated so an Acknowledgment Reject message will be returned from this Mass Quote.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the Mass Quote Acknowledgment Reject message.
- 12. Submit a two-sided Mass Quote for the instrument with at least 2 quotes from the same instrument group, each having a quantity greater than 10. The system will change the price of one quote to simulate a rejected quote.
- 13. Select **Yes** or **No** to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 14. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Outright (Filled).

Modify Quote Price and Quantity

The purpose of this test is to verify that the client system can modify the price and quantity for quote entries, including zero-out cancellation.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Modify Quote Price and Quantity test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



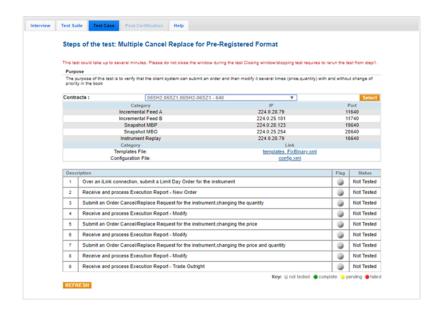
- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Submit a two-sided Mass Quote with one of the same quotes used in the original Mass Quote (using the same security description and quote entry ID), modifying the price and quantity of a quote.
- 7. Select Yes or No to indicate whether your system received and processed the Quote Acknowledgment message.

Multiple Cancel Replace

The purpose of this test is to verify that the client system can submit an order and then modify it several times (price, quantity) with and without a change of priority in the book.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Multiple Cancel Replace test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a Limit Day Order for the instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the **Execution Report New Order**.
- 6. Submit an Order Cancel/Replace Request for the instrument, changing the quantity.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report Modify.
- 8. Submit an Order Cancel/Replace Request for the instrument, changing the price.
- 9. Select Yes or No to indicate whether your system received and processed the Execution Report Modify.
- 10. Submit an Order Cancel/Replace Request for the instrument, changing the price and quantity.
- 11. Select Yes or No to indicate whether your system received and processed the Execution Report Modify.
- 12. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Outright</u>.

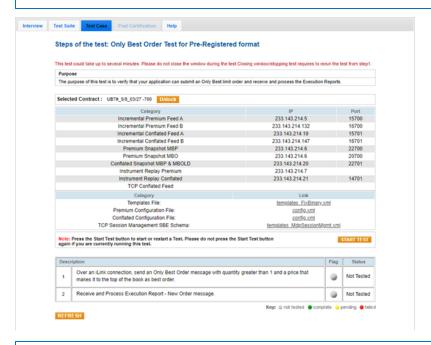
Only Best Order

The purpose of this test is to verify that your application can:

- submit an Only Best limit order
- · receive and process the Execution Reports

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an Only Best Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



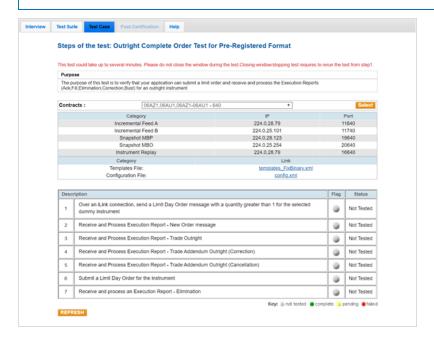
- 4. Over an iLink connection, send an Only Best Order message with quantity greater than 1 and a price that makes it to the top of the book as best order.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message.

Outright Complete Order

The purpose of this test is to verify that your application can submit a limit order and receive and process the Execution Reports (Ack,Fill,Elimination,Correction,Bust) for an outright instrument.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an Outright Complete Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, send a <u>Limit Day Order</u> message with a quantity greater than 1 for the selected dummy instrument.
- 5. Receive and process an Execution Report New Order message.
- 6. Receive and process an Execution Report Trade Outright.
- 7. Receive and process an Execution Report Trade Addendum Outright (Correction).
- 8. Receive and process an Execution Report Trade Addendum Outright (Cancellation).
- 9. Submit a Limit Day Order for the instrument.
- 10. Receive and process an Execution Report Elimination.

AutoCert+ BrokerTec Order Entry

Pre-Registration of Administrative Information in Service Gateway

The purpose of this test is to verify the client system can properly connect to the Order Entry Service Gateway (OESGW) for submitting both Party Details Definition Request messages and Party Details List Request messages and submit an order with the pre-registered administrative information.



Note: For this test the session sequence numbers will be reset to one.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Pre-Registration of Administrative Information in Service Gateway test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. Select the START TEST button.



- 3. Sequence numbers have been reset to simulate the beginning of the week. Over a Service Gateway connection IP, send a Negotiate message to initiate a connection.
- 4. Receive and process Negotiation Response.
- 5. Submit an Establish message to bind the connection with the Service Gateway.
- 6. Receive and process Establishment Acknowledgment.
- 7. Submit a Party Details Definition Request (35=CX) message to Service Gateway.
- 8. Enter the tag 1505-PartyDetailsListRequestID value to indicate that your system received and processed the PartyDetails Definition Request Acknowledgment.
- 9. Submit a Party Details List Request (35=CF) message to Service Gateway.
- 10. Enter the following tag values to indicate that your system received and processed the Party Details List Report:

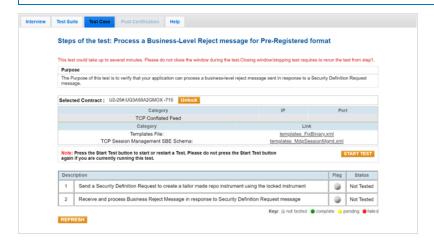
- tag 1512-TotNoParties
- tag 893-LastFragment

Process a Business-Level Reject Message

The purpose of this test is to verify that your application can process a business-level reject message sent in response to a Security Definition Request message.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Process a Business-Level Reject Message test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



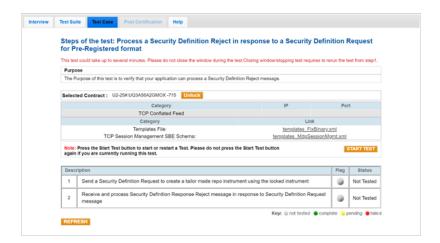
- 4. Send a Security Definition Request to create a tailor made instrument using the locked instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Business Reject</u> message in response to the Security Definition Request message.

