

London Stock Exchange

MIT502 - Guide to Application Certification

Issue 17.2

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1 Introduction

1.1 Purpose

The purpose of this document is to provide customers with a detailed overview of the Certification service.

The London Stock Exchange Group restricts access to its Live Services to software applications that have not completed the software certification process. The Live Services are all Trading and Information Services on an eligible LSEG Venue. The eligible venues are currently London Stock Exchange, CurveGlobal and Turquoise.

1.2 Readership

This document is particularly relevant to software developers, system testers and anyone else involved in developing a software application for use on any of the Live Services.

This document should be read in conjunction with London Stock Exchange Group Millennium Technical Specifications and the product specific 'Guide to Testing Services' documents. Together, these documents provide all of the relevant information that customers require to develop and certify to the services.

1.3 Document Series

This document is part of a series of Customer Testing documents that are available to customers. The other documents are:

- MIT501 Guide to Testing Services
- MIT503 Certification Test Report

1.4 Document History

This document has been through the following iterations:

Issue	Date	Description
2.0	23 May 2011	Second issue of this document published via the Exchange's website
3.0	24 August 2012	Second issue of this document published via the Exchange's website to include information to the Group Ticker Plant.
4.0	19 October 2012	This version also outlines an amended process. Group Ticker Plant has now been incorporated into the general policy
5.0	30 January 2013	Updated LCON Policy added

Issue	Date	Description
6.0	12 February 2013	Updated test cases and improved layout
7.0	15 March 2013	Added test case for LSE-046 for Randomized Iceberg orders. Added clarification around LCON policy for NSP clients.
8.0	14 June 2013	Updated Policy for Annual Certification
9.0	16 July 2013	Updated test case IDs
9.1	29 July 2013	Updated Certification Passport
9.2	24 January 2014	Updated section 2.3
10.0	29 August 2014	Document rebranded. Updated test cases 5.5.18, 5.5.19 and 5.5.20
10.1	31 October 2014	Added test cycles for Turquoise Block Discovery™ MIT-073, MIT-074, MIT-075. Amended to reflect rebranding ITCH to MITCH
10.2	15 April 2015	Added test cycles MIT-076, MIT-077
11.0	26/06/2015	Amended Annual Certification policy, Removed Application Passporting Removed non-LSE test cases
12.0	12/09/2016	Added test cycles for RFQ functional. Test cases 5.5.27, 5.5.28, 5.5.29
13.0	06/06/2017	Amended certification policy
14.0	24/07/2017	Updated section 2.3
15.0	29/08/2017	Section 2.0 – updated wording Section 2.3 – updated to reflect changes to certification policy Reformatted document Added new test cycled for MiFID II MIT-106, MIT-107, MIT-108
16.0	08/10/2018	Updated document to support the new RFQ Auto Complete Model Updated MIT126. Added MIT126A & MIT127A
17.0	20 April 2020	Removed MITCH test cases after MITCH decommission 4.2.7 – Added test case for ATC Offset Order 4.5.1 – Changed to mandatory only for new software
17.1	13 May 2020	Added 4.2.8 – Order Modification – ATC Offset Order
17.2	27 Jan 2021	Added 4.2.31 – added test case for RFQ Market Maker Ranking

In subsequent issues, where amendments have been made to the previous version, these changes will be highlighted in **Red**.

1.5 Contacts

All information requested by a tester during the certification process should be emailed to the conformancetest@lseg.com

2 Certification Programme

The Certification Programme is based on regulatory compliance supporting interoperability against the three eligible London Stock Exchange Group (LSEG) venues.

The following Certification Programme applies to anyone connecting a software application to an LSEG *Live Service*. A Live service is any production Trading or Information Services environment across LSEG.

Under EU and national regulatory requirements (including the ESMA Guidelines on Systems and Controls in a Highly Automated Trading Environment and MiFID II Regulatory Technical Standards) the eligible LSEG venues are required to have procedures and arrangements to ensure fair and orderly trading. This includes requirements for physical and electronic security to protect systems from misuse or unauthorised access and to ensure the integrity of the data that is part of or passes through the systems. The eligible venues are required to undertake standardised certification testing to ensure that members and participants systems used to access the venues have a minimum level of functionality that is compatible with fair and orderly trading on those venues.

Customer non-compliance with this certification programme may constitute a breach of the eligible venue terms and conditions or rules.

2.1 Access to the Live Service

Access to the LSEG Live Services is permitted only when a customer's software application has been certified as being fit for purpose.

2.2 Software Identification

All customer software must be identifiable by a software name and version number. Software applications that do not have both a name and version number will not be certified. Certification is limited to a single version of the named software.

2.3 Market Data Applications

All customers must confirm that their market data applications are fully conformant to all aspects of the GTP Technical Specifications and technically behaves as described in the GTP002 document. Customer also confirms that its application correctly receives and manages the market data messages.

2.4 Certification Policy

Customers will be required to perform a certification test under the following conditions:

- Prior to use of a new application on the live environment
- The customer modifies the software in any way that directly impacts a LSEG interface. This includes but is not limited to Gateways, Order Management, Execution Management and Quote Management software.

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- The exchange venue upgrades its production environment to a later version of software
 - The customer is request to re-certify their application by the relevant venue.

If not certification have to be performed during a solar year because any of the previous condition did not occur, the customer will be asked to self-certify by email that no changes have been made to their application since the last certification test.

2.5 Test Scenario Exception Policy

Customers only need to complete the test cases relating to the functionality that they will use on the Live Services. If a customer's application does not support the functionality described in a particular test scenario and they do not intend to complete the scenario during the test, this must be agreed before the start of the certification test.

2.6 Non-Conformant Behaviour on the Live Service

Any non-conformant behaviour by a customer's software application on the Live Services may lead to the software application being disconnected and not re-connected until it has been re-certified and the non-conformant behaviour corrected.

2.7 Test charges

The published venue specific Certification charges apply to all certification testing regardless of the test being assisted or not.

3 Certification Process

The Certification Process is an integral part of the Certification Programme

Mandatory testing will be required for all applications that wish to connect to the production environment and mandatory functions will need to be tested in order to confirm conformant behaviour.

