

SOLA Derivatives

Guide to Certification (SAIL)

Certification Guide

Issue 2.1

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Certification Guide

Disclaimer

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1.0 Introduction

1.1 Purpose

The purpose of this document is to provide customers with a detailed overview of the Certification service across the eligible London Stock Exchange Group venues London Stock Exchange and Borsa Italiana.

The SAIL Certification Test Cases Guide provides test cases for participants and independent software vendors for the certification of their application in order to interface with SOLA using the native SOLA Access Information Language (SAIL) Protocol

1.2 Readership

The target audience for these publications is anyone working at either the business or Information Technology (IT) level of an organisation interested in certification for the SOLA trading platform.

1.3 Document History

This document has been through the following iterations:

Issue	Date	Description
1.0	30/09/2013	Initial Issue
1.1	08/07/2015	
1.2	16/03/2016	Annual Certification procedure and contacts
1.3	23/01/2017	Certification Test Scenarios: 4.7.34; 4.9.36; 4.17.3; 4.19; 4.20.
1.4	15/03/2017	Review Certification Test Scenarios
1.5	16/08/2017	Review Certification Test Scenarios New Test cases: ORD-29, ALR-02, TRD04, TRD-05 Certification policy updated New Passport policy
1.6	05/08/2017	Certification policy updated Review Certification Test Scenarios New Test cases: ORD-30, ORD-31, BUQ-04a, BUQ-04b, BUQ-04c
1.7	12/03/2018	Review of test cases ORD-24 and ORD-26 ORD-25 and ORD-27 have been modified according to the new Deferred Publication functionality New test case: BO-06
1.8	26/06/2019	Rebranding
1.9	26/06/2019	SOLA Version update
2.0	16/09/2019	SOLA Version update
2.1	28/12/2020	SOLA Version update New Test cases: ORD-32, ORD-33, ORD-34

In subsequent issues, where amendments have been made to the previous version, these changes will be identified using a series of side bars as illustrated opposite.

1.4 Contacts

Please contact Market Access Italy if you have any functional questions about SOLA platform functionalities detailed in this document.

- Phone: 0039 02 72426668
- Email: market-access@borsaitaliana.it

2.0 Certification Programme

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

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) 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 Mandatory Certification Requirements

Customer confirms that the certified trading application is fully conformant to all aspects of the Technical Specifications. Customer also confirms that its application has in place the following controls:

- limits on transaction per second sent by Trading sessions
- limits on order quantity and order countervalue
- ✓ order and trade price limits against static and dynamic controls prices

2.4 Certification Policy

Customers are required to certify or re-certify their applications under the following conditions:

- Prior to use the application in the live environment (for new applications);
- ✓ The customer modifies the software in any way that directly impacts LSEG interfaces. This includes but is not limited to updates to Gateways, Order Management, Execution Management and Quote Management Software;
- ✓ The Exchange upgrades its production environment to a later version of software;

✓ The customer is requested to re-certify their application by the relevant venue.

If no certifications have been performed during a solar year (because any of the previous conditions occurred), the customer will be asked to self-certify (by sending an email to the relevant Trading Venue team that look after certifications) that no changes have been applied to the application since the last certification.

2.5 Test Scenario Exception Policy

Customers only need to complete the test cases relating to the functionalities 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 and reported in the certification report.

2.6 Passport across LSEG Venues

The Group is pleased to confirm that upon successful certification against one of the venues IDEM, CurveGlobal markets Equity Derivatives or Interest Rate Derivatives, the certified application will be permitted to access all SOLA Production systems – London and Milan, according with the membership agreement currently in place.

However, please be aware that in order for the passport to be applicable, the certified functionalities must be the same across all the venues where the customer wishes to connect to with the same application software.

2.7 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.

2.8 Self Certification Email

If no certifications have been performed during a solar year (because any of the conditions reported in §2.4 occurred), the customer will be asked to self-certify (by sending an email) that no changes have been applied to the application since the last certification.

Email confirmation should be sent to Market-access@borsaitaliana.it

2.9 Test Charges

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

3.0 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 Italy** to book a certification test slot providing the Sotware name, version and gateway interfaces.
- The Market Access team will forward the relevant Certification Test Report to the customer.

Before Taking the Test

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

Customers must identify the venue and the test scenarios supported by their application, by ticking the relevant boxes on the Certification Test Report. The report form must then be sent to: <u>Market-access@borsaitaliana.it</u>

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 4 and inform Market Access Italy when this has been completed. If required some limited support can be provided during this phase.

Customers should record the test results on the Full Certification Test Report using the test procedure shown at the start of section 4. Customers are required to complete all test scenarios previously marked on the Full Certification Test Report within a trading day. 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.

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 should be addressed to <u>Market-access@borsaitaliana.it</u>

After the Test

After the test the tester will check the details on the completed Full 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 retesting is required, the report will be sent to the customer to sign off the application as fit for purpose and ready for production access.

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 Full Certification Test Report the customer is confirming that their application is fully conformant to all aspects of the SOLA Platform Technical Specifications and technically behaves as described in the guidance given in the technical specification.

4.0 Certification Test Scenarios

4.1 Test Procedure

Before proceeding with the certification test, customers must send the Certification Report to <u>market-access@borsaitaliana.it</u> and ask for an available date to schedule the conformance test session.

The certification report must contain the following information:

• Sotware name, version and gateway interfaces

- which functionalities are supported by the software
- the Venue where the test will be run and the Venue(s) the software connects to

Customers must perform all of the steps in each of the test scenarios reported in this document and record the results in the relevant sections of the Test Report.

A Certification report will be run after the customer has confirmed a successful run of their application on the CDS.

The report will extract all the relevant functions performed by the application and presented them in a format to be reviewed by the testing team to confirm a pass or fail.

Prior to the report being run the customer will be required to confirm the **venue**, the **gateway interfaces** they are certifying and the **userIDs** they are using for each gateway. This will be detailed in the supporting certification report (detailed below) submitted by the customer. The reporting tool will use this information to extract all behaviour for a given time period.

Considerations for the report are listed below.

- 1. The report will be run against any of the interfaces at once or against each separate interface individually depending on the customer application.
- 2. The report will be run specifying a time range limited to a single day.
- 3. The report will extract all message interface behaviour and represent this in a readable format in order to identify a successful set of functional testing.
- 4. The report will identify if the session was maintained for the entire period or if it dropped.
- 5. The report will check for any and all errors produced over the time period.
- 6. The report will be sent to the customer to sign off the application as fit for purpose and ready for production access.
- 7. The customer is responsible for any information declared on the signed-off Certification Test Report.

4.2 Submitting execution report and notifying result

The Customer has to run the Self Certification tests (not coordinated), the Certification Report tests (coordinated) in coordination with the testing team and mark the result of test cases on Certification Report.

At the end of the Self Certification and Certification Session the Customer should consolidate the Certification Report and send a copy of it to the testing team at <u>Market-access@borsaitaliana.it</u>

The testing team will verify the reports within 1-3 business days.

The testing team will then send back the result of the test (PASS or FAIL) and the Certification Report for final customer sign-off.

Final sign off by the customer should be sent to Market-access@borsaitaliana.it.

4.3 Certification Instruments

Instruments involved in the various certification test cases are identified as INST1 to INST22. These symbols may refer to any instrument available in the SOLA test environment. According to the client requirements, the list of instruments to be used may either be formally defined prior to the certification or "on the fly" as the certification goes.

Symbols GRP1 and GRP2 may refer to any instrument group available in the SOLA test environment. Symbol GRP1 may refer to any strategy instrument group. As for instruments, the list of groups to be used may either be formally defined prior to the certification or "on the fly" as the certification goes, in accordance with the client's requirements

The price and quantity specified in the test case description are indicative.

Customer must follow the prices and quantities accepted for the instrument on which it operates

4.4 Terminology

Term	Definition
Client	Refers to a computer system able to interact with the SOLA trading platform and to support the specific range of functionalities required by the firm's trading activities.
Instrument	A specific tradable option or future or strategy. For options, there are two instruments for each underlying, expiry month and strike price combination: one put and one call.
Instrument group	Refers to all instruments with the same underlying.

4.5 Technical Test Cases

4.5.1 Establishing a SAIL session

ID #: TEC	-01 Type: Technica	l Requireme	nt: Mandatory	Co-ordinated Test: N		
Descriptio	Description: Establishing the first SAIL connection of a trading session.					
Comment	s: First Time User Connection (M	lessage Type TC).				
Prerequis	sites					
None.						
		Expected Resu	Ilts			
#	Test Steps	Trading Engine (SAIL)	Responses	Market Information (HSVF)		
1	Client: Connects to SOLA.	Connection esta	ablished.			
	Sends a TC message.	Sends a TK me	ssage			
	[Exchange Message ID: 0]	[User sequence	ID: 0]			
2		Sends a Heartb	eat message question.			
		Sends a TH me	ssage			
3	Client: Sends a Heartbeat response within the specified timeframe [Inactivity Interval] value sent in the connection message (TC). Sends a TI message					

4.5.2 Terminating a SAIL session

ID #: TE	C-02	Type: Technical	Requirement:	Mandatory	Co-ordinated T	est: N
Descripti	Description: Terminating a SAIL session					
Commer	Comments: User's Disconnection Request (Message Type TD)					
Prerequi	isites					
Executio	n of test case TE	EC-01				
			Expected Results			
#	# Test Steps		Trading Engine Resp (SAIL)	onses	Market Information (HSVF)	
1	Client: Discon	nects from SOLA.	Connection is terminat	ed.		
	Sends a TD m	nessage	Sends a TL message			

4.5.3 Restarting a SAIL session

ID #: TE	C-03 Type: Technical	Requirement: Mandatory	Co-ordinated Test: N			
	Description: User Reconnection during the session – Retransmission from next message.					
Prerequ						
	Test Steps	Expected Results				
#		Trading Engine Responses (SAIL)	Market Information (HSVF)			
1	Client: Reconnects to SOLA. Sends a TC message with a blank Exchange Message ID: [Exchange message ID: " "]	Sends an arbitrary number of messages and the connection is re-established. Sends a TK message: [User sequence ID != next expected User sequence ID]				

4.5.4 Disconnection Instruction Management – Exchange Disconnection

ID #: TI	EC-04 Type: Technical	Requirement: Optional	Co-ordinated Test: N			
Descrip	Description: Disconnection Instruction Management – Disconnection by Exchange; outstanding quotes are cancelled.					
Comme	ents: None.					
Prereq	uisites					
None.						
		Expected Results				
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)			
1	Client: Connects to SOLA.	Connection established.				
	Sends a TC message:	Sends a TK message				
	[Exchange Message ID: 0]					
	[Inactivity Interval: 1]					
2	Client: Active Y(ON)					
3	Client: Specifies disconnection instructions.	Disconnection Instruction is accepted.				
	Sends a TA message:	Sends a TM message				
	[Disconnection Instruction: Q]					
4	Client: Sends a few quotes.	Quotes are accepted.	Quote or Market Depth sent.			
	Sends several Q <i> messages</i>	Sends several LA messages	Several /FFF or H/HF messages are sent.			
			For strategy: Several FS or HS message are sent			
5	Client: Stops flow of client messages for longer than the	SOLA disconnects client and cancels all outstanding quotes.	Quote or Market Depth sent.			
	"Inactivity Interval" period defined	cancels an outstanding quotes.	Several F/FF or H/HF messages are sent.			
	in the TC message of this connection.		For strategy: Several FS or HS message are sent			
6	Client: Reconnects and receives	Connection accepted.				
	missed messages.	Sends a TK message				
	Sends a TC message: [Exchange message ID: " "]	Quotes cancellation notice is				
	[Exchange message ID:]	sent. Sends an KG message				
		Condo an NO message				

4.5.5 Disconnection Instructions Management – Client Disconnection

ID #: TE	C-05 Type: Technic	al Requirement: C	ptional	Co-ordinated Test: N		
Descript	Description: Disconnection Instruction Management – Disconnection by Client; outstanding quotes are cancelled.					
Commer	nts: None.					
Prerequ	isites					
None.						
		Expected Results				
#	Test Steps	Trading Engine Respon (SAIL)		larket Information HSVF)		
1	Client: Specifies disconnection instructions.	Disconnection Instruction accepted.	is			
	Sends a TA message:	Sends a TM message				
	[Disconnection Instruction: Q]					
2	Client: Active Y(ON)					
3	<u>Client:</u> Sends a few quotes.	Quotes are accepted.				
3	Sends several Q <i> messages</i>	Sends several LA messa	aes			
4	Client: Disconnects.	Disconnection is accepte	0	Quote or Market Depth sent.		
	Sends a TD message	Sends a TL message		everal /FFF or H/HF messages are sent.		
		All outstanding quotes ar cancelled.	e F	or strategy: Several FS or HS message are sent		
5	<u>Client:</u> Reconnects and receive	Connection accepted.				
5	missed messages.	Sends a TK message				
	Sends a TC message:	Quotes cancellation notic sent. Sends an KG mess				
	[Exchange message ID: " "]	Sent. Sentas an NG Mess	aye			

4.5.6 Disconnection Instruction Management – Quotes not Cancelled

ID #: TEC	-06 Type: Technical	Requirement: Optional	Co-ordinated Test: N			
Descriptio	Description: Disconnection Instruction Management – Disconnection by Client; outstanding quotes are not cancelled					
Comment	s: Instruction to cancel quotes is	removed				
Prerequis	sites					
Execution	of test case TEC-05					
		Expected Results				
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)			
1	Client: Specifies disconnection instructions.	Disconnection Instruction is accepted.				
	Sends a TA message: [Disconnection Instruction: Q]	Sends a TM message				
2	Client: Active N(OFF)					
3	<u>Client:</u> Sends a few quotes. Sends several Q <i> messages</i>	Quotes are accepted. Sends several LA messages	Quote or Market Depth sent.Several F/FF or H/HF messages are sent.For strategy: Several FS or HS message are sent			
4	<u>Client:</u> Disconnects. Sends a TD message	Disconnection is accepted; outstanding quotes are not cancelled. Sends a TL message				
5	<u>Client</u> : Reconnects. Sends a TC message	Connection is accepted. Sends a TM message				

4.5.7 Sequence Resynchronization

ID #: TEC	-07	Type: Technical	Requirement: Mandatory	Co-ordinated Test: N		
Descriptio	Description: Re-synchronization from out of sequence situation.					
Comment	ts: None.					
Prerequi	sites					
Client mu	st be disconn	ected.				
			Expected Results			
#	Test Steps	3	Trading Engine Responses (SAIL)	Market Information (HSVF)		
1	Sends a T	nects to SOLA C message: Message ID: 0]	Connection established. Sends a TK message			
2	quote.	ds an order or a lence ID: z]	Message is out of sequence. Client is disconnected. Client must reconnect. Sends a TO message: [Received User Sequence ID: z] [Expected User Message ID: x]			
3	Client: Rec		Re-connection and Disconnection Instructions are accepted. Sends a TK			
4	quote.	ds an order or a lence ID: x]	Message is in sequence. Order or quote is accepted.			