Process a Security Definition Reject in Response to a Security Definition Request

The purpose of this test is to verify that your application can process a Security Definition Reject message.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Process a Security Definition Reject in Response to a Security Definition Request test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Send a Security Definition Request to create a tailor made repo instrument using the locked instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Security Definition Response Reject</u> message in response to the Security Definition Request message.

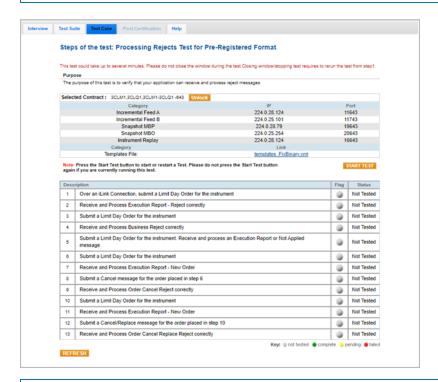
Processing Rejects

The purpose of this test is to verify that your application can receive and process reject messages.

- Processing Rejects
- · Pre-Registered or On-Demand Format (FAK Only)

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Processing Rejects test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.

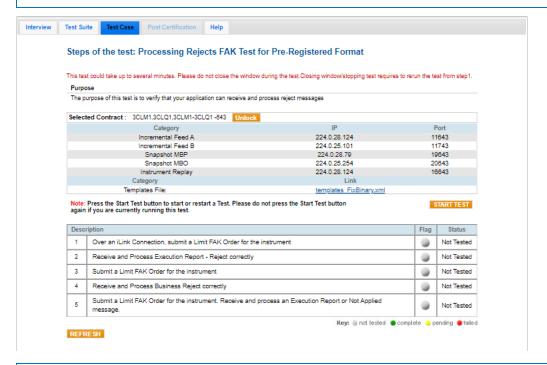


- 4. Over an iLink connection, submit a Limit Day Order for the instrument.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report Reject correctly.
- 6. Submit a Limit Day Order for the instrument.
- 7. Select Yes or No to indicate whether your system received and processed the Business Reject correctly.
- 8. Submit a Limit Day Order for the instrument. Receive and process the Execution Report or Not Applied message.

- 9. Submit a Limit Day Order for the instrument.
- 10. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 11. Submit an Order Cancel Request message for the order placed in step 5.
- 12. Select Yes or No to indicate whether your system received and processed the Order Cancel Reject correctly.
 - Note: The remaining steps are only required for client systems that support Order Cancel-Replace functionality.
- 13. Submit a Limit Day Order for the instrument.
- 14. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 15. Submit a Order Cancel/Replace Request message for the order placed in step 9.
- 16. Select Yes or No to indicate whether your system received and processed the Order Cancel Replace Reject correctly.

Pre-Registered or On-Demand Format (FAK Only)

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Processing Rejects FAK test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.

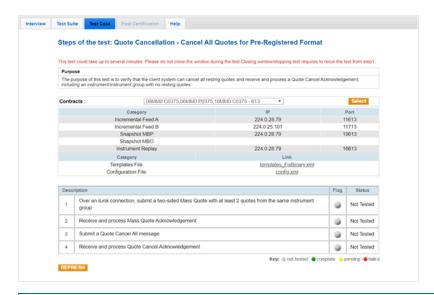
- 3. Over an iLink connection, submit a Limit FAK Order for the instrument.
- 4. Select **Yes** or **No** to indicate whether your system received and processed the **Execution Report Reject** correctly.
- 5. Submit a Limit FAK Order for the instrument.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the **Business Reject** correctly.
- 7. Submit a Limit FAK Order for the instrument. Receive and process the Execution Report or Not Applied message.

Quote Cancellation (Cancel All Quotes)

The purpose of this test is to verify that the client system can cancel all resting quotes and receive and process a Quote Cancel Acknowledgment, including an instrument/instrument group with no resting quotes.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Quote Cancellation (Cancel All Quotes) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - 0

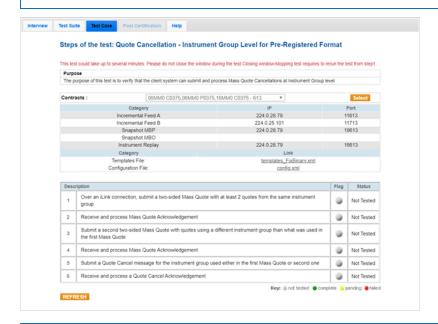
- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Submit a Quote Cancel All message.
- 7. Select Yes or No to indicate whether your system received and processed the Quote Cancel Acknowledgment.

Quote Cancellation (Instrument Group Level)

The purpose of this test is to verify that the client system can submit and process Mass Quote Cancellations at instrument group level.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Quote Cancellation (Instrument Group Level) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



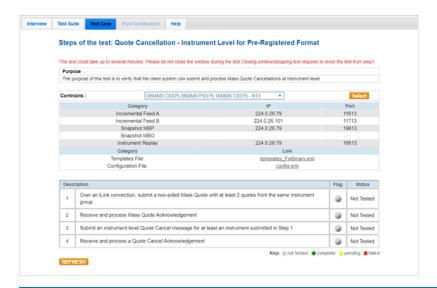
- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Submit a second two-sided Mass Quote with quotes using a different instrument group than what was used in the first Mass Quote.
- 7. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 8. Submit a Quote Cancel message for the instrument group used either in the first Mass Quote or second one.
- 9. Select Yes or No to indicate whether your system received and processed the Quote Cancel Acknowledgment.

Quote Cancellation (Instrument Level)

The purpose of this test is to verify that the client system can submit and process Mass Quote Cancellations at the instrument level.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Quote Cancellation (Instrument Level) test:

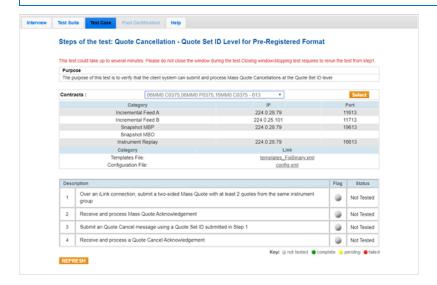
- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Submit an instrument level Quote Cancel message for at least an instrument submitted in Step 1.
- 7. Select Yes or No to indicate whether your system received and processed the Quote Cancel Acknowledgment.

