wiener boerse

T7® Release 13.0/13.1

Focus Days in Simulation
Dec 16, 2024 – Jun 22, 2025

November 2024

CONTENT

1. Focus Day Overview

This chapter outlines which focus days will be offered. Focus days are planned and triggered by the Exchange. Specific actions have to be done by the Exchange to enable the scenario of the focus days. Focus days can be of technical nature (i.e. Market Data Service Failure), or of functional nature (i.e. Corporate Action). In either case Participants cannot test without initiating action taken by the Exchange.

The following table lists all focus days offered and recommended test scenarios for this release simulation:

Xetra T7® Vienna Focus Days Dec 16, 2024 – Jun 22, 2025	Date	Products
Technical Focus Days		
DBAG FIX LF Interface Failover & Gap Test (1.1.1)	Feb 25, May 5, Jun 10	ALL
Gateway & Matching Engine Failover & Failure, EMDI & EOBI Failure (1.1.2)	Dec 17, Jan 21, Mar 4, Apr 15, May 7, Jun 17	ALL
Matching Engine Processing Delay (1.1.3)	Feb 18, Mar 18, Apr 29, Jun 3	AT0000644505
GUI (forced user log out) (1.1.4)	Jan 28, Mar 11, Apr 24, May 8	n.a.
Technical Market HALT (1.1.5)	May 6	ALL XVIE, XBUD, XLJU, XPRA, XZAG products
Functional Focus Days		
Stressed Market Cond. / Exceptional Circumstances (1.2.1)	on demand	based on request by participant
Corporate Actions (1.2.2)	on demand	based on request by participant
Market HALT (1.2.3)	May 13	ALL XVIE products
Market Holiday (1.2.4)	Apr 23	ALL XVIE products
Marketplace Holiday (1.2.5)	Jun 11	ALL XVIE, XBUD, XLJU, XPRA, XZAG products
FirstPlace Wiener Börse (1.2.6)	on demand	QO00VIE00003 QO00VIE00029
Xetra Midpoint (1.2.7)	on demand	ALL products in market group ATX

Besides above mentioned focus days also individual test scenarios are offered.

- For setup and support of individual test scenarios please contact our Xetra® Trading Service Desk (phone +43 1 53165 500, mailto:trading@wienerborse.at)
- Furthermore Wiener Börse's CEESEG FIX and CEE Trader infrastructure allows for individual testing possibilities besides coverage of all focus days described in this document. For further information please contact our Technical Service Desk (phone +43 1 53165170, mailto:it_helpdesk@wienerboerse.at).

1.1 Technical Focus Days – Triggered by DBAG

Technical focus days will be offered on several occasions during the simulation and will be triggered by the T7® system provider Deutsche Börse AG (DBAG). Participants should use this opportunity to test the behaviour of the T7® trading and market data interfaces in conjunction with their own front office applications as well as their order book- and session management systems.

1.1.1 DBAG FIX LF Interface Failover & Gap Test

In case of a FIX LF Interface Failover, all FIX LF interface sessions connected to the (active) FIX LF Interface will be disconnected and the corresponding port will be closed. Customers should then activate the connection to the secondary (standby) FIX LF interface.

All FIX LF interface sessions use the same target FIX LF interface IP address and port number per environment (simulation and production). At any one point of time only one of the FIX LF interface will be active and accept requests. Under normal circumstances, the FIX LF Gateway IP labelled as “active” in the N7 Network Guide is the one to which participants should initially attempt their session logins. The standby gateway will only become active in the event of a FIX LF interface failover.

- **Schedule**

  Part 1: IP address: 193.29.94.97 becomes unavailable for Cash Xetra (XETR, XBUL, XMAL, XVIE, XBUD, XLJU, XPRA, XZAG) - IP address: 193.29.94.65 will be available.

  Part 2: IP address: 193.29.94.65 becomes unavailable for Cash Xetra (XETR, XBUL, XMAL, XVIE, XBUD, XLJU, XPRA, XZAG) - IP address: 193.29.94.97 will be available.

- **Recovery notes**

  - During the start-up of the FIX LF interfaces, listen ports for both the active and standby interfaces will be created an activated. If a connection attempt to the listen port is refused, then the interface is either not available or in an early phase of the start-up process. Once the interfaces have been completely started, a differentiation between the active and standby interfaces, from a participant perspective, is not possible at this point as both gateways will accept TCP connections on the respective IP address and port.
  - Following the start-up of the FIX LF interfaces the states of the individual markets (e.g.) XVIE, XPRA will be recovered. If a request is sent either during the recovery process of the first market on the active gateway or to the standby gateway, the connection will be terminated. Once the recovery process for a market has been completed, the interface will switch to the normal operation mode for the market which has been completely recovered and a session logon for the market will be possible. If a connection request is accepted but the logon to a specific market is still rejected, this indicates that at least one market has been completely recovered but the market for which the logon request was sent is still in the recovery process.

