

Date: 10.11.2017

Group of Recipients: Xetra® Project Co-ordinators, System Administrators

Please forward the following letter to all other responsible persons

Xetra® Release 17.0 Production start and Members' preparatory activities

Dear Sir or Madam,

For the preparation of the production start of Xetra® Release 17.0 on November 20, 2017, we would like to inform you about the impacts and the processes and necessary activities prior to and during the release introduction:

- 1) Functional Amendments
- 2) Distribution of Xetra® Release 17.0 front end software kits
- 3) Installation of the Xetra® Release 17.0 front end software kits
- 4) Time schedule for the Xetra® Release 17.0 introduction
- 5) Order entries as of Monday, 20 November 2017
- 6) Fallback procedure for Xetra® Release 17.0 production launch
- 7) Activities on December 29, 2017 in order to ensure compliance with MiFID II/MiFIR requirements as of January 2, 2018

1) Functional Amendments

With production start of Xetra® Release 17.0, the following functional amendments will be prepared:

- Introduction of Liquidity Provision Flag
- Introduction of new Tick Sizes with Liquidity Bands
- Transition Timestamp and Business Clocks to UTC and Synchronisation
- Introduction of new Pre Trade Controls (Maximum Quantity Check, Price Reasonability Check for trading model "Continuous Auction")
- Introduction of new fields for the Order Audit Trail of Wiener Boerse
- Introduction of Aggressive/Passive Indicator
- Introduction of "Direct Market Access" (DMA)
- Introduction of Algorithmic Trading Flag

Our Market Supervision (<u>mailto:trading@wienerborse.at</u>, Tel. 0043 1 53165 500) is at your disposal for any questions on the implementation of these changes.



2) Distribution of Xetra® Release 17.0 front-end software kits

Deutsche Boerse will send out the Xetra® Release 17.0 production software kits on the evening of Friday, November 10, 2017. The distribution will take place via file transfer (FTP) over the Xetra® network to the participants report nodes.

Xetra® Release 17.0 is not backwards compatible. Installation of the Xetra® Release 17.0 kits is therefore mandatory. Applications currently used have to be adjusted. With Xetra® Release 17.0 the GATE software will not change, i.e. installation of GATE 3.5 is a prerequisite.

The target transfer directories on the Xetra® Release 17.0 production MISSes are:

Oracle Solaris 10 (Sparc): /opt/gate/transferdir/release68
Oracle Solaris 10 (x86): /opt/gate/transferdir/release68
Windows: <ftp-root directory>\release68

Each member will receive the Xetra® Release 17.0 production kits for Oracle Solaris 10 (Sparc), Oracle Solaris 10 (x86) and for Windows.

To ensure a smooth kit distribution, please note the following:

- Before the software transfer takes place, it is imperative to delete all files that are no longer required from the transfer directory.
- At least 300 MB disk space has to be available in the transfer directory on each of the participants' production MISSes.
- Make sure that the MISSes of your Xetra® production environment are connected to the Xetra® Vienna production back-end system without interruption from Friday evening, November 10, 2017 until Wednesday morning, November 15, 2017 to enable the file transfer.
- Check that the necessary read and write permissions for files and folders are set correctly on the member production MISSes.

Deutsche Börse AG will monitor the successful distribution of the Xetra® Release 17.0 production software kits. In case of any transfer problems, a new transfer job for the next day will be initiated automatically.

3) Installation of the Xetra® Release 17.0 Frontend Software kits

Please note that the installation of the Xetra® Release 17.0 production software is mandatory for all participants!

To ensure a smooth release start, we would ask you to consider and perform the following activities in due time:

The last trading day of Xetra® Release 16.0 will close on Friday, November 17, 2017 at around 5.45 p.m. CET, after the post-trading period. On this trading day, installation of Xetra Release 17.0 production kits may only be performed after the end of the batch run and the transmission of reports. Please check beforehand if all relevant reports have been selected and successfully received, since after the release change, historical reports will no longer be available for the period until and including November 17, 2017.



- We recommend not to execute the installation of the Xetra® Release 17.0 Production-Kits before Saturday November 18, 2017,

For further details please refer to the "Front End Installation Guide Xetra® Release 17.0" (published with Xetra® Circular 29/2017). Participants should become familiar with all installation procedures in good time and schedule enough time for the installation. Additional information can also be found in the "Installation Notes (readme file)" for the Xetra® Release 17.0 production kit.

For those participants, who intend to carry out an operating system upgrade together with the installation of the production software, we strongly recommend performing a "full backup" of the installed software release (Xetra® Release 16.0) including the operating system prior to the installation. This allows a guick rollback to the previous version in case of an emergency.