Quote Cancellation (Quote Set ID Level)

The purpose of this test is to verify that the client system can submit and process Mass Quote Cancellations at the Quote Set ID level.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Quote Cancellation (Quote Set ID Level) test:

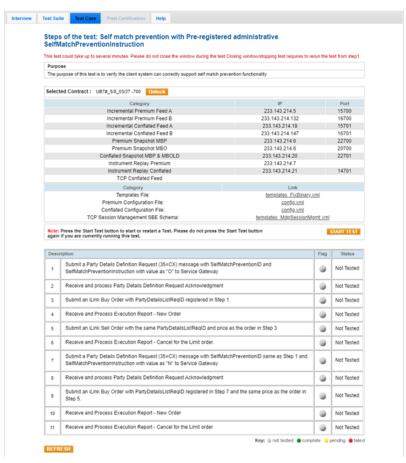
- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. Submit an Quote Cancel message using a Quote Set ID submitted in Step 1.
- 7. Select Yes or No to indicate whether your system received and processed the Quote Cancel Acknowledgment.

Self Match Prevention Instruction Support

The purpose of this test is to verify the client system can correctly support self match prevention functionality.

- Pre-Registered Format
- On-Demand Format

Pre-Registered Format



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

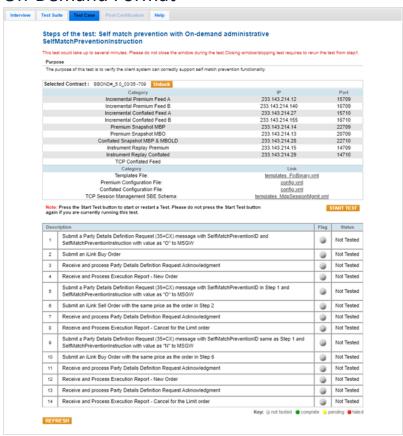
- To run a Self Match Prevention Instruction Support Pre-Registered Format test:
- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- Select the START TEST button.



- 4. Submit a Party Details Definition Request (35=CX) message with SelfMatchPreventionID and SelfMatchPreventionInstruction with value as "O" to Service Gateway.
- 5. Select Yes or No to indicate whether your system received and processed the Party Details Definition Request Acknowledgment..

- 6. Submit an iLink Buy Order with PartyDetailsListReqID registered in Step 1.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Submit an iLink Sell Order with the same PartyDetailsListReqID and price as the order in step 3.
- 9. Enter the value from tag 378-ExecRestatementReason to confirm that your system received and processed the Execution Report Cancel for the Limit order.
- 10. Submit a Party Details Definition Request (35=CX) message with SelfMatchPreventionID the same as Step 1 and SelfMatchPreventionInstruction with value as "N" to Service Gateway.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the Party Details Definition Request Acknowledgment.
- 12. Submit an iLink Buy Order with PartyDetailsListReqID registered in Step 7 and the same price as the order in Step 5.
- 13. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report New Order.
- 14. Enter the value from tag 378-ExecRestatementReason to confirm that your system received and processed the Execution Report Cancel for the Limit order.

On-Demand Format



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Self Match Prevention Instruction Support Pre-Registered Format test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Submit a <u>Party Details Definition Request (35=CX)</u> message with SelfMatchPreventionID and SelfMatchPreventionInstruction with the value as "O" to the MSGW.
- 5. Submit an iLink Buy Order.
- 6. Select **Yes** or **No** to indicate whether your system received and processed the <u>Party Details Definition Request</u> Acknowledgment.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Submit a Party Details Definition Request (35=CX) message with SelfMatchPreventionID from step 1 and SelfMatchPreventionInstruction with the value as "O" to the MSGW.
- 9. Submit an iLink Sell Order with the same price as the order in step 2.
- 10. Select **Yes** or **No** to indicate whether your system received and processed the Party Details Definition Request Acknowledgment.
- 11. Enter the value from tag 378-ExecRestatementReason to confirm that your system received and processed the <u>Execution Report</u> Cancel for the Limit order.
- 12. Submit a Party Details Definition Request (35=CX) message with SelfMatchPreventionID the same value as step 1 and SelfMatchPreventionInstruction with a value as "N" to the MSGW.
- 13. Submit an iLink Buy Order with the same price as the order in step 6.
- 14. Select **Yes** or **No** to indicate whether your system received and processed the Party Details Definition Request Acknowledgment.
- 15. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 16. Select **Yes** or **No** to indicate whether your system received and processed the Party Details Definition Request Acknowledgment.
- 17. Enter the value from tag 378-ExecRestatementReason to confirm that your system received and processed the <u>Execution Report Cancel</u> for the Limit order.

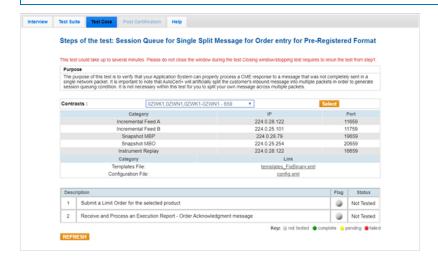
Session Queue for Single Split Message

The purpose of this test is to verify that your application system can properly process a CME Globex response to a message that was not completely sent in a single network packet.

Note: It is important to note that AutoCert+ will artificially split the customer's inbound message into multiple packets in order to generate session queuing condition. It is not necessary within this test for you to split your own message across multiple packets.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Session Queue for Single Split Message test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Submit a Limit Order for the selected product
- 5. Enter the following tag values to indicate that your system received and processed an Execution Report Order Acknowledgment message:
 - tag 5904-DelayDuration
 - tag 9553-SplitMsg

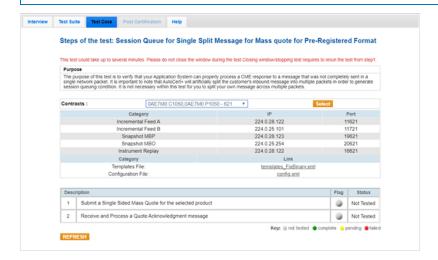
Session Queue for Single Split Message (Mass Quotes)

The purpose of this test is to verify that your application system can properly process a CME Globex response to a message that was not completely sent in a single network packet.

