

Member Access using MMTP protocol via a Common Customer
Gateway (CCG)
NYSE Euronext Testing Guide

March 2009 – V 1.0

VERSION HISTORY

Version Number	Date	Source Documents Used	Reasons for issuing a New Version	Sections changed
V 1.0	March 2009	Member Access using MMTP / NSC protocol: Euronext Testing Guide version 1.5		-

Table of contents

<i>I- SLE CONNECTIVITY</i>	4
CYCLE C01: Logon MANAGEMENT.....	5
CYCLE C02: RESTART MANAGEMENT	10
CYCLE C03: RETRANSMISSION MANAGEMENT.....	22
CYCLE C04: ADMINISTRATIVE MESSAGES MANAGEMENT	25
CYCLE C05: CCG FAIL-OVER MANAGEMENT	29
<i>Annex1- Fail-Over Recovery Data Flow Kenamics</i>	33
<i>II- SLE PROFILE</i>	34
CYCLE P01: TRADING Subscription MANAGEMENT – PRIVATE UNSOLICITED MARKET MESSAGES	35
CYCLE P03: TRADING Subscription MANAGEMENT – SOLICITED MARKET MESSAGES.....	37
CYCLE P04: Multi-MARKET SUBSCRIPTION	38
CYCLE P05: Multi-Member Subscription (SERVICE BUREAU/ASP only).....	39
CYCLE T01: INCOMING MESSAGES DATA LAYOUT.....	40
CYCLE T02: MESSAGES SPECIFIC FOR NEW WARRANTS & CERTIFICATES MARKET MODEL.....	41
CYCLE T03: MESSAGES SPECIFIC FOR TCS PLATFORM.....	42

I- SLE CONNECTIVITY

CYCLE C01: LOGON MANAGEMENT

CYCLE C02: RESTART MANAGEMENT

CYCLE C03: RETRANSMISSION MANAGEMENT

CYCLE C04: ADMINISTRATIVE MESSAGES MANAGEMENT

CYCLE C05: CCG BINARY FAIL-OVER MANAGEMENT

CYCLE C01: LOGON MANAGEMENT

CYCLE OBJECTIVES:

This cycle tests SLE ability to receive and interpret the messages sent when a log-on attempt fails.

CYCLE PREPARATION:

- Exchange ensures that the SLE is logged off.
- Customer checks their connections and make sure that SLE is not logged on.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Logon Failure due to invalid message ID	Customer initiates an SLE logon with an invalid message ID	<ul style="list-style-type: none"> • SLE should interpret correctly logon reject. SLE should not keep retrying as long as customer has not corrected the problem.
2. Logon Failure due to invalid SLE Id.	Customer initiates an SLE logon with an invalid SLE Id	<ul style="list-style-type: none"> • SLE should interpret correctly logon reject. SLE should not keep retrying as long as customer has not corrected the problem.
3. Logon Failure due to invalid Password.	Customer initiates an SLE logon with an invalid SLE password	<ul style="list-style-type: none"> • SLE should interpret correctly logon reject. SLE should not keep retrying as long as customer has not corrected the problem.
4. Logon Failure due to port mismatch	Customer initiates an SLE logon with using port of different SLE. (Applicable only if customer owns several SLE).	<ul style="list-style-type: none"> • SLE should interpret correctly logon reject. SLE should not keep retrying as long as customer has not corrected the problem.
5. Logon Failure due to already existing connection.	Customer initiates a second SLE logon after already having established a first place logon with the same SLE ID.	<ul style="list-style-type: none"> • SLE should interpret correctly logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

CYCLE DETAILED INSTRUCTIONS:

UNIT 1: LOGON FAILURE DUE TO INVALID SEQUENCE NUMBER

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to begin test.		
Customer	Customer initiates a SLE logon with Message ID that is not available	SLE ID valid Message ID higher than last message received	START-REQ; START-NACK

COMPLETION CRITERIA:

- SLE receives and interprets logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

UNIT 2: LOGON FAILURE DUE TO INVALID SLE ID.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to Begin the test.		CNXR01
Customer	Customer initiates an SLE log-on with invalid SLE Id.	SLE ID invalid	CNXR01, CNXN01

COMPLETION CRITERIA:

- SLE receives and interpret logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

UNIT 3 LOGON FAILURE DUE TO INVALID PASSWORD.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to Begin the test.		
Customer	Customer initiates an SLE log-on with invalid SLE password.	SLE password invalid	CNXR02 , CNXN02

COMPLETION CRITERIA:

- SLE receives and interpret logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

UNIT 3: LOGON FAILURE DUE TO PORT MISMATCH (*)

INSTRUCTIONS:

(*) this test is applicable only if customer owns several connections.

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to Initiate an SLE log-on.		
Customer	Customer initiates an SLE logon with a port of another SLE that he owns.	SLE ID valid Port invalid	CNXR02 , CNXN02

COMPLETION CRITERIA:

- SLE receives and interpret logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

UNIT 4: LOGON FAILURE DUE TO ALREADY EXISTING CONNECTION
INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to Initiate an SLE log-on.		
Customer	Customer initiates a first SLE log-on with valid sequence number	SLE ID invalid Message id equal to last message received	CNXR02
Customer	Customer initiates a second SLE log-on with valid sequence number	SLE ID invalid Message id equal to last message received	CNXR02 , CNXN02

COMPLETION CRITERIA:

- SLE receives and interpret logon reject. SLE should not keep retrying as long as customer has not corrected the problem.

CYCLE C02: RESTART MANAGEMENT

CYCLE OBJECTIVES:

This cycle tests the software ability to restart data transmission correctly.