Customers should consider their software application's 'production ready' before attempting the test. Customers should also read and familiarise themselves with this document and the Market and Product Specific Testing documents. These documents contain important guidance that must be read before completing the certification process. When ready to take the test, customers should complete the following steps:

- Customers should contact Market Access to provide the software name and version, a brief description of the application and the gateways that it will connect to.

3.1 Full Certification Test

Before Taking the Test

The Market Access team will be available to assist participants in completing part of their certification test by performing both mandatory and optional functions.

Gateway connections and User IDs should be checked at least 2 working days before planned execution date.

The report form must then be sent to conformancetest@lseg.com

This is a formal record of the software application that is being certified.

Customers should save a copy of the test report as they will be required to use it during the test to record their test results.

During the Test

Customers should complete the full set of uncoordinated test cycles described in Section 5 and inform the relevant venue of the LSEG when this has been completed. If required, limited support can be provided during this phase.

Customers should record the test results on MIT503 Certification Test Report using the test procedure shown at the start of section 5. Customers are required to complete all test scenarios previously marked on the Certification Test Report. If a customer does not complete a pre-agreed test scenario, the test will fail.

.When all of the uncoordinated test scenarios have been completed, the customer must then complete a set of coordinated test scenarios, assisted by a tester.

When documenting the test results, customers should include all information as requested in each of the steps, such as Order IDs, QuoteMsg IDs and Security IDs.

If the result does not match the expected result, the customer should still record it in the relevant section of the certification test report and in the comments section including the following:

- Order IDs/ QuoteMsg IDs (if any)
- Security ID
- Time of the order/quote/operation submission/execution
- Any information which may be helpful in troubleshooting the error

Unless a log off or disconnect request is specified in the test case the customer should complete all test cases without logging off or disconnecting. If there are any unexpected log offs or disconnects, these should be documented in the comments section of the certification test report.

Note: All test scenarios marked as mandatory must be completed unless an exception has been granted by the Technical Client Relationship Manager

The customer can repeat this part as many times as necessary, however additional test sessions may have to be booked if the testing exceeds two hours.

When all test scenarios have been completed, the customer should email the completed Certification Test Report to the tester. The email sent to: conformancetest@lseg.com.

After the Test

After the test the tester will check the details on the completed Certification Test Report and review the log files for the completed test scenarios. A report is generated detailing how the customer's application has performed during the test. If no re-testing is required, the report will be sent to the customer to sign off the application as fit for purpose and ready for access to the Live Services

The following items are checked:

- The functional behaviour and message sequencing in each scenario
- If the session was maintained for the entire period or if it dropped
- If any errors were produced over the time period

If multiple interfaces were included in the test, the results are concatenated into a single report.

The report will be run specifying a time ranged limited to a single day.

If the customer is required to repeat any of the testing they should do so within 24 hours of the original test.

By returning the signed copy of the Certification Test Report Certification Checklist, the customer is confirming that their application is fully conformant to all aspects of the Millennium Technical Specifications and technically behaves as described in the guidance given in both this document and the guide to testing.

4 Certification Test Scenarios

4.1 Market Data

4.1.1 GTP – Replay Request

Type: GTP Recovery	ID #: MIT-005	Market: LSE	LSEG Assisted: N
Description: Logon and send a <u>Replay Request</u>			
Comments:			
Prerequisites None.			
#	Test Steps	Expected Results	
1	Establish a connection and Logon to the Replay Service <i>(please choose any one channel to connect to and provide details in the comments section of the Certification report.)</i>	Successful Logon.	
2	Send an <u>Replay request</u> <i>Provide First Message, Count & Request ID in the Certification report.</i>	Receive a successful <u>Replay Response</u> . Receive requested messages. Receive <u>Replay & Recovery complete</u> message to indicate completion of retransmission. User will be disconnected after 5 seconds of inactivity	

4.1.2 GTP – Recovery Request

Type: GTP Recovery		ID #: MIT-006	Market: LSE	LSEG Assisted: N
Description: Logon and send a Recovery Request				
Comments:				
Prerequisites: None.				
#	Test Steps	Expected Results		
1	Establish a connection and Logon to the Recovery Service <i>(please choose any one channel to connect to and provide details in the comments section of the Certification report.)</i>	Successful Logon.		
2	Send an <u>Recovery request</u> <i>Provide Request level, instrument group/Segment(Group ID)/Multicast Channel, Recovery Type & request ID in the Certification report.</i>	Receive a successful <u>Recovery Response</u> . Receive requested messages. Receive <u>Replay & Recovery complete</u> message to indicate completion of request. User will be disconnected after 5 seconds of inactivity		

4.2 Trading and Order Management

4.2.1 Auction – Limit Orders

Type: FIX/Native Gateways		ID #: MIT-100	Market: LSE	LSEG Assisted: N
Description: Validate Limit orders during Opening/Closing Auction.				
Comments:				
Prerequisites: This test needs to be executed during Opening or Closing Auction session. Already logged on from previous Test Case Alternatively, contact LSEG and request a stock to be manually moved into an Opening or Closing Auction session.				
#	Test Steps	Expected Results		
1	Enter a Day Limit order. <i>(Assuming there is a match for this order in the order book. If there is no match for the order in the order book, please create a matching order.)</i> <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order goes on to the order book and is executed at uncrossing. Receive Execution Report for a fill or partial fill		

4.2.2 Auction – Market Orders

Type: FIX/Native Gateways		ID #: MIT-101	Market: LSE	LSEG Assisted: N
Description: Validate Market (un-priced) orders during Opening/Closing Auction.				
Comments:				
Prerequisites: This test needs to be executed during Opening or Closing Auction session. Already logged on from previous Test Case Alternatively, contact LSEG and request a stock to be manually moved into an Opening or Closing Auction session.				
#	Test Steps	Expected Results		
1	Enter a Market Order. <i>(Assuming there is a match for this order in the order book. If there is no match for the order in the order book, please create a matching order.)</i> <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order goes on to the order book and is executed at uncrossing. Receive Execution Report for a fill or partial fill		

4.2.3 Market Order

Type: FIX/Native Gateways		ID #: MIT-102	Market: LSE	LSEG Assisted: N
Description: Validate Market orders during Continuous Trading.				
Comments:				
Prerequisites: This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	<p>Enter a Market order (OrderType=1).</p> <p><i>(Assuming there are matching orders for this order on the order book. If there are no matching orders on the order book, please create these.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is executed.</p> <p>Receive Execution Report</p>		