For new installations:

Before installation of the production kit for Xetra® Release 17.0, GATE 3.5 production software as well as update 3 kit for GATE 3.5 must be installed on all MISSes and workstations. If required, the GATE 3.5 software kits and update kits 3 for GATE 3.5 are available for download on the Xetra website. In order to activate the new settings, please reboot your system after having installed the GATE 3.5 software and GATE 3.5 update 3 kit.

4) Time schedule prior to the Xetra® Release 17.0 start

Saturday, November 18, 2017 - connection test

The Xetra® Vienna backend will be available on Saturday afternoon between 4.00 p.m. and 6.00 p.m. CEST for the connectivity test.

To avoid any risks or delays in connectivity to Xetra® Vienna on the first production day, we highly recommend that you use this period of time for connectivity testing.

The connectivity test can be considered to be successful when the Xetra® message "Xetra Release 17.0" can be received. Please make sure that an authorized staff member who may log in to your Xetra® frontend trading system is available.

In order that members can log in via the Enhanced Transaction Solution interface, the appropriate gateways will be made available.

Please note that for the connectivity test, only the following transactions will be supported via the Enhanced Transaction Solution interface:

- "session logon"
- "trader login"
- "send heartbeat"



Participants operation their trading connectivity via multi-market/multi-platfrom interface CEESEG FIX and/or trading frontend CEE Trader can use the following transactions during the connection test window:

CEESEG FIX	CEE Trader
- Session logon	 Market Data logon
 Send heartbeat 	- Trading logon

Furthermore, the DBAG Xetra® FIX-Gateways will be available for Members who already use the DBAG Xetra® FIX-Gateway in production to be able to verify these connections as well. In order to be able to do so, the following transactions via the DBAG Xetra® FIX-Gateway interface are supported:

- "session logon"
- "trader login" The transaction can be regarded as successful when the login is responded to by the message "System is running in connection-test-mode no processing".

To enable Members to run tests with their Enhanced Broadcast Solution interface, the reference data stream will be transferred after the Xetra® Vienna back-end has been started.

Customer Technical Support Xetra® will be available to answer your questions regarding connectivity testing on November 18, 2017 between 2.00 p.m. and 6.00 p.m. CET under your personal VIP number or via mailto:cts@deutsche-boerse.com.

Furthermore, we would ask you to inform us about the success of your connection test to the Xetra® Vienna backend by phone or by e-mail. Please contact our IT Helpdesk between 4.00 p.m. to 6.00 p.m. CET (<a href="mailto:remailto

Test of automatic Reconnect Procedure

On Saturday, November 18, 2017, after completion of the Xetra® Release 17.0 connection test, Deutsche Boerse will simulate disruption of the MISS to communication server (CS) connection in order to test the automatic reconnect procedure. The test will be performed between 6.00 p.m. and 7.00 p.m. CET.

In order to enable Deutsche Boerse to perform this test, we urge all participants participating in the Xetra® 17.0 connection test to keep their MISS architecture up and running until 7.00 p.m. CET.

Under no circumstances the MISS architecture should be manually restarted while the test is in progress!

Important: An automatic reconnect can only be executed successfully by Deutsche Börse if the network ports 15107 (Xetra®), 16107 (Xetra® Frankfurt 2), 16807 (Xetra® Vienna) and 15507 (Xetra® Irish Stock Exchange) on the production MISS group are accessible. Thus, it is crucial NOT to block these ports by firewall and/or router settings.



Supplementary Information

The network port 1@@07 is a listening port available on the MISS. This port is used after disruption of the MISS to communication server connections and when the MISS has entered into "reconnect-wait" state. In such cases, the communication server can trigger the reconnect request to the MISS via this port.

If the network port 1@@07 on the MISS is not accessible for the connection attempt from the communication server, the MISS cannot be reconnected to Xetra® and the MISS downtime may be unnecessarily prolonged. Therefore, we would like to remind all participants to consider the accessibility of this port in the context of router and firewall configurations.

As described in the member document "Network Access to Exchange Applications" the network connection between the member-side MISS and the exchange-side communication server (CS) requires several network ports on the MISS to be accessible. In detail, these ports are as follows:

Port	Usage	Direction
1@@03	Listen Port on CS	bi-directional CS <==> MISS
1@@05	Listen Port on CS	bi-directional CS <==> MISS
1@@06	Listen Port on CS	bi-directional CS <==> MISS
1@@07	Listen Port on MISS	uni-directional CS ==> MISS

The network protocol used is TCP/IP and the wildcard "@@" has to be replaced with the Xetra® environment numbers, e.g. in the context of production: "68" for Xetra® Vienna production.

The document "Network Access to Exchange Applications" is available for download on our website www.wienerborse.at in the Closed User Group "CUG for Members & 3rd Parties".

Monday, November 20, 2017 - Production Start

On Monday, November 20, 2017, the first trading day with Xetra® Release 17.0 will start at 8.00 a.m. CET, as usual.

Orders which are entered but not executed until November 17, 2017 (end of trading), will be available again on November 20, 2017, unless other validity restrictions were set.