Note: It is important to note that AutoCert+ will artificially split the customer's inbound message into multiple packets in order to generate session queuing condition. It is not necessary within this test for you to split your own message across multiple packets.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Session Queue for Single Split Message (Mass Quote) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Submit a Single Sided Mass Quote for the selected product
- 5. Receive and Process a Quote Acknowledgment message
 - tag 5904-DelayDuration
 - tag 9553-SplitMsg

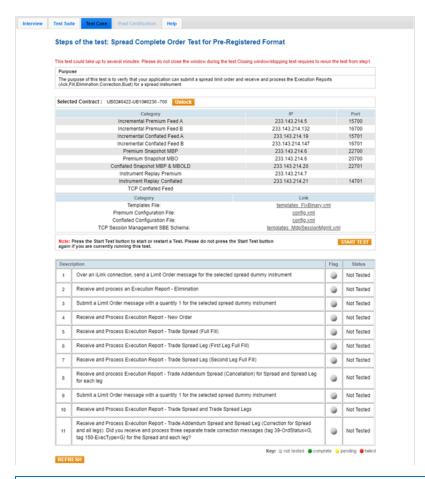
Spread Complete Order

The purpose of this test is to verify that your application can:

- submit a spread limit order
- · receive and process the Execution Reports (Ack, Fill, Elimination, Correction, Bust) for a spread instrument

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run a Spread Complete Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



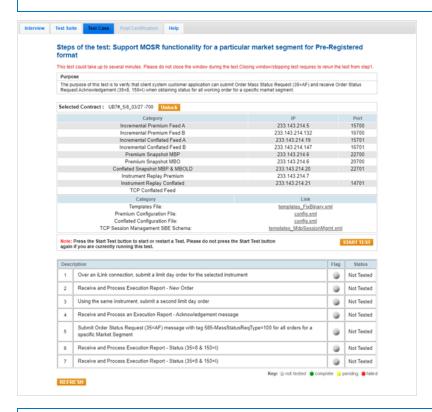
- 4. Over an iLink connection, send a Limit Order message for the selected spread dummy instrument.
- 5. Select Yes or No to indicate whether your system received and processed the Execution Report Elimination.
- 6. Submit a Limit Order message with a quantity of 1 for the selected spread dummy instrument.
- 7. Select Yes or No to indicate whether your system received and processed the Execution Report New Order.
- 8. Enter the following tag values to indicate that your system received and processed the Execution Report Trade
 Spread (Full Fill):
 - tag 39-OrdStatus
 - tag 31-LastPx
 - tag 38-OrderQty
- 8. Enter the tag 31-LastPx value to indicate that your system received and processed the Execution Report Trade
 Spread Leg (First Leg Full Fill).
- 9. Enter the tag 31-LastPx value to indicate that your system received and processed the Execution Report Trade Spread Leg (Second Leg Full Fill).
- 10. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report Trade Addendum Spread</u> (Cancellation) for the spread and spread leg for each leg.
- 11. Submit a Limit Order message with a quantity of 1 for the selected spread dummy instrument.
- 12. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report Trade Spread and Trade Spread Legs
- 13. Select **Yes** or **No** to indicate whether your system received and processed three Execution Report Trade Addendum Spread and Spread Leg (tag 39-OrdStatus=G, tag 150-ExecType=G) for the spread and each leg?

Support MOSR Functionality for a Particular Market Segment

The purpose of this test is to verify that client system customer application can submit an Order Mass Status Request (35=AF) and receive an Order Status Request Acknowledgment (35=8, 150=I) when obtaining status for all working order for a specific market segment.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Support MOSR Functionality for a Particular Market Segment test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a Limit Day order for the selected instrument.
- 5. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u>.
- 6. Using the same instrument, submit a second Limit Day order.
- 7. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report New Order message.

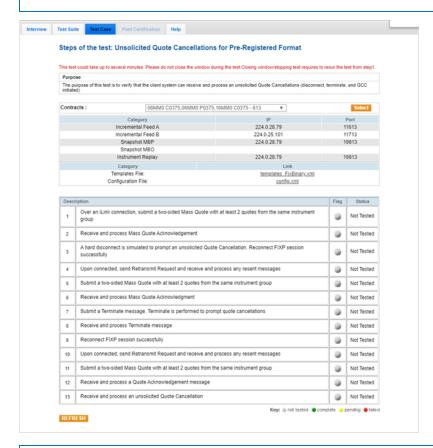
- 8. Submit Order Status Request (35=AF) message with tag 585-MassStatusReqType=100 for all orders for a specific Market Segment.
- 9. Enter the following tag values to indicate that your system received and processed the Execution Report Status (35=8 & 150=I):
 - tag 39-OrdStatus
 - tag 912-LastRptRequested
 - tag 584-MassStatusReqID
- 9. Enter the following tag values to indicate that your system received and processed the Execution Report Status (35=8 & 150=I):
 - tag 39-OrdStatus
 - tag 912-LastRptRequested
 - tag 584-MassStatusReqID

Unsolicited Quote Cancellations

The purpose of this test is to verify that the client system can receive and process an unsolicited Quote Cancellations (disconnect, terminate, and GCC initiated)

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an Unsolicited Quote Cancellations test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the **Contracts** drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 5. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 6. A hard disconnect is simulated to prompt an unsolicited Quote Cancellation.
- 7. Select Yes or No to indicate whether your system reconnected to the FIXP session successfully.

- 8. Upon connection, send Retransmit Request and receive and process any resent messages
- 9. Submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 10. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 11. Submit a Terminate message. Termination is performed to prompt quote cancellations.
- 12. Select Yes or No to indicate whether your system received and processed the Terminate message.
- 13. Select **Yes** or **No** to indicate whether your system reconnected the FIXP session successfully (receive and process any appropriate messages).
- 14. Submit a two-sided Mass Quote with at least 2 quotes from the same instrument group.
- 15. Select Yes or No to indicate whether your system received and processed the Quote Acknowledgment message.