4.5.8 End of Transmission

ID #: TE	C-08	Type: Technical	Requirement:	Mandatory	Co-ordinated Test: N			
Descripti	Description: End of Transmission							
Commer	nts: None.							
Prerequ	isites							
Executio	n of test case TE	C-01						
			Expected Results					
#	Test Steps		rading Engine Resp SAIL)		Market Information (HSVF)			
1	<u>Client</u> : Sends Transmission end of the trad	message at the	Sends a TT message					
	Restart SAIL F gateway.	Front End						

4.6 Unsolicited Service Test Cases

4.6.1 Group Status Change Notification

ID #: UN	IS-01 Type: Unsolicit	Type: Unsolicited Services		Optional	Co-ordinated Test: N				
Descript	Description: Group State Change Notification								
Commer	Comments: None.								
Prerequ	isites								
Choose	Choose a Group and change the status of the group.								
		Expected F	Expected Results						
#	Test Steps	Trading Er (SAIL)	Trading Engine Responses (SAIL)		t Information)				
1	Client: Is connected and has requested to receive NG message type.								
2		instrument	G message when a group change from f** to Continuous		Status Updated. message is sent				

4.6.2 Instrument State Change Notification

ID #: UN	IS-02 Type: Unsolicited	I Services	Requirement:	Optional	Co-ordinated Test: N			
Descript	Description: Instrument State Change Notification							
Commer	Comments: None.							
Prerequ	isites							
Choose	Choose an instrument and change the status of the instrument.							
		Expected Resu	lts					
#	Test Steps	Trading Engine Responses (SAIL)		Market Infor (HSVF)	rmation			
1	Client: Is connected and has requested to receive NI message type.							
2		Sends an NI me instrument grou pre-opening** to Trading	p change from	An F/FF or H	arket Depth sent. I/HF message is sent FS or HS message is sent			

4.6.3 Bulletin Message

ID #: UI	NS-03	Type: Unsolicited Services		Requirement:	Optional	Co-ordinated Test: Y		
Descrip	Description: Bulletin message (Market Supervision message) sent from							
Comme	Comments: None.							
Prerequ	uisites							
MOC er	MOC enters a bulletin to be disseminated to market participants							
			Expected Results					
#	Test Steps		Trading Eng (SAIL)	ine Responses	Market In (HSVF)	formation		
1	Client: Is conr	nected on HSVF						
2	BIT: sends a b to the clients	oulletin messages			Bulletin m An L mess	essage. sage is sent		

4.7 Order Creation Test Cases

4.7.1 Market Top order

ID #: O	2D-01 Type: Order Creation		n Requirement:	Optional	Co-ordinated Test: N				
Descrip	Description: Entering a Market Top order.								
Comme	ents: None.								
Prerequ	uisites								
The boo	ok for instrument IN	NST1 must be set to [B	uy 12@2.00 – Sell 10@2.50]; no other orders n	nust be in the book.				
2. Grou	p for instrument IN	IST1 must be in 'Contin	uous Trading' mode.						
		E	Expected Results						
#	Test Steps		Trading Engine Responses (SAIL)	Market In (HSVF)	formation				
1	Client: Enters a order for 20 co instrument INS Sends an OE r [Price type: M]	ntracts for IT1. nessage: J	Drder is booked. Sends a KE message Drder is partially/full filled Sends 1 NT message For Strategy Sends 1 NT message and 1 NL message per leg	An F/FF o For strate Trade se A C/CF m Strategy: A CS mes	Market Depth sent. or H/HF message is sent ogy: FS or HS message is sent nt. nessage is sent ssage is sent nessage per leg is sent				

4.7.2 Limit Order

ID #: OR	ID #: ORD-02 Type: Order Creation		Requirement:	Mandatory	Co-ordinated Test: N			
Descript	Description: Entering a limit order. The order opens the position.							
Comme	nts: None.							
Prerequ	isites							
1. The b	ook for instrument INST1	must be set to [Buy 12	2@0.10 – Sell 10@0	.20].				
2. Group	o for instrument INST1 mu	st be in 'Continuous T	rading' mode.					
		Expecte	Expected Results					
#	Test Steps	Trading (SAIL)	J Engine Response	s Mar (HS)	ket Information VF)			
1	Client: Enters a Buy ord 15@0.20, Open Positic instrument INST1. Sends an OE message [Open/Close: O] [Price type: L]	on, for Sends a c: The ord Sends for Stra Sends for Stra	booked. a KE message er is partially/fully tra 1 NT message ategy 1 NT message and ressage per leg	An H Ided. For Tra A C, Stra A C.	ote or Market Depth sent. =/FF or H/HF message is sent strategy: FS or HS message is sent de sent. /CF message is sent tegy: S message is sent /CF message per leg is sent			

4.7.3 Opening Order

ID #: OR	RD-03 Type: Order Creati	on Requirement:	Mandatory	Co-ordinated Test: N					
Descript filled in.	Description: Entering an opening order (price Type: "O") during the pre-opening** phase. The order will participate to the auction and totally filled in.								
Comme	Comments: None.								
Prerequ	iisites								
The boo	k for instrument INST1 must be set to) [Buy 12@200.00 – Sell <u>10@2</u>	<u>:01.50</u>].						
Group fo	or instrument INST1 must be pre-ope	ning** phase							
		Expected Results							
#	Test Steps	Trading Engine Responses (SAIL)	s Market Ir (HSVF)	nformation					
1	Client: Enters a Sell order 12@ opening price, Close Position, for instrument INST1.Sends an OE message: [Price type: O] [Duration Type: F] [Open/Close: C] the status of the instrument changes from Pre-opening to Opening	Order is booked. Sends a KE message The order is traded at openir price, during the auction pha Sends 1 NT message	An F/FF of strate	⁻ Market Depth sent. or H/HF message is sent egy: FS or HS message is sent nt. nessage is sent					

4.7.4 Limit Order during Pre-Opening Phase

ID #: OR	RD-04	Type: Order Creation	Requirement:	Mandatory	Co-ordinated Test: N			
Descript	Description: Entering a limit order (price Type: "L") during the pre-opening** phase. The order will partially participate to the auction.							
Comme	Comments: None.							
Prerequ	Prerequisites							
	The book for instrument INST1 must be set to [Buy 12@200.00 – Sell <u>10@201.50</u>]. Group for instrument INST1 must be pre-opening** phase							
		Exp	Expected Results					
#	Test Steps	Tra (SA	iding Engine Responses AIL)	Market Information (HSVF)				
1	<u>Client</u> : Enters a opening price, S message: [Price type: L] The status of the changes from P Opening	Sends an OE Ser The pric e instrument pas re –opening to	der is booked. nds a KE message e order is traded at openin ce. Remaining quantity will ss into continuous trading nds 1 NT message	0	essage is sent HS message is sent			

4.7.5 Passive Limit Order

ID #: OR	D-05 Type: Order Creation	n	Requirement:	Optional	Co-ordinated Test: N				
Descript	Description: Entering a limit order that gets booked. The order is good until a specific date.								
	Comments: This test is to validate that the client application is using the right date format, namely 'YYYYMMDD'. Represents the order's last active date.								
Prerequi	sites								
1. The b	ook for instrument INST1 must be s	et to [Buy '	12@200.00 -Sell 10	@201.50].					
2. Group) for instrument INST1 must be in 'C	ontinuous	Trading' mode.						
		Expected	Results						
#	Test Steps	Trading (SAIL)	Engine Responses	Market I (HSVF)	nformation				
1	Client: Enters a Sell order 12@201.40, Good until Date with a date before the instrument expiry date and with a day number less than 12 (ex: Dec 10th, June 5th, March 2nd), for instrument INST1 Sends an OE message: [Price type: L] [Duration Type: D] [GTD Data: YYYYMMDD (Represents the order's last active day)]	Order is t	oooked. KE message	An F/FF	r Market Depth sent. or H/HF message is sent egy: FS or HS message is sent				

4.7.6 Fill and Kill

ID #: OR	RD-06 Type: Order Creati	ion Requirement:	Optional	Co-ordinated Test: N				
Descript	tion: Entering a 'Fill and Kill' order.							
Comme	Comments: None							
Prerequ	isites							
	1. The market for instrument INST1 must be set to [12@2.00 – <u>10@2.50]</u> . 2. Group for instrument INST1 must be in 'Continuous Trading' mode.							
		Expected Results						
#	Test Steps	Trading Engine Response (SAIL)	es Market Inforr (HSVF)	mation				
1	<u>Client</u> : Enters a Sell 'Fill and Kill' order <u>15@2.00</u> for instrument INST1. Sends an OE message: [Duration Type: E]	Order is filled/cancelled Sends a KE message Sends 1 NT message and message For Strategy Sends 1 NT message and 1 NL message per leg	An F/FF or H/	rket Depth sent. /HF message is sent FS or HS message is sent				

4.7.7 Limit Order with Clearing Instruction and Owner Data

ID #: OR	D-07 Type: Order Creation	Requirement: Mandatory	Co-ordinated Test: N					
Descript	Description: Entering a limit order with a Clearing Instruction and Owner Data.							
Commer	nts: None.							
Prerequi	isites							
1. The m	arket for instrument INST1 must be s	et to [10@2.00 – <u>10@2.50</u>].						
2. Group	for instrument INST1 must be in 'Cor	ntinuous Trading' mode						
		Expected Results						
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)					
1	<u>Client</u> : Enters a Sell Limit Order 40@2.25 with a Clearing Instruction and Owner Data, for instrument INST1. Sends an OE message: [Clearing Instruction: anything]	Order is booked. Sends a KE message	Quote or Market Depth sent. An F/FF or H/HF message is sent Strategy: An HS message is sent					
	[Owner Data: anything]							

4.7.8 Booked Order Filled at 2 Prices

ID #: OF	RD-08 Type: Order Crea	tion Requirer	ment: Optiona	Co-ordinated Test: N				
Descrip	Description: Entering a Book any price order that gets filled at 2 different prices.							
Comme	Comments: None.							
Prerequisites 1. Group for instrument INST1 must be in 'Continuous Trading' mode.								
		Expected Result	S					
#	Test Steps	Trading Engine F (SAIL)	Responses	Market Information (HSVF)				
1	Client: Enters 2 orders: Buy 10@2.50, 15@2.60.			Quote or Market Depth sent. An F/FF or H/HF message is sent Strategy: An HS message is sent				
2	<u>Client</u> : Enters a Sell Market any price Order for 20 contracts for instrument INST1. Sends an OE message: [Price type: W]	Order is filled at 2 <u>15@2.60.and</u> 5@ Sends 2 NT mess Strategy: 2 NT messages e 1 NL message pe	2.50 ages ach followed by	Trade sent. 2 C/CF message are sent Strategy: 2 CS are sent Per Leg: C or CF message is sent Quote or Market Depth sent. An F/FF or H/HF message is sent Strategy: An HS is sent				

4.7.9 Minimum Fill Order

ID #: OR	D-09 Type: Order Creati	on Requ	irement: Optional	Co-ordinated Test: N					
Descript	Description: Entering a Minimum Fill volume order.								
Comme	Comments: None.								
Prerequi	isites								
1. The m	arket for instrument INST1 must be s	et to [10@2.00 -	<u>10@2.50</u>].						
2. Group	for instrument INST1 must be in 'Con	ntinuous Trading'	mode.						
		Expected Results							
#	Test Steps	Trading Engin (SAIL)	e Responses	Market Information (HSVF)					
1	<u>Client</u> : Enters a Buy Limit Order 10@2.40 for instrument INST1 with a minimum fill volume of 5.		y filled/eliminated not be filled for the ne.						
	Sends an OE message:	Sends a KE message:							
	[Quantity Term: M]								
	[Additional Quantity: 5]								

4.7.10 Stop Order

ID #: OF	RD-10 Type: Order Crea	ation Requirement:	Optional	Co-ordinated Test: N					
Descrip	Description: Entering a Stop Order and being able to handle it when it gets triggered.								
Comme	Comments: None.								
Prerequ	Prerequisites								
2. Group 3. The m	NST21 needs to allow Stop Orders. o for instrument INST1 must be in 'C narket for instrument INST21 must b ast Price or the previous day's close	e set to [30@2.00 – 10@2.50].	.00.						
		Expected Results							
#	Test Steps	Trading Engine Responses (SAIL)	Market (HSVF)	Information					
1	Client:Enters a Sell Stop Order9@2.00 for instrument INST21,trigger price 2.10.Sends an OE message:[Additional Price: 2.10][Special Price Term: S]	Order is accepted and not booked. Sends a KE message [Status: S]	An F/FF	or Market Depth sent. ⁼ or H/HF message is sent ntegy: FS or HS message is sent					
2	<u>Client</u> : Enters an order on INST21 to sell <u>25@2.00</u> .	Order is accepted and 25 trad at 2.00 against the booked ord The client order is triggered an traded 5@2.00. Sends an NT message For Strategy Sends 1 NT message and 1 NL message per leg The remaining 4 contracts are booked at 2.00. Sends a KE message [Status:]	er. A C/CF d Strategy Quote An F/Ff	sent. message is sent y: 1 CS are sent and 1 C/CF message per leg or Market Depth sent. = or H/HF message is sent tegy: FS or HS message is sent					

4.7.11 Stop on Ask Order

ID #: OR	D-11 Type: Order Creati	ion	Requirement:	Optic	onal	Co-ordinated Test: N			
Descript	Description: Entering a Stop on Ask Order and being able to handle it when it gets triggered. (Not booked immediately)								
Comme	Comments: None.								
Prerequi	Prerequisites								
1. The INST21 needs to allow Stop Orders.									
2. Group	2. Group for instrument INST1 must be in 'Continuous Trading' mode								
3. Instrur	ment Book must be clear								
4. The m	arket for instrument INST21 must be	set to [12@1	0.00 – 10@10.50].						
		Expected	Results						
#	Test Steps	Trading Er (SAIL)	ngine Responses		Market In (HSVF)	formation			
1	<u>Client</u> : Enters a Sell StopOnAsk Order 8@10.00 for instrument INST21, trigger price 10.25 Sends an OE message: [Additional Price: 10.25] [Special Price Term: I]	the book.	cepted and is not or E message ″]	n	An F/FF o	Market Depth sent. r H/HF message is sent gy: FS or HS message is sent			
2	<u>Client</u> : Enters a sell order on INST21 15@10.25.	StopOrder Trade 8@1 Sends an I For Strateg Sends 1 N 1 NL mess The remain at 10.00 on	T message and sage per leg ning 4 Qty are booke		Strategy: leg Quote or An F/FF o	nt. essage is sent 1 CS are sent and 1 C/CF message per Market Depth sent. r H/HF message is sent gy: FS or HS message is sent			

4.7.12 Stop on Bid Order

ID #: Of	RD-12	Type: Order Creation		Requirement:	Optional	Co-ordinated Test: N			
Descrip	Description: Entering a Stop on Bid Order and being able to handle it when it gets triggered. (booked immediately)								
Comme	Comments: None.								
Prerequ	Prerequisites								
2. Grou 3. Instru	 The INST21 needs to allow Stop Orders. Group for instrument INST1 must be in 'Continuous Trading' mode Instrument Book must be clear The market for instrument INST21 must be set to [10@10.00 – 10@10.35]. 								
#	Test Steps	т	Expected Re Frading Engi SAIL)	sults ne Responses		Market Information (HSVF)			
1		25 for instrument b er price 9.90 S message: rice: 9.90]	Drder is acce pooked Sends a KE n	pted, is immediate nessage	y triggered and	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent			

