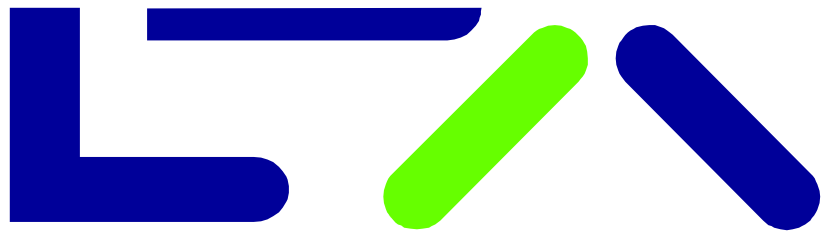


X-pand into the Future



## eurex circular 176/15

**Date:** 5 October 2015  
**Recipients:** All Trading Participants of Eurex Deutschland and Eurex Zürich and Vendors  
**Authorized by:** Michael Peters

### Introduction of new market signals at Eurex Exchange: Intraday Volatility Forecast and Risk Alerts

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**Content may be most important for:**

☞ All departments

**Attachment:**

Price List to the Agreement on the technical connection and the utilization of the Trading System of Eurex Deutschland and Eurex Zürich

**Summary:**

On **23 November 2015**, Eurex Exchange will introduce two new optional Eurex market signals, the Intraday Volatility Forecast and the Risk Alerts, in order to support Eurex Trading Participants in their trading decisions.

These new services will be added to the Eurex Multi Interface Channels (MICs) and/or the Eurex Market Data 10 GB connection in co-location. This circular provides Trading Participants and Independent Software Vendors (ISVs) with technical and functional information for the launch of the two new Eurex market signals.



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**Introduction of new market signals at Eurex Exchange:  
Intraday Volatility Forecast and Risk Alerts**

On 23 November 2015, Eurex Exchange will introduce two new optional Eurex market signals, the Intraday Volatility Forecast and the Risk Alerts, in order to support Eurex Trading Participants in their trading decisions.

**Intraday Volatility Forecast**

The Intraday Volatility Forecast provides Eurex Trading Participants with forecasted volatility in real-time for the next ten seconds, one minute and ten minutes for the DAX<sup>®</sup> Futures, EURO STOXX 50<sup>®</sup> Index Futures and Euro-Bund Futures. The new service is based on an internal methodology using explanatory factors such as auto-regressive patterns, intra-day seasonal patterns and scheduled economic data releases published by the Alpha Flash feed. The forecast model is maintained and improved on an on-going basis. Beside the forecasted volatility data, the service provides the average realised volatility per second in real-time.

The table below provides an overview on the distribution of the forecasted volatility data:

Forecast Period	Publishing Frequency	Forecast Horizon
10 seconds	every 5 seconds	next 5 consecutive 10 second periods
1 minute	every 30 seconds	next 5 consecutive 1 minute periods
10 minutes	every 5 minutes	next 3 consecutive 10 minute periods

**Risk Alerts**

The new service Risk Alerts triggers an alert in real-time when a certain calculated figure exceeds one of two daily configured thresholds. Alerts are provided for three measures: price range of traded prices, bid-ask spread and order book resilience 20. Order book resilience is defined as the volume which would need to be traded to move the traded price up/down by 20 price ticks. Besides the alert, the new service provides the order book resilience 5, 10 and 20 which is published every second.

Details about the calculation and technical provision of the new Eurex market signals, the Intraday Volatility Forecast and the Risk Alerts, can be found in the Eurex Market Signals Manual which has been published on the Eurex website [www.eurexexchange.com](http://www.eurexexchange.com) and can be downloaded via the following link:

**Technology > Eurex Exchange's T7 > System documentation > Release 3.0 >  
Market and Reference Data Interfaces**

On the introduction date, the Intraday Volatility Forecast will be calculated for DAX<sup>®</sup> Futures, EURO STOXX 50 Index Futures and Euro-Bund Futures whereas Risk Alerts will be calculated for the front month contracts of the three most liquid futures products (see the futures product list in section 3).