4.2.4 Limit PassiveOnly Order

Type: FIX/Native Gateways		ID #: MIT-103	Market: LSE	LSEG Assisted: N
Description: Validate Limit "PassiveOnlyOrder" during Continuous Trading.				
Comments: This is an Order level parameter that allows clients to require that their order must rest prior to execution, with flexibility for visible orders to rest at a specified price level on the orderbook. NOTE: Setting PassiveOnlyOrder to values other than 0 or "null" may still result in the order aggressively matching against hidden orders resting on the order book.				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Day Limit order with the "PassiveOnlyOrder" field populated with any of the defined values other than "0" or "Null". <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is accepted and goes on to the order book only if the field value conditions are met otherwise the order is rejected. Receive Execution Report with OrderStatus = 0 (New)		
2	Obtain the current sell price of a stock. <i>If there are no sell orders resting on the order book please enter a resting sell order</i>	Sell Price of test stock obtained		
3	Enter another order with the "PassiveOnlyOrder" field set to 1, and <u>set the bid price above the sell price</u> obtained in step 2 <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	Receive Execution Report with OrderStatus = 6 (Expired) with error code "Order would execute with visible order on Aggression"		

4.2.5 Aggressive Limit Order

Type: FIX/Native Gateways		ID #: MIT-104	Market: LSE	LSEG Assisted: N
Description: Validate Aggressive Limit orders during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	<p>Enter an Aggressive Limit order (TIF 3 or 4)</p> <p><i>(Assuming there are matching orders for this order in the order book. If there are no matching orders in the order book, please create them.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is immediately executed without resting.</p> <p>Receive Execution Report</p>		

4.2.6 Limit Passive Order

Type: FIX/Native Gateways	ID #: MIT-104A	Market: LSE	LSEG Assisted: N
Description: Validate Passive Limit orders during Continuous Trading.			
Comments: Note: This test verifies entering a passive order <u>without</u> using the "PassiveOnlyOrder" field.			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	<p>Enter a day Passive Limit order.</p> <p>The PassiveOnlyOrder" field must be set to "0" or "Null"</p> <p><i>(Assuming there are matching orders for this order in the order book. If there are no matching orders in the order book, please create them.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order goes on to the order book and rests</p> <p>Receive Execution Report</p>	

4.2.7 At the Close (ATC) Offset Order

Type: FIX/Native Gateways		ID #: MIT-105	Market: LSE	LSEG Assisted: N
Description: Validate At the Close (ATC) order with an offset. The order is priced at the DRP +/- offset value specified in the order.				
Comments: Note: This test verifies entering an ATC order with an offset				
Prerequisites Already logged on from previous Test Case Order is injected at the beginning of the closing auction				
#	Test Steps	Expected Results		
1	Enter an ATC order with an Offset at the beginning of the closing auction.	Receive Execution Report		

4.2.8 Order Modification – ATC Offset Order

Type: FIX/Native Gateways		ID #: MIT-105a	Market: LSE	LSEG Assisted: N
Description: Validate amending a At the Close (ATC) order with an offset. The order is priced at the DRP +/- offset value specified in the order.				
Comments: Note: This test verifies amending an ATC order with an offset				
Prerequisites Already logged on from previous Test Case Order is injected at the beginning of the closing auction				
#	Test Steps	Expected Results		
1	Enter an ATC order with an Offset at the beginning of the closing auction.	Receive Execution Report		
2	Amend the above order	Receive Execution Report		

4.2.9 Order Generated by an Algorithm

Type: FIX/Native Gateways		ID #: MIT-106	Market: LSE	LSEG Assisted: N
Description: Validate Order Generated by Algorithm				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	<p>Enter an order with Tag 2594 OrderAttributeType = 4 (FIX) or Algo field set in Bit Field FXMiFIDFlags (Native) which indicates an order was generated via an algorithm.</p> <p>Please provide Order ID(s), Public OrderId and Client Order ID in the Certification report.</p>	<p>The order is successfully submitted and gets a valid order status</p> <p>Receive Execution</p>		

4.2.10 Order Generated as Part of Liquidity Provision Activity

Type: FIX/Native Gateways		ID #: MIT-107	Market: LSE	LSEG Assisted: N
Description: Validate Order generated as part of Liquidity Provision				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter an order with Tag 2594 OrderAttributeType = 2 (FIX) or Liquidity Provision field set in Bit Field FXMiFIDFlags (Native) which indicates an order was generated as part of liquidity provision activity. Please provide Order ID(s), Public OrderId and Client Order ID in the Certification report.	The order is successfully submitted and gets a valid order status Receive Execution		

4.2.11 Order Generated via Direct Electronic Access

Type: FIX/Native Gateways		ID #: MIT-108	Market: LSE	LSEG Assisted: N
Description: Validate DEA Order				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter an order with Tag 1724 Order Origination = 5 (FIX) or which indicates an order was a DEA order and DEA Flag field set in Bit Field FXMiFIDFlags (Native) Please provide Order ID(s), Public OrderId and Client Order ID in the Certification report.	The order is successfully submitted and gets a valid order status Receive Execution		

4.2.12 Mid-point Pegged Order

Type: FIX/Native Gateways		ID #: MIT-109	Market: LSE	LSEG Assisted: N
Description: Validate Mid Price Pegged orders during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Enter a Pegged Order <i>Please provide Order ID(s) and Client order ID in the Certification Report</i>	The order is successfully submitted and gets a valid order status. It is either parked or executed. Receive Execution Report		

4.2.13 Stop Orders

Type: FIX/Native Gateways		ID #: MIT-110	Market: LSE	LSEG Assisted: N
Description: Validate Stop Orders.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	<p>Enter a Stop Order.</p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p> <p><i>(Assuming there are matching orders for this order in the order book. If there are no matching orders in the order book, please create them.)</i></p>	<p>The order is executed.</p> <p>Receive Execution Report</p>		

4.2.14 Stop Limit Order

Type: FIX/Native Gateways		ID #: MIT-111	Market: LSE	LSEG Assisted: N
Description: Validate Stop Limit orders during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Stop Limit order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and gets a valid order status. Order resides on the order book or is executed. Receive Execution Report		