- During the transition to the normal mode of operation, all existing TCP connections will be terminated before new TCP connections will be accepted. In the event of a interface failover, during the transition phase to become the new active interface, the standby interface will behave in the same way as previously the active gateway during its transition phase to the normal operating mode.
- To be certain that the connection to the correct interface has been established, FIX LF gateways should be polled alternately with session logon requests until the session logon is successfully processed. A successful login indicates that a participant has connected to the active interface.

- **Gap Test**

  Participants can submit transactions via another interface (i.e. ETI or GUI) in order to initiate a gap test. In this case the participant will face a gap in their outbound traffic (tag 34, MsgSeqNum) and have to recover the previously generated transactions after a successful re-login to the FIX LF Interface.

  → The DBAG FIX LF Interface Failover scenario will be offered between 15:00-16:00 CET.

1.1.2 Matching Engine Failover and Failure, EMDI & EOBI Failure

The WBAG T7® simulation environment runs on a separate partition. Every process in the partition has a standby process that can take over in case the primary process fails. During simulation, a failover and a failure of matching engine & gateway will be simulated. This focus day will shut down both matcher and gateway processes belonging to the partition consecutively allowing participants to verify the failover mechanisms in their applications.

Prior to this focus day scenario, participants are advised to insert several non-persistent vs. persistent and standard vs. lean orders and quotes in the simulation environment. The exchange will cut connections twice and affected participants will be able to verify their internal failover processes.

On this focus day, a failover for the consolidated gateway and matching engine processes (Matching Engine Failover) will be executed, thereafter the secondary gateway and matching engine process will be stopped (Matching Engine Failure). All processes will subsequently be restarted, and the scenario will then be repeated.

Participants are encouraged to subscribe the service availability notifications, as they may receive service availability (10030) with matching engine status “unavailable” for the partition as a result of the matcher failure/failover and service availability (10030) with matching engine status “available” for the partition as soon as order/quote maintenance is possible again.

1.1.2.1 Matching Engine Failover

When the primary matcher process in the partition will be stopped, the standby matcher process will take over. During the failover non-persistent orders and quotes are deleted. A Trading Session Event ‘Market reset’ states the technical problem and includes the message key, which is the last reproducible order

message, followed by Extended Order Information (with ExecRestatement-Reason order book restatement) and Trading Session Events ‘End of Restatement’.

Low frequency sessions stay connected during the failover and receive these notifications, while high frequency sessions get disconnected and must establish a new TCP/IP connection to an available matching engine & gateway process, before they can retransmit these data. Availability of order/quote maintenance is announced via Service Availability (10030).

Please note: This scenario automatically triggers an “EMDI & EOBI Failure”, listed below.

1.1.2.2 Matching Engine Failure

For the execution of a matching engine failure both matcher processes will be stopped for the partition in simulation. Before the partition is re-started, the matching engine & gateway process for the partition will be shut down, so high frequency sessions will get disconnected.

During the re-start of the matcher processes, non-persistent orders and quotes are deleted. A Trading Session Event ‘Market reset’ states the technical problem and includes the message key, which is the last reproducible order message, followed by Extended Order Information (with ExecRestatement-Reason order book restatement) and Trading Session Events ‘End of Restatement’.

Low frequency sessions stay connected and receive these notifications, while high frequency sessions must establish a new TCP/IP connection to the then re-available matching engine & gateway process, before they can retransmit these data. Availability of order/quote maintenance is announced via Service Availability (10030).

Please note: The Matching Engine failure automatically triggers an EMDI & an EOBI failure as well.

1.1.2.3 EMDI & EOBI Failure

Prior to the focus day, participants should check whether they are able to receive market data via EMDI & EOBI, i.e. they should try to send some orders in products/instruments which are available in the T7® simulation environment.

When the failure is initiated, a crash will be simulated within the partition for EMDI and EOBI. During this time participants can try to insert new orders and quotes for products/instruments. As a result, they will receive a message that the associated partition is not available. As long as the partition is not available, i.e. not restarted by the exchange, participants will neither be able to receive market data for products/Instruments linked to that partition, nor be able to enter orders. In this test scenario, all products/instruments, which are available at that time in the partition in T7® simulation will be affected and EMDI and EOBI interfaces will show impact as follows:

- **EMDI**

Market data information will be provided in packages marked with SenderCompID, PartitionID and PacketSeqNum (contiguous numbering format), PacketSeqNum (contiguous per SenderCompID multicast address and port combination) and MsgSeqNum (contiguous per MarketSegmentID). The SenderCompID always remains constant for a product during the whole business day if there is no failover.

Participants can identify the failure scenario by comparing the SenderCompID value with the previous value. A new SenderCompID, which is available in the packet header and in each data message for incremental and snapshots, indicates the EMDI partition failure. Please note that restart of an EMDI market data sender can only be detected reliably, if a change of SenderCompID is detected for a specific product.