Profiles and settings

With the first start of the Xetra® J-Trader GUI after the upgrade from Release 16.0 to Release 17.0, current user profiles and settings will be converted.

Please make sure to save your user profiles by means of the option "save settings" before the conversion takes place. In order to use the converted profiles at all following logins, Members must save the converted profile with the shortcut (Ctrl + w); this corresponds with the function "Settings/save window configuration".

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5) Order entries as of Monday, 20 November 2017

The fields "ClientID", "Investment Decision" and "Execution Decision" that will be provided with the new release should be filled as of Monday, 20 November 2017. However, they have to contain the information required by regulatory provisions from 3 January 2018 onwards only. Therefore, we would like to reiterate that orders on the "A" - account will be rejected if their field "ClientID" is void.

6) Fall-back Procedures for Xetra® Release 17.0 Production Launch

In the event of trading not being possible with Xetra® Release 17.0 after its introduction on November 20, 2017, preparations have been made to continue electronic trading with Xetra® Release 16.0. Should such a fall-back become necessary on November 20, 2017, we will inform your designated connection test contacts and project coordinators and provide further information.

For this purpose, please ensure that your connection test contacts and project coordinators will be available on Monday, November 20, 2017 between 7.00 a.m. and 8.30 p.m. CET. Please also make sure that your contact persons will be available on Saturday, November 18, 2017 between 4.00 p.m. and 7.30 p.m. CEST and, if necessary, on Sunday, November 19, 2017 between 11.00 a.m. and 2.30 p.m. CET, in case a fall-back will become necessary during the connection test weekend.

The relevant member impact in the event of a fall-back is described below:

- The Participants will be able to switch back to Xetra® Release 16.0 without installing additional software. The necessary activities are described in detail in the Installation Notes, which will be distributed together with the Xetra® Release 17.0 production kits. No activity needs to be performed if the Xetra® Release 17.0 production kit was not yet installed.
- The settings of the last trading day (November 17, 2017) of the Xetra® Release 16.0 production will be restored. Therefore, modifications performed by participants in Xetra® Release 17.0 production regarding, for example, access authorizations or the definition of window settings have to be re-entered after the re-opening.
- Trades already generated in Xetra® Release 17.0 will be transmitted to CCP.A for clearing and settlement. Due to a necessary fall-back, such trades are not included in the Xetra® text and XML reports, but are included in the settlement and clearing reports provided by CCP.A. No transaction fees are charged for these trades.
 - Orders and stop orders, which are not executed before the termination of the Xetra® Release 17.0 production as well as non-confirmed OTC trades have to be re-entered.
 - Important information relevant to trading will be available on the Xetra® Newsboard, from which it can be retrieved.



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We would like to point out that the management of the exchange operating company, has the right, especially in connection with emergency measures, to take any steps as may be required to maintain orderly trading and if necessary to reinstate orderly exchange trading in the interest of a functioning stock exchange for the benefit of the national economy as well as to safeguard investors interests.

7) Activities on December 29, 2017 in order to ensure compliance with the MiFID II/MiFIR requirements as of January 2, 2018

As announced in our Member Meetings in London on October 18, 2017 and in Vienna on October 20, 2017, Wiener Boerse (WBAG) will comply with the MiFID II/MiFIR requirements already as of January 2, 2018.

This means that from January 2, 2018 onwards, the trading systems will apply the new tick size bands. For this purpose, all open orders will be deleted on 29 December 2017, after the close of trading.

Orders in instruments affected by the change in tick size will be deleted showing "Change of Tick Rule" as reason for deletion. Orders in instruments not affected by the change in tick size will be deleted showing the newly introduced deletion reason "SPE" (Special Event).

Furthermore, the time stamps will be converted to Coordinated Universal Time (UTC) effective 2 January 2018. From this date onwards, Xetra® will use UTC time stamps throughout all transaction interfaces and market data interfaces. Time stamps of existing orders will not be converted. In the Xetra® Trader GUI and on Xetra® reports, time stamps will continue to be displayed in CE(S)T.

Contacts

For any functional questions regarding Xetra® 17.0 for setting up and executing of needed individual test cases for you, our Trading Helpdesk is at your disposal (mailto:trading@wienerborse.at or by phone +43-1-53165-500).

If you have technical questions on the release rollouts, please do not hesitate to contact the Customer Technical Support of Deutsche Boerse AG (dial the VIP number of your Technical Key Account Manager or send an e-mail to mailto:cts@deutsche-boerse.com) or contact the IT Helpdesk of Wiener Boerse AG via mailto:it_helpdesk@wienerborse.at or by phone (+43-1-53165-170).

Organizational questions are answered by our local Xetra® Vienna Project Management Office (Tel. +43-1-53165-253, mailto:xetra@wienerborse.at)

Kind regards Wiener Boerse AG Xetra® - Team