CYCLE PREPARATION:

- Exchange ensures that the SLE is disconnected.
- Customer checks their connections and make sure that SLE is not logged on.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. SLE-OUT Beginning of the day restart.	Customer initiates SLE-OUT Beginning of the Day restart.	<ul style="list-style-type: none"> • SLE-OUT session restarts correctly • SLE-OUT receives all Beginning of Day unsolicited messages. • SLE-OUT data flow correct
2. SLE-IN Beginning of the day restart.	Customer initiates SLE-IN Beginning of the Day restart. Then, customer sends the first message of the Day.	<ul style="list-style-type: none"> • SLE-IN session restarts correctly. • SLE-IN transmits the first message since Beginning of the Day. • SLE-IN data flow correct
3. SLE-OUT Customer initiated Logoff.	Customer initiates SLE-OUT logoff	<ul style="list-style-type: none"> • SLE-OUT session terminates correctly.
4. SLE-OUT Restart after Customer initiated Logoff.	After SLE-OUT customer initiated logoff, customer initiates SLE-OUT restart. Then, Exchange sends a public unsolicited message.	<ul style="list-style-type: none"> • SLE-OUT session restarts correctly. • SLE-OUT receives unsolicited message. • SLE-OUT data flow correct
5. SLE-IN Customer initiated Logoff.	Customer initiates SLE-IN logoff	<ul style="list-style-type: none"> • SLE-IN session terminates correctly. • SLE-IN data flow correct
6. SLE-IN Restart after Customer initiated Logoff.	<ul style="list-style-type: none"> • Customer initiates SLE-IN logoff • Customer initiates SLE-IN restart. • Customer sends a message. 	<ul style="list-style-type: none"> • SLE-IN session restarts correctly. • SLE-IN transmits message. • SLE-IN data flow correct
7. SLE-OUT Exchange initiated Logoff.	<ul style="list-style-type: none"> • Exchange initiates SLE-OUT logoff 	<ul style="list-style-type: none"> • SLE-OUT session terminates correctly. • SLE-OUT data flow correct
8. SLE-OUT Restart after Exchange initiated Logoff.	<ul style="list-style-type: none"> • Exchange initiates SLE-OUT logoff • Customer initiates SLE-OUT logon and initiates SLE-OUT restart request. 	<ul style="list-style-type: none"> • SLE-OUT receives restart acknowledgement. • SLE-IN and SLE-OUT sessions established correctly.

		<ul style="list-style-type: none"> SLE-OUT data flow correct
9. SLE-IN Exchange initiated Logoff.	<ul style="list-style-type: none"> Exchange initiates SLE-IN logoff 	<ul style="list-style-type: none"> SLE-IN session terminates correctly. SLE-IN data flow correct
10. SLE-IN Restart after Exchange initiated Logoff.	<ul style="list-style-type: none"> Exchange initiates SLE-IN logoff Customer initiates SLE-IN restart. Customer sends a message. 	<ul style="list-style-type: none"> SLE-IN session restarts correctly. SLE-IN transmits message. SLE-IN data flow correct

CYCLE DETAILED INSTRUCTIONS:

UNIT 1: SLE-OUT BEGINNING OF THE DAY RESTART.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE-OUT beginning of restart.	HUB Subscriber ID, Authentication data SLE-OUT Message Id., SLE-OUT next seq. number	CNXR00 , CNXA00 RTRR00 , RTRA00
Customer	Customer confirms reception of all beginning of day unsolicited messages.	SLE-OUT seq. number	DATA01 ,...,DATA0N
Exchange	Exchange checks SLE-OUT data flow.		.

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE transmits the first message since Beginning of the Day.
- SLE data flow correct

UNIT 1: SLE-IN BEGINNING OF THE DAY RESTART.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		.
Customer	Customer initiates a SLE-IN beginning of day restart.	HUB Subscriber ID, Authentication data. SLE-IN Message Id.,SLE-IN next seq. number	CNXR00 , CNXA00 RTRR00 , RTRA00
Customer	Customer sends 1 message.	SLE-IN Sequence number	DATA01
Exchange	Exchange checks reception of message.	SLE-IN Sequence number	
Exchange	Exchange checks SLE-OUT data flow.		.
			.

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE transmits the first message since Beginning of the Day.
- SLE data flow correct

UNIT 2: SLE-OUT 'CUSTOMER INITIATED' LOGOFF N° 1

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE-OUT logged off	SLE-OUT last sequence number	DNXR01 , DNXA01
Exchange	Exchange checks SLE-OUT session terminated correctly.	SLE-OUT last sequence number	

COMPLETION CRITERIA

- SLE-OUT session terminates correctly.

UNIT 3: SLE-OUT RESTART AFTER ‘CUSTOMER INITIATED’ LOGOUT N° 1

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE-OUT restart	HUB Subscriber ID, Authentication data SLE-OUT Message Id, SLE-OUT next seq. number	CNXR00 , CNXA00 RTRR00 , RTRA00
Exchange	Exchange checks SLE-OUT restart handshaking.	SLE-OUT Next seq., SLE-OUT Message Id.	
Exchange	Exchange send 1 public unsolicited message	SLE-OUT seq. Number, SLE-OUT Message Id.	DATA01
Customer	Customer confirms reception of the public unsolicited message.	SLE-OUT seq. Number, SLE-OUT Message Id.	
Exchange	Exchange confirms SLE-OUT is up		
Customer	Customer initiates a SLE-OUT logoff.	SLE-OUT Last Seq. Received	DNXR01 , DNXA01
Exchange	Exchange confirms SLE-OUT session terminated correctly.	SLE-OUT Last Seq. Received	
Exchange	Exchange sends 1 public unsolicited message		DATA01
Customer	Customer initiates a SLE-OUT restart.	HUB Subscriber ID, Authentication data SLE-OUT Message Id., SLE-OUT Next Seq. Number	CNXR00 , OACNX00 RTRR00 , OARTR00
Exchange	Exchange confirms SLE-OUT restart handshaking.	SLE-OUT Next seq., SLE-OUT Message Id.	
Customer	Customer confirms reception of the public unsolicited message.	SLE-OUT seq. Number, SLE-OUT Message Id.	DATA01
Exchange	Exchange confirms SLE-OUT is up		
Exchange	Exchange checks SLE-OUT data flow.		