- **EOBI**

  Public market data information from T7® EOBI will be provided in packages marked with a MarketSegmentID, i.e., product identifier, PartitionID and ApplSeqNum (continuous numbering format), Packages are sent over redundant multicast address and port combinations. Each package is uniquely identified by its MarketSegmentID and ApplSeqNum combination. In addition to the packet sequence numbering, individual messages are sequenced by MsgSeqNum, which is contiguous per MarketSegmentID.

  In case of an EOBI Failure, both the ApplSeqNum and the MsgSeqNum for a specific MarketSegmentID will restart from 1. Participant applications should detect the EOBI failure, whenever an ApplSeqNum is received which is smaller than one which has already been received for a specific MarketSegmentID and multicast address:port combination.

All non-persistent orders and quotes entered prior to the failover will be deleted. The receiving application is advised to invalidate their view of the order book and refresh once an explicit message has been received containing new information

FIX LF Interface

For the FIX LF Interface the Order Management availability will change to unavailable during the gateway and matcher shutdown and start-up phase. Participants will have to probe the FIX LF Interface for each market to find the active gateway until they get a successful login (see also the description of the FIX LF Interface Failover & Gap Test scenario).

The Gateway & Matching Engine Failover & Failure, EMDI & EOBI Failure scenario will be offered between 15:00-16:00 CET/CEST.

1.1.3 Matching Engine Processing Delay

This focus day scenario is provided to assist Participants in testing the very rare event where massive processing delays occur on a partition. In this scenario the following events will be triggered:

- All non-persistent Orders and Quotes will be deleted for the affected product(s)
- Product-specific DeleteAllOrderQuoteEventBroadcast messages will be sent to all ETI and FIX sessions with MassActionReason set to (111) Product_temporarily_not_tradable.
- For a minimum time period of 10 seconds or until the slow processing is resolved all transactions except order deletions will be rejected with SessionRejectReason set to (102) Service_Temporarily_Not_Available and VarText 'TRANSACTION REJECTED DUE TO SLOW PARTITION'.
- In the event that a product is temporarily not tradable, Participants will be informed when the matching engine will accept transactions again by a TradingSessionStatus message (MsgType (tag 35) = 'h') specifying TradSesEvent (tag 1368) = 105 ('Service Resumed').

Please Note:
Participants will still be able to send deletion requests for any persistent orders which they would like to remove.

This focus day scenario is performed for instrument **AT0000644505** of market XVIE.

Participants are requested to check that their applications can correctly handle order / quote deletions and transaction rejections due to the slow partition state.

→ Matching Engine Processing Delay focus day scenario will be offered between 15:00-16:00 CET.

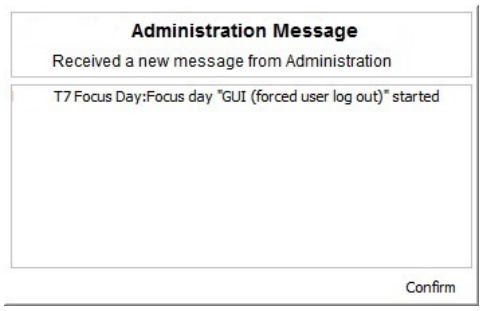
1.1.4 GUI (forced user log out)

The GUI Focus Day scenario is provided to first of all make Participants aware of a function within T7 ®whereby in an emergency/ exceptional situation Operations can not only send messages directly to the users screen but also force the termination of the GUI itself. In addition, the focus day is also provided to make Participants aware of the effects of a full GUI environment restart. The GUI (forced user log out) focus day will be sub-divided into three parts:

- Send Admin Message only
- Admin Message + Forced Trader GUI Shutdown
- Full GUI environment restart

1.1.4.1 Send Admin Message only

All GUI instances (both Admin and Trading) logged in at the point when the focus day is initiated will receive a message 'T7® Focus Day: Focus Day "GUI (forced user log out)" started'. This message will appear in a new popup window.



This window can be closed by pressing the Confirm button.

1.1.4.2 Admin Message + Forced Trader GUI Shutdown

After this first message the following message will be send 10 minutes prior to the GUI environment shutdown: T7® GUI Focus Day: Automatic GUI shutdown has been triggered and the GUI environment will be restarted'. On the Trader and Admin GUI the following pop-up windows will be displayed:

The color of this popup window will turn to yellow 15 seconds prior to the forced shutdown and turns red for the last 5 seconds.

1.1.4.3 Full GUI environment restart

Following a full restart of the GUI environment in simulation will be performed. On the focus day Participants will be encouraged to suspend orders so that the effect on suspended orders caused by a GUI restart can be observed. Suspended orders will all be deleted, the rest of the order book will be unchanged after a restart.

→ The GUI (forced user log out) focus day scenario will be offered between 15:00-15:30 CET.