4.7.13 Stop on Last Order

ID #: O	RD-13 Type: Order Crea	tion	Requirement:	Optional	Co-ordinated Test: N				
Descrip	Description: Entering a Stop on Last Order and being able to handle it when it gets triggered. (booked and traded immediately)								
Comme	Comments:								
Prerequ	Prerequisites								
2. Grou 3. Instru	The INST21 needs to allow Stop Orders. Group for instrument INST1 must be in 'Continuous Trading' mode Instrument Book must be clear Two opposite orders with Price 10,20 must be traded								
		Expected	Results						
#	Test Steps		ngine Responses	Market (HSVF)	Information				
1	Client Enters a bid order on INST21 12@10.30.	book.	ccepted and is on the	An F/FF	or Market Depth sent. For H/HF message is sent tegy: FS or HS message is sent				
2	Client: Enters a ask StopOnLast Order 15@10.30 for instrument INST21, trigger price 10.30 Sends an OE message: [Additional Price: 10.30] [Special Price Term: S]	StopOrder Trade 12@ Sends an I For Strateg Sends 1 N 1 NL mess The remain at 10.30 or	mediately triggered match bid side. 210.30 is done. <i>NT message</i> <i>gy</i> <i>T message and</i> <i>sage per leg</i> ning 3 Qty are books	Strategy Quote o An F/FF	sent. message is sent r: 1 CS are sent and 1 <i>C/CF message per leg</i> or Market Depth sent. <i>F or H/HF message is sent</i> <i>tegy: FS or HS message is sent</i>				

4.7.14 Ask Touched Order

ID #: OR	D-14 Type: Order Cre	ation	Requirement:	Optional	Co-ordinated Test: N				
Descript	Description: Entering an If Ask Touched Order and being able to handle it when it gets triggered. (Not booked immediately)								
Comme	Comments: None.								
Prerequ	Prerequisites								
1. The IN	IST21 needs to allow If Touched O	rders.							
2. Group	for instrument INST1 must be in 'C	ontinuous Trading'	mode						
3. The m	arket for instrument INST21 must b	e set to 12@10.00.							
		Expected Res	ults						
#	Test Steps	Trading Engin (SAIL)	e Responses	Market Inform (HSVF)	mation				
1	Client: Enters a Buy IfAskTouched Order 8@10.00 for instrument INST21, trigger price 10.75 Sends an OE message: [Additional Price: 10.75] [Special Price Term: H]	Stop Order is a on the book. Sends a KE me [Status: "S "]	ccepted and is not	An F/FF or H	rket Depth sent. /HF message is sent FS or HS message is sent				
2	Client: Enters a sell order on INST21 15@10	Limit order trigg Trade 8@10.00 Sends an NT n For Strategy Sends 1 NT me 1 NL message Sends a KE me) is done. nessage essage and e per leg	leg Quote or Mai An F/FF or H/	age is sent S are sent and 1 C/CF message per rket Depth sent. /HF message is sent FS or HS message is sent				

4.7.15 Bid Touched Order

ID #: OR	D-15 Type: Order Crea	tion Requirement:	Optional	Co-ordinated Test: N					
Descript	Description: Entering an If Touched on Bid Order and being able to handle it when it gets triggered. (booked immediately)								
Commer	Comments: None.								
Prerequi	Prerequisites								
1. The IN	ST21 needs to allow If Touched Ord	ders.							
2. Group	for instrument INST1 must be in 'Co	ontinuous Trading' mode							
3. The m	arket for instrument INST21 must be	e set to [10@10.00 - 10@10.35].							
		Expected Results	Expected Results						
#	Test Steps	Trading Engine Responses (SAIL)	Market Inf (HSVF)	ormation					
1	Client: Enters a Bid IfTouchBid	Order is accepted, is immediat	ely Quote or N	Market Depth sent.					
	Order 8@10.25 for instrument INST21, trigger price 10.10	triggered and booked but no contract made	An F/FF or	H/HF message is sent					
	Sends an OE message: [Additional Price:10.10]	Sends a KE message	For strateg	y: FS or HS message is sent					
	[Special Price Term: "F"]								

4.7.16 Touched on Last Order

ID #: OR	D-16 Type: Order Creati	ion Requirement: Option	nal Co-ordinated Test: N						
Descript	Description: Entering a If Touched on Last Order and being able to handle it when it gets triggered. (booked and traded immediately)								
Commer	Comments: None.								
Prerequi	Prerequisites								
1. The IN	1. The INST21 needs to allow If Touched Orders.								
2. Group	for instrument INST1 must be in 'Co	ntinuous Trading' mode							
3. Two oj	pposite orders with Price 10.20 must	be traded							
		Expected Results							
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)						
1	Client: Enters a sell order on	Order is accepted and is on the	Quote or Market Depth sent.						
	INST21 15@10.30.	book.	An F/FF or H/HF message is sent						
		Sends a KE message	For strategy: FS or HS message is sent						
2	Client: Enters a buy If Touched	Order is immediately triggered.	Trade sent.						
	on Last Price 17@10.30 for instrument INST21, trigger price	If touch order match bid side. Trade 15@10.30 is done.	A C/CF message is sent						
	10.10 Sends an OE message:	Sends an NT message For Strategy							
	[Additional Price: 10.10]	Sends 1 NT message and	Strategy: 1 CS are sent and 1 C/CF message per leg						
		1 NL message per leg							
	[Special Price Term: T]	The remaining 2 Qty are booked at 10.30 on Ask side	Quote or Market Depth sent.						
		Sends a KE message	An F/FF or H/HF message is sent						
			For strategy: FS or HS message is sent						

4.7.17 Circuit Breaker Triggered

ID #: OR	Type:	Order Creation	der Creation Requirement		Co-ordinated Test: N				
Descript	Description: Circuit Breaker** Triggered to Y price limit violation								
Comme	Comments: None.								
Prerequ	Prerequisites								
1. The IN	1. The INST21 needs to allow Circuit Breaker.								
	for instrument INST1 must be in '	Continuous Trading' mode							
3. Instrur	ment Book must be clear								
		Expected Results							
#	Test Steps	Trading Engine Respo (SAIL)	onses	Market Information (HSVF)					
1	Client: Enters a Sell Order Q@F for instrument INST21. P>Y P <x< td=""> (Yhigh<p<xhigh)< td=""> Sends an OE message</p<xhigh)<></x<>	Order is accepted and is book. Sends a KE message	s on the	Quote or Market De An F/FF or H/HF me	•				
2	<u>Client</u> : Enters a Buy order AT Market price for quantity Q	Orders is deleted due to breaker (KE sent with C Status : C) NI Message with Instrur changes in Suspended After 1minute NI messa Status 'N'	order ment state Status 'S'.	H send with Instrum Quote or Market De An F/FF or H/HF me after one minute H s	pth sent.				

4.7.18 Circuit Breaker Triggered

ID #: O	RD-18	-18 Type: Order Creation		Mandatory	Co-ordinated Test: N				
Descri	Description: Circuit Breaker** Triggered to Z price limit violation								
Comm	Comments: None.								
Prereq	Prerequisites								
2. Grou 3. Instr	ument Book must be	ST1 must be in 'Continuous ' e clear	Trading' mode						
4. Two	opposite orders with	n Price 10 must be traded	Expected Results						
#	Test Steps		Trading Engine Responses (SAIL)	Market Inform (HSVF)	ation				
1	Client: Enters a 100@20 for inst First condition: XLow <ylow<20 Second conditio 20> ZHigh or 20</ylow<20) <yhigh<xhigh n:</yhigh<xhigh 	Order is accepted and is on the book. Sends a KE message	Quote or Mark An F/FF or H/F	et Depth sent. IF message is sent				
2	<u>Client:</u> Enters an	n order on Sell 100@20	Orders is deleted due to circuit breaker (KE sent with Order Status : C) NI Message with Instrument state changes in Suspended as Status 'S'. After 1min NI message with instrument Status 'N'	H send with Ins	et Depth sent. IF message is sent strument Status F te H send with Instrument Status T				

4.7.19 House Order

ID #: ORD	D-19	Type: Order Creati	on	Requirement:	Mandatory	Co-ordinated Test: N			
Description	Description: Entering a House order.								
Comment	Comments: None.								
Prerequis	Prerequisites								
	1. The market for instrument INST1 must be set to [12@2.00 - 10@2.50]. 2. Group for instrument INST1 must be in 'Continuous Trading' mode								
			Expected R	esults					
#	Test Steps		Trading Eng (SAIL)	gine Responses	Market Info (HSVF)	rmation			
1		ers a Buy Limit	Order is boo	ked.	Quote or Ma	arket Depth sent.			
	Order 100@2.40, House for the instrument INST1. Sends a KE message					An F/FF or H/HF message is sent			
	Sends an C [Price type: [Account ty				For strategy	: FS or HS message is sent			

4.7.20 Client Limit Order

ID #: O	RD-20 Type: Order Crea	ition	Requirement:	Mandatory	Co-ordinated Test: N				
Descrip	Description: Entering a Client Limit Order								
Comme	Comments: None.								
Prereq	uisites								
The ma	arket for instrument INST1 must be se	et to [10@2.00 –	10@2.50].						
		Expected Re	Expected Results						
#	Test Steps	Trading Eng (SAIL)	ine Responses	Market Info (HSVF)	rmation				
1	Client: Enters a Buy Limit Order	Order is bool	ked	Quote or M	arket Depth sent.				
	100@2.40, Pro, for instrument INST1.	Sends a KE	Sends a KE message		H/HF message is sent				
	Sends an OE message:	[Status:]		For strategy	: FS or HS message is sent				
	[Account Type: 1]								

4.7.21 Limit Order with Disclosed Quantity

ID #: OR	D-21 Type: Order Creat	tion Requirement:	Optional	Co-ordinated Test: N		
Descript	ion: Entering a Limit Order with a D	isclosed quantity.				
Comme	nts: None.					
Prerequi	isites					
	arket for instrument INST1 must be for instrument INST1 must be in 'Co					
		Expected Results				
#	Test Steps	Trading Engine Response (SAIL)	-	rket Information SVF)		
1	Client: Enters a Buy Limit Order 30@2.05 with a Disclosed quantity of 25 for instrument INST1. Sends an OE message: [Quantity Term: D] [Additional Quantity: 25]	Order is accepted and book and only 25 contracts are s Sends a KE message	nown. An	iote or Market Depth sent. F/FF or H/HF message is sent r strategy: FS or HS message is sent		

4.7.22 Limit Order for Strategy

ID #: OR	Type: Order Creat	ion Requirement: Opt	tional Co-ordinated Test: N							
Descript	Description: Entering a Limit Order for a Strategy (spread) that gets traded (Trade in Strategy Book)									
Comme	Comments: None.									
Prerequ	Prerequisites									
1. The in	strument INST24 is a strategy and co	ontains 2 legs (spread INST22 – INST	23)							
2. Group	o for instrument INST1 must be in 'Co	ntinuous Trading' mode								
3. The m	narket for instrument INST24 must be	set to [10@2.00 - 10@2.50].								
4. The m	narket for instrument INST22 (1 st leg o	of spread) must be set to [5@3.20 – 1	0@3.30].							
5. The m	harket for instrument INST23 (2 nd leg	of spread) must be set to [10@1.00 -	10@1.10].							
		Expected Results								
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)							
1	Clients: Enters a Sell Limit Order	Order is accepted and traded	Trade sent.							
	10@2.00 for instrument INST24.	against the client order.	For strategy: CS message is sent followed by 1							
		Sends an NT message for the strategy and 1 NL message per leg Trade sent	C/CF message per leg For the legs: C/CF [PriceIndicatorMarket = P] message is sent per leg							
		1 NT message for the spread, followed by 1 NL for each leg	Strategy Quote or Market Depth sent. An FS or HS message is sent							

4.7.23 Market Order at Instrument Limit

ID #: OR	D-23 Type: Order Crea	tion Class: Optional C	o-ordinated Test: N								
Descript	Description: Entering a Market Order at instrument limit (Min/Max) price.										
Commer	Comments: None.										
Prerequi	sites										
1. 2. 3.	The market for instrument INST1 r Group for instrument INST1 must & Adjust Min/Max for Product/instrum	be in 'Continuous Trading' mode.	99.5000]; no other orders must be in the Book.								
		Expected Results									
#	Test Steps	Trading Engine Responses (SAIL)	Market Information - HSVF								
1	Client: Enters a Buy @0.0001 for 20 contracts for instrument INST1. Client: Enters a Sell market for 12 contracts for instrument INST1. Sends an OE message: [Price type: M]	Order is accepted and trades completely Sends a KE message [Status: X] Trade Sent Sends 1 NT message For Strategy Sends 1 NT message and 1 NL message per leg	Quote or Market Depth sent. <i>An F/FF or H/HF message is sent</i> <i>For strategy: FS or HS message is sent</i> Trade sent. <i>A C/CF message is sent</i> <i>For strategy: CS message is sent followed by 1</i> <i>C/CF message per leg</i>								
2	Client: Enters a Sell @99999.5000 for 15 contracts for instrument INST1. <u>Client</u> : Enters a Buy market for 15 contracts for instrument INST1.	Order is accepted and trades completely <i>Sends a KE message</i> <i>[Status: X]</i> Trade Sent <i>Sends 1 NT message</i>	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent Trade sent. A C/CF message is sent								
	Sends an OE message: [Price type: M]	For Strategy Sends 1 NT message and 1 NL message per leg	For strategy: CS message is sent followed by 1 C/CF message per leg								

4.7.24 Cross Order Block

ID #: ORD-24 Type: Order Creation		reation Requ	irement: (Optional	Co-ordinated Test: N				
Descri	Description: Cross Order validation								
Comm	ents: None.								
Prereq	uisites								
	ip for instrument INST1 must be in ument Book must be clear	'Continuous Trading'	mode						
		Expected Resu	cted Results						
#	Test Steps	Trading Engine (SAIL)	Trading Engine Responses (SAIL)		nformation				
1	Client: Enters two regular Buy/Sell orders in order to create a spread for instrumen INST1.	Orders are acce and spread is co Sends a KE me	reated.		r Market Depth sent. or H/HF message is sent				
2	Client: Enters a cross order within the spread and quantity higher than the block min volume Send a Cross Order through 0 message	messages with Indicator= "B" (k	essage and two Special Trade		essage is sent. ss <i>age is sent</i> with Price Indicator Marker				

4.7.25 Deferred Cross Order

ID #: OR	Type: Order Crea	tion Requirement:	Optional	Co-ordinated Test: N					
Descrip	Description: Deferred Publication for Cross Orders								
Comme	Comments: None.								
Prerequ	Prerequisites								
2. Instru 3. Cross	 Group for instrument INST1 must be in 'Continuous Trading' mode Instrument Book must be clear Cross volume/value would respect the Post Trade LIS Value and Volume (please refer to Market Access Italy to know these thresholds) 								
		Expected Results	Expected Results						
#	Test Steps	Trading Engine Responses (SAIL)	Market (HSVF)	Information					
1	Client: Enters two regular Buy/Sell orders in order to create a spread for instrument INST1.	Orders are accepted and boo and spread is created. Sends a KE message		or Market Depth sent. For H/HF message is sent					
2	<u>Client:</u> Enters a cross order within the spread Send an Cross Order through OX message [Defferred Pubblication = D]	Order is accepted and traded Sends a KO message and tw messages with Defferred Pubblication = D	dav	nessage will be sent at the end of the trading					