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE receives unsolicited message.
- SLE data flow correct

UNIT 5- SLE-IN ‘CUSTOMER INITIATED’ LOGOFF.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE-IN logoff	SLE-IN last sequence number	DNXR01 , DNXA01
Exchange	Exchange checks SLE-IN session terminated correctly.		
Exchange	Exchange checks SLE-OUT data flow.		

COMPLETION CRITERIA

- SLE-IN session terminates correctly.
- SLE-IN data flow correct

UNIT 4: SLE 'CUSTOMER INITIATED' LOGOFF N°2

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE logged off		
Exchange	Exchange checks SLE session terminated correctly.		

COMPLETION CRITERIA

- SLE session terminates correctly.

UNIT 5: SLE-IN RESTART AFTER 'CUSTOMER INITIATED' LOGOUT N° 2

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		.
Customer	Customer initiates a SLE-IN restart	HUB Subscriber ID, Authentication data SLE-IN Message Id, SLE-IN next seq. Number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-IN restart handshaking.	SLE-IN Next seq., SLE-IN Message Id.	
Exchange	Customer send 1 message	SLE-IN seq. Number, SLE-IN Message Id.	DATA01
Customer	Exchange checks reception of the message.	SLE-IN seq. Number, SLE-IN Message Id.	
Exchange	Exchange checks both PATH IN and PATH OUT are up.		
Customer	Customer initiates a SLE-IN logoff.	SLE-IN Last Seq. Received	DNXR01 , DNXA01
Exchange	Exchange checks SLE-IN session terminated correctly.		
Customer	Customer initiates a SLE-IN restart.	HUB Subscriber ID, Authentication data SLE-IN Message Id., SLE-IN Next Seq. Number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-IN restart handshaking.	SLE-IN Next seq., SLE-IN Message Id.	
Exchange	Customer send 1 message	SLE-IN seq. Number, SLE-IN Message Id.	DATA01
Customer	Customer confirms reception of the message.	SLE-IN seq. Number, SLE-IN Message Id.	
Exchange	Exchange checks PAOUT is up.		.
Exchange	Exchange checks SLE-OUT data flow.		

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE receives pending message.
- SLE sends message.
- SLE data flow correct

UNIT 6: SLE-OUT 'EXCHANGE INITIATED' LOGOFF N° 1
INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Exchange	Exchange initiates a SLE-OUT logoff	SLE-OUT last sequence number	DNXR03 , DNXA03
Exchange	Exchange checks SLE-OUT session terminated correctly.	SLE-OUT last sequence number	
Customer	Customer confirms SLE-OUT session terminated correctly		

COMPLETION CRITERIA

- SLE session terminates correctly.

UNIT 7: SLE-OUT RESTART AFTER ‘EXCHANGE INITIATED’ LOGOUT N° 1

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Exchange	Exchange initiates a SLE-OUT restart	HUB Subscriber ID, Authentication data SLE-OUT Message Id, SLE-OUT next seq. number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-OUT restart handshaking.	SLE-OUT Next seq., SLE-OUT Message Id.	
Exchange	Exchange send 1 public unsolicited message	SLE-OUT seq. Number, SLE-OUT Message Id.	DATA01
Customer	Customer checks reception of the public unsolicited message.	SLE-OUT seq. Number, SLE-OUT Message Id.	
Exchange	Exchange checks SLE-OUT is up.		.
Customer	Exchange initiates a SLE-OUT logoff.	SLE-OUT Last Seq. Received	DNXR01 , DNXA01
Exchange	Exchange checks SLE-OUT session terminated correctly.		
Exchange	Exchange generates 1 public unsolicited message		
Customer	Customer initiates a SLE-OUT restart.	HUB Subscriber ID, Authentication data SLE-OUT Message Id., SLE-OUT Next Seq. Number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-OUT restart handshaking.	SLE-OUT Next seq., SLE-OUT Message Id.	
Customer	Customer checks reception of the public unsolicited message.	SLE-OUT seq. Number, SLE-OUT Message Id.	DATA01
Exchange	Exchange confirms SLE-OUT is up		
Exchange	Exchange analyzes SLE-OUT data flow.		

COMPLETION CRITERIA

- SLE-OUT session restarts correctly.
- SLE-OUT receives unsolicited message.
- SLE-OUT data flow correct

UNIT 8: SLE-IN 'EXCHANGE INITIATED' LOGOFF

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Exchange	Exchange initiates a SLE-IN logoff	SLE-IN last sequence number	DNXR03 , DNXA03
Exchange	Exchange checks SLE-IN session terminated correctly.		