1.1.5 Technical Market HALT

This focus day scenario simulates a technically required “HALT” of WBAG, which is executed directly on the backend of the T7® system on request by WBAGs Market Operation. Please note that because of the manual trigger procedure for the “Technical Market HALT”, execution eventually may happen a few minutes after the time which is communicated in the simulation calendar and in this document.

With this “Technical Market HALT” all quotes and non-persistent orders will be deleted and have to be re-entered after the market is un-HALTed again.

The market will remain in status “HALT” for 15 minutes. After 15 minutes WBAG Market Operation will switch the products and thus instruments through various trading phases according to the following schedule:

- Instruments in Auction Only will be moved right to POSTR after Market HALT
- Instruments in Continuous Trading will be restarted as follows:
  14:15 - 14:25 pm: PRETR
  14:25 - 14:30 pm: ICALL
  14:30 pm: Price Determination within 30 seconds, followed by TRADE
- Instruments in Continuous Auction: Trading will be restarted at 14:35 pm

1.2 Functional Focus Days – Triggered by WBAG

1.2.1 Stressed market conditions / exceptional circumstances

The regulatory relevant states of market conditions for market making will be normal market conditions, stressed market conditions and exceptional circumstances.

Stressed market conditions will be established on instrument level for cash market products, whereas exceptional circumstances will typically affect the whole market.

The product will be in normal market conditions, when neither stressed nor exceptional market conditions apply. There are no market making obligations during exceptional circumstances.

During stressed market conditions, the maximum quote spread for quotes is widened and the minimum quote quantity for quotes is changed.

Triggered stressed market conditions will have a fixed duration (e.g. 60 minutes). Ongoing stressed market conditions will be prolonged by this time period, when the trigger conditions are detected again. The following trigger events for stressed market conditions will be supported, depending on the type of the affected product of the cash market:

- significant short-term change in price and
- significant short-term change in volume

According to the regulatory technical requirements, T7® has to support the state of exceptional circumstances under the following triggering conditions:

- Extreme volatility – a state of extreme volatility is established when the majority of products, which are subject to market making regulation is in stressed market conditions or in a volatility interruption. The state of extreme volatility is set for the whole market.
- War, industrial action, civil unrest or cyber sabotage – this state is declared by the Exchange Management Board with simultaneous effect for the whole market.
- Disorderly trading conditions at the exchange – this state is declared when there is either a significant increase of processing times, or multiple erroneous executions of transactions, or loss of connectivity for many Participants. The state of disorderly trading conditions is declared by the Exchange Management Board with simultaneous effect for the whole market.
- Suspension of pre-trade transparency obligation – the declaration of this state rests upon the decision of the responsible regulator. This condition applies per product.

Exceptional circumstances will end as soon as the triggering conditions are no longer met. Exceptional circumstances will end automatically at the end of the business day. In case the triggering conditions remain in effect, they will be declared again on the next business day.

T7® will publish exceptional circumstances only via news messages (T7® GUI and ETI). Exceptional circumstances will not be communicated via the T7® market data interfaces. Thus, there might be situations where stressed market conditions in a product are set during a state of exceptional circumstances. In this case, exceptional circumstances always trump stressed market conditions, regardless of the sequence of setting the regulatory trading conditions.

WBAG may trigger a “Stressed Market Condition” (SMC) on participants’ demand in requested instruments, however participants themselves are also able to trigger it. When SMC is triggered, a newsboard message is generated automatically and sent to all participants.

WBAG will trigger an “Exceptional Market Conditions” (EMC) event on participants’ demand. This event can only be triggered by WBAG. In this case WBAG Market Operation will inform all participants before triggering EMC by sending out a newsboard message, which informs about the timing of the EMC event. Please note that in this case WBAG Market Operation will not HALT trading in den Simulation Environment (as it would be the case in the Production Environment) to allow for ongoing testing of all participants. Market HALT tests are covered as described in point 1.2.3.

1.2.2 Corporate Actions

WBAG will trigger a corporate action on participants’ demand in requested instruments. The approach will be as follows:

- Depending on the test day agreed with the participant, WBAG will maintain the Cum indicator, the Ex-date and the dividend amount for the agreed instrument(s).
- On the next simulation business day the Participant will see the Cum indicator. The Participant then should have open orders in POSTR with validity > T. These orders will be deleted during the following batch run. Furthermore, the deletion messages including the order deletion reasons will be sent.
- On the following business day (Ex day) the Participant sees the Ex indicator and the reference price is reduced accordingly by the dividend amount.

1.2.3 Market Halt

As a possibility to reflect a Market Halt in T7® simulation, WBAG has planned Market Halt on predefined focus days. These tests will be done on an intraday basis → between **14:00 and 14:35** CET.