There will be a monthly charge of EUR 300 per Trading Participant for the Intraday Volatility Forecast and EUR 50 for the Risk Alerts, independent from the number of connections the services are set up on. The Price List to the Connection Agreement has been adjusted accordingly (see attachment).

The new Eurex market signals will be available to all Trading Participants in Eurex simulation from 5 October 2015 onwards. For production the new service can be ordered in the Member Section on the Eurex website [www.eurexexchange.com](http://www.eurexexchange.com) from 23 November 2015 onwards under the following paths:

**Member Section > Technical Connection > Requests & Configuration > New request >  
New Connection > Dedicated Leased Line Connections > 2 channels on leased line**

or

**(...) New Connection > 10 Gbit/s cross-connects in co-location >  
2 channels on leased line per market or 1 channel on leased line**

### 1. Technical distribution

The new Eurex market signals, the Intraday Volatility Forecast and the Risk Alerts, are technically available for Eurex Trading Participants who use a Multi Interface Channel (MIC) or a Eurex Enhanced Market Data Interface (EMDI)/Eurex Enhanced Order Book Interface (EOBI) connection in co-location. The Intraday Volatility Forecast requires a bandwidth of max. 20 kb/s and the Risk Alerts require a bandwidth of max.200 kb/s. The required bandwidth for the Risk Alerts is dependent on the number of alerts triggered in the 3 futures products the Risk Alerts is calculated for. Trading Participants using a 5 Mbit/s MIC have up to 4 Mbit/s available on the market data channel. We strongly recommend Trading Participants to allocate sufficient bandwidth for the new Eurex market signals on the market data channel.

Please note that the dedicated bandwidth from the market data channel of MICs or Eurex EMDI/EOBI connections in co-location are in general jointly used by Eurex market signals and Eurex market data. We strongly advise Trading Participants interested in Eurex market signals to ensure that sufficient bandwidth is available on their technical connection(s).

Eurex market signals are distributed via UDP multicast following FIX 5.0 SP2 semantics. The messages are FAST 1.1/1.2 encoded. Messages are in general published on two identical services (A and B) with different multicast addresses (live-live concept).

Multicast addresses for the new Eurex market signals have been added to the Eurex Exchange and Eurex Clearing Network Access Manual. The addresses and message layouts of Eurex market signals are described in the Eurex Market Signals Manual.

Please note that additional multicast addresses for reference data to all Eurex market signals have been added to the Eurex Exchange and Eurex Clearing Network Access Manual and to the Eurex Market Signals Manual as well. This manual and the FAST 1.1 and 1.2 templates for Eurex market signals will be provided on the Eurex website for download under the following link:

**[Technology > Eurex Exchange's T7 > System documentation > Release 3.0 >  
Market and Reference Data Interfaces](#)**

### 2. Availability of Intraday Volatility Forecast and Risk Alerts

The new Eurex market signal, the Intraday Volatility Forecast and the Risk Alerts, can be ordered by Trading Participants in the [Member Section](#) of the Eurex website (please see the paths on page 1). Please note that Eurex market signals are not available for Multi-Member Service Providers.

### 3. Product list

The Intraday Volatility Forecast will be initially calculated for the following products:

Product code	Product category	Product name	Launch date
FESX	Equity Index Futures	EURO STOXX 50 <sup>®</sup> Index Futures	23 November 2015
FDAX	Equity Index Futures	DAX <sup>®</sup> Futures	23 November 2015
FGBL	Fixed Income Futures	Euro-Bund Futures	23 November 2015