4.2.15 Hidden Order

Type: FIX/Native Gateways	ID #: MIT-112	Market: LSE	LSEG Assisted: N
Description: Validate Hidden orders during Continuous Trading.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	Enter a Hidden order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and gets a valid order status. This is either executed or resides on the order book (undisclosed). Receive Execution Report	

4.2.16 Iceberg Orders

Type: FIX/Native Gateways		ID #: MIT-113	Market: LSE	LSEG Assisted: N
Description: Validate Iceberg Orders.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Enter an Iceberg order. <i>Please provide Order ID(s), Public OrderId and Client Order ID in the Certification report.</i>	The order is successfully submitted and gets a valid order status. The order reside on the book (only for peak size) Receive Execution Report.		
2	Enter an order to trade the peak size (visible quantity). Please provide the <i>new</i> Public OrderID received in the Execution Report	The peak size are traded and refreshed in size back to the display quantity. Receive Execution Reports.		
3	Enter an order to trade the Visible and Hidden size Please provide the <i>new</i> Public OrderID received in the Execution Reports	Receive two Execution Reports.		

4.2.17 Randomized Iceberg Orders

Type: FIX/Native Gateways	ID #: MIT-114	Market: LSE	LSEG Assisted: N
Description: Validate Randomized Iceberg orders during Continuous Trading.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	<p>Enter a Randomized Iceberg order.</p> <p><i>(Assuming there are matching orders for this order in the order book. If there are no matching orders in the order book, please create them.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification report.</i></p>	<p>The order is successfully submitted and gets a valid order status. This order may execute or reside on the order book, fully or partially.</p> <p>Receive Execution Report with partial fill or fully filled.</p>	

4.2.18 Named Order

Type: FIX/Native Gateways		ID #: MIT-115	Market: LSE	LSEG Assisted: N
Description: Validate Named orders during Continuous Trading.				
Comments: See Business Parameters for valid segments				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Named order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted Receive Order Acknowledgement in Execution Report		

4.2.19 Order Modification

Type: FIX/Native Gateways	ID #: MIT-116	Market: LSE	LSEG Assisted: N
Description: Validate order Modification during Continuous Trading.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	Enter a passive order that rests on the order book. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and resides on the order book. Receive Execution Report with ExecType = 0 (New)	
2	Amend order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully modified. Receive Execution Report with ExecType = 5 (Replaced)	

4.2.20 Order Cancel

Type: FIX/Native Gateways		ID #: MIT-117	Market: LSE	LSEG Assisted: N
Description: Validate order deletion during Continuous Trading				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a passive order that rests on the order book. Please provide Order ID(s) and Client Order ID in the Certification Report.	The order is successfully submitted and resides on the order book. Receive Execution Report with ExecType = 0 (New)		
2	Cancel the order. Please provide Order ID(s) and Client Order ID in the Certification Report.	The order is successfully cancelled. Receive Execution Report with ExecType = 4 (Cancelled)		

4.2.21 Internal Cross Orders

Type: FIX/Native Gateways		ID #: MIT-118	Market: LSE	LSEG Assisted: N
Description: Validate Internal Cross Orders.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Enter an Internal Cross order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and executed.		

4.2.22 Internal BTF Orders

Type: FIX/Native Gateways		ID #: MIT-119	Market: LSE	LSEG Assisted: N
Description: Validate Internal BTF Orders.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Enter an Internal BTF Cross order. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and executed.		

4.2.23 Committed Cross Orders Deletion

Type: FIX/Native Gateways		ID #: MIT-120	Market: LSE	LSEG Assisted: N
Description: Validate Committed Cross Orders Deletion during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	<p>Enter a Committed Cross order.</p> <p><i>(Assuming that there is no match for the order in the order book.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is successfully submitted and resides on the order book.</p> <p>Receive Execution Report</p>		
2	<p>Cancel the cross order.</p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is successfully cancelled.</p> <p>Receive Execution Report</p>		

4.2.24 Committed BTF Orders Deletion

Type: FIX/Native Gateways		ID #: MIT-121	Market: LSE	LSEG Assisted: N
Description: Validate Committed BTF Orders Deletion during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	<p>Enter a Committed BTF order.</p> <p><i>(Assuming that there is no match for the order in the order book.)</i></p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is successfully submitted and resides on the order book.</p> <p>Receive Execution Report</p>		
2	<p>Cancel the BTF order.</p> <p><i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i></p>	<p>The order is successfully cancelled.</p> <p>Receive Execution Report</p>		

4.2.25 Committed Cross Orders

Type: FIX/Native Gateways		ID #: MIT-122	Market: LSE	LSEG Assisted: N
Description: Validate Committed Cross Orders during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case. Call the testing team to book time for executing this test in co-ordination with a SDA.				
#	Test Steps	Expected Results		
1	Enter a Committed Cross order on Sell side and setup the Cross ID to <membercode>yyyymmddhhmmss (format required only for conformance test purpose) <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted.		
2	SDA enter a Committed Cross order on Buy side having the Cross ID format as previously specified, confirmed by customer <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is matched with other side order and executed. Receive Execution Report		

4.2.26 Committed BTF Orders

Type: FIX/Native Gateways		ID #: MIT-123	Market: LSE	LSEG Assisted: N
Description: Validate Committed BTF Orders during Continuous Trading.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case. Call the service desk to book time for executing this test in co-ordination with a SDA.				
#	Test Steps	Expected Results		
1	Enter a Committed BTF Cross order on Sell side and setup the Cross ID to <membercode>yyyymmddhhmmss (format required only for conformance test purpose) <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted.		
2	SDA enter a Committed BTF Cross order on Buy side having the Cross ID format as previously specified, confirmed by customer <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is matched with other side order and executed. Receive Execution Report		

4.2.27 Cancel On Book Trade (Same Day)

Type: FIX/Native Gateway	ID #: MIT-124	Market: LSE	LSEG Assisted: N
Description: New Order Cross Message			
Comments: Mandatory for Cross Order Functionality			
Prerequisites: Order entered as an Internal Cross and matched Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	Participant enters new Internal Cross Order	The order is successfully submitted and executed Receive Execution Report	
2	Submit same day cancellation via the Post Trade Gateway (AE Message)	Receive Execution Report	