Test scenario and expected result:

Prior to the planned Market Halt participants are recommended to enter non persistent orders and quotes and persistent orders in any products. As a result of the Market Halt, products will not be tradable between the given times in the T7® simulation. In this scenario all non-persistent orders and quotes will be deleted after the market reset and participants must re-enter them. Persistent orders will stay in the system. Additionally, the following message occurs:

10308 - (ETI: Mass Cancellation Event)

1.2.4 Market Holiday Test

For this test WBAG Market Operation will set up the test dates as artificial holiday in the trading system. This test should ensure proper reaction of members order and quote management systems and market data processing software especially in a multi-market setup scenario, which is given with WBAGs Partner Exchanges XBUD, XLJU, XPRA and XZAG – all operated on T7® Simulation.

At 06:00 CET with system startup, START of Day state will be triggered and disseminated via market data interfaces for all products as usual. At 06:05 CET product state “HOLIDAY” will be disseminated for all products. It is not possible to manage orders and quotes during product state “HOLIDAY”. At 16:00 product state will change to “END OF DAY”.

1.2.5 Marketplace Holiday Test

For this test WBAG Market Operation will set up the test dates as artificial holiday in the trading system for every market operated under the umbrella of its marketplace (XBUD, XLJU, XPRA, XVIE and XZAG).

The system will not be started at these dates and consequently will not be available.

1.2.6 FirstPlace Wiener Börse

For this test WBAG Application Management will execute the “Orderbook Manager” role in selected “FirstPlace Wiener Börse” products/instruments (see chapter 1. Focus Days Overview table – column “Product”). Specific steps will be processed in sequence to cover core scenarios in WBAGs new primary market service “FirstPlace Wiener Börse”. Steps include full and partial allocation of orders, deletion of invalid orders (e.g. sell orders), final matching of allocated orders and deletion of resting orders after final matching by execution of instrument suspension.

The test allows WBAG trading members to connect their order routing systems and check orderly processing of order entry in selected “FirstPlace Wiener Börse” test instruments, modification and deletion of these orders and processing of messages triggered by order allocations and final matching of allocated orders initiated by the “Orderbook Manager” (WBAG Application Management Team).

Following sequence of actions will be ececuted on a “FirstPlace Wiener Börse” focus day:

- 10:00:40 – Pretrading (usual Simulation trading schedule for FirstPlace Wiener Börse instruments)
- 10:05:00 – Pre-Call (usual Simulation trading schedule for FirstPlace Wiener Börse instruments)
- short after 10:05:00 Input of price range for FirstPlace Wiener Börse Focus Day instrument(s)
- until 14:00:00 Members to enter their test orders in FirstPlace Wiener Börse Focus Day instrument(s)
- 14:00:00 – Freeze in FirstPlace Wiener Börse Focus Day instrument(s) – executed by WBAG
- 14:05:00 – Deletion invald orders (Sell orders, Buy orders outside price range) – executed by WBAG Members will receive unsolicited order deletions for these orders which should be processed accordingly in Members Order Management system(s)

- 14:10:00 – 75% allocation of Buy orders with quantity > 1000 – executed by WBAG, Members will receive unsolicited order modifications for these orders; it is recommended to ignore thismessage in the Member internal order processing to reflect ev. partial executions of Members' client orders (otherwise clients would see full execution of reduced order quantity)
- 14:20:00 – Allocation and final matching of remaining orders – executed by WBAG, Members will receive order executions and trade notifications / trade capture reports which contains WBAG internal Member "WBA08" as counterparty – please note that Clearing & Settlement of "FirstPlace Wiener Börse" trades must be executed bilaterally between Seller (Issuer) and Buyer. CCP.A is not involved at all in the transaction chain!
- 14:30:00 – Suspension of "FirstPlace Wiener Börse Focus Day instrument(s) – executed by WBAG to delete resting orders. Members will receive unsolicited order deletions of their resting orders
- 15:00:00 – Un-Suspension "FirstPlace Wiener Börse Focus Day instrument(s) – executed by WBAG to ensure availability of instruments for further test cases
- 15:30:00 – Post Trading (usual Simulation trading schedule for FirstPlace Wiener Börse instruments)

1.2.7 Xetra Midpoint

All members are eligible to enter Midpoint Orders for execution in the new Xetra Midpoint Order Book at the current midpoint between the best bid / best offer price displayed in the Xetra Central Limit Order Book (CLOB). Trading participants can optionally assign a "Minimum Acceptable Quantity" (MAQ) to individual Midpoint Orders, preventing executions that are below the MAQ.

Midpoint Orders can have the execution conditions "Immediate-or-Cancel" (IOC) or "Fill-or-Kill". They can either be market orders or limit orders. The limit price only works as a safeguard to prevent execution if the midpoint price is above (for buy orders) or below (for sell orders) the order limit.

