Summary of Changes in SAXESS on September 29, 2008

Ver 0.1, 2008-06-27

1. SAXESS 5.0.1 Summary of New Functions

The main functionality enhancements in SAXESS 5.0.1 are

- Zero Iceberg Orders
- Alternative Clearing
- Round Lot One
- 4 decimals in Trade Reporting

1.1. Zero Iceberg Orders

In order to maintain and further improve the competitiveness and the attractiveness of the Nordic Markets in the changing European trading landscape OMX Nordic Exchange are planning to introduce non-displayed orders with zero iceberg functionality in Helsinki, commencing September 29, 2008. The implementation is subject to Finnish Financial Supervisory Authority's approval.

Implementation of zero iceberg order functionality aim to better facilitate large orders in the order book without market impact or risk of front running. The implementation of zero iceberg orders will offer an alternative to trading outside the market.

Other exchanges in Europe have similar trading functionality in place.

The decision to implement non-displayed orders in Helsinki was based on the results from a member consultation, which showed a clear support for zero-iceberg order functionality. Implementation of zero iceberg order functionality in Stockholm and Copenhagen is still pending.

Non-displayed orders will be prioritized after visible orders and ordinary iceberg orders. For more information regarding the zero iceberg order functionality please see enclosed pdf file with detailed information.

System test in SAXTST1 will be available from June 30, 2008.

In Helsinki, this change will affect the following submarkets on the main Finnish market and on First North Helsinki, OMX HEL Equities, OMX HEL Covered Warrants, OMX HEL Certificates, OMX HEL Fund units (ETFs), OMX HEL Equity rights and First North HEL. Convertibles are excluded from this change.

1.2. Alternative Clearing

OMX Nordic Exchange plans to technically enable Alternative Clearing functionality as part of the SAXESS Release 5.0.1 on 29th September 2008.

This will prepare the SAXESS system for enabling of Alternative Clearing as part of a subsequent business implementation of the functionality. The implementation of Alternative Clearing is subject to FSA approval.

The Alternative Clearing solution will offer members the possibility to opt for Alternative Clearing at User Account and Routing Account level where:

- If both parties to a trade have setting “Alternative Clearing System”, the trade will be sent to a European CCP (a single Alternative Clearing venue will be chosen to cover all OMX Nordic Exchange markets)
- If only one or neither of the parties to a trade has setting “Alternative Clearing System”, the trade will be default cleared (i.e. as per current functionality in SAXESS 5.0.0.)
- Self clearing option will be available for internal trades i.e. trades are not sent to Default Clearing nor to Alternative Clearing

The Alternative Clearing choice will be made per user account/routing account as an opt in/opt out decision. Hence, it will not be possible to choose to enable Alternative Clearing on a trade by trade basis.

SAXESS functionality to be available for OMX Nordic Exchange Copenhagen, Helsinki, Iceland and Stockholm for Equity and related submarkets, including First North.

1.3. Round Lot One and Market Price Order

OMX Nordic Exchange will harmonize the Nordic markets further by implementing round lot size one in Stockholm and Copenhagen, commencing September 29, 2008. Round lot one is already in effect in Helsinki and Iceland. By implementing round lot one liquidity and access to trading for individual investors will improve.

Parallel with the launch of Round Lot 1, MP Order with Fill or Kill (FoK) and Fill and Kill (FaK) limitation will also be implemented in Stockholm and Copenhagen.

System test in SAXTST1 will be available in Stockholm from June 30, 2008.

System test in SAXTST1 will be available in Copenhagen from July 7, 2008.

Round lot one will affect the following submarkets on the main market and on First North: Equities, Warrants, Fund units and Equity rights. Convertibles are excluded from this change. Round lot one has already been implemented on submarket Exchange Traded Funds (ETF) in Stockholm, effective from January 2008.

Experience from OMX Nordic Exchange Helsinki, where round lot one was implemented on all equity related markets in 2006, has been positive by bringing along upswing in trading and strengthened price competition. It has increased both turnover and liquidity in the order books and also made the relative spreads narrower.

The decision to implement round lot one was based on the results from a member consultation and on discussions with investors which showed a clear support for round lot one.

This change is in harmony with the industry’s best practice. The largest exchanges in Europe have round lot one today.