4.7.26 Committed Block Order

ID #: OF	ID #: ORD-26 Type: Order Creation		Requirement:	Optional	Co-ordinated Test: Y				
Descrip	Description: Committed block order (interbank)								
Comme	Comments: None.								
Prerequ	iisites								
	1. Group for instrument INST1 must be in 'Continuous Trading' mode 2. Instrument Book must be clear								
		Expected Resu	ilts						
#	Test Steps	Trading Engine (SAIL)	Trading Engine Responses (SAIL)		formation				
1	Client: Enters two regular Buy/Sell orders in order to create a spread for instrument INST1.	Orders are acce and spread is co Sends a KE me			Market Depth sent. or H/HF message is sent				
2	Client: Enters a committed order within the spread and quantity higher than the block min volume, specifying as counter party BIT (0201) Send an OE message with Price Type='C'	Order is accepte Sends a Ke me							
3	BIT: Enters a committed order within the spread specifying as Client counter party	Order is accepte Sends a Ke me messages with Indicator = "K"	ssage and two NT		ssage is sent. sage is sent with Price Indicator Marker =				

4.7.27 Deferred Committed Order

ID #: OR	D #: ORD-27 Type: Order Creation			Optional	Co-ordinated Test: Y					
Descript	Description: Deferred Publication for Committed Order (interbank)									
Commer	nts: None.									
Prerequi	sites									
1. Group	for instrument INST1 must be in 'Co	ontinuous Tradin	j' mode							
2. Instrur	nent Book must be clear									
3. Cross threshol	-	Post Trade LIS	/alue and Volume	(please refe	r to Market Access Italy to know these					
		Expected Re	sults							
#	Test Steps	Trading Eng (SAIL)	ne Responses	Market (HSVF)	Information					
1	Client: Enters two regular		cepted and booked	Quote	or Market Depth sent.					
	Buy/Sell orders in order to create a spread for instrument INST1.	and spread is <i>Sends a KE r</i>		An F/Ff	F or H/HF message is sent					
2	Client: Enters a committed order	Order is acce	oted and traded.							
	within the spread specifying as counter party BIT (0201)	Sends a Ke n								
	Send an OE message with Price Type='C' and Deferred Publication=D	Deferred Publication=D								
3	BIT: Enters a committed order	Order is acce	oted and traded.	Trade r trading	nessage will be sent at the end of the					
	within the spread specifying as Client counter party	messages wi	Sends a Ke message and two NT messages with with Deferred Publication=D		uay.					

4.7.28 While Connected Orders

ID #: OR	D-28	Type: Order Creati	ion	Requirement:	Optional	Co-ordinated Test: N
Descript	tion: While conn	ected orders				
Comme	nts: None.					
Prerequi	isites					
1. Group	for instrument I	NST1 must be in 'Co	ntinuous Tradi	ng' mode		
			Expected F	lesults		
#	Test Steps		Trading Engine Responses (SAIL)		Market Infor (HSVF)	mation
1		a regular order duration type = W	Order is acc	cepted.	F/FF or H/H	F messages Sent
2	Client: Discon connection or	nection and re the systems	(Eliminated	s changed to I OnDisconnect) as Client perform re	F/FF or H/H	Fmessages Sent

4.7.29 Matched Principal Order

ID #: OR	ID #: ORD-29 Type: Order Creation		on	Requirement:	Optional	Co-ordinated Test: N				
Descript	Description: Entering a Limit order with account type Matched Principal.									
Commer	nts: None.									
Prerequi	sites									
1. 2. 3.	2. Group for instrument INST1 must be in 'Continuous Trading' mode									
#	Test Steps		Expected Res Trading Engir (SAIL)		Market Informati (HSVF)	on				
1	<u>Client</u> : Enters a 100@2.40, Mat for the instrumer Sends an OE m [Price type: L] [Account type: 6	ched Principal nt INST1. essage:	Order is booke Sends a KE m		Quote or Market An F/FF or H/HF	·				

4.7.30 Market Maker Limit Order

ID #: OR	ORD-30 Type: Order Creation		Requirement:	Optional	Co-ordinated Test: N				
Descript	Description: Entering a Limit order with account type Market Maker.								
Commer	nts: Not supported on IDEM								
Prerequi	sites								
1.	The book for instrument INST1 must	st be set to [10	@2.00 - 10@2.50].						
2.	Group for instrument INST1 must b	e in 'Continuo	us Trading' mode						
3.	The trader ID must be granted for the	ne account Ma	rket Maker						
		Expected F	lesults						
#	Test Steps	Trading En (SAIL)	gine Responses	Market Ir (HSVF)	nformation				
1	Client: Enters a Buy Limit Order 100@2.40, with Account Type	Order is boo Sends a KE			⁻ Market Depth sent. or H/HF message is sent				
	Market Maker for the instrument INST1.		message						
	Sends an OE message:								
	[Price type: L]								
	[Account type: 4]								

4.7.31 Best Price Setter

ID #: OR	D-31 Type: (Order Creation	Requirement:	Optional	Co-ordinated Test: N					
Descript	Description: Entering a limit order that becomes a best price setter.									
Comme	Comments: Not supported on IDEM									
Prerequi	Prerequisites									
1. 2. 3.	2. Group for instrument INST1 must be in 'Continuous Trading' mode									
		Expe	cted Results							
#	Test Steps	Tradi (SAIL	ng Engine Respons .)	ses Marke (HSVF	et Information ⁻)					
1	<u>Client</u> : Enters a Sell Lin <u>40@101.10</u> with a Clea Instruction for instrumen Sends an OE message [Clearing Instruction: an	aring ht INST1. Send.	is booked. s a KE message s a BP Message		e or Market Depth sent. FF or H/HF message is sent					

4.7.32 CPI Committed Order

ID #: OR	D-32 Type: Order Crea	tion	Requirement:	Optional	Co-ordinated Test: Y				
Descrip	Description: Entering a CPI committed order.								
Comme	nts: None.								
Prerequ	isites								
1. Group	o for instrument INST1 must be in 'Co	ntinuous Trac	ling' mode						
2. Instru	ment Book must be clear								
3. INST1	belong to Instrument Group GR								
		Expected	Results						
#	Test Steps	Trading Er (SAIL)	J		ket Information VF)				
1	Client: Enters two regular Buy/Sell orders in order to create a spread for instrument INST1. Sends 2 OE messages: [Open/Close: O] [Price type: L]	and spread	accepted and booke l is created. E message for each		ote or Market Depth sent. F/FF or H/HF message is sent				
2	<u>Client:</u> Enters a committed order within the spread and quantity higher than the CPI min volume, specifying as counter party BIT (0201).	Order is bo Sends a K "K" (parked	E message with stat	JS					

	Side must be Sell and Capacity must be House and Price Type CPI. Sends an OE message: [Price type: I]		
3	<u>BIT</u> : Enters a Buy Client order with Price Type CPI for 20 contracts for instrument INST1 specifying Client counter party.	Order is parked and the CPI period starts. At the end of the CPI period sends a KE and a NT message with Special Trade Inicator= CPI- X for each side.	A NR message is sent with CPI status equal to blank.

4.7.33 CPI Cross Order

ID #: OR	D-33 Type: Order Cre	ation	Requirement:	Optional	Co-ordinated Test: N			
Descript	Description: Entering a CPI cross order.							
Commer	Comments: None.							
Prerequi	Prerequisites							
2. Instrun	for instrument INST1 must be in 'C nent Book must be clear belong to Instrument Group GR	Continuous Tra	ding' mode					
		Expected	Results					
#	Test Steps	Trading E (SAIL)	ngine Responses	Marke (HSVF	et Information -)			
1	Client: Enters two regular Buy/Sell orders in order to create a spread for instrument INST1. Sends 2 OE messages: [Open/Close: O] [Price type: L]	and sprea	e accepted and booke d is created. <i>E message for each</i>		e or Market Depth sent. FF or H/HF message is sent			
2	<u>Client</u> : Enters a cross order having capacity House in sell and capacity Client in buy for 20 contracts for instrument INST1. Price Type must be set to CPI. Sends an OX message: [Price type: I]	period sta Sends a k for each s (parked). At the end sends 2 K	e parked and the CPI rts. <i>CO message and a KI</i> <i>ide with status "K"</i> I of the CPI period E and 2 NT message ial Trade Inicator= CF	5	message is sent with CPI status equal to blank.			

4.7.34 CPI Order

ID #: Of	RD-34 Type: Order Crea	tion	Requirement:	Option	al Co-ordinated Test: N				
Descrip	Description: Entering a CPI order.								
Comme	Comments: None.								
Prerequ	Prerequisites								
2. Instru	p for instrument INST1 must be in 'Co iment Book must be clear 1 belong to Instrument Group GR	ontinuous Tradi	ing' mode						
0. 1110 1		Expected R	Results						
#	Test Steps	Trading En (SAIL)	gine Responses		arket Information ISVF)				
2	Client: Enters two regular Buy/Sell orders in order to create a spread for instrument INST1. Sends 2 OE messages: [Open/Close: O] [Price type: L] Client: Enters a cross order having capacity House in sell and capacity Client in buy for 20 contracts for instrument INST1. Price Type must be set to CPI.	and spread Sends a KE side. Orders are period starts Sends a KC	message for aech	AI	uote or Market Depth sent. n F/FF or H/HF message is sent NR message is sent with CPI status equal to blank.				
3	Sends an OX message: [Price type: I] Client: During the CPI window enters a normal order having capacity House in Sell for 20 contracts and lower price compared to the sell side of the cross order.		ded. ⁻ messages with de Indicator= CPI f		C/CF/CS message is sent with CPI flag="CPI"				

4.8 Order Cancellation Test Cases

4.8.1 Cancelling an Order

ID #: CXL-01	Type: Order Cancellation	Requirement:	Mandatory	Co-ordinated Test: N			
Description: Cancelling an order.							
Comments: None.							
Prerequisites							
The market for instrument INST1 must be set to [10@2.00 – 10@2.50].							

		Expected Results			
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)		
1	Client: Enters a regular Sell order 10@2.20 for instrument INST1. Sends an OE message	Order is booked. Sends a KE message: [Order ID: x] [Order Status:]	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent		
2	Client: Cancels the previous order. Sends an XE message: [Cancelled Order ID: x]	Order is cancelled. Sends a KZ message [Order Status: "A"]	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent		

4.8.2 Cancelling an order by Market Operations

ID #: CX	L-02 Type: Order Canc	ellation	Requirement:	Manc	latory	Co-ordinated Test: Y			
Descripti	Description: Cancelling an order by Market Control.								
Commer	Comments: None.								
Prerequ	Prerequisites								
The mar	The market for instrument INST1 must be set to [10@2.00 – 10@2.50].								
		Expected	Results						
#	Test Steps	Trading Engine Responses (SAIL)			Market Information (HSVF)				
1	<u>Client</u> : Enters a regular Sell order 10@2.20 for instrument INST1. Sends an OE message	Order is b Sends a l [Order IE	KE message:		An F/FF o	Market Depth sent. r H/HF message is sent gy: FS or HS message is sent			
2	<u>BIT</u> : Cancels the previous order. Sends an XE message: [Cancelled Order ID: x]	Order is o Sends a l [Order Sta	NZ message		An F/FF o	Market Depth sent. r H/HF message is sent gy: FS or HS message is sent			

4.8.3 Cancelling a Partially Filled Order

ID #: CX	L-03	Type: Order Cancell	llation	Requirement:	Manda	tory	Co-ordinated Test: N	
Descri	Description: Cancelling a partially filled order.							
Comm	Comments: None.							
Prereq	uisites							
The mar	ket for instrumer	nt INST1 must be set to	0 [10@2.00	0 – 10@2.50].				
			Expected	l Results				
#	Test Steps	Trading E (SAIL)	Engine Responses	5	Market Inform (HSVF)	mation		

1	<u>Client</u> : Enters a regular Buy order 30@2.50 for instrument INST1. Sends an OE message	Order is booked. Sends a KE message: [Order ID: x] Trade 10@2.50 Sends an NT message For Strategy Sends 1 NT message and 1 NL message per leg	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent Trade sent. A C/CF message is sent For strategy: CS message is sent followed by 1 C/CF message per leg
2	<u>Client</u> : Cancels the previous order. Sends an XE message: [Cancelled Order ID: x]	The remaining quantity of the order is cancelled. Sends a KZ message [Status: "A"]	Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent

4.9 Order Modification Test Cases

4.9.1 Modifying the Price of an Order

ID #: MOI	: MOD-01 Type: Order Modification Requirement:			Mandatory	Co-ordinated Test: N				
Descriptio	Description: Modifying the price of an order; quantity remains unchanged.								
Comment	Comments: The order is cancelled to "clear" the testing environment.								
Prerequis	Prerequisites								
The mark	The market for instrument INST1 must be set to [10@2.00 – 10@2.50].								
		Expected F	lesults						
#	t Test Steps		gine Responses	Market Info (HSVF)	rmation				
1	Client: Enters a regular Sell order 20@2.25.	Order is boo	oked.	Quote or M	arket Depth sent.				
	Sends an OE me	Sends a KE	message:	An F/FF or I	H/HF message is sent				
	Sends an OE me	[Order ID: x		For strategy	r: FS or HS message is sent				
2	Client: Modifies the previous order 20@2.20. Sends an OM message: [Quantity Sign: =] [Quantity: 20] [Modified Order ID: x]	Order is boo Sends a KN [Order ID: y	1 message:	An F/FF or I	arket Depth sent. H/HF message is sent r: FS or HS message is sent				
3	<u>Client</u> : Cancels the order. Sends an XE message:	Order is car Sends a KZ			arket Depth sent. H/HF message is sent				
	[Cancelled Order ID: y]	[Status: A]		For strategy	r: FS or HS message is sent				

4.9.2 Modifying Order Quantity

ID #: MOI	D-02 Type: Order Modi	fication	Requirement:	Man	datory	Co-ordinated Test: N		
Descriptio	Description: Modifying the quantity (absolute) of an order.							
Comment	Comments: The order is cancelled to "clear" the testing environment.							
Prerequis	Prerequisites							
The marke	et for instrument INST1 must be set	to [10@2.00	– 10@2.50].					
		Expected	Results					
#	Test Steps	Trading E (SAIL)	ngine Responses		Market Inform (HSVF)	nation		
1	<u>Client</u> : Enters a regular Sell order 1@2.25. Sends an OE message	1@2.25. Sends a l	1@2.25.		An F/FF or H	rket Depth sent. /HF message is sent FS or HS message is sent		
2	<u>Client</u> : Modifies the previous order 20@2.25. Sends an OM message: [Quantity Sign: =] [Quantity: 20] [Modified Order ID: x]	accepted 20.	booked. Modification and the Quantity is KM message: : y]		An F/FF or H	ket Depth sent. /HF message is sent FS or HS message is sent		
3	<u>Client</u> : Cancels the order. Sends an XE message: [Cancelled Order ID: y]	Order is o Sends a l [Status: A	KZ message:		An F/FF or H	ket Depth sent. /HF message is sent FS or HS message is sent		

