X-pand into the Future

e u r e x *circular 070/13*

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Eurex Exchange's new trading architecture: Introduction of Release 2.0 on 25 November 2013

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Content may be most important for:

Ü All departments

Attachments:

none

Summary:

To improve and extend its exchange infrastructure, Eurex Group is planning to launch release 2.0 of Eurex Exchange's new trading architecture on **25 November 2013**.

This circular provides Exchange Participants with an overview of the enhancements planned for release 2.0, including:

- New Eurex Enhanced Order Book Interface (Eurex EOBI)
- Introduction of the Eurex/TAIFEX (Taiwan Futures Exchange) Link
- Modified concept for automatic generation of standard clearing fields (replacement rules)
- Introduction of variance futures as a new class of futures products
- Limitations on the number of orders stored in the order books
- Other functional and technical enhancements

An implementation and communication schedule with the release 2.0 milestones is included in this circular. Please note that the activation date of some of these new features will be different than the launch date, and will be communicated separately.

Eurex Exchange's new trading architecture: Introduction of Release 2.0 on 25 November 2013

On 3 December 2012, Eurex Exchange introduced the new trading architecture for derivatives trading. The architecture combines state-of-the-art technology, both on a hardware and software level. This includes a highly flexible operating system, an internal high-performance messaging architecture for minimum latency, high-speed communications and reliable database systems.

Eurex Exchange is planning to launch release 2.0 of the new trading architecture on 25 November 2013. Release 2.0 includes several major functional enhancements, as well as minor functional and technical upgrades. An overview of the release content is provided in this circular.

Eurex Exchange is committed to providing Participants with information updates throughout the development of release 2.0 in order to support adequate planning and to ensure a successful launch. The new trading architecture documentation currently available on the website www.eurexchange.com will be updated for release 2.0 and published well in advance of the launch. Please see the implementation and communication schedule in chapter 2.

To ensure effective information distribution, we kindly ask participants to register contact persons in the Member Section on www.eurexchange.com for the implementation of the Eurex Exchange's new trading architecture. Please register a project coordinator, technical contact and a simulation SPOC (single point of contact) for "Eurex Exchange's New Trading Architecture 2.0". This will be possible starting 19 May 2013.

1 Functional and technical enhancements

Release 2.0 of the Eurex Exchange´s new trading architecture will include important new functionality, such as:

- the new Eurex Enhanced Order Book Interface (Eurex EOBI)
- a modified replacement rule concept and
- new pre-trade risk limits.

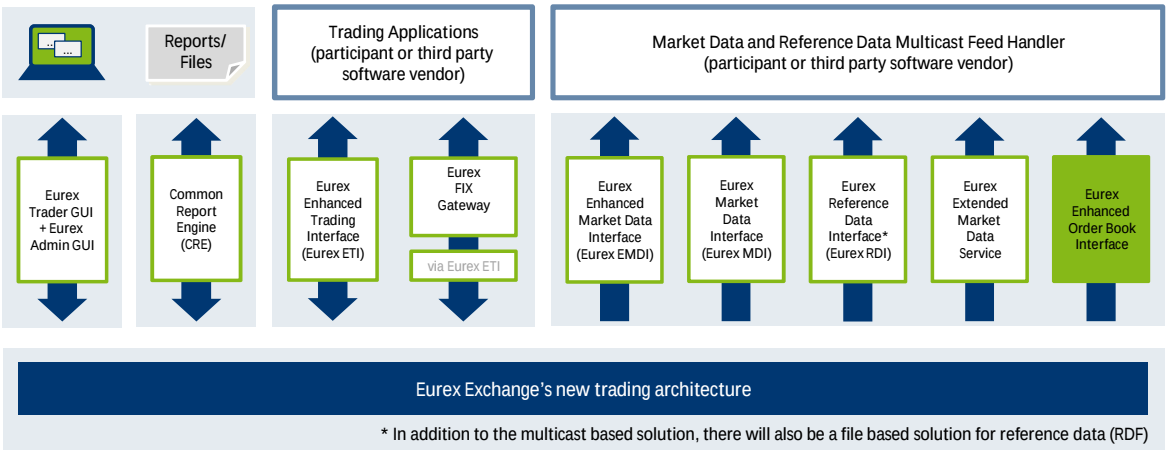
Release 2.0 will also prepare the system for the introduction of new features, including a new Eurex/TAIFEX Link and variance futures trading. Some smaller functional and technical enhancements will be implemented to provide additional benefits, such as improved system performance.