The Midpoint Order Book is "dark" (no pre-trade transparency) and matching follows volume-time priority under consideration of MAQs. The matching algorithm is designed to maximize the overall executable quantity in each matching event. Users in the Simulation environment are enabled to test different scenarios in all instruments of market group "ATX" and predict / reconcile results accordingly, e.g.:

ISIN	*Curr*	Order Type	CLOB BBO *)	Midpoint Order Qty	Price Step (CLOB)	Resulting Midpoint
AT000AGRANA3	EUR	Midpoint Buy Market Orders (no MAQ) and Standard Orders in CLOB	15.20 -- 15.45	1000	0.05	15.325
AT0000A325L0	EUR	Midpoint Sell Market Orders (no MAQ) and Standard Orders in CLOB	5.76 – 5.85	1000	0.01	5.805
AT0000609607	EUR	Midpoint Buy Market Orders with MAQ and Standard Orders in CLOB	17.06 – 17.16	1000 (MAQ = 500)	0.02	17.11

*) WBAG Market Operations will provide orders in CLOB BBO at specified limits and eliminate any orders that are out of scope for individual test cases (mailto:trading@wieneroerse.at, phone +43 1 53165 500)

All instruments in market group ATX are eligible for midpoint trading in the Simulation environment, but there is no systematic liquidity provided in the midpoint order books, only in the CLOBs:

Overview of recommended test scenarios (products are randomly selected)

ISIN AT000AGRANA3

- Users can enter Sell Midpoint orders that match with Buy Midpoint orders of the provided liquidity.
- Users can enter Sell Midpoint Sweep orders that match with Buy Midpoint orders provided of the provided liquidity.
- Members can enter Sell Midpoint IOC/ FOK orders that match with Buy Midpoint orders provided of the provided liquidity.
- Members can enter Buy Midpoint Sweep orders that do not match with Buy Midpoint orders provided of the provided liquidity. The orders are entered in the CLOB and are executed.

ISIN AT0000A325L0

- Users can enter Buy Midpoint orders that match with Sell Midpoint orders of the provided liquidity.
- Users can enter Buy Midpoint Sweep orders that match with Sell Midpoint orders of the provided liquidity.
- Members can enter Buy Midpoint IOC/ FOK orders that match with Sell Midpoint orders of the provided liquidity.
- Members can enter Sell Midpoint Sweep orders that do not match with Sell Midpoint orders of the provided liquidity. The orders are entered in the CLOB and are executed.

ISIN AT0000609607

- Users can enter Sell Midpoint orders with low MAQ that do not match with Buy MAQ Midpoint orders of the provided liquidity. The orders are written into the midpoint order book.
- Users can enter Sell Midpoint Sweep orders that do not match with Buy Midpoint orders of the provided liquidity. The orders are entered in the CLOB and are executed.
- Users can enter Sell Midpoint Sweep IOC/ FOK orders that do not match with Buy MAQ Midpoint orders of the provided liquidity. The IOC/ FOK orders are executed in the order book

In addition, individual scenarios can be tested with, e.g.liquidity provision, e.g. midpoint orders with Midpoint Self Cross Prevention, individual MAQs that match against own orders. In ISINs which don’t belong to market groups ATX and CTP it can be tested that no midpoint trading is possible.

Further details for test scenarios

- Users are encouraged to send plain midpoint orders and with execution conditions (IOC, FOK), with and without MAQ, using limit prices exceeding the midpoint price (marketable) or off the current midpoint

price (not marketable). Non-executable midpoint orders will be deleted if they are sent with IOC or FOK (partial execution and deletion of remaining quantity with IOC). Without execution conditions, they will be written to the midpoint book and are available for passive executions. Users will receive execution and trade confirmations for immediate (aggressive) and passive executions of their midpoint orders, identifiable as trades in the midpoint order book and reportable under the new segment MIC "WBMA".

- When using ISINs for which the Exchange provides (after prior request by member) midpoint buy orders with an MAQ, members can test a special scenario:
  1) Send a marketable midpoint sell order "A" without execution condition and a quantity below the MAQ defined for the counter order "E" provided by the Exchange (500) – order "A" will be entered into the midpoint order book.
  2) Send a marketable midpoint sell order "B" with a quantity below the MAQ of "E" (500) that adds up, together with quantity from order "A", to the MAQ (or higher) of order "E" – order "B" will be executed immediately, and order A will also be executed, both in the same trade – the incoming order can trigger an execution of a resting order on the same side of the midpoint order book
- Please note that Midpoint orders in instruments that are ineligible for midpoint trading are rejected immediately upon entry.

Xetra Midpoint Order with Sweep Flag

By flagging a midpoint order as "Midpoint Sweep Order", any remaining quantity that cannot be executed immediately upon entry of such order in the midpoint order book is transferred automatically to the CLOB. When used in an instrument that is not available for midpoint trading (either because the instrument is not in continuous trading, or because there is currently no midpoint price available, or because it is generally not eligible), midpoint sweep orders are not rejected but also forwarded to the respective CLOB. Midpoint Sweep Orders can have all execution conditions (IOC, FOK, BOC) and order restrictions (Opening Auction Only (OAO), Intraday Auction Only (IAO)Closing Auction Only (CAO), Auction Only (AO) or flagged for Trade-at-Close) like standard orders. However, those will only be relevant if the Midpoint Sweep Order is transferred to the CLOB. Midpoint Sweep Orders cannot have MAQs. Modificatoins of Midpoint Sweep Orders will only be effective in the CLOB, i.e. a modification of such order does not trigger another execution attempt in the midpoint order book.