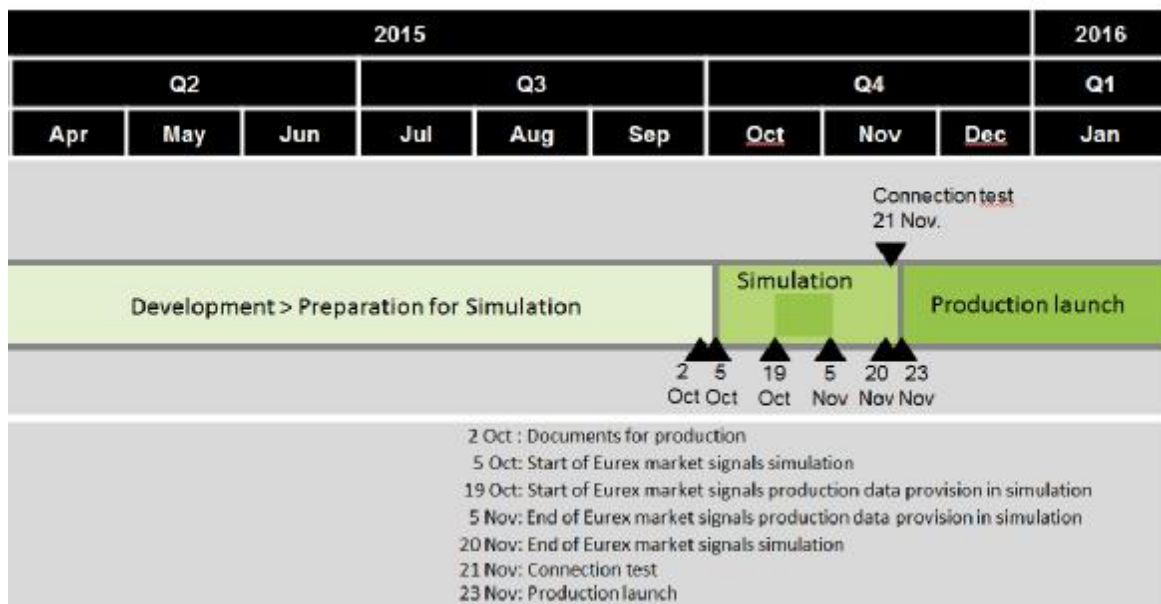
The Risk Alerts will be initially calculated for the following products:

Product code	Product category	Product name	Launch Date
FGBL	Fixed Income Futures	Euro-Bund Futures	23 November 2015
FDAX	Equity Index Futures	DAX <sup>®</sup> Futures	23 November 2015
FESX	Equity Index Futures	EURO STOXX 50 <sup>®</sup> Index Futures	23 November 2015

#### 4. Implementation and communication schedule

The production launch of the new Eurex market signals, the Intraday Volatility Forecast and the Risk Alerts, is currently scheduled for 23 November 2015. Trading Participants will have the possibility to test all Eurex market signals in the T7 simulation environment between 5 October 2015 and 20 November 2015. Please note that between 19 October 2015 and 6 November 2015. Data provision in simulation for all Eurex market signals will be based on production data.

The following figure gives an overview of the introduction schedule:



#### 5. Amendment of the Price List to the Agreement on the technical connection and the utilization of the Trading System of Eurex Deutschland and Eurex Zürich

In conjunction with the introduction of the new Eurex market signals, the Price List to the Agreement on the technical connection and the utilization of the Trading System of Eurex Deutschland and Eurex Zürich has been amended.

The following amendments were made:

- Intraday Volatility Forecast: added to the Price List
- Risk Alerts: added to the Price List

The amendments to the Price List mentioned above will come into effect on 23 November 2015. The relevant documents are attached to this circular in the updated version.

**6. Contact**

If you have any questions or require further information, please contact your Trading & Clearing Services Key Account Manager.

Alternatively, please contact your Technical Key Account Manager using your VIP number or via e-mail to: [cts@eurexchange.com](mailto:cts@eurexchange.com).