COMPLETION CRITERIA

- SLE session terminates correctly.
- SLE data flow correct

UNIT 9: SLE-IN RESTART AFTER 'EXCHANGE INITIATED' LOGOUT

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE-IN restart	HUB Subscriber ID, Authentication data SLE-IN Message Id, SLE-IN next seq. number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-IN restart handshaking.	SLE-IN Next seq., SLE-IN Message Id.	
Exchange	Customer send 1 message	SLE-IN seq. Number, SLE-IN Message Id.	DATA01
Customer	Exchange checks reception of the message.	SLE-IN seq. Number, SLE-IN Message Id.	
Exchange	Exchange checks SLE-IN is up.		
Customer	Customer initiates a SLE-IN logoff.	SLE-IN Last Seq. Received	DNXR01 , DNXA01
Exchange	Exchange checks SLE-IN session terminated correctly.		
Customer	Customer initiates a SLE-IN restart.	HUB Subscriber ID, Authentication data SLE-IN Message Id., SLE-IN Next Seq. Number	CNXR00 , CNXA00 RTRR01 , RTRA01
Exchange	Exchange checks SLE-IN restart handshaking.	SLE-IN Next seq., SLE-IN Message Id.	
Exchange	Customer send 1 message	SLE-IN seq. Number, SLE-IN Message Id.	
Customer	Exchange checks reception of the message.	SLE-IN seq. Number, SLE-IN Message Id.	DATA01
Exchange	Exchange confirms SLE-IN is up		.
Exchange	Exchange analyzes SLE-IN data flow.		

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE receives pending message.
- SLE sends message.
- SLE data flow correct

CYCLE C03: RETRANSMISSION MANAGEMENT

CYCLE OBJECTIVES:

This cycle tests the software ability to replay data reception correctly.

CYCLE PREPARATION:

- Exchange ensures that the SLE is disconnected.
- Customer checks their connections and make sure that SLE is not logged on.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. SLE-OUT Beginning of the day reception replay	Customer initiates SLE Beginning of the Day restart (ie set Message ID blank in START REQUEST).	<ul style="list-style-type: none"> • SLE session restarts correctly. • SLE receives all Beginning of Day unsolicited messages. • SLE data flow correct.
2. SLE intraday reception replay.	After SLE customer initiated logout, customer initiates SLE restart from a specific message ID. Then, Exchange resends messages from the requested message ID	<ul style="list-style-type: none"> • SLE session restarts correctly. • SLE receives resent messages. • SLE data flow correct
3. SLE-IN resynchronization from 'Exchange Requested' Message Id.	<ul style="list-style-type: none"> • Exchange drops both SLE- IN and SLE- OUT devices. • Customer reconnects the WAY IN using a specific Message ID • The HUB will request the resending of messages • Customer will confirm the Resend request 	<ul style="list-style-type: none"> • SLE-IN and SLE-OUT paths restart correctly.

CYCLE DETAILED INSTRUCTIONS:**UNIT 1: SLE-OUT BEGINNING OF THE DAY RECEPTION REPLAY****INSTRUCTIONS:**

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE beginning of day restart	Message ID is blank	START REQUEST
Exchange	Exchange resend messages		
Customer	Customer confirms retransmission of message.		

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE receives retransmission of all messages since Beginning of the Day.
- SLE data flow correct

UNIT 2: SLE-OUT INTRADAY RECEPTION REPLAY.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer initiates a SLE beginning of day restart	Message ID equal to a specific Message ID	START REQUEST
Exchange	Exchange resend messages		
Customer	Customer confirm retransmission of message.		

COMPLETION CRITERIA

- SLE session restarts correctly.
- SLE receives retransmission of all messages since Beginning of the Day since the specific Message ID
- SLE data flow correct

UNIT 3: SLE-IN INTRADAY RECEPTION REPLAY.

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to start the test.		
Customer	Customer connects and starts sending applicative messages		
Exchange	Exchange disconnects SLE while Customer continues sending applicative message		
Customer	Customer confirms disconnection		
Customer	Customer reconnects	Message ID equal to last received message ID	START REQUEST
Customer	Customer sends applicative message		

COMPLETION CRITERIA

- SLE session restarts correctly.
- Customer confirms that no applicative messages are lost and that no orders are in status pending on the customer's application
- SLE data flow correct

CYCLE C04: ADMINISTRATIVE MESSAGES MANAGEMENT
CYCLE OBJECTIVES:

This cycle tests the software ability to send messages

CYCLE PREPARATION:

- Exchange ensures that the SLE is disconnected.
- Customer checks their connections and make sure that SLE is not logged.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Periodic reception of heartbeats	Customer establishes connection without sending any message during a period of time	<ul style="list-style-type: none"> • SLE receive heartbeats periodically
2. SRVC message sent by customer	Customer establishes connection without sending any message during a period of time	<ul style="list-style-type: none"> • SLE receives heartbeat reply from CCG
3. SRVC message sent by CCG	Customer establishes connection without sending any message during a period of time	<ul style="list-style-type: none"> • SLE replies with heartbeat

CYCLE DETAILED INSTRUCTIONS:**UNIT 1- PERIODIC RECEPTION OF HEARTBEATS**

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to begin test		.
Customer	Customer initiates a SLE start	Message ID equal to last message received	CONREQ
Customer	Customer confirm reception of periodic reception of heartbeats		PRSC-MSG

COMPLETION CRITERIA:

- SLE receive heartbeats periodically

UNIT 2- SRVC-MSG SENT BY CUSTOMER
INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to begin test		.
Customer	Customer initiates a SLE start	Message ID equal to last message received	CONREQ
Customer	Customer provoke emission of SRVC-MSG	The SLE of the customer sends a SRVC-MSG Service Type = Ping Service Data = Contains the date and time of transmission	SRVC-MSG
Exchange	Exchange confirms reception of SRVC-MSG		
Customer	Customer confirm reception of heartbeat	The Exchanges replies to the SRVC-MSG Service Type = Pong Service Data = Equal to the Service Data received in the previous message	PRSC-MSG

COMPLETION CRITERIA:

- SLE receives heartbeat reply from CCG.