1.1 Major enhancements

1.1.1 Eurex Enhanced Order Book Interface (Eurex EOBI)

The new Eurex Enhanced Order Book Interface (Eurex EOBI) will provide the entire visible order book, by publishing information on each individual order and quote, along with executions and state information in real-time and un-netted manner. The new interface will be available for a selected group of Eurex Exchange's (benchmark) futures and will provide an additional alternative to recipients of the Eurex Enhanced Market Data Interface (Eurex EMDI).

Eurex EOBI extends the current interface landscape of the new trading architecture with regard to market and reference data interfaces:



As depicted above, the new interface will provide an additional market data interface alongside the existing Eurex EMDI and Eurex MDI interfaces.

Though most of the functional concepts used are similar to those of Eurex EMDI, the new interface provides greater transparency and efficiency, together with a high throughput at minimal latency. The Eurex EOBI will disseminate public market data with the following features:

- The side, price, priority timestamp and displayed quantity of each visible order and quote.
- Trade price and traded quantity for each executed on-exchange trade.
- Order book information disseminated without any depth limitation.
- The trading status of each product and corresponding instruments.
- Intra-day changes regarding complex instruments.
- Request for Quotes and Cross Trade Announcements.
- Manually entered trades and trade reversals by Eurex Market Supervision.

All public market data messages will be sent in the form of fixed-width binary messages. The required reference data information is available via the existing Eurex Reference Data Interface (Eurex RDI) feed and the Eurex Reference Data File (Eurex RDF).

The Eurex EOBI will be offered as an add-on service on 10GB connections in co-location only. Please note that there will be an additional service charge for this offering.

In May 2013, a draft version of the specification for the Eurex EOBI will be available for comment on the Eurex website.

1.1.2 Eurex/TAIFEX Link

Eurex Exchange and TAIFEX plan to introduce extended trading hours for the Taiwanese options and futures products, by establishing a clearing link between the two markets. Eurex will list daily futures contracts on TAIEX options and futures. The Eurex TAIFEX Products will expire daily into obligations to deliver the corresponding options/futures positions into the TAIFEX market, prior to the market opening at TAIFEX, following the closing at Eurex Exchange.

With this cooperation, trading will be available after the Taiwanese trading hours, during European and U.S. core trading hours. At the end of each trading day at Eurex Exchange, open interest will be transferred to the TAIFEX clearing house.

Eurex Exchange Participants intending to trade the Eurex TAIFEX Products must establish a partnership with one or more TAIFEX members for trading and/or clearing purposes. When entering standard (persistent and non-persistent) and/or lean orders, Eurex Exchange Participants will specify the corresponding TAIFEX Member ID and Final Beneficiary at order entry.

Release 2.0 of the new trading architecture will also introduce support for the Eurex TAIFEX Products in the modified replacement rules concept (see 1.1.3), enabling participants using the Eurex Enhanced Trading Interface (Eurex ETI) to quote and enter orders using the short layout.

Release 2.0 of the new trading architecture will prepare the new trading architecture for the introduction of the Eurex/TAIFEX Link. The timing and details of the Eurex TAIFEX Products introduction will be announced in a separate Eurex circular.

1.1.3 Modified concept for automatic generation of standard clearing fields (replacement rules)

To optimize quoting efficiency in the new trading architecture, clearing fields are not available on quote entry. Instead, Participants configure replacement rules that generate default clearing fields every time a quote is executed. These default values are provided in the trade information passed from the new trading architecture to the clearing system. The following clearing fields are currently supported:

- Clearing Account
- Free Text 1
- Free Text 2
- Free Text 3
- Open / Close Indicator

The same concept has been implemented for orders entered using the short layout.