5 October 2015

**Price List to the Agreement on the technical connection and the utilization of the Trading System of Eurex Deutschland and Eurex Zürich (Connection Agreement)**

**1. Monthly fees for the technical connection to T7 (connection fees)**

Service	Bandwidth (Mbit/s)	Fee per Connection (EUR/month)							
		Co-Location (Equinix)	Leased Line in Tier A1	Leased Line in Tier A2	Leased Line in Tier B1	Leased Line in Tier B2	Leased Line in Tier C	Leased Line in Tier D	iAccess
Eurex Multi-Interface Channel (MIC)	up to 5 <sup>X1</sup>	750	750	750	750	750	750	750	500 <sup>X2</sup>
	80	3,000	4,200	4,200	6,400	6,400	6,900	-	-
	260	4,000	5,400	-	8,000	-	R	-	-
	760	5,000	6,500	-	9,500	-	R	-	-
Co-Location Mkt. Data Eurex EMDI	10,000	4,500	-	-	-	-	-	-	-
Co-Location Mkt. Data Eurex EOBI	10,000	5,500	-	-	-	-	-	-	-
Co-Location Mkt. Data Eurex EMDI & Eurex EOBI	10,000	6,500	-	-	-	-	-	-	-
Co-Location Transaction Eurex ETI	10,000	4,500	-	-	-	-	-	-	-
Eurex GUI-Channel (in combination with MIC)	1	40	60	R	100	R	110	-	-
	3	110	170	R	300	R	340	-	
	10	380	600	R	1,000	R	1,100	-	
	40	1,500	2,300	R	4,000	R	4,600	-	
Eurex GUI via Internet	n/a	300 <sup>X3</sup>							
Eurex GUI-only-Channel (on lines without MIC)	5	-	750	R	750	R	750	-	-
	10	-	900	R	1,600	R	1,800	-	
	40	-	2,300	R	4,000	R	4,600	-	

Service	Bandwidth of used Installation (Mbit/s)	Fee per used Installation (EUR/month)		
		Up to 2 Sessions	3 to 6 Sessions	More than 6 Sessions
Connection via Multi-Member System Provider <sup>X4</sup>	up to 5 <sup>X1</sup>	0	0	0
	80-760	200	400	800
	10,000	400	800	1,600

Legend	
<b>Tier A1</b>	Metro areas of Amsterdam, Frankfurt, London, Milan, Paris, and Zurich
<b>Tier A2</b>	Metro areas of Chicago, New York, Hong Kong and Singapore
<b>Tier B1</b>	Germany, France, UK, The Netherlands, Austria and Switzerland
<b>Tier B2</b>	U.S.
<b>Tier C</b>	Belgium, Ireland, Italy, Luxembourg, Sweden, Spain, Portugal, Denmark and Finland
<b>Tier D</b>	Australia, Gibraltar and Greece
<b>R and other Locations</b>	Availability of high-bandwidth MIC (80 Mbit/s, 260 Mbit/s and 760 Mbit/s) and Eurex Trader GUI in other locations on request.
<b>X1</b>	<ul style="list-style-type: none"> <li>In the metro areas of Chicago, New York and in the U.S. only 1.5 Mbit/s is available.</li> <li>In the metro areas of Hong Kong, Singapore, in Australia, Gibraltar and Greece only 2 Mbit/s is available.</li> </ul>
<b>X2</b>	For Combined Access, the bandwidth of the iAccess connection will be aligned with the bandwidth of the associated leased line.
<b>X3</b>	GUI connection via internet is free of charge for participants with a MIC, a GUI-Channel, a 10 Gbit/s connection in Co-Location or if a connection via a service provider is used, otherwise the monthly charge of EUR 300/month applies (per participant, number of open Eurex Trader GUIs not limited)
<b>X4</b>	The participant is charged a fee for each installation of a Multi-Member-System Provider that can be used. The fee is determined by the provided bandwidth and the number of trading sessions registered per installation. If there are already fees paid for MICs, GUI-Channels and connections in Co-Location then no fees up to this amount will be charged for connecting via Multi-Member-System Providers. The connection via a Multi-Member-System Provider which is an affiliated company is exempted from this fee.
<b>Remarks</b>	<ul style="list-style-type: none"> <li>Tier prices are reference prices only and may vary depending on specific participant locations and technical feasibility. Prices for other locations on request.</li> <li>10 Gbit/s is available in Co-Location (Equinix) only, not available in Colt proximity.</li> </ul>

