

Test Script - Purge of quotes following SLE disconnection Version 1.0

Written by Customer Technical Support

July 2008

This document has no contractual value and is subject to change without notice

OVERVIEW	3
I- TEST CYCLE FOR NSC VW	5
TEST UNIT 01: PURGE OF QUOTES FOLLOWING AN ABNORMAL DISCONNECTION	6
TEST UNIT 02: SENDING DISCONNECTION REQUEST REASON 3 BY SLE (MMTP only)	8
TEST UNIT 03: NO PURGE IN CASE OF NORMAL DISCONNECTION	9
TEST UNIT 04: SLE CONTROLS SENDING OF QUOTES IN CASE OF DISCONNECTION	10
TEST UNIT 05: QUOTES ARE NOT PURGED BECAUSE OF THE STATUS OF AN INSTRUMENT	11
TEST UNIT 06: NORMAL ORDERS ARE NOT PURGED	12

OVERVIEW

Euronext is offering a new service to members to automatically purge all outstanding orders in the event of the abnormal disconnection of an SLE. This service is available to Liquidity Providers on the new Warrants & Certificates platform model and is optional. By subscribing to this service all outstanding quotes will be automatically purged by our system in case of an abnormal disconnection of an SLE. The regular orders with a different account type than LP will remain in the book.

This service allows an LP to ensure they do not lose control of their outstanding quotes and executions. Once the LP is no longer in the book, his instrument will reserve automatically.

In case a purge occurs, confirmation of the purge will be sent in the following way:

Once the SLE is reconnected **one 0139 (FIX U0139) message will be sent per instrument to the SLE** that transmitted the original quote. This message informs the member that all quotes that were present in the order book and that were originally emitted by this SLE have been purged.

Once the purge has been completed on all instruments **one 0175 (FIX 35=7) message will be sent** to the SLE that sent the original quote to confirm the purge in all instruments on the NSC VW system has been completed.

It is recommended that the member does not send any quotes following reconnection until the SLE has received the 0175 message.

Please note the following:

In case the SLE reconnects within 1 second no purge will occur and no 0139 or 0175 (FIX U0139 or 35=7) messages will be sent.

The normal market rules will apply for this service. This means that no purge will occur on an instrument or a group whose status is Forbidden or Frozen.

Purpose of the test script

The purpose of this test script is to enable clients to test their solution(s), in order to check that any developments made on client trading application(s) are consistent with the new service.

This script is designed to allow clients to confirm their readiness, whatever their communication protocol is:

- FIX API
- MMTP API

When and how should the validation test be carried out?

The validation tests will take place on the NSC Testing Environment, External User Acceptance (EUA).

-

The '*Purge of Quotes following a SLE disconnection*' test must be completed before the activation of the service in the live environment.

A dedicated and specially trained team within Euronext Customer Technical Support (CTS) will provide assistance and support during the monitored test sessions with those clients who have requested it. These tests should be scheduled with CTS at least two days in advance. CTS tel: +33 (0)1 4927 5050; email: cts@euronext.com

I- TEST CYCLE FOR NSC VW

TEST UNIT 01: PURGE OF QUOTES FOLLOWING AN ABNORMAL DISCONNECTION

TEST UNIT 02: SENDING DISCONNECTION REQUEST REASON 3 BY SLE (MMTP only)

TEST UNIT 03: NO PURGE IN CASE OF NORMAL DISCONNECTION

TEST UNIT 04: SLE CONTROLS SENDING OF QUOTES IN CASE OF DISCONNECTION

TEST UNIT 05: QUOTES ARE NOT PURGED BECAUSE OF THE STATUS OF AN INSTRUMENT

TEST UNIT 06: NORMAL ORDERS ARE NOT PURGED

TEST UNIT 01: PURGE OF QUOTES FOLLOWING AN ABNORMAL DISCONNECTION

CYCLE OBJECTIVES:

This cycle checks the member application's ability to handle the correct number of purged orders after an **abnormal** disconnection of its SLE.

An abnormal disconnection can take place due to several issues, such as the following:

- It can be caused due to an issue on the leased line between the CAP/OPS and the Euronext system.
- It can be caused by an issue on the CAP/OPS.
- It can be caused by a network or hardware issue on the member's side.
- It can be caused due to an applicative failure on the member's side.

In all the cases described above, our system will consider that an abnormal disconnection has occurred and will purge all outstanding quotes that have been sent by the SLE in question except if the SLE reconnects within 1 second.

The purge of the outstanding orders can also be forced by the SLE in case the application sends a disconnection request classified as "Abnormal disconnection".