Binary Trade Reporting for Pre-Registered / On-Demand format

The purpose of this test is to verify the client system utilize repeating group NoOrderEvents [35=8, 39=1,2 (tag 1795)] for binary trade reporting.

If the customer application supports order entry, as indicated in the Interview, this test is mandatory.

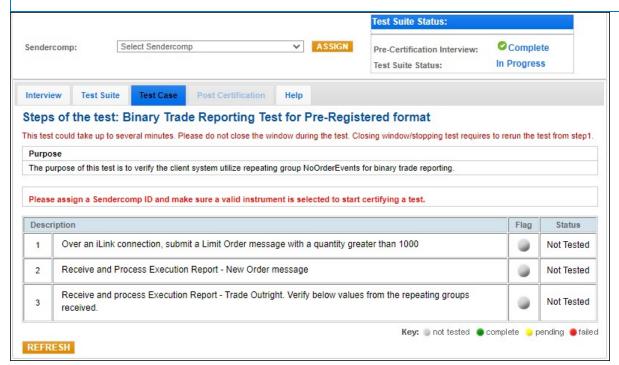


To run the Binary Trade Reporting test:

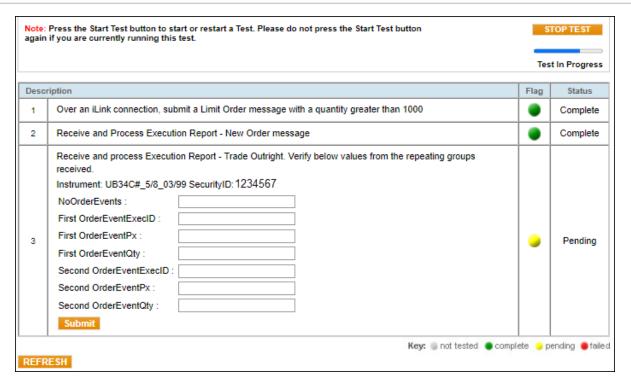
- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. Select an **Instrument** from the drop-down menu, then click **Select**.
- 3. Select the START TEST button.
 - 0

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

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



- 4. Over an iLink connection, submit a <u>Limit Order</u> [35=D (tag 40-OrdType=2) (tag 59-TimeInForce=0, 3 or 4)] message with a quantity (tag 38-OrderQty) greater than 1000.
- 5. Receive and Process Execution Report New Order message (35=8, 39=0).
- 6. Receive and process Execution Report Trade Outright (35=8, 39=1,2) message, then enter the below values from the repeating groups received in the message:



• tag 1795-NoOrderEvents

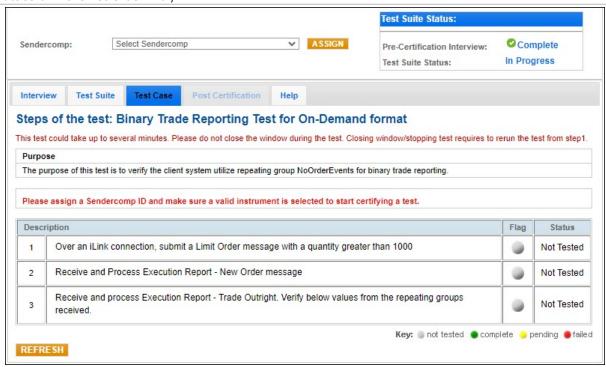
First Order

- →1797-OrderEventExecID
- →1799-OrderEvenPx
- →1800-OrderEventQTY

Second Order

- →1797-OrderEventExecID
- →1799-OrderEventPx
- →1800-OrderEventQTY

On-Demand format screen

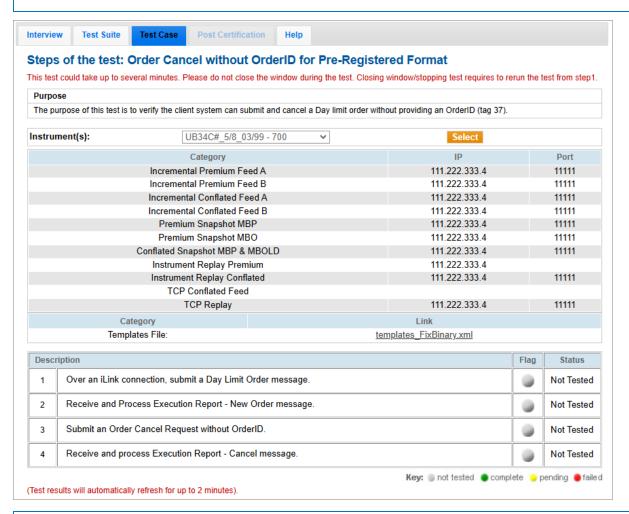


Order Cancel without Order ID

The purpose of this test is to verify the client system can submit and cancel a Day limit order without providing an OrderID (tag 37).

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.

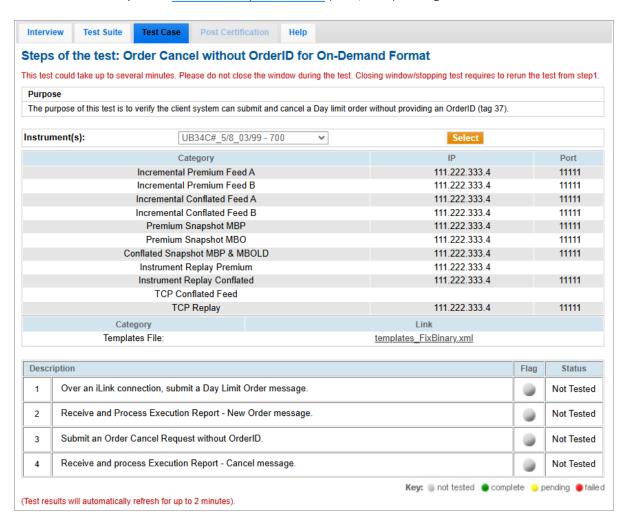


Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run an Order Cancel without Order ID test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.
 - Note: DO NOT select the START TEST button once the test is in progress.