4.9.3 Modifying an Order that was Previously Modified

ID #: M	IOD-03 Type: Order Mod	ification R	equirement:	Mandatory	Co-ordinated Test: N
Descrip	otion: Modifying an order that has bee	n previously modified and	partially filled.		
Comme	ents: The order is cancelled to "clear"	the testing environment.			
Prereq	uisites				
The ma	arket for instrument INST1 must be se	t to [10@2.00 – 10@2.50]			
		Expected Results			
#	Test Steps	Trading Engine Respo (SAIL)	onses	Market Information (HSVF)	
1	Client: Enters a regular Buy Order 21@2.50.	Order is accepted and b 21@2.50.	booked at	Quote or Market De	pth sent.
	Sends an OE message	Sends a KE message:		An F/FF or H/HF me	ssage is sent
	Condo an OL moodago	[Order ID: x]		For strategy: FS or F	IS message is sent
		Trade 10@2.50		Trada and	
		Sends an NT message (partial fill) For Strategies, sends NL message per leg		Trade sent. A C/CF message is sent	
				_	sem ssage is sent followed by 1 C/CF
				message per leg	
2	Client: Modifies the previous order 21@2.50.	Order is booked. Modifi accepted and the Quan		Quote or Market De	pth sent.
	Sends an OM message:	21 and price is 2.50.	ary io now	An F/FF or H/HF me	0
	[Quantity Sign: =]	Sends a KM message:		For strategy: FS or H	<i>IS message is sent</i>
	[Quantity: 21]	[Order ID: y]			
	[Modified Order ID: x]				
3	Client: Modifies the previous	Order is booked. Modifi		Quote or Market De	pth sent.
	order 21@2.40. Sends an OM message:	accepted and the Quan 21 and price is 2.40.	tity is now	An F/FF or H/HF me	ssage is sent
	[Quantity Sign: =]	Sends a KM message:		For strategy: FS or F	HS message is sent
	[Quantity: 21]	[New Order ID: z]			
	[Modified Order ID: y]				
4	Client: Cancels the order.	Order is cancelled.		Quote or Market De	pth sent.
	Sends an XE message:	Sends a KZ message		An F/FF or H/HF me	ssage is sent
	[Cancelled Order ID: z]	[Status: A "]		For strategy: FS or H	HS message is sent

4.9.4 Modifying a Market Top Order

ID #: M	IOD-04 Type: Order Mo	dification	Requirement:	Optiona	al Co-ordinated Test: N				
Descrip	Description: Modifying a Market Top order and assigning it a limit price.								
Comme	ents: The order is cancelled to "clear"	the testing envir	onment. (Conditiona	I to ORD0'	1)				
Prereq	uisites								
The ma	arket for instrument INST1 must be se		-	orders mus	st be in the book.				
	Test Office	Expected R							
#	Test Steps	Trading Eng (SAIL)	jine Responses	Mark (HSV	et Information F)				
1	Client: Enters a Buy Market	Sends a KE	message:	Quot	e or Market Depth sent.				
	order for 20 Contracts.	[Order ID: x]		An F	/FF or H/HF message is sent				
	Sends an OE message: [Price type: M]	Trade 12@2 remaining 80	.50 and the @2.50 is booked.	For s	trategy: FS or HS message is sent				
		Sends an N	T message (partial fil	II) Trad	e sent.				
		For Strategy	egy		CF message is sent				
		Sends 1 NT	message and		trategy: CS message is sent followed by 1 C/CF				
		1 NL messa	ge per leg		age per leg				
2	Client: Modifies the previous		ked. Modification is		e or Market Depth sent.				
	order 9@2.40.	9 and price i	d the Quantity is nov s 2.40.	An F	/FF or H/HF message is sent				
	Sends an OM message:	Sends a KM	message:	For s	trategy: FS or HS message is sent				
	[Quantity Sign: +] [Quantity: 1]	[Order ID: y]							
	[Quantity: T] [Price type: L]	[Status: " "]							
	[Modified Order ID: x]								
3	Client: Cancels the previous	Order is can	celled.	Quot	te or Market Depth sent.				
	order.	Sends a KZ	message	An F	/FF or H/HF message is sent				
	Sends an XE message:	[Status: "A"]		For s	trategy: FS or HS message is sent				
	[Cancelled Order ID: y]								

4.10 Indication of Interest to Trade Test Cases

4.10.1 Indication of Interest to Trade

ID #: IIT-	-01	Type: Indication o	of Interest to Trade	Requiremen	t: Optional	Co-ordinated Test: N		
Descripti	Description: Sending an Indication of Interest to Trade message (previously known as Request for Quote).							
Commer	Comments: None.							
Prerequi	isites							
None.	None.							
	Test Steps		Expected Results					
#			Trading Engine ResponsesMarket Informatio(SAIL)(HSVF)		1			
1	Client: Enters a Interest to Trac instrument INS quantity. Sends an RQ	de for the ST1 for any	Indication of Interest to accepted. Sends a KO message		Indication of Intere A D/DF message is			

4.10.2 Responding to Indication of Interest to Trade

ID #: IIT	-02 Type: Indicat	tion of Interest to Trade	Requirement:	Optional	Co-ordinated Test: Y		
Descript	Description: Responding to an Indication of Interest to Trade message (previously known as Request for Quote).						
Comme	Comments:						
Prerequ	lisites						
No market for instrument INST1. Client is connected.							
		Expected Results	Expected Results				
#	Test Steps	Trading Engine Res (SAIL)		Market Information (HSVF)			
1	BIT: Enters an Indication o Interest to Trade for the instrument INST1 for any quantity.	f Indication of Interest accepted.	dis fe R				
2	Client: Responds by postin market for instrument INST Sends an OE or a Q <i> message</i>		message Ar	Quote or Market Depth n F/FF or H/HF mess or strategy: FS or HS	age is sent		

4.11 Bulk Quote Test Cases

4.11.1 Entering Bulk Quote

ID #: BU	2-01 Ty	/pe: Bulk Quote	Requirement: Mandatory for Mar	ket Makers	Co-ordinated Test: N	
Descriptio	Description: Entering bulk quotes.					
Commen	ts: None.					
Prerequi	sites					
1. No ma	rket for instrument I	NST1.				
2. Partici	pant must be config	ured as Market Mak	ker on group GRP1.			
3. Particip	pant must send Clea	aring Data message	BD (for traderID/GroupID)			
			Expected Results			
#	Test Steps		Trading Engine Responses (SAIL)	Market Informa (HSVF)	ation	
1	Client: Enters 2 q and 1 ask) on INS 10@1.00, Ask=10 Sends a BD mess already done) Sends a Q <i> me</i>	ST1, Bid =)@1.20. sage (if not	Quotes are accepted and booked. Sends a KD message Sends an LA message		et Depth sent. F message is sent S or HS message is sent	
2	Client Enters a re 5@0.90 for instru	ment INST1.	Order is accepted Trade 5@1.00. Sends an NT message For Strategy Sends 1 NT message and 1 NL message per leg The market is now [5@1.00 – 10@1.20].	For strategy: FS Trade sent. A C/CF messag	F message is sent S or HS message is sent ge is sent S message is sent followed by 1 C/CF	

4.11.2 Modifying Bulk Quote

ID #: BU	Q-02 Type: E	Bulk Quote	Requirement: Mandatory for M	arket Makers	Co-ordinated Test: N		
Descripti	Description: Modifying the price on quotes when some have been rejected.						
Commer	nts: None.						
Prerequ	isites						
2. Instrur 3. Partici	 No market for instruments in group GRP1. Instrument INST10 has to be forbidden. Participant must be configured as Market Maker on group GRP1. Participant must send Clearing Data message BD (for traderID/GroupID) 						
#	Toot Stone		Expected Results				
#	Test Steps		Trading Engine Responses (SAIL)	Market Informat (HSVF)	ion		
1	<u>Client</u> : Enters quotes fo instruments of GRP1. A 101 instruments must b on both sides with bids 1000@100.00 and asks 900@100.50. Only one quote message must be Sends a Q <i> message</i>	At least be quoted for	All quotes are accepted and booked except the 2 on the forbidden instrument. The markets for selected instruments in group GRP1 are now [1000@100.00 – 900@100.50]. Sends an LA message: [Number of quotes in error: 002] [Error code: 1004]		Depth sent. H/HF messages are broadcasted veral FS or HS message are		
2	<u>Client</u> : Modifies the pric quotes previously acce Sends a Q <i> message</i>	pted. r , [Quotes are modified. No error message is returned. Market is now: [1000@100.10 – 900@100.30] Sends an LA message		Depth sent. H/HF messages are broadcasted veral FS or HS message are		

4.11.3 Modifying quantity of quotes

ID #: BU	Q-03 Type: Bulk Quot	e Requirement: Mandatory for	or Market Makers	Co-ordinated Test: N			
Descript	ion: Modifying the quantity for quote	es.					
Comme	Comments: None.						
Prerequi	Prerequisites						
1. No ma	arket for instruments in group GRP1.						
2. Instrur	ment INST10 has to be forbidden.						
3. Partici	pant must be configured as Market	Maker on group GRP1.					
4 Particip	pant must send Clearing Data mess	age BD (for traderID/GroupID)					
		Expected Results					
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)				
1	<u>Client</u> : Enters quotes for all instruments of GRP1. At least 101 instruments must be quoted on both sides with bids of 1000@100.00 and asks of 900@100.50. Only one bulk quote message must be sent. Sends a Q <i> message</i>	All quotes are accepted and booked except the 2 on the forbidden instrument. The markets for selected instruments in group GRP1 are now [1000@100.00 – 900@100.50]. Sends an LA message: [Number of quotes in error: 002] [Error code: 1004]	Quote or Market Depth Several F/FF or H/HF I For strategy: Several F broadcasted	messages are broadcasted			
2	<u>Client</u> : Modifies the quantity of all quotes previously accepted. Sends a Q <i> message</i>	Quotes are modified. No error message is returned. Market is now: [1010@100.00 – 800@100.50] Sends an LA message	Quote or Market Depth Several F/FF or H/HF I For strategy: Several F broadcasted	messages are broadcasted			

4.11.4 Cancelling all Quotes

ID #: BU	Q-04a Type: Bulk Quote	Requirement: Mandatory	for Market Makers	Co-ordinated Test: N		
Descriptio	Description: Cancelling all quotes (Global Cancellation, formerly known as "Panic Quote").					
Commen	Comments: None.					
Prerequi	sites					
1. No ma	rket for instruments in group GRP1.					
2. Partici	pant must be configured as Market M	aker on group GRP1.				
3. Partici	pant must send Clearing Data messa	ge BD (for traderID/GroupID)				
		Expected Results				
#	Test Steps	Trading Engine Responses Market Information (SAIL) (HSVF)				
1	Client: Enters 40 quotes (20 bid and 20 ask) on instruments of	Quote or Market De	epth sent.			
	group GRP1, Bid = 10@1.00,	The markets are now [10@1.00 – 10@1.20] for all instruments.	Twenty (20) F/FF or	H/HF messages are sent		
	Ask = 10@1.20.		For strategy: Twenty	/ (20)FS or HS message are sent		

	Sends a Q <i> message</i>	Sends an LA message	
2	Client Enters a regular Sell order 10@1.00 for instrument INST1.	Order is accepted. Trade 10@1.00. Sends an NT message For Strategy Sends 1 NT message and 1 NL message per leg	Quote or Market Depth sent.An F/FF or H/HF message is sentFor strategy: FS or HS message is sentTrade sent.A C/CF message is sentFor strategy: CS message is sent followed by 1 C/CFmessage per leg
3	<u>Client</u> : Cancels all quotes with a GC message with Type of Cancellation "QuotesOnly". Sends a GC message [Type of Cancellation=Q]	Quotes are cancelled. Market for instrument INST1 is now [0@0.00 – 10@1.00]. Sends a KG message	Quote or Market Depth sent. Twenty (20) F/FF or H/HF messages are sent For strategy: Twenty (20)FS or HS message are sent

4.11.5 Cancelling all Orders

ID #: BU	JQ-04b Type: Bulk Quot	e Requirement: Mandatory for M	larket Makers	Co-ordinated Test: N			
Descript	ion: Cancelling all Orders with Globa	al Cancellation (Global Cancellation, for	merly known as "	Panic Quote").			
Comme	Comments: None.						
Prerequ	iisites						
1. No m	arket for instruments in group GRP1						
2. Partic	ipant must send Clearing Data mess	sage BD (for traderID/GroupID)					
		Expected Results					
#	Test Steps	Trading Engine Responses (SAIL)	Market Inforn (HSVF)	nation			
1	Client: Enters 5 Buy	Orders are booked.	Quote or Mar	ket Depth sent.			
	orders <u>10@1.10</u> for instrument INST1.	Sends a KE message	Five (5) F/FF	or H/HF messages are sent			
	Sends an OE message		For strategy: I	Five (5) FS or HS message are sent			
2	Client Enters a regular Sell order	Order is accepted. Trade <u>5@1.10</u> .	Quote or Mar	ket Depth sent.			
	<u>5@1.10</u> for instrument INST1.	Sends an NT message	An F/FF or H/	HF message is sent			
		For Strategy	For strategy: I	=S or HS message is sent			
		Sends 1 NT message and	Trade sent.				
		1 NL message per leg	A C/CF messa	age is sent			
			For strategy: (message per l	CS message is sent followed by 1 C/CF leg			
3	Client: Cancels all orders with a	Orders are cancelled.	Quote or Mar	ket Depth sent.			
	GC message with Type of Cancellation "OrdersOnly".	Sends a KG message	Five (5) F/FF	or H/HF messages are sent			
	Sends a GC message		For strategy: I	Five (5) FS or HS message are sent			
	[Type of Cancellation=0]						

4.11.6 Cancelling all Orders and Quotes

ID #: BU	Q-04c Type: Bulk Quote	Requirement: Mandatory for M	larket Makers Co-ordinated Test: N			
Descripti	on: Cancelling all Orders and Quotes	Global Cancellation, formerly known	as "Panic Quote").			
Commen	Comments: None.					
Prerequi						
	rket for instruments in group GRP1.					
	pant must be configured as Market M					
3. Partici	pant must send Clearing Data messa					
		Expected Results				
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)			
1	Client: Enters 40 quotes (20 bid	Quotes are accepted and booked.	Quote or Market Depth sent.			
	and 20 ask) on instruments of group GRP1, Bid = 10@1.00,	The markets are now [10@1.00 – 10@1.20] for all instruments.	F/FF or H/HF messages are sent			
	Ask = 10@1.20.	Sends an LA message	For strategy: FS or HS message are sent			
	Sends a Q <i> message</i>	Orders are booked.				
	<u>Client</u> : Enters 5 Buy orders 10@1.10 for instrument INST1.	Sends a KE message				
	Sends an OE message					
2	Client: Enters 2 regular Sell	Orders are accepted.	Quote or Market Depth sent.			
	orders:	Trades 5@1.00 and 5@1.10	An F/FF or H/HF message is sent			
	5@1.00 for instrument INST1	Sends an NT message	For strategy: FS or HS message is sent			
	5@1.10 for instrument INST1.	For Strategy	Trade sent.			
		Sends 1 NT message and	A C/CF message is sent			
		1 NL message per leg	For strategy: CS message is sent followed by 1 C/CF message per leg			
3	Client: Cancels all orders and	Quotes are cancelled. Market for	Quote or Market Depth sent.			
	quotes with a GC message with Type of Cancellation "All".	instrument INST1 is now [0@0.00 - 10@1.00].	F/FF or H/HF messages are sent			
	Sends a GC message	Sends a KG message	For strategy:)FS or HS message are sent			
	[Type of Cancellation=A]					