4.2.28 Cancel On Book Trade (Previous Day)

Type: FIX/Native Gateway	ID #: MIT-125	Market: LSE	LSEG Assisted: N
Description: New Order Cross Message			
Comments: Mandatory for Cross Order Functionality			
Prerequisites: Order entered as an Internal Cross and matched Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	Participant enters new Internal Cross Order	The order is successfully submitted and executed Receive Execution Report	
2	Submit a next day cancellation via the Post Trade Gateway (AE Message with <i>TrdSub Type = PC</i>)	Receive Execution Report	

4.2.29 Submit RFQ (Manual model) – Requestor

Type: FIX/Native Gateway		ID #: MIT-126	Market: LSE	LSEG Assisted: Y
Description: Validation of Quote request message sent by Customer for Manual RFQ model				
Comments:				
Prerequisites: This test needs to be executed during Continuous Trading Session Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Request for Quote message FIX: QuoteRequestType 303 = 1 Native: Quote Request Type = 0	The RFQ is successfully submitted Receive Quote Status Report FIX: Receive AI message (Quote Status Report) QuoteStatus 297=0 Native: Receive AI message (Quote Status Report) QuoteStatus = 1		

4.2.30 Submit RFQ (Auto-Complete model) – Requestor

Type:		ID #: MIT-126A	Market: LSE	LSEG Assisted: Y
FIX/Native Gateway				
Comments: Validation of Quote request message sent by Customer for Auto-Complete RFQ model				
Prerequisites:				
This test needs to be executed during Continuous Trading Session				
Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Request for Quote message FIX: QuoteRequestType 303 = 2 Native: Quote Request Type = 1	The RFQ is successfully submitted Receive Quote Status Report FIX: Receive AI message (Quote Status Report) QuoteStatus 297=0 Native: Receive AI message (Quote Status Report) QuoteStatus = 1		

4.2.31 Submit RFQ with a Market Maker Rank – Requestor

Type: FIX/Native Gateway		ID #: MIT-126B	Market: LSE	LSEG Assisted: Y
Comments: : Validation of Quote request message sent by Customer requesting RFQ Market Maker Ranking on Quote Request for the ETP LIS Auto-Complete Winner Takes All RFQ model.				
Prerequisites: This test needs to be executed during Continuous Trading Session Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter a Request for Quote message FIX: QuoteRequestType 303 = 2 MarketMakerRank 27019 = value > 0 Native: Quote Request Type = 1 Market Maker Rank = value > 0	The RFQ is successfully submitted Receive Quote Status Report FIX: Receive AI message (Quote Status Report) QuoteStatus 297=0 Native: Receive c message (Quote Status Report) QuoteStatus = 1		

4.2.32 Response to the RFQ

Type: FIX/Native Gateway		ID #: MIT-127	Market: LSE	LSEG Assisted: Y
Description: Validation of Market Maker response to RFQ				
Comments:				
Prerequisites: This test needs to be executed during Continuous Trading Session Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Market Access Analyst sent two Private RFQ to the customer with a RFQID	Customer receive the Quote request message		
2	Customer (as Market Maker) have to accept one RFQ request and refuse the other (Quote request reject message) Please provide RFQID in the certification report	The Market Maker then can accept the RFQ private (Quote Request) by submitting a Quote or reject the RFQ via a Quote Request Reject message.		
3	Market Access Analyst hit the Quote submitted by the Market Maker	Customer (as Market Maker) receive the execution report		

4.2.33 Requester hits/lifts a RFQ Quote (Manual model only)

Type: FIX/Native Gateway		ID #: MIT-127A	Market: LSE	LSEG Assisted: Y
Description: Requesters can choose a specific quote or trade against best quote as per the Price-Time priority in accordance to the side specified				
Comments:				
Prerequisites: This test needs to be executed during Continuous Trading Session Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Submit a RFQ	The RFQ is successfully submitted		
2	Market Access Analyst will provide a quote for the request	The RFQ Quote is forwarded to the requester		
3	Requester to accept a RFQ Quote. In the Select and Match model, the Price, Bid ID/Offer ID are required. They should not be provided for the "Best Execution" model.	The requester receives confirmation of the trade.		

4.2.34 Cancel On Book Trade (Same Day) - RFQ

Type: FIX/Native Gateway		ID #: MIT-128	Market: LSE	LSEG Assisted: N
Description: RFQ Trade cancellation request				
Comments: Mandatory for RFQ Functionality				
Prerequisites: Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Participant enters new RFQ	The order is successfully submitted and executed Receive Execution Report		
2	Market Access accept the RFQ and responds back to the participant Please provide RFQID in the certification report	The Market Maker then can accept the RFQ private (Quote Request) by submitting a Quote or reject the RFQ via a Quote Request Reject message.		
3	Participant hits the Quote submitted by the Market Access Analyst			
4	Submit a cancellation via the Post Trade Gateway (AE Message with <i>TrdSub Type = PC</i>)	Receive Execution Report (TrdType 828 = 99)		

4.2.35 Cancel on Disconnect

Type: FIX/Native Gateways		ID #: MIT-129	Market: LSE	LSEG Assisted: N
Description: Validate Cancel-on-Disconnect and Logout				
Comments: If a different User ID/Comp ID has been specifically enabled for "Cancel on disconnect/Logout" for this test case please repeat test case MIT-007 first to Logon. Customers are highly encouraged to utilise the Cancel on Disconnect functionality				
Prerequisites Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter 3 passive regular orders that rest on the orderbook. <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The orders are successfully submitted and have a Live order status.		
2	Terminate the client-server session by either TCP disconnect for Cancel on disconnect or Logout for cancel on logout.	Client-server session is terminated. (TCP connection dropped or Logout.)		
3	Establish a connection and Logon.	Successful Logon.		
4	Verify the status of orders submitted in step 1 above.	FIX: Execution reports received for all cancelled orders automatically. Native: Session active with heartbeating		
5	For native trading, the customer must recover the missed messages via the recovery channel manually.	Execution reports received for all cancelled orders from the recovery channel.		