UNIT 3- SRVC-MSG SENT BY EXCHANGE

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Exchange	Exchange advises the customer to begin test		.
Customer	Customer initiates a SLE start	Message ID equal to last message received	CONREQ
Exchange	Exchange provoke emission of SRVC-MSG	Exchange verifies that after a given moment a SRVC-MSG is sent to the way out with the following fields : - Service Type = Ping Service Data = Contains the date and time of transmission	SRVC-MSG
Customer	Customer confirm reception of SRVC-MSG		
Exchange	Exchange confirm reception of heartbeat	- Service Type = Pong	

COMPLETION CRITERIA:

- SLE reply with heartbeat correctly

CYCLE C05: CCG FAIL-OVER MANAGEMENT

CYCLE OBJECTIVES:

This cycle tests the software ability to recover following a CCG fail over :

- ability to detect message received duplicate
- ability to resend or not resend orders sent gap , in accordance of customer order retransmission policy.

With respect of duplicate messages on the WAY OUT detection method, Customer Application will need to use the following fields, per message type:

- Order Fill : Member Code, Symbol, Trade Number, Side
- Trade Cancellation : Member Code, Symbol, Trade Number, Side
- Ack messages : Member Code, Symbol, Order Date & Sequence Number.

CYCLE PREPARATION:

- Exchange ensures that the SLE is connected.
- Customer checks their connection is up and running on the WAY IN and WAY OUT
- Exchange invite customer to send orders in a sustained manner, then immediately provoke a fail over of CCG.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Logon handshake recovery	Customer reconnects immediately his SLE	<ul style="list-style-type: none"> • SLE reconnects correctly
2. Reception recovery	CCG resumes transmission of messages	<ul style="list-style-type: none"> • SLE resume reception correctly and is able to detect any application message duplicate
3. Emission recovery	SLE resumes transmission of messages	<ul style="list-style-type: none"> • SLE resumes emission correctly and is able to detect and deal with any orders sent gap.

CYCLE DETAILED INSTRUCTIONS:

UNIT 1- LOGON HANDSHAKE RECOVERY

INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Customer	Customer initiates a SLE start on the WAY IN and WAY OUT	Message ID equal to last message received	Logon (A)
Customer	Customer confirms SLE up and running	Message ID within customer logon Message ID within CCG logon	Logon (A)
Exchange	Exchange checks SLE restart handshaking.	Message ID within customer logon Message ID within CCG logon	Logon (A)

COMPLETION CRITERIA:

- SLE reconnect correctly

UNIT 2- . RECEPTION RECOVERY
INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Customer	Customer checks data received and confirm that software is able to detect any application message duplicate.	Per message type Customer confirms if any duplicate messages are received and ignored following the logic: - Order Fill : Member Code, Symbol, Trade Number, Side - Trade Cancellation : Member Code, Symbol, Trade Number, Side - Ack messages : Member Code, Symbol, Order Date & Sequence Number	DATA message

COMPLETION CRITERIA:

- SLE resumes reception correctly and is able to detect any application message duplicate.

UNIT 3- EMISSION RECOVERY
INSTRUCTIONS:

Side	Instructions	Data Key Fields	Data Layout Reference
Customer	Customer checks orders sent gap	Message ID within CCG logon	Logon Request
Customer	Customer checks that SLE has not resent the gap according to customer retransmission policy.	Message ID within DATA message	DATA message
Exchange	Exchange checks if customer has sent any order duplicate	Message ID within DATA message	DATA message

COMPLETION CRITERIA:

- SLE resumes emission correctly and is able to detect and deal with any orders sent gap, in accordance of customer order retransmission policy.

ANNEX1- FAIL-OVER RECOVERY DATA FLOW KENAMICS

MMTP recovery					
FIRM to CCG			CCG to FIRM		
MsgId	Message	Detail	Detail	Message	MsgId
	START-REQ	MsgId=		START-REQ	
	START-ACK	MsgId=		START-ACK	
F01	DATA-MSG	Order; InternalRef=IR-01			
F02	DATA-MSG	Order; InternalRef=IR-02			
F03	DATA-MSG	Order; InternalRef=IR-03			
F04	DATA-MSG	Order; InternalRef=IR-04			
F05	DATA-MSG	Order; InternalRef=IR-05			
F06	DATA-MSG	Order; InternalRef=IR-06			
F07	DATA-MSG	Order; InternalRef=IR-07			
F08	DATA-MSG	Order; InternalRef=IR-08			
F09	DATA-MSG	Order; InternalRef=IR-09			
				Ack; InternalRef=IR-01	DATA-MSG C01
				Ack; InternalRef=IR-04	DATA-MSG C02
				Ack; InternalRef=IR-02	DATA-MSG C03

CIOrdId ID-004 gets an ack sooner than ID-002: this is possible because they went to different trading units

Firm Persist Files After Crash			
OutBound		Inbound	
MsgId	IntRef	IntRef	MsgId
F01	IR-01	IR-01	C01
F02	IR-02	IR-04	C02
F03	IR-03	IR-02	C03
F04	IR-04		
F05	IR-05		
F06	IR-06		
F07	IR-07		
F08	IR-08		
F09	IR-09		

FIRM to CCG				CCG to FIRM			
MsgId	Message	Detail	Detail	Message	MsgId	MsgId	Message
	START-REQ	MsgId=F03		START-REQ			
	START-ACK	MsgId=F03		START-ACK			
F10	DATA-MSG	Order; InternalRef=IR-10					
F11	DATA-MSG	Order; InternalRef=IR-11					
				Ack; InternalRef=IR-04	DATA-MSG	C04	
				Ack; InternalRef=IR-07	DATA-MSG	C05	
				Ack; InternalRef=IR-02	DATA-MSG	C06	
				Ack; InternalRef=IR-05	DATA-MSG	C07	
				Ack; InternalRef=IR-03	DATA-MSG	C08	

CCG Persist Files After Crash + Recovery			
Inbound		OutBound	
MsgId	IntRef	OrderId	MsgId
F01	IR-01	IR-01	C01
F02	IR-02	IR-04	??
F03	IR-03	IR-07	??
		IR-02	??
		IR-05	??
		IR-03	??

