

T7 Release 5.0

Underlying Ticker

Manual – Production Version

| | |
|---------|----------------|
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Content

| | |
|--|----------|
| 1. Introduction | 3 |
| 2. Multicast addresses | 4 |
| 2.1 Production multicast addresses and ports | 4 |
| 2.2 Simulation multicast addresses and ports | 4 |
| 2.3 Service availability | 4 |
| 3. Data and service messages | 5 |
| 3.1 Packet header (TID = 78) | 5 |
| 3.2 Underlying Ticker Message (TID = 180) | 6 |
| 4. Change log | 7 |

T7

Deutsche Börse Group

Underlying Ticker

V5.03

1. Introduction

The Trading System T7 provides market and reference data via a set of multicast interfaces.

In addition to the Market Data Interface (MDI) for netted market data, the Enhanced Market Data Interface (EMDI) for un-netted market data, Enhanced Order Book Interface (EOBI) and the Reference Data Interface (RDI) for reference data, the Extended Market Data Service (EMDS) is also provided.

All interfaces distribute information via UDP multicast, following FIX 5.0 SP2 semantics and are FAST 1.1/1.2 encoded (except EOBI). Messages are in general published on two identical services (A and B) with different multicast addresses (live-live concept).

The present document describes the T7 Underlying Ticker Service.

This document lists the multicast addresses and describes the message layouts of the interface. FAST 1.1 and 1.2 templates will be provided for this Interface on www.eurexchange.com and on the Xetra website www.xetra.com.

Please note: The present document explains the Eurex Ticker Service only. The other market and reference data interfaces listed above are described in the Eurex Market and Reference Data Interfaces Manual, which explains the general rules regarding FIX messages, FAST encoding and the live-live concept.

The Data Interface described in this manual has a version number. The version number is also listed at the beginning of the FAST XML templates.

This manual relates to the interface version number 004.000.000.

2. Multicast addresses

The Underlying Ticker data will be disseminated via the following multicast addresses and port combinations in the Deutsche Börse network:

2.1 Production multicast addresses and ports

| Service | Multicast Group Service A | Multicast Group Service B | Port |
|--------------------------------------|---------------------------|---------------------------|-------|
| Underlying Ticker Data - Derivatives | 224.0.50.75 | 224.0.50.203 | 59000 |
| Underlying Ticker Data – Cash (XETR) | 224.0.161.31 | 224.0.163.31 | 59000 |
| Underlying Ticker Data – Cash (XDUB) | 224.0.161.47 | 224.0.163.47 | 59000 |
| Underlying Ticker Data – Cash (XVIE) | 224.0.161.39 | 224.0.163.39 | 59000 |

2.2 Simulation multicast addresses and ports

| Service | Multicast Group Service A | Multicast Group Service B | Port |
|--------------------------------------|---------------------------|---------------------------|-------|
| Underlying Ticker Data - Derivatives | 224.0.50.91 | 224.0.50.219 | 59500 |
| Underlying Ticker Data – Cash (XETR) | 224.0.164.95 | 224.0.165.95 | 59500 |
| Underlying Ticker Data – Cash (XDUB) | 224.0.164.115 | 224.0.165.115 | 59500 |
| Underlying Ticker Data – Cash (XVIE) | 224.0.164.111 | 224.0.165.111 | 59500 |

2.3 Service availability

The required bandwidth for this service will be limited to 50 kbit/second per channel.

The service will be technically available at least between 7:00 CET and 22:30 CET.

3. Data and service messages

3.1 Packet header (TID = 78)

Each datagram contains a packet header which is used for identification of datagrams and is sent on a channel basis. Each header contains the following fields:

| Field Name | FAST Data Type | Description |
|--------------|----------------|---|
| SenderCompID | uInt32 | Unique id for a sender Each multicast channel uses the same logic. |
| PacketSeqNum | ByteVector | Datagram/packet sequence number Contiguous. Can be used for gap detection. Sequenced for each multicast channel itself. The PacketSeqNum's in the packet header are contiguous per SenderCompID, multicast address and port combination. |
| SendingTime | ByteVector | Time at which this packet left the sender (in nanoseconds since epoch). |

The following table shows the structure of the block header before FAST-decoding:

| 1 Byte | 1 Byte | 1 Byte | 1 Byte | 4 Bytes | 1 Byte | 8 Bytes |
|--------|--------|----------------|--------|--------------|--------|-------------|
| PMAP | TID | Sender Comp ID | Length | PacketSeqNum | Length | SendingTime |
| 1 | 2 | 3 | 4 | 8 | 9 | 17 |

3.2 Underlying Ticker Message (TID = 180)

| FIX Tag | FIX Field Name | Req'd | FAST Data Type | Description |
|----------------------------|--------------------|-------|----------------|---|
| 35 | MsgType | Y | string | Constant Always 'X'=MarketDataIncrementalRefresh |
| 34 | MsgSeqNum | Y | uint32 | The sequence number of the message is incremented per stream message |
| 49 | SenderCompID | Y | uint32 | Source ID of the sender |
| <MDIncGrp> sequence starts | | | | |
| 268 | NoMDEntries | Y | length | Defines the size of the array |
| 269 | > MDEntryType | Y | enum | Market Data Entry Type <ul style="list-style-type: none"> • 0 = Bid • 1 = Offer • 2 = Trade |
| 279 | > MDUpdateAction | Y | enum | Type of Market Data update action Always '0' = New |
| 48 | > SecurityID | Y | string | Internal identifier for instrument (ISIN) |
| 22 | > SecurityIDSource | Y | string | Source Identification Always '4' = ISIN |
| 270 | > MDEntryPx | Y | decimal | Price or index value |
| 271 | > MDEntrySize | N | decimal | Quantity (not set for indexes) |
| 273 | > MDEntryTime | N | timestamp | Time of market data entry |
| 15 | > Currency | N | string | Price currency |
| 1500 | > MDStreamID | Y | string | Name of the price source, e.g. <ul style="list-style-type: none"> • XETR • XFRA • XIDX • XSTX • XDUB • XEEE • XHEL • XKRX |
| < MDIncGrp> sequence ends | | | | |

4. Change log

| No | Chapter, page | Date | Change |
|-------|----------------|---------------|--|
| 2.5 | General | July 25, 2014 | Creation of separate document for Eurex Ticker |
| 2.5.1 | General | Oct 8, 2014 | Creation of Final version for T7 2.5 |
| | Ch. 1, Pg. 2 | | Updated interface version number |
| | Ch. 3.3, Pg. 8 | | Added MDStreamID 'XKRX' |
| 3.0 | General | Sep 9, 2015 | Creation of version for T7 3.0 |
| | Ch. 3.2, Pg. 7 | | Removal of Ch. 3.2, 'Extended technical heartbeat' |
| 4.0 | General | Sep 7, 2016 | Creation of version for T7 4.0 |
| 4.01 | Cha. 1, Pg. 4 | Sep 16, 2016 | Minor updates of Eurex interface landscape |
| 5.00 | General | Dec 15, 2016 | Creation of version for T7 5.0 |
| 5.01 | Ch. 2, Pg. 4 | Feb 24, 2017 | Added Multicast addresses for T7 Cash Market |
| 5.02 | Ch. 2, Pg. 4 | Apr 5, 2017 | Updated Multicast addresses for T7 Cash Market |
| 5.03 | General | Apr 10, 2017 | Creation of Production Version for T7 5.0 |