- 4. Over an iLink connection, submit a <u>Day Limit</u> [35=D tag 59(TimeInForce)=0(Day), tag 40(OrdType)=2(Limit)] Order message.
- 5. Receive and Process Execution Report New Order (35=8, 39=0) message.
- 6. Submit an Order Cancel Request (35=F) without OrderID (omit tag 37-OrderID or send null value).
- 7. Receive and process Execution Report Cancel (35=8, 39=4) message.

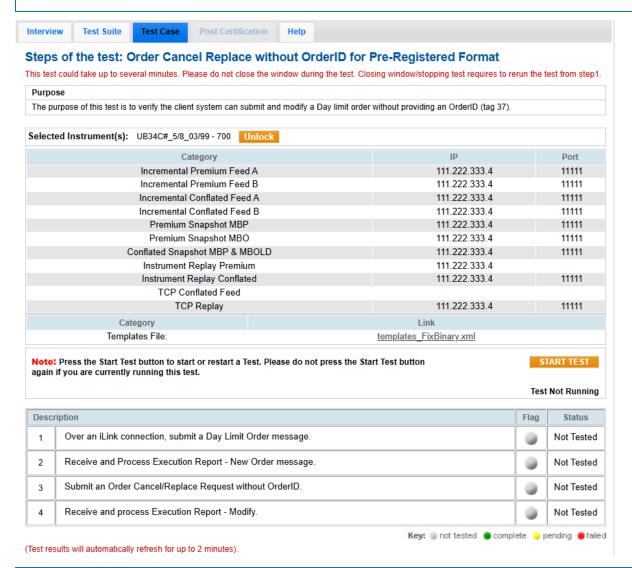


Order Cancel Replace without Order ID

The purpose of this test is to verify the client system can submit and modify a Day limit order without providing an OrderID (tag 37).

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



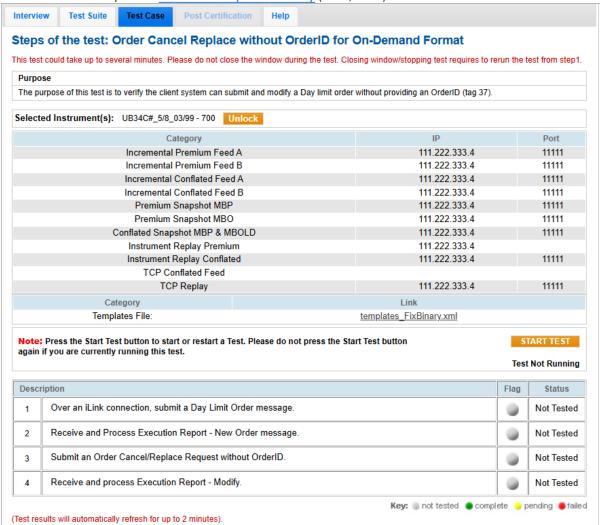
Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run an Order Cancel-Replace without Order ID test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a <u>Day Limit</u> [35=D tag 59(TimeInForce)=0(Day), tag 40(OrdType)=2(Limit)] Order message.
- 5. Receive and Process Execution Report New Order (35=8, 39=0) message.
- 6. Submit an Order Cancel/Replace Request (35=G) without OrderID (omit tag 37-OrderID or send null value).
- 7. Receive and process Execution Report Modify (35=8, 39=5).



Beginning of Week Connection with GT Orders for On-Demand Format

The purpose of this test is to verify that the client system can download a fill that is generated for the GT order in the current week before Start of Week Initialization.

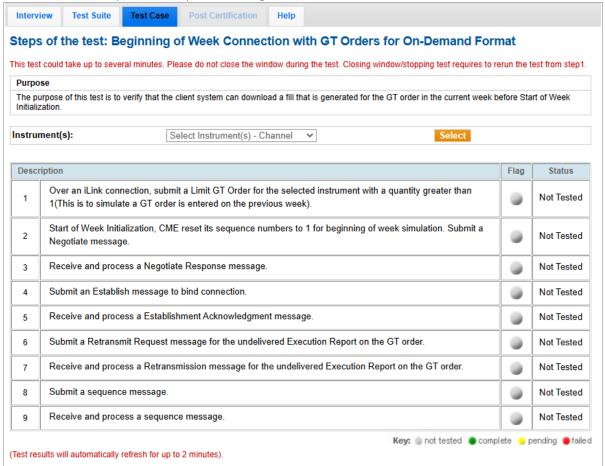
Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run the beginning of week connection with GT Order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over an iLink connection, submit <u>Limit GT</u> Order for the selected instrument with a quantity greater than 1. Simulates a GT order entered the previous week.
- 5. Start of Week Initialization, CME reset its sequence numbers to 1 for beginning of week simulation. Submit a <u>Negotiate</u> message.
- 6. Receive and process a Negotiate Response message.
- 7. Submit an Establish message to bind connection.
- 8. Receive and process a Establishment Acknowledgment message.
- 9. Submit a Retransmit Request message for the undelivered Execution Report on the GT order.
- 10. Receive and process a Retransmission message for the undelivered Execution Report on the GT order.
- 11. Submit a sequence message.
- 12. Receive and process a sequence message.

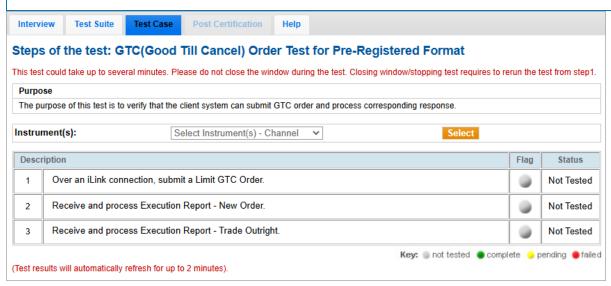


GTC (Good Till Cancel) Order Test

The purpose of this test is to verify that the client system can submit GTC order and process corresponding response.