CCG Resending same message with different MSGID !

Firm actually decides NOT to resend F04 to F09. GapFill in MMTP is as easy as not sending the MSGID you don't want to resend

Final state	
InternalRef	Comment
IR-01	Acked
IR-02	Dup-Acked
IR-03	Acked
IR-04	Dup-Acked
IR-05	Acked
IR-06	Gap-Filled
IR-07	Acked
IR-08	Gap-Filled
IR-09	Gap-Filled
IR-10	pending
IR-11	pending

II- SLE PROFILE

CYCLE P01: TRADING SUBSCRIPTION MANAGEMENT - UNSOLICITED MESSAGES

CYCLE P02: TRADING SUBSCRIPTION MANAGEMENT - SOLICITED MESSAGES

CYCLE P03: MULTI-MARKET SUBSCRIPTION

CYCLE P04: MULTI-MEMBER SUBSCRIPTION (SERVICE BUREAU/ASP ONLY)

CYCLE T01: INCOMING MESSAGES DATA LAYOUT

CYCLE T03: MESSAGES SPECIFIC TO NEW WARRANTS & CERTIFICATES MARKET

CYCLE T04: MESSAGES SPECIFIC TO TCS PLATFORM

CYCLE P01: TRADING SUBSCRIPTION MANAGEMENT – PRIVATE UNSOLICITED MARKET MESSAGES

CYCLE OBJECTIVES:

This cycle tests SLE ability to receive and interpret private unsolicited market messages from all subscribed trading systems.

CYCLE PREPARATION:

- Exchange ensures that the SLE is logged on.
- Customer checks their connections and make sure that SLE is logged on.

CYCLE DESCRIPTION:

System	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
UTP	1. Order cancelled (order cancelled by Exchange)	Customer enters orders. Exchange cancel during the market session all the orders sent by the customer. Customer checks reception of this message for each order still alive in its book.	<ul style="list-style-type: none"> • SLE receives and interprets message (0172 type S)
	2. Order eliminated (due to Corporate event)	Customer enters orders. Exchange cancels all his orders for a corporate action on that security during the post-market session. Customer checks reception of this message for each order still alive in its book for this security.	<ul style="list-style-type: none"> • SLE receives and interprets message (0138)
	3. Remaining Order reject due to collar breach	Customer enters a valid limit order that is partially executed. The remaining quantity is rejected due to a collar breach.	<ul style="list-style-type: none"> • SLE receives and interprets messages: 0172, 0105 and 0144
	4. Order elimination (IOC order partially executed)	Customer enters a IOC order during continuous session likely to be partially filled. Customer checks reception of partial fill (0105) and kill (0138).	<ul style="list-style-type: none"> • SLE receives and interprets messages: 0172, 0105 and 0138

UTP	5. Orders elimination (Global cancellation by the member)	Customer enters orders. Member cancels during the market session all his orders for a given security using global cancellation Customer checks reception of Order killed message for each order still alive in its book for this security.	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market messages (0138)
	6. Orders elimination (Global cancellation by the Exchange)	Customer enters orders. Exchange cancels all his orders during the market session all his orders . Customer checks reception of Order killed message for each order still alive in its book.	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market messages (0138)
	7. Order Replaced	Customer enters an order during the market session. Then Customer modifies this order. Customer checks the reception of Order Outcome message (0172)	<ul style="list-style-type: none"> SLE receives and interprets private solicited private message (0172))
	8. Execution notice (order partially filled)	Exchange places some liquidity in a given security and invite customer to enter an order that partially trades. Customer checks reception of one or several partial fill message(s).	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market message(s) (0105)
	9. Execution notice (order fully filled)	Exchange places some liquidity in a given security and invite customer to enter an order that fully trades. Customer checks reception of one or several fill message(s).	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market message(s) (0105)
	10. Trade creation	Customer is involved in a trade. Exchange cancels this trade. Customer checks reception of this message.	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market message (0103)
	11. Trade cancelled.	Customer is involved in a trade. Exchange cancels this trade. Customer checks reception of this message.	<ul style="list-style-type: none"> SLE receives and interprets private unsolicited market message (0100)

CYCLE P03: TRADING SUBSCRIPTION MANAGEMENT – SOLICITED MARKET MESSAGES

CYCLE OBJECTIVES:

This cycle tests SLE ability to receive and interpret solicited market messages from all subscribed trading systems.

CYCLE PREPARATION:

- Exchange ensures that the SLE is logged on.
- Customer checks their connections and make sure that SLE is logged on..

CYCLE DESCRIPTION:

System	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
UTP	1. New Order outcome Ack	Customer enters a valid limit order not executed and checks reception of ack message.	• SLE receives and interpret message (0172)
	2. Cancel/Replace Request Ack	Customer modifies a valid limit order not executed and checks reception of confirmation message.	• SLE receives and interpret messages (0172)
	3. Cancel Request Ack	Customer cancels a valid limit order and checks reception of confirmation message	• SLE receives and interpret messages (0172)
	4. Order Reject	Customer enters an invalid limit order and checks reception of order reject.	• SLE receives and interpret message (0144)
	5. Cancel Replace Reject	Customer modifies an invalid limit order and checks reception of replace reject.	• SLE receives and interpret message (0144)
	6. Cancel Reject	Customer cancels an invalid limit order and checks reception of cancel reject.	• SLE receives and interpret message (0144)

CYCLE P04: MULTI-MARKET SUBSCRIPTION

CYCLE OBJECTIVES:

This cycle tests the software ability to receive and interpret incoming market messages from all subscribed trading engines: UTP , NYSE ARCA EUROPE, NSC VW, SMARTPOOL, TCS.