4.2.36 Cancel Client's Order

Type: On behalf of – Fix/Native Gateways		ID #: MIT-130	Market: LSE	LSEG Assisted: Y
Description: Exchange cancels an order on behalf of a customer.				
Comments:				
Prerequisites: Contact LSEG for executing this test in co-ordination with customer. Already logged on from previous Trading test case.				
#	Test Steps	Expected Results		
1	Customer to Enter a passive order that rests on the order book <i>Please provide Order ID(s) and Client Order ID in the Certification Report.</i>	The order is successfully submitted and resides on the order book. Receive Execution Report		
2	Request LSEG to cancel the order, stating the OrderID LSEG cancel the orders as requested.	The order is successfully cancelled. Receive Execution reports with exec type (4).		
3	Customer to confirm receipt of unsolicited messages			

4.2.37 Cancel Client's Quote

Type: On behalf of – Fix/Native Gateways		ID #: MIT-131	Market: LSE	LSEG Assisted: Y
Description: Exchange cancels a quote on behalf of a customer.				
Comments:				
Prerequisites: Contact LSEG for executing this test in co-ordination with customer. Already logged on from previous Trading test case.				
#	Test Steps	Expected Results		
1	Customer enters an executable quote that rests on the orderbook. <i>Please provide QuoteMsgID/ Client Order ID in the Certification Report.</i>	If quoting is supported, quote is submitted and resting on the order book. If quoting not supported move onto step 3.		
2	Request LSEG to cancel the quote stating QuoteMsgIDs LSEG cancel the quotes as requested.	The quote is successfully cancelled. Receive Execution reports with exec type (4).		
3	Customer to confirm receipt of unsolicited messages			

4.2.38 Cancel Client's Trade

Type: On behalf of – Fix/Native Gateways		ID #: MIT-132	Market: LSE	LSEG Assisted: Y
Description: Exchange cancels a trade.				
Comments:				
Prerequisites: Contact LSEG for executing this test in co-ordination with customer. Already logged on from previous Trading test case.				
#	Test Steps	Expected Results		
1	Customer to Enter an aggressive order that trades as <u>fully</u> filled. (OrderStatus = 2) <i>Please provide TradeMatchID, Order ID and Client Order ID in the Certification Report.</i>	The order is successfully submitted and resides on the order book. Receive Execution Report for fully filled		
2	Request LSEG to cancel the trade, providing the TradeMatchID that will be used for this test. LSEG cancel the trade	The trade is cancelled. Customer receives Execution Report for trade cancellation. Customer receives 2 nd Execution Report for the Order which is also cancelled.		
3	Customer to Enter an aggressive order that trades as partially filled. (OrderStatus = 1) <i>Please provide TradeMatchID, Order ID and Client Order ID in the Certification Report.</i>	The order is successfully submitted and resides on the order book. Receive Execution Report for partial fill		
4	Request LSEG to cancel the trade, providing the TradeMatchID that will be used for this test. LSEG cancel the trade	The trade is cancelled. Customer receives Execution Report for trade cancellation. Customer receives 2 nd Execution Report for the Order with the new quantity restated as follows: OrigQty – PartialTradedQty		

4.2.39 New Executable Quote

Type: FIX/Native Gateways		ID #: MIT-133	Market: LSE	LSEG Assisted: N
Description: Validate Executable quote submission.				
Comments:				
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case				
#	Test Steps	Expected Results		
1	Enter an Executable quote that rests on the order book <i>Please provide QuoteMsgID/ Client Order ID in the Certification Report.</i>	The quote is successfully submitted. FIX: Receive Quote Status Report Native: Receive Execution report for each side of quote.		

4.2.40 Modify Executable Quote

Type: FIX/Native Gateways	ID #: MIT-134	Market: LSE	LSEG Assisted: N
Description: Modify Executable quote.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.			
#	Test Steps	Expected Results	
1	<p>Enter an Executable quote that rests on the order book</p> <p><i>Please provide QuoteMsgID/Client Order ID in the Certification Report.</i></p>	<p>The quote is successfully submitted.</p> <p>FIX: Receive Quote Status Report</p> <p>Native: Receive Execution report for each side of quote.</p>	
2	<p>Modify the quote.</p> <p>(Please note for both FIX and Native a quote is amended by entering another quote. This replaces the existing quote on the quote book as you can only have one quote on the book for any given instrument.)</p> <p><i>Please provide new QuoteMsgID/Client Order ID in the certification report.</i></p>	<p>The quote is successfully amended.</p> <p>(Replaced with new quote)</p> <p>FIX: If the quote rests on the order book, a Quote Status Report is recieved <i>If the quote is fully or partially filled, Execution Report(s) are recieved (please provide CIOrdIDs)</i></p> <p>Native: Receive Execution report for each side of quote.</p>	

4.2.41 Cancel Executable Quote

Type: FIX/Native Gateways	ID #: MIT-135	Market: LSE	LSEG Assisted: N
Description: Cancel Executable quote.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.			
#	Test Steps	Expected Results	
1	<p>Enter an Executable quote that rests on the order book</p> <p><i>Please provide QuoteMsgID/Client Order ID in the Certification Report.</i></p>	<p>The quote is successfully submitted.</p> <p>FIX: Receive Quote Status Report</p> <p>Native: Receive Execution report for each side of quote.</p>	
2	<p>Cancel the quote just entered.</p> <p>FIX: Send Quote Cancel message</p> <p>Native: Send Order Cancel Request messages</p>	<p>The quote is successfully cancelled.</p> <p>FIX: Receive Quote Status Report</p> <p>Native: Receive Execution Report for each quote side cancelled.</p>	

4.2.42 New Firm Quote (FIX Only)

Type: FIX Gateway	ID #: MIT-136	Market: LSE	LSEG Assisted: N
Description: Validate Firm quote submission.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.			
#	Test Steps	Expected Results	
1	Enter a Firm quote. <i>Please provide QuoteMsgID in the certification report.</i>	The quote is successfully submitted. Receive Quote Status Report	

4.2.43 Modify Firm Quote (FIX Only)

Type: FIX Gateway	ID #: MIT-137	Market: LSE	LSEG Assisted: N
Description: Modify Firm quote.			
Comments:			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	<p>Modify Firm Quote entered in MIT-048</p> <p>Please note: As you can only have one quote for any given instrument, a firm quote is modified by sending a new quote which replaces the existing quote.)</p> <p><i>Please provide new QuoteMsgID in the Certification Report.</i></p>	Receive Quote Status Report	