Pre-Registered Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



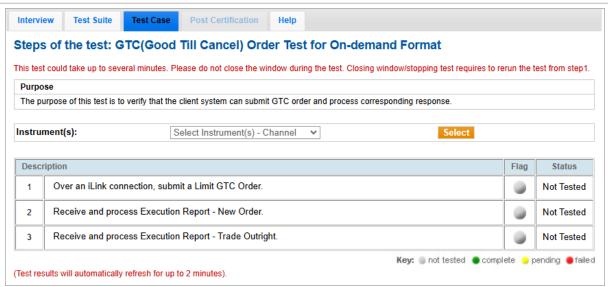
Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run a Good Till Cancel order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.
 - Note: DO NOT select the START TEST button once the test is in progress.
- 4. Over an iLink connection, submit a Limit GTC Order (tag 40-OrdType=2-Limit, tag 59-TimeInForce=6-GTC).
- 5. Receive and process **Execution Report New Order**.
- 6. Receive and process Execution Report Trade Outright.

On-Demand Format



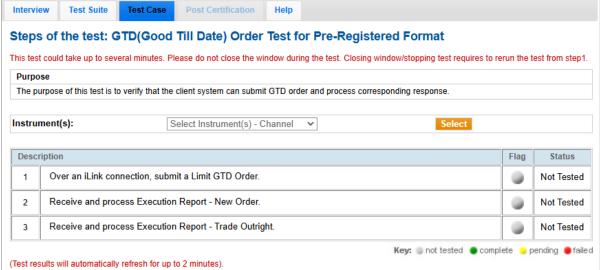
GTC (Good Till Date) Order Test

The purpose of this test is to verify that the client system can submit GTD order and process corresponding response.

Pre-Registered Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.

Interview Test Suite Post Certification Help



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

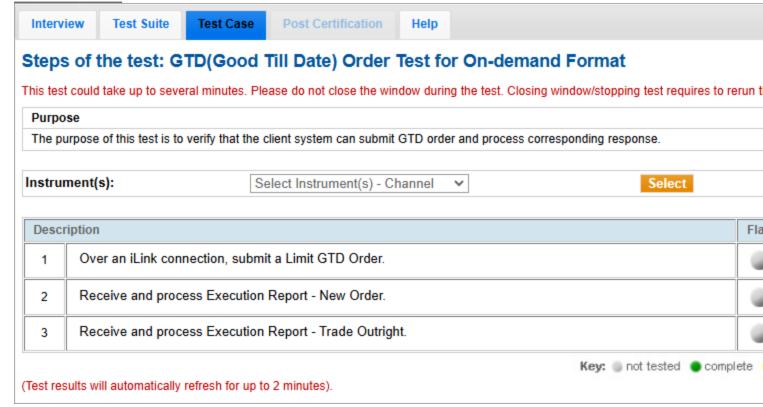
To run a Good Till Date order test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over an iLink connection, submit a Limit GTD Order (tag 40-OrdType=2-Limit, tag 59-TimeInForce=6-GTC).
- 5. Receive and process Execution Report New Order.
- 6. Receive and process Execution Report Trade Outright.

On-Demand Format



Failover Tests

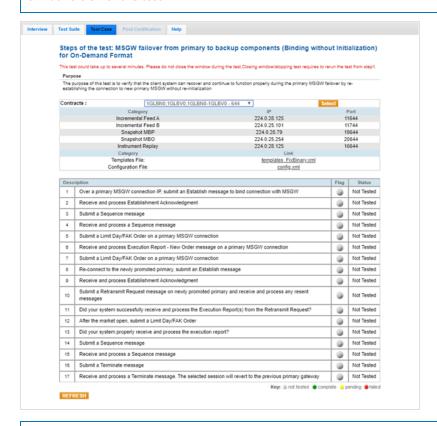
This section contains information on the Failover tests.

MSGW Failover from Primary to Backup Components (Binding without Initialization)

The purpose of this test is to verify that your system can recover and continue to function properly during a primary MSGW failover.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an MSGW Failover from Primary to Backup Components (Binding without Initialization) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



- 4. Over a primary MSGW connection IP, submit an Establish message to bind the connection with the MSGW.
- 5. Receive and process the Establishment Acknowledgment message.
- 6. Submit a Sequence message.

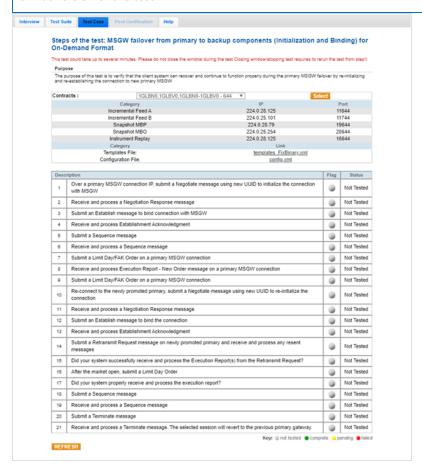
- 7. Receive and process a Sequence message.
- 8. Submit a Limit Day Order on a primary MSGW connection.
- 9. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message on a primary MSGW connection.
- 10. Submit a Limit Day Order on a primary MSGW connection.
- 11. Re-connect to the newly promoted primary, submit an Establish message.
- 12. Receive and process Establishment Acknowledgment.
- 13. Submit a Retransmit Request message on newly promoted primary and receive and process any resent messages.
- 14. Select Yes or No to indicate whether your system received and processed the Retransmit Request?
- 15. After the market open, submit a Limit Day Order.
- 16. Select Yes or No to indicate whether your system received and processed the Execution Report New Order?
- 17. Submit a Sequence message.
- 18. Receive and process a Sequence message.
- 19. Submit a Terminate message.
- 20. Receive and process a Terminate message. The selected session will revert to the previous primary gateway.

MSGW Failover from Primary to Backup Components (Initialization and Binding)

The purpose of this test is to verify that the client system can recover and continue to function properly during the primary MSGW failover by re-initializing and re-establishing the connection to new primary MSGW

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.



To run an MSGW Failover from Primary to Backup Components (Initialization and Binding) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



4. Over a primary MSGW connection IP, submit a <u>Negotiate</u> message using new UUID to initialize the connection with MSGW.