1.4. 4 Decimals in Trade Reporting

As earlier communicated, OMX Nordic Exchange aims to further enhance the Nordic markets by implementing 4 decimals in trade reporting on OMX Nordic Exchanges. The implementation is planned for SAXESS Release 5.0.1 on 29th September 2008. This is dependent on the results of a Technical Readiness survey currently being conducted. On-Exchange Trade reporting will allow trade reporting with 4 decimals.

- Order book orders can only be entered with two decimals, however additional two zeros will be added for auto matched trades.
- 4 decimals will be shown for all trade price fields (for example high, low, close, average, last) in order book, in trade ticker etc. including auto matched and trade reported trades.
- If 2 decimals is preferable, truncation of decimals needs to be done for example in trading applications such as SAXESS Trade. NASDAQ OMX will not truncate trade prices.

The four decimals in Trade Reporting will be implemented on all order books on the following submarkets:

Copenhagen
OMX CPH Rights (subscription and bonus)
OMX CPH Other Collective Investment Schemes
OMX CPH Equities
OMX CPH Investment Funds
First North Copenhagen

Helsinki
OMX HEL Equity Rights
OMX HEL Equities

Iceland
OMX ICE Equity Rights
OMX ICE Alternative Market
OMX ICE Equities
OMX ICE Unit Trust Certificates
OMX ICE Fund Units
First North Iceland

Stockholm
OMX STO Eq.Rights, Subs.Opt, Int.Shares
OMX STO Equities
First North Helsinki
First North Stockholm

Work is ongoing to update test environments with the above configuration. A separate notification will be sent out once the decimal configuration has been changed in the test environments.

2. Zero Iceberg Orders Functional Description

Solution Description

Central System

Current matching functionality and principles shall be used. Visible orders shall be prioritized before zero visible volume (hidden) orders on the same price.

An attempt to enter a zero visible volume order with a value (price * volume) less than “Min Zero Visible Volume Order Value” will be rejected.
An attempt to enter a zero visible volume order with “Volume, Minimum” = “Volume, Total” (All or None) will be rejected if “AoN Zero Visible Volume Order” = “N”.

Open Protocols

Not affected.
A zero visible volume order will be indicated by setting XTP FID_OrderInsert field “Volume, Open” = “0” and “Volume, Total” > “0”.
AoN (All or None) will as usual be indicated by setting XTP FID_OrderInsert field “Volume, Minimum” = “Volume, Total”.
Entering of an order with “Volume, Open” =”0” with a value < Min Zero Visible Volume Order Value will result in an error message. XTP documentation reflects this new behavior.

Participant User Interfaces

Entering “O Amount” = 0 upon order entry indicates iceberg order with zero visible volume. Open Amount = 0 will be handled on the XTP UC flow.

Matching rules for zero visible volume orders

Order Priority

When determining order priority, the following steps should be followed.

1) Best price (yes/no)
   A buy order with a higher price has higher priority and a sell order with lower price has higher priority.
2) Preferred counterparty (yes/no)
   Orders originating from a preferred counterparty (internal) will have higher priority. Note that orders with an AoN condition will discard the setting of a preferred counterparty.

   a) Visibility (yes/no):
      Visible orders have higher priority than iceberg orders with zero visible volume. Zero visible volume orders with AoN condition have the lowest priority.

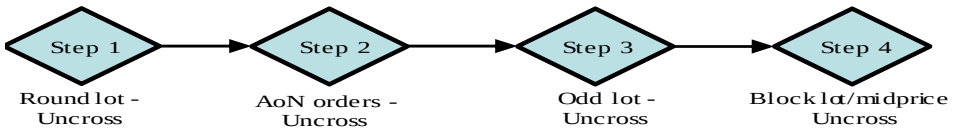
   b) Time:
   Orders that have resided longer in the orderbook will have (higher?) priority. It can be noted that this step will always distinguish two orders since they cannot have the same time stamp.

3) Visibility (yes/no):
Visible orders have higher priority than iceberg orders with zero visible volume. Zero visible volume orders with AoN condition have the lowest priority.

4) Time:
Orders that have resided longer in the orderbook will have priority. It can be noted that this step will always distinguish two orders since they cannot have the same time stamp.

Matching rules during uncross

Zero visible volume orders without any volume restriction will take part of the normal round lot uncross as any other order. However orders with volume conditions, All-or-None, should not take part of the uncross, both due to performance issues and for the level of complexity that it would bring along, therefore a new type of uncrossing for these kind of orders is introduced.