4.2.44 Cancel Firm Quote (FIX Only)

Type: FIX Gateway	ID #: MIT-138	Market: LSE	LSEG Assisted: N
Description: Cancel Firm quote.			
Comments:			
Prerequisites: This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case			
#	Test Steps	Expected Results	
1	Cancel the quote entered in MIT-048	The quote is successfully cancelled. Receive Quote Status Report	

4.2.45 Mass Cancellation

Type: FIX	ID #: MIT-139	Market: LSE	LSEG Assisted: N
Description: Validate Mass Cancellation orders for member firm			
Comments: Mass Cancellation does not cancel orders in Trading Stop Session status.			
Prerequisites This test needs to be executed during Continuous Trading session. Already logged on from previous Test Case.			
#	Test Steps	Expected Results	
1	<p>Enter Mass Cancel request for member firm.</p> <p><i>Orders in Trading Stop Session are not cancelled.</i></p> <p><i>(Assuming there is at least one order in the order book. If there are no orders in the order book, please request to another user to create it.)</i></p>	<p>The Mass Cancel is successfully executed.</p> <p>Receive Order Mass Cancel Report</p> <p><i>Orders in Trading Stop Session are not cancelled.</i></p>	

4.2.46 Requesting Missed Messages – Native Only

Type:		ID #: MIT-140	Market: LSE	LSEG Assisted: N
Native Recovery Gateway				
Description:				
This test case validates that native recovery works by sending a Missed Message Request for all AppIDs (LoadIDs)				
Comments:				
The same CompID and password must be used for both Native Trading and Native Recovery services.				
Prerequisites:				
Already logged on to the Native Trading Gateway from previous trading test case.				
Cancel-on-Disconnect needs to be enabled on the CompID used for testing. (Or send a request to LSEG to cancel your open orders on your behalf while the CompID is disconnected from the Exchange.)				
#	Test Steps	Expected Results		
1	Enter 3 passive orders that rest on the orderbook, one on each LoadID. <i>(the LoadID for each instrument can be obtained from the Instrument.csv reference data file.)</i>	3 orders are now resting on the orderbook, one on each LoadID (also known as AppID and PartitionID).		
2	If cancel-on-disconnect is enabled: drop the connection Otherwise: Logout the CompID. Contact LSEG and request them to cancel the open orders on your behalf	While the CompID is disconnected, the open orders are cancelled		

3	<p>Wait 30 seconds, and then establish a connection to the Native Gateway real-time channel</p> <p><i>(This needs to happen before connecting to the recovery channel)</i></p>	<p>Successful logon to the Native Gateway real-time channel.</p>
4	<p>Establish a connection and Logon to the Native Recovery Channel</p>	<p>Successful logon to the Native Gateway recovery channel</p>
5	<p>Send a Missed Message Request for LoadID 1 (also known as AppID 1) specifying the LastMsgSeqNum that is known for that LoadID.</p>	<p>Missed Message Request Is Sent</p> <p>Missed Message Request Ack received with ResponseType=0 (Successful)</p> <p>Execution Report(s) received for each cancelled order</p> <p>Missed Message Report received with ResponseType=0 (Download Complete)</p>
6	<p>Repeat Step 5 for all other LoadIDs</p>	<p>Step 5 is repeated for LoadID 2 and LoadID 3.</p>
7	<p>Logout from the Native Recovery service within 3 heartbeat intervals</p> <p><i>(The server with disconnect customer connection if there is no activity for 3 heartbeat intervals)</i></p>	<p>Logout successful and Recovery session terminated</p> <p>Connection to the Realtime Channel should remain active and heartbeating.</p>

4.3 Post Trade Gateway Validation

1.1.1 Establish Logon for Test Cycle

Type: Post Trading Gateway		ID #: MIT-200	Market: LSE	LSEG Assisted: N
Description: Establish a connection and Logon.				
Comments:				
Prerequisites None.				
#	Test Steps	Expected Results		
1	Establish a connection and Logon to the Post Trade Gateway.	Successful Logon.		

1.1.1 Own Trade Book Download

Type: Post Trading Gateway		ID #: MIT-201	Market: LSE	LSEG Assisted: N
Description: Validate Own Trades Book Download.				
Comments:				
Prerequisites Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Send a Trade Capture Report Request. <i>Please provide TradeRequestID in the Certification Report.</i>	Receive a Trade Capture Report Request Ack Receive Trade Capture Report(s) as requested		

4.4 Drop Copy Validation

1.1.1 Establish Logon for Test Cycle

Type: Drop Copy Gateway	ID #: MIT-300	Market: LSE	LSEG Assisted: N
Description: Establish a connection and Logon.			
Comments:			
Prerequisites None.			
#	Test Steps	Expected Results	
1	Establish a connection and Logon to the Drop Copy Gateway.	Successful Logon.	

4.4.1 Own Order Book Download

Type: Drop Copy Gateway		ID #: MIT-301	Market: LSE	LSEG Assisted: N
Description: Validate Own Order Book Download				
Comments:				
Prerequisites: Already logged on from previous Test Case.				
#	Test Steps	Expected Results		
1	Send a Mass Order Status Request. <i>Please provide MassStatus ReqID and the Trader Group in the Certification Report</i>	Receive Execution Report for each active order for the specified Trader Group.		

