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Recipients: All Trading Members of Eurex Deutschland and Eurex Zürich and Vendors
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Best Practices for the Handling of Non-Persistent Orders/Quotes and Persistent Orders

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Content may be most important for:

➲ All departments

Attachments:

none

Summary:

In response to a number of queries which have been raised by Members following the hardware related service disruption of the Eurex® system on October 11, 2011, Eurex would again like to bring the differences associated with the processing of non-persistent orders and quotes versus persistent orders and the so-called "Market Reallocation Events" to Members' attention. These changes were initially introduced as part of the matcher improvement concept with Eurex Release 12.0.

Unlike persistent orders, where unreliable order response information is sent out after the transaction has been completed, i.e. persisted within the Eurex® host infrastructure, unreliable order response information for non-persistent orders and quotes will be sent out immediately after the order/quote has been processed by the core matching process, but before the transaction has finally been persisted.

Market Reallocation Event messages are generated and automatically sent out after a technical interruption on the Eurex back-end as soon as the Eurex® system has recovered from the technical issue. These messages provide Members with the information that all non-persistent orders or quotes stored in the order book of a specific product have been automatically deleted and that the preliminary execution status of recently entered non-persistent orders or quotes may differ from the final execution status.

In extremely rare situations however, a technical interruption may mean that no Market Reallocation Event messages are provided at all and that gaps in reliable confirmations may occur.

The circular provides Members with comprehensive information concerning the differences associated with the processing of non-persistent orders and quotes versus persistent orders in different scenarios and the associated best practices for handling Market Reallocation Events, the detection of technical interruptions and gap detection.

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Best Practices for the Handling of Non-Persistent Orders/Quotes and Persistent Orders

As part of the matcher improvement concept, initially introduced with Eurex Release 12.0, the processing time of non-persistent orders and quotes compared to persistent orders was significantly reduced. These improvements were achieved by the introduction of different back-end processing for different order types. Unlike persistent orders, where unreliable order response information is sent out **after** the transaction has been persisted, unreliable order response information for non-persistent orders and quotes is sent out immediately after the order/quote has been processed by the core matching process, but **before** the transaction has been persisted within the Eurex infrastructure. It is important to note that execution information contained in such unreliable order response information is indicative and not legally binding.

The expression “unreliable order response information” refers to the information provided by:

- the synchronous response and all order/quote confirmation broadcast via VALUES API.
- the synchronous response notification and information notification via the Enhanced Transaction Solution.

The unreliable order response information for non-persistent orders/quotes may be sent out indicating that the order/quote was executed but the transaction itself could not be persisted because of a technical interruption on the back-end. As a result, the execution status of unreliable order response information for non-persistent orders or quotes only gives a preliminary indication whether the order/quote has been matched. Legally binding information about executions/trades is only provided by one of the following recoverable types of information:

- event notifications via the Enhanced Transaction Solution or
- matching events or trade confirmations via the Enhanced Confirmation Solution or
- FIX trade capture reports (from Eurex 14.0 onwards) or
- matching event broadcasts or trade confirmation broadcasts via VALUES API.

In case of a technical interruption on the Eurex back-end leading to a successful failover of the Eurex® architecture either Market Reset or Market Reallocation processing is triggered.

Market Reset/Reallocation Event

If a technical interruption occurs on the Eurex back-end, a Market Reset or Market Reallocation Event message is automatically sent out after successful failover, indicating that all non-persistent orders or quotes stored in the order book of a specific product have automatically been deleted. Only in case of a Market Reallocation the preliminary execution status of the non-persistent orders or quotes entered most recently may differ from the final execution status. The Market Reallocation Event message provides information concerning:

- the time (lastGuarTrnId) up to which information contained in unreliable order response information is final
- the deletion of non-persistent orders or quotes stored in the order book (just one message per product; no individual order/quote deletion messages)

Hence a client application receiving a Market Reallocation Event message for a product needs to delete all non-persistent orders/quotes in this product that have a time stamp (lastEventTrnId) **before** the time (lastEventTrnId) provided in the Market Reset/Market Reallocation Event message.

Non-persistent orders/quotes in this product which have been added **after** the time (lastEventTrnId) provided in the Market Reallocation Event message are not deleted.

Furthermore, all indicative execution information with a time stamp (lastEventTrnId) after the time of the Market Reallocation Event is not valid and the client application needs to take this into account.

Since a Market Reallocation Event will occur exclusively at product level, only one message will be sent out per product for each VALUES API and Enhanced Transaction Solution stream regardless of how many non-persistent orders or quotes a Member has previously stored in the order book.

Members receiving a Market Reallocation Event message are strongly advised to verify the execution status of their most recently received order response information, as described below.

Please note: Under exceptional circumstances a technical interruption on the Eurex back-end might not lead to a successful failover of the Eurex® architecture. In such rare cases, as on October 11, 2011, it can happen that no Market Reallocation Event messages are provided at all.

It is also important to note that Eurex Market Data also contains the indicative execution information. In particular, the Eurex Enhanced Broadcast Solution interface provides trade price messages on the basis of the indicative information.

For these reasons, a client application always needs to confirm indicative execution information.

Best Practice for Applications using unreliable Order Response Information

In case a client application uses unreliable order response information for non-persistent orders/quotes for trading decisions, for example, as the application is used to implement a latency-sensitive trading strategy, it is strongly recommended to use one of the four types of recoverable information listed above to confirm the preliminary execution information received via unreliable order response information.

If an indicative execution of a non-persistent order or quote cannot be confirmed in reasonable time (i.e. approx. one second for event notifications or matching events and approx. five seconds for trade confirmations) the following procedure is recommended:

1. The availability of further event notifications/matching events/trade confirmations should be verified via re-transmission by using the last received sequence number plus one.
2. If verification as described in paragraph 1. does not prove successful, the next steps necessary are to notify client operations personnel to manually check positions, using the Eurex Trading GUI @X-ceed, and/or automatic deletion of all orders/quotes as well as other (manual) emergency processing, such as contacting Eurex Market Supervision.

Please note: It is not possible to confirm indicative executions via Market Data as Eurex Market Data (delivered via native Eurex interfaces or data vendors) is also based on the “optimistic” indicative execution information only.

If you have any questions or require further information regarding the contents of this circular, please contact your Technical Account Manager using your VIP number, tel. +49-69-211-1 12 00 or via e-mail: cts@deutsche-boerse.com.

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