This last option can only be used via the MMTP protocol.

CYCLE PREPARATION:

- The member informs CTS which SLE it wishes to use during the test cycle.
- CTS verifies if this SLE is indeed configured on Euronext's side to use this service.
- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle for which the member is LP.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of quotes (the LP decides to either use a Bulk Quote or a Single Quote Entry message)	The member sends a quote on both sides of the two instruments on NSC VW	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes
2. Disconnection of SLE	CTS forces an abnormal disconnection	<ul style="list-style-type: none"> • CTS and the member confirm the SLE disconnection was abnormal
3. Reconnection of SLE after more than 1 second	The member reconnects the SLE after more than 1 second in order to be sure that the purge will be forced	<ul style="list-style-type: none"> • CTS and the member confirm the reconnection
4. Reception of the 0139 and 0175 (FIX U0139 and 35=7) messages	The member verifies if the messages have been implemented correctly	<ul style="list-style-type: none"> • The member confirms it received two 0139 (FIX U0139) messages for the correct instruments • The member confirms it received one 0175 (FIX 35=7) message
5. Entry of quotes	The member sends a quote on both sides in the same two instruments	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes. • Member confirms the reception of the confirmation messages

TEST UNIT 02: SENDING DISCONNECTION REQUEST REASON 3 BY SLE (MMTP only)

CYCLE OBJECTIVES:

This cycle checks the member application’s ability to send a disconnection request (DCNX-REQ) with the field “Disconnection reason” filled with value 03 which corresponds to “Abnormal disconnection”.

In this way the member can force the purge of the outstanding quotes.

This option can only be used via the MMTP protocol.

CYCLE PREPARATION:

- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of quotes	The member sends a quote on both sides of the two instruments on NSC VW	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes
2. Disconnection of SLE by member	Member’s application sends a DCNQ-REQ with reason 03	<ul style="list-style-type: none"> • CTS and the member confirm the SLE disconnection was abnormal
3. Reconnection of SLE	The member reconnects the SLE	<ul style="list-style-type: none"> • CTS and the member confirm the reconnection
4. Reception of the 0139 and 0175 (FIX U0139 and 35=7) messages	The member verifies if the messages have been implemented correctly	<ul style="list-style-type: none"> • The member confirms it received two 0139 (FIX U013.9) messages for the correct instruments • The member confirms it received one 0175 (FIX 35=7) message
5. Entry of quotes	The member sends a quote on both sides of the two instruments on NSC VW	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes • Member confirms the reception of the confirmation messages

TEST UNIT 03: NO PURGE IN CASE OF NORMAL DISCONNECTION

CYCLE OBJECTIVES:

This cycle checks the member application’s ability to disconnect normally. In this case the outstanding quotes will not be purged.

CYCLE PREPARATION:

- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of quotes	The member sends a quote on both sides of the two instruments on NSC VW	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes
2. Disconnection of SLE	The member disconnects the SLE normally	<ul style="list-style-type: none"> • CTS and the member confirm the fact that the SLE disconnection was “normal”. (Reason 1 in MMTP protocol/ 35=5 in FIX protocol)
3. Reconnection of SLE	The member reconnects the SLE	<ul style="list-style-type: none"> • CTS and the member confirm the reconnection
4. Confirmation of outstanding quotes	The member confirms the quotes have not been purged	<ul style="list-style-type: none"> • The member confirms the quotes have not been purged via public message 00L4 (FIX U00L4) if possible
5. Entry of orders	The member sends a buy and a sell order in the same two instruments	<ul style="list-style-type: none"> • CTS confirms the entry of the four orders • Member confirms the reception of the confirmation messages

TEST UNIT 04: SLE CONTROLS SENDING OF QUOTES IN CASE OF DISCONNECTION

CYCLE OBJECTIVES:

This cycle checks two important factors :

- The fact that the member's application does not lose control of any quotes or orders in case the application sends lots of messages. If an abnormal disconnection occurs the member's application should notice that it will no longer receive the confirmation of the order entry or Bulk Quote entry (0172/0572 message in MMTP / 35=8/35=U0572 message in FIX).
- The fact that the member's application waits until the reception of the 0175 (FIX 35=7) message before sending orders after the (abnormal) reconnection.