Test scenarios and expected results

- Executions of Midpoint Sweep Orders in the midpoint order book, in the CLOB or in both are identifiable from the execution confirmation.
- The order entry confirmation will be sent only after the complete processing of the Midpoint Sweep Order in the midpoint order book and the CLOB (if applicable). The special scenario with combined executions of incoming and resting orders to match the MAQ of an order on the other side of the midpoint book (see previous sub-section) works accordingly if the incoming order is a Midpoint Sweep Order

- Midpoint Sweep Orders with execution condition “Fill-or-Kill” (FOK): will either be executed fully in the midpoint book (if possible) or otherwise fully in the CLOB, or otherwise deleted. There is no aggregation of potential partial executions in the midpoint order book and the CLOB to satisfy the FOK condition.

Xetra Midpoint Self-Cross Prevention

The Xetra Midpoint Self-Cross Prevention (SCP) can be tested either in instruments with or without systematic liquidity provided by the Exchange. Incoming orders (Midpoint Orders and Midpoint Orders with Sweep Flag) with a specific CrossID trigger the automatic deletion of all orders on the other side of the midpoint order book from the same Business Unit and the same CrossID, as long as the limits of the respective orders are crossed, but regardless of the current midpoint price, MAQs and whether midpoint trading is currently available. Incoming orders can match against other orders. Sweep Orders with a CrossID, if forwarded to the CLOB, are subject to the established Self-Match Prevention (SMP) process.

Midpoint Sweep Orders trigger deletion under Midpoint Self-Cross Prevention only if the incoming sweep order is marketable at the current midpoint price. Sweep orders with non-marketable limits are forwarded to the CLOB immediately without triggering an SCP process.

Test scenarios and expected results for Xetra Midpoint Self Cross Prevention

- Two-step scenario “non-executable”:
  1) Member sends “sell” midpoint order with limit > current midpoint price and CrossID: order enters midpoint book
  2) Member sends “buy” midpoint order with same or higher limit as the sell midpoint order from step i), or buy midpoint market order and same CrossID: midpoint sell order is deleted automatically; midpoint buy order is written to midpoint book or executed against other sell order from different member or same member BU but different CrossID, if available
- Two-step scenario “executable”: same as above, but with midpoint sell order with limit on current midpoint price or lower in step i): same as above, but also valid for incoming midpoint sweep orders in step ii)
- For “uncrossed” limits (i.e. buy order has lower limit than sell order, for any midpoint price level), all orders marked with same CrossID: no order cancelled.

1.3 Individual Test scenarios

- For setup and support of individual test scenarios please contact our Xetra® Trading Service Desk (phone +43 1 53165 500, mailto:trading@wienerborse.at)
- Furthermore Wiener Börse’s CEESEG FIX and CEE Trader infrastructure allows for individual testing possibilities besides coverage of all focus days described in this document. For further information please contact our Technical Service Desk (phone +43 1 53165170, mailto:it_helpdesk@wienerboerse.at).

2. Wiener Börse Market Group Trading Hours in T7® Simu

	Market Groups			
Instrument Phase	**ATX**	**CTP, CTD, DIPC, DIMC**	**GMC1, GMC2, GMC3**	
Closed	06:00:00	06:00:00	06:00:00	
Book	10:00:00	10:00:00	10:00:00	
OpnA	10:15:00	10:15:00	10:15:00	
End of Openng Auction	10:20:30	10:24:30	10:25:30	
Trade	-	-	-	
IntA	12:00:00	12:00:00	12:00:00	
End of Intraday Auction	12:03:30	12:03:30	12:03:30	
Trade	-	-	-	
ClsA	15:40:00	15:40:00	15:40:00	
End of Closing Auction	15:45:30	15:42:30	15:44:30	
Book	-	-	-	
Closed	16:00:00	16:00:00	16:00:00	

Instrument Phase	**ETF, ETF2**	**BRCT, BRPC, BMCT**
Closed	06:00:00	06:00:00
Book	10:00:00	10:00:00
OpnA	10:15:00	10:20:00
End of Openng Auction	10:24:30	10:25:30
Trade	-	-
ClsA	15:40:00	15:35:00
End of Closing Auction	15:42:30	15:40:30
Book	-	-
Closed	16:00:00	16:00:00