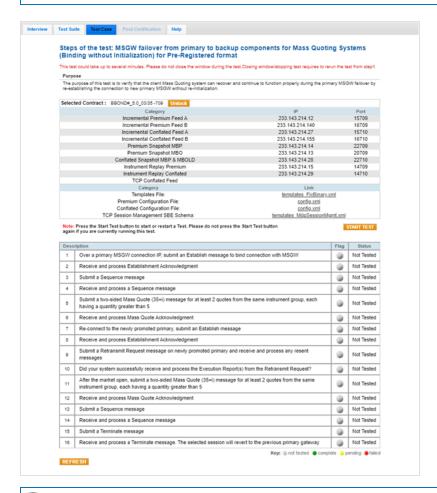
- 5. Receive and process a Negotiation Response message.
- 6. Submit an Establish message to bind connection with MSGW.
- 7. Receive and process the Establishment Acknowledgment.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a Limit Day Order on a primary MSGW connection.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the <u>Execution Report New Order</u> message on a primary MSGW connection.
- 12. Submit a Limit Day Order on a primary MSGW connection.
- 13. Re-connect to the newly promoted primary: Submit a Negotiate message using new UUID to re-initialize the connection.
- 14. Receive and process a Negotiation Response message.
- 15. Submit an Establish message to bind the connection.
- 16. Receive and process the Establishment Acknowledgment.
- 17. Submit a Retransmit Request message on newly promoted primary and receive and process any resent messages.
- 18. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report(s) from the Retransmit Request?
- 19. After the market open, submit a Limit Day Order.
- 20. Select Yes or No to indicate whether your system received and processed the execution report?
- 21. Submit a Sequence message.
- 22. Receive and process a Sequence message.
- 23. Submit a Terminate message.
- 24. Receive and process a Terminate message. The selected session will revert to the previous primary gateway.

MSGW Failover from Primary to Backup Components for Mass Quoting Systems (Binding without Initialization)

The purpose of this test is to verify that the client Mass Quoting system can recover and continue to function properly during the primary MSGW failover by re-establishing the connection to the new primary MSGW without re-initialization.

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may

To run an MSGW Failover from Primary to Backup Components for Mass Quoting Systems (Binding without Initialization) test:

- 1. Select a SenderComp from the drop-down and select ASSIGN if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the START TEST button.



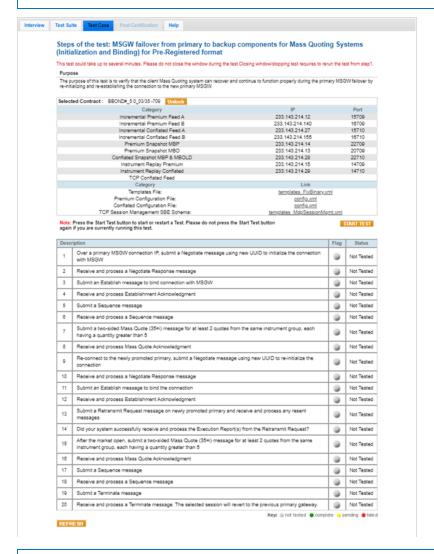
- 4. Over a primary MSGW connection IP, submit an Establish message to bind the connection with the MSGW.
- 5. Receive and process Establishment Acknowledgment.
- 6. Submit a Sequence message.
- 7. Receive and process a Sequence message.
- 8. Submit a two-sided Mass Quote (35=i) message for at least 2 quotes from the same instrument group, each having a quantity greater than 5.
- 9. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 10. Re-connect to the newly promoted primary, submit an Establish message.
- 11. Receive and process the Establishment Acknowledgment.
- 12. Submit a <u>Retransmit Request</u> message on the newly promoted primary and receive and process any resent messages.
- 13. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report(s) from the Retransmit Request.
- 14. After the market open, submit a two-sided Mass Quote (35=i) message for at least 2 quotes from the same instrument group, each having a quantity greater than 5.
- 15. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 16. Submit a Sequence message.
- 17. Receive and process a Sequence message.
- 18. Submit a Terminate message.
- 19. Receive and process a Terminate message. The selected session will revert to the previous primary gateway.

MSGW Failover from Primary to Backup Components for Mass Quoting Systems (Initialization and Binding)

The purpose of this test is to verify that the client Mass Quoting system can recover and continue to function properly during the primary MSGW failover by re-initializing and re-establishing the connection to the new primary MSGW

Pre-Registered or On-Demand Format

Note: This test is used for both Pre-Registered and On-Demand formats. The below image shows the Pre-Registered format version of the test.



Note: If a test is not proceeding to the next step, selecting the Refresh button (REFRESH) below the test steps may resolve the issue.

To run an MSGW Failover from Primary to Backup Components for Mass Quoting Systems (Initialization and Binding) test:

- 1. Select a **SenderComp** from the drop-down and select **ASSIGN** if a SenderComp is not already assigned.
- 2. From the Contracts drop-down, select the desired contract if the contract is not already locked.
- 3. Select the **START TEST** button.



- 4. Over a primary MSGW connection IP, submit a <u>Negotiate</u> message using new UUID to initialize the connection with MSGW.
- 5. Receive and process a Negotiate Response message.
- 6. Submit an Establish message to bind connection with MSGW.
- 7. Receive and process the Establishment Acknowledgment.
- 8. Submit a Sequence message.
- 9. Receive and process a Sequence message.
- 10. Submit a two-sided Mass Quote (35=i) message for at least 2 quotes from the same instrument group, each having a quantity greater than 5.
- 11. Select **Yes** or **No** to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 12. Re-connect to the newly promoted primary: Submit a Negotiate message using a new UUID to re-initialize the connection.
- 13. Receive and process a Negotiate Response message.
- 14. Submit an Establish message to bind the connection.
- 15. Receive and process the Establishment Acknowledgment.
- 16. Submit a Retransmit Request message on newly promoted primary and receive and process any resent messages.
- 17. Select **Yes** or **No** to indicate whether your system received and processed the Execution Report(s) from the Retransmit Request?
- 18. After the market open, submit a two-sided Mass Quote (35=i) message for at least 2 quotes from the same instrument group, each having a quantity greater than 5.
- 19. Select Yes or No to indicate whether your system received and processed the Mass Quote Acknowledgment.
- 20. Submit a Sequence message.
- 21. Receive and process a Sequence message.
- 22. Submit a Terminate message.
- 23. Receive and process a Terminate message. The selected session will revert to the previous primary gateway.