4.5 Tests for new Software Applications Only

4.5.1 Error Handling

Type: Error Handling	ID: MIT-400	Market: LSE	LSEG Assisted: Y
<p>Description:</p> <p>Verifying Logon after Suspension / Un-suspension of UserID.</p>			
<p>Comments: Mandatory Only for New Software</p> <p>This test case needs to be repeated for every interface/service the customer subscribes to, i.e. a customer needs to repeat the steps below for each Gateway. This test needs to be completed (where applicable) for the services listed below:</p> <ul style="list-style-type: none"> • FIX Gateway • Native Gateway • Native Recovery • Drop Copy Gateway • Post Trade Gateway • Group Ticker Plant Replay Service (any one channel) • Group Ticker Plant Recovery Service (any one channel) <p>When executing this test case for Market Data Services, please choose any one channel to connect to and provide details in the comments section of the Certification Report.</p>			
<p>Prerequisites:</p> <p>CompID / UserID is logged off</p>			
#	Test Steps	Expected Results	
1	Request LSEG to suspend the CompID.	CompID is suspended.	
2	<p>Establish a connection and Logon to the applicable Gateway(s).</p> <p>Customer to verify the reject message.</p>	<p>Logon is rejected.</p> <p>Customer application should automatically stop trying to logon and display the reason the logon was unsuccessful.</p>	
4	Verify application behaviour conforms to the connectivity policy as outlined in the Technical Specification	Customer application attempts to connect a maximum of 3 times to the primary gateway with a minimum timeout value of 3 seconds between attempts before attempting to connect to the secondary gateway – and this should be	



		retried a maximum of a further 3 times.
5	Request LSEG to un-suspend CompID	CompID un-suspended
6	Establish a connection and Logon Gateway	Successful Logon

4.5.2 Password Change

Type: FIX/Drop Copy/Post Trade/Native		ID #: MIT-500	Market: LSE	LSEG Assisted: N
Description: Log on to the gateway and change the logon password from the system default.				
Comments: Mandatory for new software applications only				
Prerequisites: None.				
#	Test Steps	Expected Results		
1	<p>Establish a connection and Logon to the relevant gateway(s).</p> <p>In your logon message, specify a new password of at least eight characters in length including one integer.</p> <p><i>(please provide details of CompID(s) and gateway(s) tested in the comments section of the Certification report.)</i></p>	Successful Logon, with current default password and a valid new password specified.		
2	Logout and Disconnect.	Logout message sent by client and connection terminated.		
3	Logon using the new password.	Successful Logon, using the new password specified in step 1.		

4.5.3 Heartbeat Exchange

Type: FIX Session Testing		ID #: MIT-501	Market: LSE	LSEG Assisted: Y
Description: The client and the server are exchanging Heartbeat messages during the period of client's inactivity.				
Comments: Mandatory Test for new FIX software applications only				
Prerequisites: Customer application can suspend sending all messages except heartbeats. (Heartbeats are only sent during periods of inactivity).				
#	Test Steps	Expected Results		
1	<i>Document the time of test execution start in the Certification report.</i>			
2	Establish a connection and Logon to the Gateway.	Successful Logon.		
3	Stay inactive, i.e. make sure that there are no client initiated messages sent to the server. Make sure there are no unexpected disconnects within reasonable (a few minutes) timeframe.	There are no client initiated messages sent to the Gateway. Gateway is sending Heartbeat messages to the client. Client is sending Heartbeat messages to the Gateway.		
4	<i>Document the time of test execution end in the Certification Report and document whether or not disconnects happen during test execution.</i>			

4.5.4 Sequence Reset

Type: FIX Session Testing		ID #: MIT-502	Market: LSE	LSEG Assisted: Y
Description: FIX message Sequence Reset.				
Comments: Mandatory Test for new FIX software applications only				
Prerequisites: None				
#	Test Steps	Expected Results		
1	<i>Document the time of test execution start in the Certification report.</i>			
2	Establish a connection and Logon to the Gateway.	Successful Logon.		
3	<p>Make sure that the client and Server are exchanging Heartbeat messages.</p> <p>Send a Sequence Reset message MsgType=4.</p> <p>Make sure that the value of the NewSeqNo tag is greater than the sequence number of the latest incoming Heartbeat message.</p>	<p>Gateway is sending Heartbeat messages to the client.</p> <p>Client is responding to Heartbeat messages sent by the server.</p> <p>Gateway resets messages sequence number to the value specified in NewSeqNo tag sent by the client.</p>		
4	<i>Document the time of test execution end in the Certification Report.</i>			

4.5.5 Sequence Reset at Logon

Type: FIX Session Testing	ID #: MIT-503	Market: LSE	LSEG Assisted: Y
Description: FIX messages Reset initiated by the client at Logon.			
Comments: Mandatory Test for new FIX software applications only			
Prerequisites: None			
#	Test Steps	Expected Results	
1	<i>Document the time of test execution start in the Certification Report.</i>		
2	Establish a connection and Logon to the Gateway.	Successful Logon.	
3	Make sure that the client and Server are exchanging Heartbeat messages and inbound and outbound MsgSeqNum is > 10.	Server is sending Heartbeat messages to the client. Client is sending Heartbeat messages to the server.	
4	Disconnect from the server.	FIX session is terminated.	
5	Client to set the next expected inbound and outbound MsgSeqNumbers to 1. Send a Logon message with ResetSeqNumFlag tag set to "Y".	Server is responding with a Logon message with the ResetSeqNumFlag tag set to "Y". Messages sequence is reset to "1". Server and Client sending heartbeat messages	
6	<i>Document the time of test execution end in the Certification Report.</i>		

4.5.6 Resend Request

Type: FIX Session Testing		ID #: MIT-504	Market: LSE	LSEG Assisted: Y
Description: Client Resend Request.				
Comments: Mandatory Test for new FIX software applications only				
Prerequisites: Customer application needs to support manually setting the next expected inbound MsgSeqNum (tag34).				
#	Test Steps	Expected Results		
1	<i>Document the time of test execution start in the Certification Report.</i>			
2	Establish a connection and Logon to the Gateway.	Successful Logon.		
3	Submit an order that results in a fully filled trade Note down the Message Sequence number received for this execution report.	The trade execution report received.		
4	Submit a Logout request	Logout acknowledged by gateway		
5	Customer to manually set their next expected inbound MsgSeqNum to the value obtained in step 3	Customer application's next expected inbound MsgSeqNum reconfigured.		
6	Reconnect and log on.	Logon successful.		
7	Customer application should detect a sequence number gap and send a Resend Request (MsgType=2) with tags BeginSeqNo and EndSeqNo set to the value obtained in step 3	Gateway will resend the Execution Report back to the client, with PossDup(43)=Y. Gateway will send a SeqReset with the next expected sequence number in tag 36. Session should remain active with heartbeats being exchanged.		
8	<i>Document the time of test execution end in the Certification Report.</i>			

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