Step 1: Round lot uncross at equilibrium price
This is performed according to existing SAXESS functionality. Note that zero visible volume orders without AoN condition are included at the uncross.

Step 2: AoN order uncross (at equilibrium price from step 1)
Orders with AoN volume restriction will, if they accept the equilibrium price, be made aggressive according to time priority. AoN orders will also interact with round lot orders that accept the equilibrium price but did not match in step 1.

- Opening Call: If there is no equilibrium price from the round lot uncross (step 1), use yesterdays closing price if it's within the round lot spread to uncross the AoN orders. If there is no closing price or the closing price is outside the round lot spread, no uncross is performed.

- Other Calls/Closing Calls: If no equilibrium price (step 1), use the last 'last paid' price, if it's within the round lot spread, to uncross the AoN orders. If there is no ‘last paid’ no uncross will be performed.

Note that AoN orders don’t affect the equilibrium price from step 1, and thus the volume is not included in the MBL message.

Step 3: Odd lot uncross (at equilibrium price from step 1).

Step 4: Block lot/midprice order uncross.

Step 5: If orders with crossing prices are residing in the orderbook (due to volume restrictions), they will be matched (according to 0) and stamped as executed in COTR

Continuous matching

Step 1: Match Aggressive order

Match the aggressive[1] order against orders on the other side (passive). The aggressive order will accumulate volume by matching against the candidate orders (passive) one by one, taking them in order priority. Accumulating volume on the passive side will continue until the aggressive order is fully filled or there are no more candidate orders available on the passive side. If a passive order has a volume condition (AoN) that cannot be met when being processed, it will be skipped for the rest of the current matching attempt.

E.g. an aggressive order with volume 100 has accumulated 80 on the passive side and AoN Order with a volume condition of 30 is encountered. That order cannot match and will be skipped, and the next order according to priority will be attempted.

Step 2: Match (residing) AoN Orders

After queuing an incoming order (no match or having it partially filled), the system should attempt to match all AoN Orders on the opposite side of the orderbook with a price better or equal to that on the other side. This is done by making the AoN orders aggressive one by one, in their order of priority, and letting them match against the passive orders. Thus, the AoN order is treated as an aggressive order, using the same principles as described above in step 2, which may result in additional trades executed at defined prices.

Circuit breakers

A normal zero visible volume order is subject to circuit breakers as any other single order.

AoN Zero visible volume orders
Orders with an All or None volume restriction are not subject to circuit breakers in the same manner as normal single orders. Instead of triggering a breach action, usually in the form of a brief call interaction period, the entire volume simply resides in the orderbook until the order can match within the circuit breaker limits.

Detailed requirements

- Zero visible volume orders volumes are included in MBL transparency.
    - Volume is aggregated and included in the MBL message
    - Zero visible volume orders with AoN condition is not aggregated and not included in the MBL message

[1] Aggressive order = buy-order with higher price that the best sell-order or sell-order with a lower price than the best buy-order.

- Zero visible volume orders are not publically disseminated with MBO-transparency configured.
    - Information about zero visible volume orders are never disseminated on multicast (inserts updates etc).

- Zero visible volume orders are privately disseminated (UC-message).
    - Are privately disseminated as normal iceberg orders.

- Zero visible volume orders are not included when calculating price spreads. The visible spread can hence be larger than the actual spread in an order book.

- Zero visible volume orders must have a value (volume * price) equal to or larger than the minimum value, set by the exchange.

- No order update shall be possible on zero visible volume order details that would not have been allowed when the order was inserted.
    - Zero visible volume orders must have a value (volume * price) larger than required minimum value after an update.

- The volume and price can be updated as long as the order value remains higher than or equal to the minimum value, set by the exchange.

- Zero visible volume orders remains hidden even if the volume is decreased due to trading.

- Preferred counterparty? rules (if enabled) also apply to zero visible volume orders on the price level except for zero visible volume orders with AoN condition.

- A zero visible volume order may, depending on submarket/order book configuration, allow an AoN volume condition.

Zero iceberg limitations

- Zero visible volume is only allowed for round lot orders.

- Total volume must always be a round lot multiple (no odd lot integration).

- The open amount for a zero visible volume order can never be modified.

- The open amount for any other order can never be modified to be zero.

- Functionality only configurable for submarkets with a monetary price type.

- Functionality applicable for single orders only.

For further information please contact
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