A new and easy-to-use modified replacement rules concept will replace the current concept. Using the Eurex Admin GUI, Participants will define the replacement rules as a simple index table, and will specify on trans-action entry the exact replacement rule to be used at the time of execution of the quote or order entered using the short layout. Each replacement rule will be identified by a Participant-defined 2 byte numeric Replacement Rule ID.

This new replacement rules concept enhances the current functionality for quotes and orders entered using the short layout, including new support for replacing the Take-Up member as well as the dedicated KRX (Korea Exchange) and TAIFEX fields.

When the order/quote is executed, the new trading architecture will use the participant supplied Replacement Rule ID to look up the rule, and then apply the corresponding clearing fields to the trade information sent to the clearing system and returned to the participant. Trade enrichment will be done by the new trading architecture's trade manager and will be supplied on the trade confirmation to participants (not on the execution information from the matching engine).

Participants trading in KRX and/or TAIFEX products will provide a default External Member ID and Final Beneficiary to be used if a valid replacement rule is not found.

The modified replacement rule concept is not compatible with the current concept; therefore Eurex Exchange will provide a cutover strategy, as the current logic will no longer be supported with Release 2.0.

1.1.4 Variance futures as a new class of futures products

In Release 2.0, the Eurex Exchange's new trading architecture will support the trading of variance futures on equity indexes, enabling Participants to hedge risks associated with the movement (volatility) of the corresponding underlying equity index.

Trading of variance futures in the new trading architecture will be done in the Volatility-Vega pricing notation where all order and quote maintenance activities are based on the Volatility strike σ_{strike} as order or quote limit price and on the Vega Notional N_{vega} as order or quote quantity. Matching will also be performed in the volatility-vega pricing notation. Once a match event occurs, the traded volatility and vega values (σ_{strike}, N_{vega}) are converted into a futures price-quantity notation (P, Q) representing the variance futures price P and variance futures quantity Q of the match event. The futures price-quantity notation will be based on a standard variance determined by Eurex Exchange and representing the implied variance of the underlying equity index at the first trading day of the corresponding variance futures contracts, on a discount factor and on a price correction denoted as Accumulated Return of Modified Variation Margin (ARMVM) in order to ensure that the futures price-quantity notation result to a variation margin reproducing the cash flow of the corresponding OTC traded variance swap.

Release 2.0 of the new trading architecture will prepare for the introduction of variance futures. The timing and details of product introduction will be announced in a separate circular.

1.1.5 Limitations on the number of orders stored in the order books

Eurex Exchange will introduce an additional feature for pre-trade risk management, for selected high volume products.

Release 2.0 will support functional limits on the number of open orders and quote sides allowed for a business unit and session, thus enabling a pre-trade risk limit. For selected products, Clearing Members will establish individual maximum order counts per product for their Trading Participants´ business units. For these products, Trading Participants will be able to set maximum order counts per session and product (limited by the values set by their Clearing Member). For other products, Trading Participants and Clearing Members can set two non-product specific limits (one for all other options, and one for all other futures).

The functionality compliments the transaction size limit functionality already available in the new trading architecture.

1.2 Other functional and technical enhancements

Release 2.0 also includes some smaller functional and technical enhancements:

1.2.1 New origin country code

A new origin country code will be introduced to identify the region from which a transaction originates, enabling participants to specify the originating country where an order was entered.

The origin country code will be 2 characters. It will not be supported on quotes or orders entered using the short layout.

Report TE540 Daily Order Maintenance will include the origin country code.

1.2.2 New regulatory algorithm identifier

A new regulatory algorithm identifier, RegulatoryID, will be introduced to trace trading strategies within order and quote flow.

The RegulatoryID field will be introduced as a 4 byte numeric field on the Add Order, Modify Order, Mass Quote Request (header only), Cross Request, Quote Request and Strategy Request transactions. The

RegulatoryID field applies only to the electronic interfaces and will therefore not be available on the Eurex Trader GUI.

Release 2.0 of the new trading architecture will introduce the regulatory algorithm identifier. Rules, regulations and timelines regarding usage of the RegulatoryID by participants will be announced in a separate Eurex circular.

Report TE540 will include the RegulatoryID.