## 2. Monthly fees for the usage of the Trading System T7

Trading System Usage	Fee (EUR/month)
Eurex ETI Low Frequency Light Session (max. 50 Transactions/Second)	250
Eurex ETI High Frequency Light Session (max. 50 Transactions/Second)	250
Eurex ETI Low Frequency Full Session (max. 150 Transactions/Second)	500
Eurex ETI High Frequency Full Session (max. 150 Transactions/Second)	500
Eurex FIX Trading Session (max. 50 Transactions/Second)	250
Eurex FIX Back Office Session	100
Eurex ETI Back Office Session	100

### Legend

Remarks	Monthly fees for ETI- and FIX-Sessions are rebated with 100% up to a maximum of 1,000 € per month and Trading Participant.
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## 3. Monthly fees for Market Signals

Market Signal	Entgelt (EUR/Monat)
Eurex IOC Liquidity Indicator for Options	2,500
<u>Intraday Volatility Forecast</u>	<u>300</u>
<u>Risk Alerts</u>	<u>50</u>

### Legend

Remarks	Any Market Signal can be ordered once per Trading Participant. A MIC or 10 Gbit/s connection is required.
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#### 4. Excessive System Usage Fee

##### 4a) Parameters

For the calculation of the transaction limits there are different sets of parameters for the two limit-types “All Transactions” and “Standard Orders”.

For the limit-type “All Transactions” the following parameters are used:

Product Type	Grace Factor	Volume Factor	Non-MM Floor	Spread Quality	MM Base
OSTK FSTK	0.25	50	150,000	0.0	150,000
				0.2	300,000
				0.3	450,000
				0.4	600,000
FINX OFIX FVOL FCRD OINX	0.25	50	250,000	0.0	250,000
				0.2	500,000
				0.3	750,000
				0.4	1,000,000
FBND FINT OFBD OFIT	0.25	50	200,000	0.0	200,000
				0.2	300,000
				0.3	500,000
				0.4	1,000,000
New Asset Classes	0.25	50	250,000	0.0	250,000
				0.2	500,000
				0.3	750,000
				0.4	1,000,000

For the limit-type “Standard Orders” the following parameters are used:

Product Type	Grace Factor	Volume Factor	Non-MM Floor	Spread Quality	MM Base
OSTK FSTK	0.25	10	30,000	n/a	n/a
				n/a	n/a
				n/a	n/a
				n/a	n/a
FINX OFIX FVOL FCRD OINX	0.25	10	50,000	n/a	n/a
				n/a	n/a
				n/a	n/a
				n/a	n/a
FBND FINT OFBD OFIT	0.25	10	40,000	n/a	n/a
				n/a	n/a
				n/a	n/a
				n/a	n/a
New Asset Classes	0.25	10	50,000	n/a	n/a
				n/a	n/a
				n/a	n/a
				n/a	n/a

Parameters are assigned per product based on its unique product type which is published in the product overview on the Eurex website.

#### 4b) Fee

The fee levels per exceeded transaction depend on the degree of the violation and are defined as follows:

Excessive System Usage Fee per exceeded transaction	With a violation of the transaction limit by
€ 0.05	50%
€ 0.20	50% - 100%
€ 0.50	> 100%

## **5. Maturity and further explanation**

Fees will be charged monthly and become due by the third Business Day of the following calendar month.

Depending on the chosen connection component and the number of connection components chosen, monthly connectivity fees will be charged by Eurex Frankfurt AG.

The grand total of the monthly connection fees will be calculated by the sum of released connections of a Trading Participant, multiplied by the amount of the relevant price per connection component.