CYCLE PREPARATION:

- Exchange ensures that the SLE is logged on.
- Customer checks their connections and make sure that SLE is logged on.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Multi-Market Reception.	Customer checks reception of market messages coming from each trading engine customer has subscribed.	<ul style="list-style-type: none"> • SLE receives and interprets unsolicited market messages from each trading engine customer are subscribed to.
2. Multi-Market Emission.	Customer enters an order for each trading engine customer has subscribed.	<ul style="list-style-type: none"> • SLE transmits orders for each trading engine customer has subscribed to.

CYCLE P05: MULTI-MEMBER SUBSCRIPTION (SERVICE BUREAU/ASP ONLY)

CYCLE OBJECTIVES:

This cycle tests the SLE ability to manage emission and reception of all market messages belonging to each member SLE is entitled to route.

CYCLE PREPARATION:

- Exchange ensures that the SLE is logged on.
- Customer checks their connections and make sure that SLE is logged on.

CYCLE DESCRIPTION:

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Multi-Member Emission.	Customer checks reception of market messages belonging to each member SLE is entitled to route.	<ul style="list-style-type: none"> • SLE receives and interprets market messages belonging to each member SLE are entitled to route.
2. Multi-Member Reception.	Customer enters an order for each member SLE is entitled to route.	<ul style="list-style-type: none"> • SLE transmits order for each member SLE is entitled to route.
3. Member Versus Subscriber Mapping.	Customer enters an order for two members related to different SLE.	<ul style="list-style-type: none"> • Each order is routed by the right SLE.

CYCLE T01: INCOMING MESSAGES DATA LAYOUT

CYCLE OBJECTIVES:

This cycle tests customer software's ability to enter orders, modification and cancellation messages according to business data layout specification

CYCLE PREPARATION:

- Exchange selects a security. This security is open and authorized. The group is in market session phase.

CYCLE DESCRIPTION:

SYSTEM	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA	RESULT
UTP	1. Order Entry (0001)	<ul style="list-style-type: none"> • Customer enters an order. 	<ul style="list-style-type: none"> • Exchange checks that the order entry data layout is correct. 	
	2. Order Modification (0002)	<ul style="list-style-type: none"> • Customer enters an order and then modifies it. 	<ul style="list-style-type: none"> • Exchange checks that the order modification data layout is correct. 	
	3. Order Cancellation (0003)	<ul style="list-style-type: none"> • Customer enters an order and then cancels it. 	<ul style="list-style-type: none"> • Exchange checks that the order cancellation data layout is correct. 	
	4. Order Global Cancellation (0065)	<ul style="list-style-type: none"> • Customer enters orders on a given security and then initiates order global cancellation on this security. 	<ul style="list-style-type: none"> • Exchange checks that the order global cancellation data layout is correct. 	
NSC VW	5. Change of Reference Price (0203) *	<ul style="list-style-type: none"> • Customer enters a Change of Reference Price 	<ul style="list-style-type: none"> • Exchange checks that Change of Reference Price layout is correct. 	

CYCLE T02: MESSAGES SPECIFIC FOR NEW WARRANTS & CERTIFICATES MARKET MODEL

CYCLE OBJECTIVES:

This cycle tests customer software’s ability to send and receive the messages that are specific to the new market mode of the Warrants & Certificates platform (Bulk Quote, Request For Execution, Ask For Quote, One Side Only. This test is only necessary if the member is Liquidity Provider on an instrument on the new Warrants & Certificates market model.

CYCLE PREPARATION:

- Exchange selects a security for which the member is Liquidity Provider. This security is open and authorized. The group is in market session phase.

CYCLE DESCRIPTION:

SYSTEM	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA	RESULT
NMMW	1. Bulk Quote Entry (0501)	<ul style="list-style-type: none"> • Customer enters a Bulk Quote. 	<ul style="list-style-type: none"> • Exchange checks that the Quote entry data layout is correct. 	
	2. Bulk Quote Modification (0501)	<ul style="list-style-type: none"> • Customer enters a Bulk Quote and then modifies it. 	<ul style="list-style-type: none"> • Exchange checks that the Quote modification data layout is correct. 	
	3. Bulk Quote Cancellation (0501)	<ul style="list-style-type: none"> • Customer enters a Bulk Quote and then cancels it. 	<ul style="list-style-type: none"> • Exchange checks that the Quote cancellation data layout is correct. 	
	4. One Side Only (0504)	<ul style="list-style-type: none"> • Customer enters a One Side Only message 	<ul style="list-style-type: none"> • Exchange checks that the One Side Only data layout is correct. 	
	5. Request For Execution (0503)	<ul style="list-style-type: none"> • Customer enters a Bulk Quote. • Exchange hits one of the Quotes 	<ul style="list-style-type: none"> • Customer interprets the Request For Execution message (0503) correctly 	
	6. Ask For Quote (0502)	<ul style="list-style-type: none"> • Customer enters a Bulk Quote. • Exchange eliminates the Quotes 	<ul style="list-style-type: none"> • Customer interprets the Ask For Quote message (0502) correctly 	

CYCLE T03: MESSAGES SPECIFIC FOR TCS PLATFORM

CYCLE OBJECTIVES:

This cycle tests the customer software's ability to send, receive and interpret public unsolicited market messages concerning the TCS platform.