4.11.7 Handling Unsolicited Cancellations of All Quotes

ID #: BU	JQ-05 Type: Bulk Quo	te Requirement: Mandatory	for Market Makers Co-ordinated Test: Y		
Descript	Description: Handling unsolicited cancellation of all quotes (done by the Market Operation Center.).				
Comme	nts: None.				
Prerequ	lisites				
1. No m	arket for instruments in group GF	RP1.			
2. Partic	ipant must be configured as Mar	ket Maker on group GRP1.			
3. Partic	ipant must send Clearing Data n	nessage BD (for traderID/Group	ID)		
		Expected Results			
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)		
1	Client: Enters 40 quotes (20 bid and 20 ask) on instruments of group GRP1, Bid = 10@1.00, Ask = 10@1.20. Sends a Q <i> message</i>	Quotes are accepted and booked. Sends an LA message	Quote or Market Depth sent. Twenty (20) F/FF or H/HF messages are sent For strategy: Twenty (20) FS or HS message are sent		
2	Client: Enters a regular Buy order 10@1.30 for instrument INST1.	Order is accepted and is traded against the booked quotes. Trade 10@1.20. Sends an NT message For Strategy Sends 1 NT message and 1 NL message per leg	Trade sent. A C/CF message is sent For strategy: CS message is sent followed by 1 C/CF message per leg Quote or Market Depth sent. An F/FF or H/HF message is sent For strategy: FS or HS message is sent		
3	BIT: Cancels all quotes for the participant.	Quotes are cancelled. Sends an NP message (cancellation reason: M) *cancellation reason could be filled "S" in case of cancellation by the system.	Quote or Market Depth sent. Twenty (20) F/FF or H/HF messages are sent For strategy: Twenty (20) FS or HS message are sent		

4.11.8 Unsolicited cancellation of all quotes by Trader

ID #: BU	IQ-06 Type: Bulk Quote	e Requirement: Mand	atory for Market Makers	Co-ordinated Test: N			
Descript	Description: Handling unsolicited cancellation of all quotes (done by Trader).						
Commer	nts: None.						
Prerequ	isites						
1. No ma	arket for instruments in group GF	RP1.					
2. Partic	ipant must be configured as Mar	ket Maker on group GRP1.					
3. Partic	ipant must be enable for Global	Cancellation					
		Expected Results					
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)				
1	Client: Enters 40 quotes (20 bid and 20 ask) on instruments of group GRP1, Bid = 10@1.00, Ask = 10@1.20. Sends a Q <i> message</i>	Quotes are accepted and booked. Sends an LA message	Quote or Market Depth se Twenty (20) F/FF or H/HF For strategy: Twenty (20)				
2	<u>Client</u> : Cancels all quotes trough a GC message.	Quotes are cancelled. Sends an NP message (Quote cancellation reason: A –Cancelled By Trader)	Quote or Market Depth se Twenty (20) F/FF or H/HF For strategy: Twenty (20)				

4.11.9 Unsolicited Cancellation of Quote by Circuit Breaker

ID #: BL	JQ-07 Type: Bulk Quo	te Requirement: Mand	atory for Market Makers	Co-ordinated Test: N		
Descript	Description: Handling unsolicited cancellation of all quotes (CancelledByCircuitBreaker).					
Comme	nts: None.					
Prerequ	iisites					
1. No ma	arket for instruments in group GF	RP1.				
2. Partic	ipant must be configured as Mar	ket Maker on group GRP1.				
3. Partic	ipant must send Clearing Data n	nessage BD (for traderID/Group	D)			
4. Two c	opposite orders with Price 10 mu	st be traded				
		Expected Results				
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)			
1	Client Price 20					
	XLow <ylow<zlow<yhigh< 20<zhigh<xhigh< td=""></zhigh<xhigh<></ylow<zlow<yhigh< 					
2	Client Enters a regular Buy order 100@20 for instrument INST1.	Order is accepted and booked. Sends 1 an KE message	Quote or Market Depth sent. Twenty (20) F/FF or H/HF mer For strategy: Twenty (20) FS of	C C		

3	<u>Client</u> : Enters 100 quotes (50 bid and 50 ask) on instruments of group GRP1, Bid = 50@19.5, Ask = 50@20. Sends a Q <i> message</i>	Quotes are deleted due to circuit breaker (NP sent with cancellation reason: C)) NI Message with Instrument state changes in Suspended as 'S' After 1minute NI Message with Instrument Status 'N'.	Trade sent. A C/CF message is sent For strategy: CS message is sent followed by 1 C/CF message per leg Quote or Market Depth sent. An F/FF or H/HF message is sent with Status "F" For strategy: FS or HS message is sent with Status "F" After 1minute for H/HF or F/FF message is sent with Status "T".
---	--	--	--

4.11.10 Unsolicited Cancel of Quotes on Disconnect

ID #: BU	JQ-08	Type: Bulk Quo	te	Requirement: Man	datory for Market Makers	Co-ordinated Test: N
Descript	Description: Handling unsolicited cancellation of all quotes (EliminatedOnDisconnect)					
Comme	nts: None.					
Prerequ	lisites					
1. No ma	arket for instru	iments in group GF	RP1.			
2. Partic	ipant must be	configured as Mar	ket Maker	on group GRP1.		
3. Partic	ipant must se	nd Clearing Data m	nessage B	D (for traderID/Group	ID)	
			Expect	ed Results		
#	Test Steps	;	Trading Respor (SAIL)	j Engine Ises	Market Information (HSVF)	
1	Client: Ente and Sell qu	ers quotes Buy otes.	booked Sends a	are accepted and a KD message an LA message	Quote or Market Depth ser Twenty (20) F/FF or H/HF i For strategy: Twenty (20) F	
2	Request for by the Clier Message	r Disconnection ht Send TD	Client g	es TL Message and ets disconnected otes are removed.	Trade sent. A C/CF message is sent For strategy: CS message per leg Quote or Market Depth sen An F/FF or H/HF message For strategy: FS or HS mes	is sent
3	Client: Re-o	connection on	sent wit cancella	are deleted (NP h Quote ation reason: I atedOnDisconnect)	per leg	is sent followed by 1 C/CF message nt. An F/FF or H/HF message is sent ssage is sent

4.12 Trade Management Test Cases

4.12.1 Many Fills for Same Order

ID #: TR	D-01 Type: Trade M	anagement	Requirement:	Mandatory	Co-ordinated Test: N		
Descripti	Description: Handling many fills for the same order.						
Commer	its: None.						
Prerequi	isites						
	arket for instrument INST1 must for instrument INST1 must be in	•					
		Expecte	d Results				
#	Test Steps	Trading (SAIL)	Engine Responses	Market Ir (HSVF)	oformation		
1	<u>Client</u> : Enters a Sell order or a quote for instruments INST1 75@2.40. Sends an OE message		accepted. KE or an LA messag	e An F/FF o	Market Depth sent. or H/HF message is sent egy: FS or HS message is sent		
2	Client: Enters 10 Buy orders fo instrument: INST1 2@MKT, 3@MKT, 4@MKT, 5@MKT, 6@MKT, 7@MKT, 8@MKT, 9@MKT, 10@MKT, 11@MKT.	2@2.40, 5@2.40,	s: 3@2.40, 4@2.40, 7@2.40, 8@2.40,	For strate	nt. nessage is sent for each trade egy: CS message is sent followed by 1 ssage per leg for each strategy trade		
		Sends 1 For each Sends 1 1 NL me Market fo	0, 11@2.40. 0 NT messages of the 10 strategies NT message and essage per leg or instrument INST1 is @2.00 – 10@2.40].	5			

4.12.2 Manual Trade Cancellation

ID #: TRI	D-02 Type: Trade Ma	nagement	Requirement:	Mandatory	Co-ordinated Test: Y		
Descripti	Description: Handling manual cancellation of a regular trade by the Market Operation Center.						
Commen	ts: None.						
Prerequi	sites						
Execution	n of test case TRD-01						
		Expected Results	Expected Results				
#	Test Steps	Trading Engine Res (SAIL)		Market Information (HSVF)			
1	BIT: Manually cancels the first	The 2 trades are cance	elled. Tra	Trade Cancellation and Summary.			
	and the last Trades from Test Case TRD-01 (2@2.40 and	Sands 2 NX massages		vo (2) I/IF and N/NF mes	ssages are sent		
	11@2.40).	For each of the 2 Strat	egies				
		Sends 1 NX message	and Fo	For Strategy: Two (2) IS and NS messages are ser			
		1 NY message	per leg				

4.12.3 Manual Trade Creation and Cancellation

ID #: TR	D-03 Тур	Type: Trade Management		Requirement:	Optional	Co-ordinated Test: Y	
Descripti	Description: Handling manual trade creation and cancellation.						
Commer	nts: None.						
Prerequi	isites						
			Expected Resu	ults			
#	Test Steps		Trading Engine (SAIL)	e Responses		Market Information (HSVF)	
1	BIT: Creates a mar		A first trade is created.		Trade sent.		
	for instrument INST the TraderID of the	Sonde one NI messado		A C/CF message is sent.			
	both sides of the tra	rade. For Strategy			For strategy: CS message is sent		
			Sends 1 NT message and		followed by 1 C/CF message per leg		
			1 NL message per leg				
2	BIT: Creates a mar		A second trade is created		Trade sent		
	for instrument INST the TraderID of the		Sends one NT	message		A C/CF message is sent	
	one side and a diffe		For Strategy			For strategy: CS message is sent	
	opposite side of the		Sends 1 NT me	essage and		followed by 1 C/CF message per leg	
			1 NL message per leg				
3	BIT: Cancel trades created in Steps 1 and 2.		Trades are can	celled.		Trades Cancellation.	
			2 NX messages	s are sent.		I/IF and N/NF messages sent	
		For each of the 2 Strategies			For Strategy: IS and NS messages		
			Sends 1 NX me	essage and 1 NY me	ssage per leg	are sent	

4.12.4 Trade Amend

ID #: TR	D-04	Type: Trade Management		Requirement:	Optio	onal Co-ordinated Test: Y
Descrip	tion: Handling m	nanual trade amend f	rom Marke	et Operation Center	(MOC).	
Comme	nts: None.					
Prerequ	isites					
Executio	on of test case TF	RD-01				
			Expected Results			
#	Test Steps	est Steps				Market Information (HSVF)
1	price and q	ally amends uantity of the rom Test Case @2.40).	Sends of [PTT Ca Amendr Sends of [PTT Ca	is amended. one NX message ancellations and ments=C] one NT message ancellations and ments=A]		Cancellation and Summary. An I/IF an N/NF messages are sent. New Trade sent. A C/CF message is sent PTT Cancellation and Amendments=A

4.12.5 Manual Trade Acceptance

ID #: TR	D-05 Type: Trade M	Requirement:	Optional	Co-ordinated Test: Y	
Descript	tion: Handling manual trade ame	nd from Market Operation	ation Center (MOC).		
Comme	nts: currently not supported on	IDEM.			
Prerequ	isites				
INST1 ha	as to support Manual Trade Acce	otance			
		Expected Res	ults		
#	# Test Steps		e Responses	Market Informa (HSVF)	tion
1	Client: Enters two regular Buy/Sell orders in order to crea a spread for instrument INST1.			Quote or Mark	et Depth sent. IF message is sent
2	Client: Enters two cross orders within the spread with the same quantity and price Send two Cross Orders throug OX messages	Sends a KO m messages [Sp	ted and traded. essage and two NT ecial Trade nd Proposal Status	Trade message C<> message i ="C"	e is sent. <i>is sent</i> with Price Indicator Marker
3	BIT: Manually Accept the trade	The trade is ac Sends one NT [Proposal State	message		

4.13 Market Maker Protection Test Cases

4.13.1 Max Volume

ID #: MMT	-01	Type: Trade Mana	gement	Requirement:	Mand	atory for MM	Co-ordinated Test: N
Description	n: Max Volume	: is designed to pro	tect marke	t making participant	s from "e	excessive" trades	
Comments	s: Enabled by c	lefault for all Market	Makers				
Prerequis	ites						
For this te	st one MM (Pa	rticipant) and one T	RADER (E	Exchange Controlled) are nee	eded.	
Set MM pr	otection Max V	olume to 100 ON ir	strument	A of Group Z (in BD	messag	e)	
Set MM pr	otection to Adv	vanced (in RP mess	age)				
			Expected Results				
#	Test Steps		Trading (SAIL)	Engine Response	S	Market Information (HSVF)	
1	Client:		Quote is	accepted.			
	Buy 150 of A	@ Price P	Sends a	a LA message			
	Sell 150 of A Tick	@ Price P + 1					
	Sends an Qi	message:					
2	Client:		Trade is done				
	Sell 100 of A	@ Market Price	Sends 1	NT message is ser	nt -		
	Sends an O	E message	An NP n	nessage is sent			

4.13.2 Delta Volume

ID #: MMT	T-02 Type: Trade	Management	Requirement:	Mandatory	for MM	Co-ordinated Test: N		
Descriptio	n: Delta Volume: is designed	d to protect marke	t making participants	from "excessi	ve" trades			
Comments	s: Enabled by default for all	Market Makers						
Prerequis	sites							
Set MM p	rotection Max Volume to 200	00						
Set MM p	rotection Max Delta to 1000							
Set MM p	rotection to Advanced							
		Expected	Expected Results					
#	Test Steps	Trading (SAIL)	Trading Engine Responses (SAIL)		et Information F)			
1	Client:	Quote is	accepted.					
	Quote on Instrument A of Group Z:	Sends a	LA message					
	Buy 1010 of A @ Price P							
	Sell 1010of A @ Price P + Tick	- 1						
	Sends an Qi message:							

2	Client: enters	Trade is done	
		Sends 1 NT message is sent	
	Sell 1010 of A @ Market Price	An NP message is sent	
	Sends an OE message		

4.14 Market Maker Alarms

4.14.1 Market Maker Alarms

ID #: ALI	ALR-01 Type: Trade Management Require		Requirer	ment: Mandatory for Market Maker	Co-ordinated Test: N		
Descripti	Description:						
Commen	ts: For this test one MM (Partic	ipant) and one TRADEF	R (Exchan	ge Controlled) are needed.			
Prerequi	sites						
		Expected Results					
#	Test Steps	Trading Engine Responses (SAIL)		Market Information (HSVF)			
1	Client: The MM will Quote on Instruments belonging to Group AA fulfilling its spread and volume obligation Sends an Qi message:	Order is accepted Sends an LA message No market makers alarms are generated		H/HF or F/FF messages sent.			
2	<u>Client</u> : The MM will Quote on Instruments belonging to Group AA not fulfilling its spread obligations	Order is accepted Sends an LA messag Sail Messages MM is received after 2 minu advising that spread obligations are not fu	s ites	H/HF or F/FF messages sent.			
3	Client: The MM will Quote on Instruments belonging to Group AA not fulfilling its volume obligations	Order is accepted Sends an LA messag Sail Messages MM is received after 2 minu advising that spread obligations are not fu	s ites	H/HF or F/FF messages sent.			
4	Client: The MM will not Quote on any Instruments belonging to Group AA	Sail Messages MM is received after 2 minutes advising that prices are missing Q		H/HF or F/FF messages sent.			
5	Client: The MM will Quote on Instruments belonging to Group AA not fulfilling comparable size deviation	Sail Messages MM is received after 2 minu advising that Quantit outside comparable s deviation [Alert Type	ites ies size	H/HF or F/FF messages sent.			