In this context, please refer to Eurex circular 052/13 about the German High Frequency Trading Bill for new rules and regulations that require Participants to document their strategies.

1.2.3 Common Report Engine versioning

With Release 2.0, the naming conventions will include a versioning structure, which also facilitates a clear identification of corrected reports (they will no longer be overwritten).

1.2.4 Ticker data

Currently participants receive underlying prices from Eurex VALUES and MDI (see section 4.1. of the Eurex Market Data Interface Specification on the Eurex website under:

Technology > Eurex Release 14.0 > System documentation > Interfaces

These will be replaced in release 2.0, with a new multicast feed using the format of the new trading architecture multicast feeds.

1.2.5 Enhanced Eurex FIX Gateway support of listener broadcast

A second FIX Back Office session type will be offered, enabling participants not only to receive drop copies of all their trades, but also drop copies of all FIX execution reports related to standard orders of the trading business unit where the orders/quotes originated.

1.2.6 Performance improvements

In release 2.0, participants can expect improvements in the performance of the new trading architecture.

1.3 Impact on existing interfaces

In addition to the enhancements planned for the existing interfaces, participants should expect minor layout changes.

1.3.1 Eurex Enhanced Trading Interface (Eurex ETI)

The Eurex ETI will be enhanced and aligned according to the functional changes as follows:

- Order entry and quoting in variance futures and TAIFEX products (backwards compatible to Release 1.0).
- Support of replacement rule identifier on quotes and orders entered using the short layout (NOT backwards compatible).
- Support of the origin country code (backwards compatible to Release 1.0).
- Support of the regulatory algorithm identifier (backwards compatible to Release 1.0).
- Order mass cancellations on trader level for other sessions will no longer be supported for high frequency sessions.

Please note that Eurex ETI for the new trading architecture Release 2.0 is not backwards compatible to the optional Eurex ETI release for the new trading architecture Release 1.1 (see Eurex circular 068/13).

1.3.2 Eurex FIX Gateway

The Eurex FIX Gateway will be enhanced and aligned according to the functional changes as follows:

- Support of the regulatory algorithm identifier.
- Order entry in variance futures and TAIFEX products.
- Support of the origin country code.

1.3.3 Market and reference data Interfaces

The Eurex Reference Data Interface (Eurex RDI/RDF) will be enhanced and aligned according to the functional changes, and will provide:

- Functional and technical parameters of the new Eurex EOBI.
- Heartbeat messages on the incremental channel.
- The netting interval and recovery interval information for Eurex MDI interface.
- The recovery interval information for Eurex EMDI interface.
- Conversion factors for variance futures.
- Information regarding TAIFEX products.

The Eurex market data interfaces, Eurex Enhanced Market Data Interface (Eurex EMDI) and Eurex Market Data Interface (Eurex MDI), will provide public market data for variance futures and TAIFEX products.

There will be no changes to the Eurex EMDI and Eurex MDI.

Participants must expect minor message layouts changes for Eurex RDI/RDF.

1.3.4 Eurex Trader GUI and Eurex Admin GUI

The Eurex Trader GUI and the Eurex Admin GUI will be enhanced and aligned according to the functional changes as follows:

- Eurex Trader GUI will support order entry in variance futures and TAIFEX products.
- Eurex Admin GUI will support the entry and maintenance of the replacement rules, using the new concept.
- Eurex Admin GUI will support the setting of maximum order counts.

In Release 2.0, participants can also expect improvements in GUI usability.