CYCLE PREPARATION:

- Exchange ensures that the SLE is connected to the CCG.

Customer checks their connections and make sure that SLE is connected

Cycle DESCRIPTION:

SYSTEM	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA	RESULT
TCS	1. Start of TCS Trading Session Notice (0419)	<ul style="list-style-type: none"> • Customer checks reception of the start of TCS trading Session. 	<ul style="list-style-type: none"> • SLE receives and interprets public unsolicited market messages 	
	2. End of TCS Trading Session Notice (0420)	<ul style="list-style-type: none"> • Customer checks reception of the end of TCS trading Session. 	<ul style="list-style-type: none"> • SLE receives and interprets public unsolicited market messages 	
	3. Trade outside the order book (0441)	<ul style="list-style-type: none"> • Customer enters a declaration outside the order book (type 0) • Exchange matches the declaration 	<ul style="list-style-type: none"> • Exchange checks that the declaration entry data layout is correct. • Customer confirms the matching of the declaration 	
	4. OTC trade (0441)	<ul style="list-style-type: none"> • Customer enters a OTC trade (type K) • Exchange matches the declaration 	<ul style="list-style-type: none"> • Exchange checks that the declaration entry data layout is correct. • Customer confirms the matching of the declaration 	
	5. Reception of unsolicited declaration issued by counterpart (0412) type Off Exchange	<ul style="list-style-type: none"> • Exchange sends a declaration with operation type "Off Exchange" (0) to the Customer. 	<ul style="list-style-type: none"> • Customer confirms the reception of the message Declaration issued by the counterpart (0412) 	
	6. Reception of unsolicited declaration issued by counterpart (0412) type OTC trade	<ul style="list-style-type: none"> • Exchange sends a declaration with operation type "OTC trade" (K) to the Customer. 	<ul style="list-style-type: none"> • Customer confirms the reception of the message Declaration issued by the counterpart (0412) 	

SYSTEM	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA	RESULT
TCS	7. Matching of declaration type Trade outside the order book	<ul style="list-style-type: none"> Exchange sends a declaration with operation type Trade outside the order book to the Customer. The customer matches the declaration. 	<ul style="list-style-type: none"> Customer confirms the reception of the message Declaration issued by the counterpart (0412) Customer and exchange confirm the matching notice 	
	8. Matching of OTC trade (0441)	<ul style="list-style-type: none"> Exchange sends a declaration with operation type OTC trade (type K) The customer matches the declaration. 	<ul style="list-style-type: none"> Customer confirms the reception of the message Declaration issued by the counterpart (0412) Customer and exchange confirm the matching notice 	
	9. Elimination of TCS declaration (0416)	<ul style="list-style-type: none"> Customer sends a TCS declaration Exchange does not reply to the message 	<ul style="list-style-type: none"> Customer confirms the TCS declaration has been eliminated after 15 minutes (0416) 	
	10. Refusal of TCS declaration (0403)	<ul style="list-style-type: none"> Exchange sends a TCS declaration to the Customer. The customer refuses the declaration (0403). Exchange and customer confirm the refusal (0414) 	<ul style="list-style-type: none"> Exchange verifies the integrity of the refusal message. Exchange and the customer confirm the refusal of the declaration. 	
	11. Reception of refusal notice issued by counterpart (0414)	<ul style="list-style-type: none"> Customer sends a TCS declaration. The exchange refuses the declaration. Exchange and customer confirm the refusal (0414) 	<ul style="list-style-type: none"> Customer confirms the reception of the refusal message notice Exchange and the customer confirm the refusal of the declaration. 	
	12. Cancellation request (0402).	<ul style="list-style-type: none"> Customer sends a TCS declaration The customer cancels the declaration before the declaration has been matched (0402). Customer and exchange confirm the cancellation (0413) 	<ul style="list-style-type: none"> Exchange checks that the cancellation request is correct Customer confirms the cancellation 	
	13. Reception of cancellation request issued by counterpart (0413)	<ul style="list-style-type: none"> Exchange sends a TCS declaration to the Customer The exchange cancels the declaration. Customer and exchange confirm the cancellation (0413) 	<ul style="list-style-type: none"> Customer confirms the reception of the declaration. Customer confirms the cancellation 	
	14. Trade cancellation request (0404) (not possible for the Dutch Funds service)	<ul style="list-style-type: none"> The customer sends a trade cancellation request for a trade that has been done earlier (0404). The exchange sends the matching cancellation request (0404) 	<ul style="list-style-type: none"> Exchange checks the integrity of the cancellation request of the customer Customer confirms that the status of the trade is "Awaiting the trade cancellation confirmation of the buyer/seller" after the first 0404 message. Customer confirms after the sending of the second 0404 message that the trade has been cancelled 	

SYSTEM	UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA	RESULT
TCS	15. Reception of cancellation request (0404) (not possible for the Dutch Funds service)	<ul style="list-style-type: none"> The exchange sends a trade cancellation request for a trade that has been done earlier (0404). The customer sends the matching cancellation request (0404) 	<ul style="list-style-type: none"> Customer confirms that the status of the trade is “Awaiting the trade cancellation confirmation of the buyer/seller” after the first 0404 message. Exchange checks the integrity of the cancellation request of the customer Customer confirms after the sending of the second 0404 message that the trade has been cancelled 	
	16. Trade cancellation by exchange (0417)	<ul style="list-style-type: none"> The exchange cancels a TCS trade that has been done earlier 	<ul style="list-style-type: none"> Customer confirms the reception of the trade cancellation notice (0417) 	