Instrument Phase	**AOD, AOF, DIPA, DIMA**	**CRAO, CMAO, CRNU, CMNU**	**CRPA, CMPA, CRNP, CMNP**
Closed	06:00:00	06:00:00	06:00:00
Book	10:00:00	10:00:00	10:00:00
IntA	12:30:00	12:30:00	12:30:00
End of Intraday Auction	13:30:30	13:30:30	13:30:30
Book			
Closed	16:00:00	16:00:00	16:00:00
Trade			
CsA	15:40:00	15:35:00	15:35:00
End of Closing Auction	15:42:30	15:40:30	15:40:30
Book			
Closed	16:00:00	16:00:00	16:00:00

Instrument Phase	**GTB, GSTR**	**GOVB**	**BRCO, BR25**	**BM01 - BN17, BMST**
Closed	06:00:00	06:00:00	06:00:00	06:00:00
Book	10:00:00	10:00:00	10:00:00	10:00:00
IntA	11:30:00	11:30:00	11:45:00	13:05:00
End of Intraday Auction	11:40:30	11:45:30	12:45:30	14:15:30
Book				
Closed	16:00:00	16:00:00	16:00:00	16:00:00

Instrument Phase	**BRNC, BMNC, SRNC, SMNC**	**BR01 - BR23, BRST**	**BMCO, BM25**
Closed	06:00:00	06:00:00	06:00:00
Book	10:00:00	10:00:00	10:00:00
IntA	11:50:00	11:50:00	13:05:00
End of Intraday Auction	12:45:30	13:00:30	14:00:30
Book			
Closed	16:00:00	16:00:00	16:00:00

Phase (Instrument)	**BRCA, BMCA**	**CERA, CEMA, CERD, CEMD**	**CERO, CEMO, CCRA, CCMA**	**CCRD, CCMD, CCRO, CCMO**
Closed	06:00:00	06:00:00	06:00:00	06:00:00
Book	10:00:00	10:00:00	10:00:00	10:00:00
PreCall/Call	10:35:00	10:35:00	10:35:00	10:35:00
Book	15:30:00	15:30:00	15:30:00	15:30:00
Closed	16:00:00	16:00:00	16:00:00	16:00:00

Details / Used Abbreviations:

Book in Prod.State Pretrade and Posttrade
OpnA Opening Auction
IntA Intra Day Auction
ClsA Closing Auction
TRADE Continuous Trading
Closed in Prod.State START and EndOfDay
PreCall Cont.Auction PreCall
Call Cont.Auction Call

Please note that T7® simulation times may be changed for testing purposes without prior notice. Our Xetra® Trading Service Desk (phone +43 1 53165 500, mailto:trading@wienerborse.at) is at your disposal for any related questions.

3. "FirstPlace Wiener Börse" in T7® Simu

3.1 "FirstPlace Wiener Börse" Market Group Trading Hours in T7® Simulation

First Place Wiener Börse Market Groups			
Instrument Phase	**ZWBB**	**ZWBE**	**ZWBS**
Closed	06:02:40	06:02:40	06:02:40
Book	10:00:40	10:00:40	10:00:40
PreCall	10:05:00	10:05:00	10:05:00
Book	15:30:00	15:30:00	15:30:00
Closed	16:00:40	16:00:40	16:00:40

3.2 "FirstPlace Wiener Börse" Instruments in T7® Simulation

First Place Wiener Börse Simulation - Instruments			
Market Group	**ISIN**	**Type**	**Instrument Name**
ZWBB	AT0000A2UFG0	BON	FIRSTPLACE TEST BOND 1
ZWBB	QO00VIE00037	BON	FIRSTPLACE TEST BOND 2
ZWBB	QO00VIE00045	BON	FIRSTPLACE TEST BOND 3
ZWBB	QO00VIE00052	BON	FIRSTPLACE TEST BOND 4
ZWBB	QO00VIE00136	BON	FIRSTPLACE TEST BOND 5
ZWBE	QO00VIE00003	EQU	FIRSTPLACE TEST EQU 1
ZWBE	QO00VIE00029	EQU	FIRSTPLACE TEST EQU 2
ZWBE	QO00VIE00128	EQU	FIRSTPLACE TEST EQU 3
ZWBE	QO00VIE00151	EQU	FIRSTPLACE TEST EQU 4
ZWBE	QO00VIE00169	EQU	FIRSTPLACE TEST EQU 5
ZWBS	QO00VIE00060	WAR	FIRSTPLACE TEST CER 1
ZWBS	QO00VIE00086	WAR	FIRSTPLACE TEST CER 2
ZWBS	QO00VIE00144	WAR	FIRSTPLACE TEST CER 3

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4. Change log

The document contains the following changes compared to the previous versions.

No	Date	Chapter	Change
1	Nov 26, 2024	All	Creation
2	Nov 26, 2024	1	Change execution of Xetra Midpoint focus days from specific dates to “on demand”
3	Nov 26, 2024	1.2.7	Modify wording for Xetra Midpoint test scenarios to match the “on demand” approach, as no dedicated focus days will be offered for Xetra Midpoint for the time being
4	Nov 29, 2024		Final update of CONTENT (page 2)