CYCLE PREPARATION:

- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of quotes	The member sends as many quotes as possible on two instruments	<ul style="list-style-type: none"> • CTS confirms the entry of the quotes
2. Disconnection of SLE	The member or CTS disconnects the SLE abnormally during the sending of the quotes	<ul style="list-style-type: none"> • CTS and the member confirm the fact that the SLE disconnection was "abnormal"
3. Reconnection of SLE	The member reconnects the SLE	<ul style="list-style-type: none"> • CTS verifies that the SLE confirms the message id in the START-ACK on the WAY IN
4. Reception of the messages 0139 and 0175 (FIX U0139 and 35=7)	The member verifies messages have been implemented correctly	<ul style="list-style-type: none"> • CTS and the member verify that the SLE does not send any quotes prior to the reception of the 0175 (FIX 35=7) message. • The member confirms it received two 0139 (FIX U0139) messages for the correct instruments • The member confirms if it received one 0175 message
5. Entry of quotes	The member sends a buy and sell quote in the same two instruments	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes • Member confirms the reception of the confirmation messages

TEST UNIT 05: QUOTES ARE NOT PURGED BECAUSE OF THE STATUS OF AN INSTRUMENT

CYCLE OBJECTIVES:

The purpose of this test is to make sure the member understands the mechanics behind the purge and that some outstanding quotes locked in a special status won't be purged despite the SLE disconnection. If the status of the instrument does not allow for a purge of quotes, then the member might receive Outcome messages after the reconnection. This can occur if the status of the instrument is "Forbidden" or "Frozen" at the time of the disconnection of the SLE.

CYCLE PREPARATION:

- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of quotes	The member sends a quote on both sides of the two instruments on NSC VW	<ul style="list-style-type: none"> • CTS confirms the entry of the four quotes
2. Change of instrument state	CTS changes one of the instruments to status "Forbidden"	<ul style="list-style-type: none"> • The member confirms that the status of one of the instrument changed (if possible)
3. Disconnection of SLE	CTS disconnects the SLE abnormally	<ul style="list-style-type: none"> • CTS and the member confirm the fact the SLE disconnection was abnormal
4. Reconnection of SLE	The member reconnects the SLE	<ul style="list-style-type: none"> • CTS and the member confirm the reconnection
5. Reception of the 0139 and 0175 (FIX U0139 and 35=7) messages	The member verifies if the messages have been implemented correctly	<ul style="list-style-type: none"> • The member confirms it received only one 0139 (FIX U0139) message for the correct instruments (as the purge was not possible on the instrument with status Forbidden) • The member confirms it received one message 0175 (FIX 35=7)
6. Change of instrument state	CTS changes the instrument back to status "Authorised".	<ul style="list-style-type: none"> • The member confirms that the status of one of the instrument changed (if possible)
7. Execution of quotes	CTS matches the remaining outstanding quotes	<ul style="list-style-type: none"> • The member confirms the executions and that they understand why they can still receive outcome messages • CTS confirms the SLE does not reject the outcomes

TEST UNIT 06: NORMAL ORDERS ARE NOT PURGED

CYCLE OBJECTIVES:

This cycle verifies that the member understands that only LP orders are purged. All normal orders that are sent with another account type than LP will not be purged in case of an abnormal disconnection.

Because the instrument of the LP will change to reserved status if his quotes will be purged there is no risk that his outstanding orders will be executed.

The validation of this test is only necessary if the SLE of the LP will send both normal orders and LP quotes at the same time.

CYCLE PREPARATION:

- The member informs CTS which SLE it wishes to use during the test cycle.
- CTS verifies if this SLE is indeed configured on Euronext's side to use this service.
- The member or CTS selects 2 instruments on NSC VW that can be used during this cycle.
- CTS confirms that these instruments are available for trading.

CYCLE DESCRIPTION :

UNIT Number	ACTIONS REQUIRED	UNIT COMPLETION CRITERIA
1. Entry of two normal orders	The member sends two normal orders in a one instrument	<ul style="list-style-type: none"> • CTS confirms the entry of the two orders
1. Entry of two quotes	The member sends a quote on both sides of the same instrument	<ul style="list-style-type: none"> • CTS confirms the entry of the two quotes
2.Disconnection of SLE	The member disconnects the SLE abnormally	<ul style="list-style-type: none"> • CTS and the member confirm the disconnection of the SLE
3. Reconnection of SLE	The member reconnects the SLE after 1 second	<ul style="list-style-type: none"> • CTS and the member confirm the reconnection
4. Reception of the 0139 and 0175 (FIX U0139 and 35=7) messages	The member verifies messages have been implemented correctly	<ul style="list-style-type: none"> • The member confirms it received only one message 0139 for the correct instrument. • The member confirms it received one 0175 message • Members confirms that the outstanding orders remain in the book
5. Cancellation of outstanding orders	The member sends cancels the outstanding orders	<ul style="list-style-type: none"> • CTS confirms the cancellation