4.14.2 Market Maker Alarms u	Inder Stressed Market Condition
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ID #: ALR	Type: Trade Management	Requirement: Manc	latory for Market Maker	Co-ordinated Test: Y
Descripti	on:			
Commen	ts: For this test one MM (Par	icipant) and one TRADER (Exch	ange Controlled) are needed.	
Prerequis	sites			
The trade	r has Market making obligatic	ns for Group AA		
		Expected Results		
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)	
1	BIT: sends Bulletin message Stressed Market Condition Start on Group AA		L(1) Regular Text Bulletin [Bulletin type = 2]	
2	Client: The MM will Quote on Instruments belonging to Group AA fulfilling its spread and volume obligation Sends an Qi message:	Order is accepted Sends an LA message No market makers alarms are generated	H/HF or F/FF messages sen	ıt.
3	Client: The MM will Quote on Instruments belonging to Group AA not fulfilling its spread obligations	Order is accepted Sends an LA message Sail Messages MM is received after 2 minutes advising that spread obligations are not fulfilled	H/HF or F/FF messages sent	t.
4	Client: The MM will Quote on Instruments belonging to Group AA not fulfilling its volume obligations	Order is accepted Sends an LA message Sail Messages MM is received after 2 minutes advising that spread obligations are not fulfilled	H/HF or F/FF messages sent	t.
5	<u>Client:</u> The MM will not Quote on any Instruments belonging to Group AA	Sail Messages MM is received after 2 minutes advising that prices are missing Q	H/HF or F/FF messages sent	 t.
6	Client: The MM will Quote on Instruments belonging to Group AA not fulfilling comparable size deviation	Sail Messages MM is received after 2 minutes advising that Quantities outside comparable size deviation [Alert Type = 9]	H/HF or F/FF messages sent	t.

4.15 Drop Copy Test Cases

4.15.1 Drop Copy

ID #: D	C-01 Type: Drop Copy extended	ed messages Requirement: Optional Co-ordinated Test: N						
Descrip	ption: It allows customers to manage orde	rs entered by other traders in the f	irm					
Comme	Comments: Drop copy user type needs to be used							
Prereq	uisites							
	ner must connect two users:							
	normal order routing user;							
	Drop Copy user;							
Expected Results								
#	Test Steps		Market Information					
		Trading Engine Responses (SAIL)	(HSVF)					
1	Client:	Order is accepted and is not on						
	Enter orders with normal OR user;	the book.						
	- modify some of these orders	Sends a KE message						
	- cancels some of those orders	[Status: "I "]						
	leaving some other orders active on the market	In the drop copy connection these messages will be received	d					
	Sends Internal messages	in the extended format, please						
	cancellation for	verify that in the messages KM KE, KZ and NZ you can see	2					
		additional field:						
		Price Type						
		Previous Displayed Quantity						
		Previous Booked Price						
		Displayed Quantity						
		Filler String						
		System Best Bid Price						
		System Best Ask Price						
		Filler String						
		Filler String						
		End of Message Block						
		Special Price Term						
		Additional Price						
		Quantity Term						
		Additional Quantity						
		Guaranteed Quantity						
		Duration Type						
		GTD Date						
		Opposite Firm						
		Filler String						
		Order Type						

2 Olient: Perform the following operation: Match partially an axisting order Canceal an existing trade Trade is done 2 Olient: Perform the following operation: Match partially an axisting order Canceal an existing trade on a leg of a Strategy trade Trade is done Sends in DE messages of a Strategy trade Sends 117 messages is sent in the othorded formits, please with the inthe messages of a Strategy trade Nit: Execution Notice Sends Internal messages of a Strategy trade Nit: Execution Cancellation Notice Nit: Execution Cancellation Notice Sends Internal messages cancellation for trades The following field are displayed: The following field are displayed: The following Status The following field are displayed: The following field are displayed: Filter String Timestage Block Remaining Quantity Filter String Filter String Timestamp Date Price Variation Nate Open Phoe High Phice Come Reseage Open Phoe High Phice Low Phice Displayed Quantity Filter String Timestamp Date Phice Phice Low Phice Displayed Quantity Filter String Filter String Filter String Filter String <th></th> <th></th> <th>Previous Order ID</th> <th></th>			Previous Order ID	
2 Silent: Partorn the following operation: Match partially an existing order Cancel an existing trade of a Strategy trade on a leg of a Strategy trade Sends an OE message Trade is done Sends an OE message ord; that in the messages vori; the vori the message vori; the vori the message vori; the vori the message vori; the vori the vori the vori the vori vori the vori the vori vori the vori the vori vori the vori the vori vori vori vori the vori vori vori vori the vori vori v				
2 Client: Filler String 2 Client: Trade is dorie Perform the following operation: Sends 1 NT message is sent In the drap copy connection thas messages will be received in the extended format, phease verify that in the messages will be received in the extended format, phease verify that in the messages will be received in the extended format, phease verify that in the messages will be received in the extended format, phease verify that in the messages verify that in the message verify that in the drap could that in that that that that that the that in that that t			-	
2 Client: Perform the following operation: Match partially an existing trade Cancel an existing trade of a Strategy trade Trade is done 3 Cancel an existing trade Cancel an existing trade on a leg of a Strategy trade Sands 1 NT messages will be received in the extended format, please worly that in the messages worly that in the messages worly that in the messages or Strategy trade Sends an OE message NT: Execution Notice NX: Execution Notice Sends internal messages cancellation for trades NY: Leg Execution Cancellation Notice The following field are displayed: The following field are displayed: Image: Cancel and the sender of the sender of the sender cancellation for trades The following field are displayed: Image: Cancel and the sender of the				
Image: constraint of the second se				
2 Client: Trade is done Perform the following operation: Match partially an existing order Sends 1 NT message is sent In the drop copy connaction In the drop copy connaction data Dirategy trade In the drop copy connaction of a Strategy trade In the drop copy connaction In the drop copy connaction Sends an OE message N: Execution Notice NI: Lag Execution Notice NV: Lag Execution Cancellation Notice NV: Execution Cancellation Notice NV: Lag Execution Cancellation Notice Displayed The following field are displayed: Previous Booked Quantity Order Type Liquidity Status End of Message Block Remaining Quantity Order Type Updity Status End of Message Block Remaining Quantity Ofhere Price Variation Not Change Open Price High Price Law Price Law Price Last Price Open Type Liquidity Status End of Message Block Remaining Quantity Filler String Filler String Filler String Filler String Filler String Filler Strin				
Perform the following operation: Sends 1 NT message is sent Match partially an existing order In the drop copy connaction Cancel an existing trade In the drop copy connaction Ganeel an existing trade on a leg of a Strategy trade In the drop copy connaction Sends an OE message NT: Execution Notice NL: Leg Execution Cancellation Notice NT: Execution Cancellation Sends Internal messages cancellation for trades NT: Leg Execution Cancellation Notice Displayed: Previous Booked Price Displayed: Displayed Quantity Internal message Block Remaining Quantity Filler String Timestamp Date Price Liquidity Status Liquidity Status End of Message Block Remaining Quantity Open Price Ligs Price <				
Match partially an existing trade In the drap copy connection Cancel an existing trade In the drap copy connection Cancel an existing trade on a leg In the drap copy connection Sends an OE message NT: Execution Notice Sends internal messages NT: Execution Cancellation Sends Internal messages NT: Execution Cancellation Sends Internal messages NT: Execution Cancellation Sends Internal messages The following field are displayed Previous Booked Quantity Previous Booked Price Displayed Quantity Order Type Liquidity Status End of Message Block Remaining Quantity Filler String Timestamp Date Price Low Price Low Price Low Price Low Price Low Price Last Price Low Price Low Price Low Price Light Price	2			
Cancel an existing trade these messages will be received in the extended format, please verify that in the messages verify that in the messages verify that in the messages NT: Execution Notice Sends an OE message NL: Leg Execution Notice NX: Execution Cancellation Notice Sends Internal messages cancellation for trades NY: Leg Execution Cancellation Notice The following field are displayed: The following field are displayed: Previous Booked Quantity Previous Booked Quantity Previous Booked Price Displayed Quantity Price Variation Net Change Open Price High Price Last Price Low Price Last Price Last Price Last Price Last Price Filler String Filler String Filler String Filler String Filler String Filler String High Price Last Price Last Price Internal Market Bid High Price Last Price Last Price Internal Market Bid Hiter String Hiter String			_	
Cancel an existing trade on a leg of a Strategy trade In the extended format, please verify that in the messages Sends an OE message NT: Execution Notice NL: Leg Execution Cancellation Notice NV: Leg Execution Cancellation Notice Sends Internal messages cancellation for trades NY: Leg Execution Cancellation Notice The following field are displayed Quantity Previous Booked Quantity Previous Booked Price Displayed Quantity Order Type Liquidity Status End of Message Block Remaining Quantity Filer String Timestamp Date Price Variation Net Change Open Price Light Price Low Price Light Price Last Price Displayed If the String Filler String Filler String Internal Market Bid Internal Market Bid Internal Market Ask				
of a Strategy trade NT: Execution Notice Sends an OE message NV: Lag Execution Cancellation Notice Sends Internal messages cancellation for trades NV. Lag Execution Cancellation Notice Sends Internal messages NV: Log Execution Cancellation Notice Sends Internal messages The following field are displayed: Previous Booked Price Displayed Quantity Previous Booked Price Displayed Quantity Filler String Timestamp Date Price Variation Net Change Open Price Last Price Last Price Copening trade Filler String Filler String Filler String			in the extended format, please	
Sends an OE message NL: Leg Execution Notice NV: Leg Execution Cancellation Notice NY: Leg Execution Cancellation Notice Sends internal messages cancellation for trades NY: Leg Execution Cancellation Notice The following field are displayed: The following field are displayed: Previous Booked Quantity Previous Booked Price Displayed Quantity Order Type Liquidity Status End of Message Block Remaining Quantity Filler String Timestamp Date Price Variation Net Change Open Price Low Price Last Price Low Price Last Price Liftin String Filler String Filler String Filler String				
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Open PriceHigh PriceLow PriceLast PriceDening tradeFiller StringFiller StringFiller StringInternal Market BidInternal Market Ask			Price Variation	
High PriceLow PriceLast PriceDening tradeFiller StringFiller StringFiller StringInternal Market BidInternal Market Ask			Net Change	
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Last PriceOpening tradeFiller StringFiller StringFiller StringInternal Market BidInternal Market Ask			High Price	
Opening trade Filler String Filler String Filler String Internal Market Bid Internal Market Ask			Low Price	
Filler String Filler String Filler String Internal Market Bid Internal Market Ask			Last Price	
Filler String Filler String Internal Market Bid Internal Market Ask			Opening trade	
Filler String Internal Market Bid Internal Market Ask			Filler String	
Internal Market Bid Internal Market Ask			Filler String	
Internal Market Ask			Filler String	
			Internal Market Bid	
			Internal Market Ask	
OppositeMsgType			OppositeMsgType	

	Original Price	
	Special Price Term	
	Additional Price	
	Additional Quantity Type	
	Additional Quantity	
	Duration Type	
	GTD Date	
	Filler String	
	Clearing Firm	
	Connection ID	
	Exchange ID	
	OrderTradingMode	
	OrderTimeStamp	
	Strategy Group	
	Strategy Instrument	
	Strategy Verb	
	Strategy Trade Number	
	Leg Number	
	MatchNumber	
	NumberInMatch	

4.16 User Defined Strategies (FLEXCO)

4.16.1 New Strategy Creation

ID #: FLX	-01 Type: New Strate	gy Instrument Creation	Requirem	ient:	Optional	Co-ordinated Test: N		
Descriptio	Description: New Strategy Creation.							
Comment	ts: None.							
Prerequi	sites							
None.								
		Expected Results						
#	Test Steps	Trading Engine Respon (SAIL)	nses	Market (HSVF)	Information			
1	Client: Sends NI and KN Messa		iges					
	Send ON message specifying the Number of legs and the Instruments	Creation Status ='C'		Sends .	IS/NS/HS m	essages		

4.16.2 Existed Strategy Modification

ID #: FL>	C-02 Type: New Strategy Inst	Type: New Strategy Instrument Creation		Optional	Co-ordinated Test: N			
Description	Description: Existed Strategy Modification							
Commen	Comments: Strategy Already Exists and the System will modify							
Prerequi	sites							
Execution	n of test case FLX01							
		Expected Results						
#	Test Steps	Trading Engine Res (SAIL)	Engine Responses Market Information (HSVF)		1			
1	Client:	Sends NI and KN M	essages					
	Send ON message specifying the Number of legs and the Instruments	Creation Status ='M'	s	ends JS/NS/HS m	lessages			

4.17 Bundle Order Test Scenarios

4.17.1 Bundle Order against Different Counterparties

ID #: BO-01 Type: Bundle Orde		Requirement:	Optional	Co-ordinated Test: Y				
Descripti	Description: Multiple proposal request against different counterparties completed successfully							
Prerequ	isites							
1.	The book for ins	trument INST1 must	be set to [Buy 12@2.00	– Sell 10@6];	no other orders must be in the book.			
2.	The book for ins	trument INST2 must	be set to [Buy 12@2.00	– Sell 10@5];	no other orders must be in the book.			
3.	Group for instru	ment INST1 and INS	T2 must be in _Continue	ous Trading mo	ode.			
	T		Expected Results					
#	Test Steps		Trading Engine Resp (SAIL)	onses	Market Information (HSVF)			
1	on INST1 and Exchange cou counterparty2	Bundle Order (BO) INST2 specifying nterparty1 and	Proposal acknowledge indicating the double of specified in the initial F Request with the Trade Proposal Status = W: Waiting for approval. The proposal legs with Status = W: Waiting for approval re proposal to be sent to Entering Firm ID and the sided proposal to be so Opposite Firm ID (in the PR). Proposal Type= B: Bu	of Legs Proposal er ID used. Order offer to the the he reverse end to he original	None			
2	Exchange: Pro Acceptance wi Proposal (OB)	ith Bundle						

3	Client	Bundle leg acceptance notice sent to the Initiator Participant with the details of multiple leg(s) accepted. Order Status = (blank): Order put in the order book. Proposal Status= W:	
4	Proposal Update (PU) unsolicited	Waiting for approval. Proposal leg acceptance notice sent to the Initiator Participant with the details of multiple leg(s) accepted. Order Status=(blank): Order put in the order book Proposal Status=W; Waiting for approval.	
5	Execution Notice (NT) unsolicited		Trade price is updated for INST1 and INST2