1.3.5 Reports

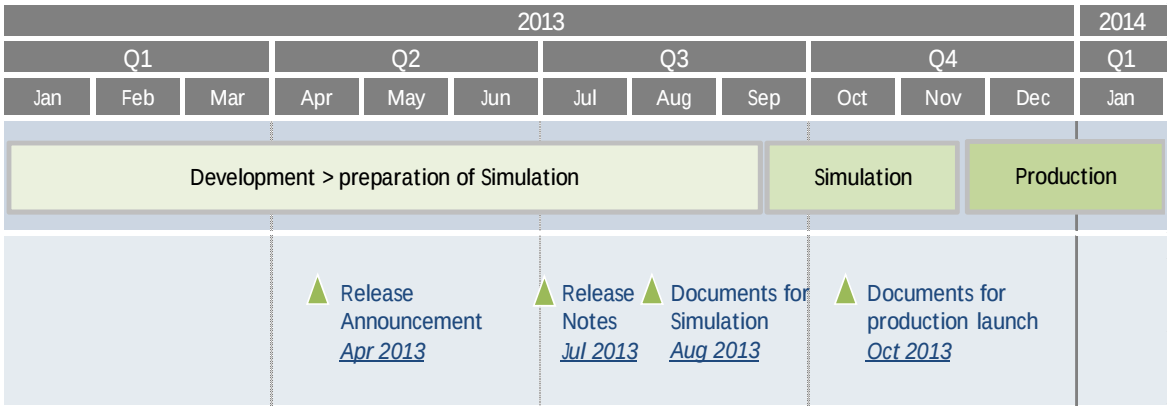
Reports available to participants in the Common Report Engine will be enhanced and aligned according to the functional changes as follows:

- Daily Order Maintenance Report TE540 will include the regulatory algorithm identifier, replacement rule identifier and origin country code.
- New report TE810 listing every trade on the new trading architecture. For variance futures, this report will include both the trading and clearing price and quantity notations.
- Existing trading reports will be generated for trading activity in variance futures and TAIFEX products.

2 Implementation and communication schedule

The production launch of release 2.0 of the Eurex Exchange´s new trading architecture is currently scheduled for 25 November 2013.

The following figure gives an overview of the introduction schedule:



As with previous software releases, Eurex Exchange will provide a dedicated simulation environment, in order to give Participants the opportunity to perform comprehensive testing of their trading applications, independent from Eurex Exchange's production environment. The simulation period for release 2.0 is currently scheduled to start in September 2013.

In July 2013, Eurex Exchange will publish detailed release notes listing all of the functional and technical enhancements to be delivered in release 2.0 of the new trading architecture.

The following existing documents will be revised for release 2.0. Preliminary versions (identified by **u**) will be published in August 2013 prior to simulation, and final versions (identified by **~**) will be available in October 2013 prior to production launch.

Eurex Exchange's Trading Architecture	Q2 2013			Q3 2013			Q4 2013		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Release Notes									
Eurex Exchange´s New Trading Architecture Release 2.0, Release Notes				~					
Simulation									
Permanent Simulation Guide						~			
Overview and Functionality									
Functional and Interface Overview					u		~		
Funtional Reference						~			
Eurex GUI Solutions									
Eurex Trader and Admin GUI – Manual					u		~		
Eurex Trader and Admin GUI - Installation Manual					u		~		
Trading Interfaces									
Eurex Enhanced Trading Interface – Manual					u		~		
Eurex Enhanced Trading Interface - XML Representation					u		~		
Eurex FIX Gateway - FIX 4.2 and 4.4 Manual					u		~		
Eurex FIX Gateway - Fiximate FIX 4.2 and 4.4					u		~		
Eurex FIX Gateway - FPL Repository					u		~		
Market and Reference Data Interfaces									
Eurex Market + Reference Data Interfaces, Manual					u		~		
Eurex Market + Reference Data Interfaces, XML FAST Templates					u		~		
Eurex Reference Data File – FIXML Schema Files					u		~		

Eurex Exchange's Trading Architecture	Q2 2013			Q3 2013			Q4 2013		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Eurex Extended Market Data Services – Manual					u		~		
Eurex Extended Market Data Data Interfaces, XML FAST Templates					u		~		
Eurex Enhanced Order Book Interface - Manual		u			u		~		
Eurex Reprots									
Eurex XML Reports - Reference Manual					u		~		
Network Access									
Eurex Network Access Manual					u		~		

Please note that dates are preliminary and are subject to change.

3 Contacts

In case of questions or for further information, please contact the Markets Services Team, on tel. +49-69-211-1 31 18 or via e-mail to: technology.roadmap@eurexchange.com. Alternatively, please contact your Technical Key Account Manager using your VIP number or via e-mail to: cts@eurexchange.com.

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