4.17.2 Bundle Order against Different Counterparties Cancelled

ID #: BO-	·02	Type: Bundle Order	Requirement: Optional	Co-ordinated Test: N				
Descriptio	Description: Multiple proposal requests against different counterparties cancelled.							
Prerequi	sites							
1.	The book for in	strument INST1 must	be set to [Buy 12@2.00 – Sell 10@6	; no other orders must be in the book.				
2.	The book for in	strument INST2 must	be set to [Buy 12@2.00 - Sell 10@5]	; no other orders must be in the book.				
3.	Group for instru	ument INST1 and INS	T2 must be in <u>Continuous</u> Trading m	node				
			Expected Results					
#	Test Steps		Trading Engine Responses (SAIL)	Market Information (HSVF)				
1	on INST1 and	Bundle Order (BO) d INST2 specifying unterparty1 and 2	Proposal acknowledgement indicating the double of Legs specified in the initial Proposal Request with the Trader ID used. Proposal Status = W: Waiting for approval. The proposal legs with Order Status = W: Waiting for approval refer to the proposal to be sent to the Entering Firm ID and the reverse sided proposal to be send to Opposite Firm ID (in the original PR). Proposal Type= B: Bundle Order.	None				
2	Client: Propos (XP)	sal Cancellation	Proposal cancellation specifying any leg (Original Order ID) of the					

		Proposal and the Refusal Reason .	
3	Client	Proposal cancellation acknowledgement with the latest Order Status and the Refusal Reason . Specifies the Trader ID used. Proposal Status=R: Refused	
4	Proposal Update (PU) unsolicited	Sent to the PR Initiator Participant connection. Contains only the refused leg with the latest order status and indicates the refusal reason . Proposal status=R: Refused Note: No further proposal Updates (PU) will be received after Proposal Status=R: Refused	

4.17.3 BO Leg Refusal

ID #: B	ID #: BO-03 Type: Bundle Order		Requirement:	Optional	Co-ordinated Test: Y			
Descrip	Description: BO leg refusal by participant.							
Prereq	Prerequisites							
1. 2.	The book for in		be set to [Buy 12@2.00	– Sell 10@5];	; no other orders must be in the book. ; no other orders must be in the book. node.			
			Expected Results					
#	Test Steps		Trading Engine Resp (SAIL)	onses	Market Information (HSVF)			
1	Client: Client submit Bundle Order (BO) on INST1 and INST2 specifying Exchange counterparty1 and counterparty2		Verify Proposal acknowledgement (KB)	None			
2	Exchange: P Cancellation							
3	Client		Sent to the BO initiator connection. Contains only the refus indicating the latest Or and the Refusal Reaso Proposal Status = R: R Note: No further Propo updates (PU) will be re after Proposal status= Refused.	eed leg der Status n. lefused sal ceived	None			

4.17.4 BO Automatic Cancellation

ID #: BO-04 Type: Bundle Order				Requirement:	Optional	Co-ordinated Test: N	
Descr	Description: BO automatic cancellation at market closure (expiry).						
Prere	equis	ites					
1	 The book for instrument INST1 must be set to [Buy 12@2.00 – Sell 10@6]; no other orders must be in the book. The book for instrument INST2 must be set to [Buy 12@2.00 – Sell 10@5]; no other orders must be in the book. 						
	3.	Group for instru	ument INST1 and INS	T2 must be in Continuo Expected Results	us Trading mod	de.	
#	Test Steps			Trading Engine Resp (SAIL)	oonses	Market Information (HSVF)	
1		Client: Client submit Bundle Order (BO) on INST1 and INST2 specifying Exchange counterparty1 and counterparty2		Verify Proposal acknowledgement (KE	3)	None	
				Order expiration notice of the trading day. Order status=E: The c been eliminated by the engine. Bundle orders are vali during the trading day No specific message (will be sent at market all confirmed legs will removed.	order has e trading d only PU or PN) closure, but		

4.17.5 Unsolicited Bundle order Proposal Notice

ID #: BC)-05	Type: Bundle Orde	r Requirement:	Mandatory	Co-ordinated Test: Y		
	Description: unsolicited Bundle Order proposal Notice sent from the Exchange to the Clients. Clients have to confirm to manage PN message						
Prerequ	isites						
1. 2. 3.	2. The book for instrument INST2 must be set to [Buy 12@2.00 – Sell 10@5]; no other orders must be in the book.						
			Expected Results				
#	Test Steps		Trading Engine Resp (SAIL)	onses	Market Information (HSVF)		
1	Exchange sul (Bundle order		Proposal acknowledg	ement KB			
2		e the PN message be = B: Bundle	Exchange sends PN (Notice)	Proposal			

4.17.6 Deferred Bundle Order

ID #: BO-	-06 Type: Bundle Orde	er Requirement: Optional	Co-ordinated Test: Y
Descriptio	on: Deferred Publication for Bundle C	Orders	
Prerequi	sites		
1.	The book for instrument INST1 must	t be set to [Buy 12@2.00 – Sell 10@6]; no other orders must be in the book.
2.	The book for instrument INST2 must	t be set to [Buy 12@2.00 – Sell 10@5]; no other orders must be in the book.
3.	Group for instrument INST1 and IN	ST2 must be in _Continuous Trading n	node.
4.	The volume/value of each leg wo know these thresholds)	uld respect the Post Trade LIS Value	e and Volume (please refer to Market Access Italy to
		5. Expected Results	
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)
1	Client: Client submit Bundle Order (BO) on INST1 and INST2 specifying Exchange counterparty1 and counterparty2 BO message with [Deferred Publication=D]	Proposal acknowledgement (KB message) indicating the double of Legs specified in the initial Proposal Request with the Trader ID used. Proposal Status = W: Waiting for approval. The proposal legs with Order Status = W: Waiting for approval refer to the	None
		proposal to be sent to the Entering Firm ID and the reverse sided proposal to be send to	

-			
		Opposite Firm ID (in the original PR).	
		Proposal Type= B: Bundle Order	
		Deferred Publication=D: Deferred	
		A single KE message will be sent for every leg (committed order) of the Bundle Order. Order Status = (blank): Order put in the order book	
2	Exchange: Proposal Acceptance with Bundle Proposal (OB)	Proposal Acceptance acknowledgment will be received by the Participant that sent the OB with the Trader ID used.	
		Order Status = (blank): Order put in the order book	
		Proposal Status = A: Approved	
		A single KE will be sent for every leg (committed order) of the Bundle.	
		Order Status = (blank): Order put in the order book	
3	Proposal Update (PU) unsolicited	Proposal leg acceptance notice sent to the Initiator Participant with the details of multiple leg(s) accepted.	
		Order Status=(blank): Order put in the order book	
		Proposal Status=W; Waiting for approval.	
4	Execution Notice (NT) unsolicited		Trade price is updated for INST1 and INST2
	[Deferred Publication= D]		

4.18 Third Party Trade Test Scenarios

4.18.1 Third Party Trade

ID #: TPT	Type: Third Party	Trade	Requirement: C	Option	al	Co-ordinated Test: Y
Descriptio	on: Third Party Trade request comple	eted success	sfully			
Prerequi	sites					
1.	The book for instrument INST1 mus	t be set to [B	uy 12@2.00 – Sell 1	0@6];	no other	orders must be in the book.
2.	Group for instrument INST1 must be	e in _Continu	ous Trading mode.			
		Expected	Results			
#	Test Steps	Trading E (SAIL)	ngine Responses		Market ((HSVF)	Information
1	Client: Client submit Proposal Request (PR) on INST1 specifying Exchange counterparty1 and counterparty2	indicating specified i Request w Proposal S Waiting fo The propo Status = V Waiting fo proposal t Entering F sided prop Opposite I PR). Proposal ²	r approval refer to the o be sent to the Firm ID and the revers posal to be send to Firm ID (in the origina	ed. e se	None	
2	Exchange: Proposal Acceptance with Bundle Proposal (OB)					
3	Client	sent to the with the de accepted. Order Star Order put Proposal S	a acceptance notice Initiator Participant etails of multiple leg(s tus = (blank): in the order book. Status= W: r approval.	s)		
4	Proposal Update (PU) unsolicited	sent to the with the de accepted. Order Stati in the orde	eg acceptance notice l Initiator Participant etails of multiple leg(s tus=(blank): Order pu er book Status=W; Waiting fo	s) ut	Trade pi	rice is updated for INST1
5	Execution Notice (NT) unsolicited				Trade p	rice is updated for INST1

4.18.2 Third Party Trade Cancelled

ID #: TPT	-02 Type: Third Party	Trade Requirement: Optional	Co-ordinated Test: N				
Descriptio	on: Multiple proposal requests agains	st different counterparties cancelled.					
Prerequi	Prerequisites						
1. 2.							
	Expected Results						
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)				
1	Client: Client submit Proposal Request (PR) on INST1 specifying Exchange counterparty1 and counterparty2	 Proposal acknowledgement indicating the double of Legs specified in the initial Proposal Request with the Trader ID used. Proposal Status = W: Waiting for approval. The proposal legs with Order Status = W: Waiting for approval refer to the proposal to be sent to the Entering Firm ID and the reverse sided proposal to be send to Opposite Firm ID (in the original PR). Proposal Type= T: Inter Dealer Broker Order. 	None				
2	Client: Proposal Cancellation (XP)	Proposal cancellation specifying <u>any leg</u> (Original Order ID) of the Proposal and the Refusal Reason .					
3	Client	Proposal cancellation acknowledgement with the latest Order Status and the Refusal Reason . Specifies the Trader ID used. Proposal Status=R: Refused					
4	Proposal Update (PU) unsolicited	Sent to the PR Initiator Participant connection. Contains only the refused leg with the latest order status and indicates the refusal reason . Proposal status=R: Refused Note: No further proposal Updates (PU) will be received after Proposal Status=R: Refused					

4.18.3 Third Party Trade Leg Refusal

ID #: TP	T-03 Type: Third Party	Trade Requirement:	Optional	Co-ordinated Test: Y			
Descripti	Description: TPT leg refusal by participant.						
Prerequi	isites						
1. 2.	The book for instrument INST1 mu Group for instrument INST1 must b		0@6]; no other orders	s must be in the book.			
2.		Expected Results					
#	Test Steps	Trading Engine Responses (SAIL)	Market (HSVF)	Information			
1	Client: Client submit Proposal Request (PR) on INST1 specifying Exchange counterparty1 and counterparty2	Verify Proposal acknowledgem	nent (KB) None				
2	Exchange: Proposal Cancellation (XP)						
3	Client	Sent to the TPT initiator Partici connection. Contains only the refused leg i the latest Order Status and the Reason. Proposal Status = R: Refused Note: No further Proposal upda will be received after Proposal : Refused.	ndicating ∋ Refusal ates (PU)				

4.18.4 Third Party Trade Automatic Cancellation

ID #:	: TPT-04 Type : Third F	Party Trade	Requirement:	Optional	Co-ordinated Test: N		
Desc	Description: TPT automatic cancellation at market closure (expiry).						
Prer	requisites						
	1. The book for instrument INST	1 must be set to [E	3uy 12@2.00 – Sell	10@6]; no other orders must b	be in the book.		
	2. Group for instrument INST1 m	ust be in Continuc	ous Trading mode.				
		Expected Resu	ults				
#	Test Steps	Trading Engine (SAIL)	e Responses		Market Information (HSVF)		
1	Client: Client submit Third Party Trade (TPT) on INST1 specifying Exchange counterparty1 and counterparty2	Verify Proposal	acknowledgement	(KB)	None		
2		Order status=E engine.Third Pa specific messag	arty Trades are valid	of the trading day. n eliminated by the trading d only during the trading day.No e sent at market closure, but al			

4.18.5 Unsolicited Third Party Prosopal Notice

ID #: TPT	-05 Type: Thi	rd Party Trade	Requirement:	Mandatory	Co-ordinated Test: Y		
Descriptio	Description: unsolicited Proposal Notice sent from the Exchange to the Clients. Clients have to confirm to manage PN message						
Prerequi	Prerequisites						
1. 2.	The book for instrument INST	•	•	0@6]; no other order	s must be in the book.		
		Expected F	Expected Results				
#	Test Steps	Trading En (SAIL)	gine Responses	Market Inform (HSVF)	nation		
1	Exchange submit the PR proposal request	Receve a P the Exchan	roposal Notice from ge.	None			
	Client: Receive a Third Party Tra Proposal notice	Inter Dealer	e Proposal Type T Broker Order				

4.19 Pre-Trade Validation

4.19.1 Exposition Risk Limit Rejection

ID #: PTV-01	Type: Pre-Trade Validation	Requirement:	Optional	Co-ordinated Test: N	
Description: A new order hits a configured Exposition RiskLimit and is rejected					

Prerequisites

- 1. RiskLimits are configured on the Participant's Trader team or Firm.
- 2. A RiskLimit matching the order's Side, Firm or Trader team and Instrument or Group is already reached.
- 3. The market for instrument INST1 must be set to [10@101.00 10@102.00].
- 4. Group for instrument INST1 must be in 'Continuous Trading' mode

		Expected Results			
#	Test Steps	Trading Engine Responses (SAIL)	Market Information (HSVF)		
1	Client:	Order is rejected.	Quote or Market Depth sent.		
	Enters a Sell Limit Order 40@101.10 with a Clearing Instruction, for instrument INST1.	Sends a ER message [Status:]	An F/FF or H/HF message is sent Strategy: An HS message is sent		
	A RiskLimit matching the order's Side, Firm or Trader team and Instrument or Group is already reached. Sends a OE message				

4.19.2 Kill Switch

ID #: PTV	7-02 Type: Pre-Trade	Validation Require	nent: Optional	Co-ordinated Test: N			
Descripti	Description: Kill Switch by Risk Manager Participant						
Prerequis	Prerequisites						
1. 2.							
Expected Results							
#	Test Steps	Trading Engine Resp (SAIL)	onses	Market Information (HSVF)			
1	Risk Manager Participant send the RT message	[Status = R]	the risk manger user the standard users for orde the standard user for quotes				

4.19.3 Risk Limit Configuration

ID #: PTV-03	Type: Pre-Trade Validation	Requirement:	Optional	Co-ordinated Test: N		
Description: Risk limits configuration or update by Risk Manager						
Prerequisites						
1. The market for instrument INST1 must be set to [10@2.00 – 10@2.50].						

#	Test Steps	Expected Results	
		Trading Engine Responses (SAIL)	Market Information (HSVF)
1	Client enters Risk Limits Configuration:	Sends LB message - Exchange acknowledges with Bulk Command Message Acknowledge	
	MK to set risk limits for their managed entities or		
	MQ to set Market Maker Risk limits for their managed entities		
	Firm, Trader, Reset, Nember of Risk Limit Block, Group, Instrument, Max Order Quantity, Max Traded Long=5, Max Traded Short, Max Exposed Long=25, Max Exposed Short, Max Traded Spreads, Max Exposed Spreads		
2	Insert an order on Buy Side for quantity 25 on INST 1 at price P1	Risk Limits Configuration MK/MQ is sent out	
		Order/Modification Acknowledgment	
		KE/KM	
		Risk Limits Usage Notice	
		MN or NQ	
3	Insert an order on Buy Side for quantity 1 on INST 1	Error Message	
		ER 3103	
		ExposedLong limit exceeded at the trader/instrument level	
4	Insert an order on Sell Side for quantity 6 on INST 1 at price P1	Execution Notice	
		NT message	
		Risk Limits Usage Notice	
		MN message	
		Order Cancellation	
		NZ message with status T	

Certification Guide

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