DEUTSCHE BÖRSE GROUP

Deutsche Börse Group's T7

FIX LF Interface

Cash Message Reference

Release 9.0

FIX LF Version	9.0
FIX LF Subversion	C0001
Build Version	90.615.1.ga-90006015-37
Date	26 February 2021

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Build 90.615.1.ga-90006015-37

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1 List of Abbreviations

Please find a list of all the abbreviations used in the document.

FIX	Financial Information eXchange
TCP/IP	Transmission Control Protocol / Internet Protocol
TES	T7 Entry Service
GUI	Graphical User Interface

2 Introduction

The Deutsche Börse Group's T7 is the industry-leading, multi-asset trading platform of the Deutsche Börse Group, its affiliates and partners.

The system has best-in-class performance and is scalable to support markets of any size. It can be customized to support different types of markets.

The T7 FIX LF interface is intended for participants that require a standard FIX connection to the exchange and supports all T7 market types.

The document "T7 FIX Gateway FIX 4.2 and 4.4 Manual" provides the description of the main concepts for all supported market types (cash and derivatives).

The purpose of this document is to provide all message formats for the cash market part of the FIX LF interface.

In addition to this document two corresponding XML files, the QuickFix Engine dictionary and a message reference file including message and field descriptions are published.

The FIX LF interface will make use of the FIX 4.4 version only.

3 Change Log

3.1 T7 Release 9.0 – FIX LF 9.0-C0001

Changes to the T7 Release 9.0 – FIX Gateway Production Version:

- One TCP port for all FIX LF sessions.
- FIX 4.4 only - no FIX 4.2 support.
- No support of cross-market sessions.
- In all FIX LF requests the field *TargetCompID(56)* must be set to the XMIC code (e.g. XETR) the related FIX LF session belongs to.
- In all FIX LF notifications/responses the field *SenderCompID(49)* is set to the related T7 XMIC code (e.g. XETR).
- Logon Request (msgType="A"): added field *DefaultCstmApplVerID(1408)*; removed field *TestMessageIndicator(464)*.
- Logon Response ("A"): added fields *TradeSesMode(339)*, and *DefaultCstmApplVerSubID(28763)*
- Removed field *LastMsgSeqNumProcessed(369)* from the Header.
- Field *ExecID(17)* has another format/content.

- All text fields are sent without filling blanks..
- No fragmentation needed: removed field *ULastFragment(30893)* from message User Order Mass Action Report ("UBZ").
- Removed field *SecondarySessionID (28767)* from message Session Details List ("U6").
- Order Drop Copy will also provide orders of the ETI HF sessions belonging to the business unit of the related FIX LF session.
- Removed valid values *Market Reset (102)*, *Service resumed (105)*, *No more messages for this trading venue (200)*, *Message processing suspended (202)*, *Message processing resumed (203)* from field *TradSesEvent* in message Trading Session Status ("h").
- No Password change possible via Logon ("A"). Please use the SAP portal for maintaining the session password.
- Removed fields *AvgPx(6)*, *PreviouslyReported (570)* from message Execution Report ("8").
- Changed data type of field *MatchType(574)* from String to Int.
- No need for an XMIC field in outgoing FIX messages since this information is already in the *SenderCompID(49)*.
- Removed field *MarketID(1301)* from messages Session Details List ("U6"), User Order Mass Action Report ("UBZ"), Trading Session Status ("h").
- Removed field *ExDestination(100)* from Execution Report ("8").
- FIX LF Gateway access details (address and port) are provided via Network Access Guide - documentation only.
- Changed behaviour for Execution Report ("8") with *OrdStatus (39)* set to *4 (Canceled)*:
  - FIX LF provides Entering and Executing Trader/Firm and some more order information than FIX Gateway.
- Instrument Component:
  - ProductID/SecurityID are provided in the fields *Symbol(55)/SecurityID(48)*
  - ISIN is provided in the field *SecurityAltID(455)*.

- Removed field *Currency(15)* from messages Execution Report ("8") and User Order Mass Action Report ("UBZ").

- Entering trader is not set for message Execution Report ("8") with *ExecType (150)* set to *L (Triggered by system)*.

- Removed fields *TriggerType(1100)* and *TriggerPrice(1102)* from message Execution Report ("8"). The stop price of OCO orders is provided in field *StopPx (99)*

- Removed field *SecondaryOrderID(198)* from messages Execution Report ("8"), and Trade Capture Report ("AE").

- Information about executing session (occurence: session ID) not always set in message User Order Mass Action Report ("UBZ"). Then, the message informs all session of the related business unit about the scope of the cancellation.

- The *field HeartBtInt (108)* in the Session Logon request message ("A") must be greater than or equal to 30.

- The Session Logon request message ("A") must be sent within 25 seconds after the TCP connection has been established.

- The message Session Details List ("U6") will provide details for all trading sessions of the own business unit.

- Removed field *SecondarySessionID (28767)* from message Session Details List ("U6").

- Removed valid value *2 (Regular Back Office Session)* from field *SessionSubMode (28735)* in message Session Details List ("U6").

- Removed field *ReturnCodeSource (25024)* from messages Reject ("3"), Execution Report ("8").

- Removed fields N*otAffOrigClOrdID (1372), AffectedOrigClOrdID (1824)* from message User Order Mass Action Report ("UBZ").

4 Message Formats

The following chapters provide details on the administrative and application messages used by FIX LF. Additionally, information on data types is provided.

The Interface version used by the participant needs to be provided during Logon in *DefaultCstmApplVerID (1408)*; the corresponding response message will return the interface version, which the FIX LF Gateway currently uses, in the same field.

The interface version will allow the participant to recognize that FIX LF has changed. The build number shows to which FIX LF XML file, and the FIX LF message reference belongs to.

4.1 Data Types

FIX LF supports the following data types:

Data Type	Description
STRING	Alphanumeric free format stringscontaining characters from the following set: \x20,\x23-\x25, \x28-\x2A, \x2C-\x3B, \x3F, \x41-\x5F, \x61-\x7B, \x7D,\x7E.
INT (based on STRING)	Sequence of digits without commas or decimals and optional leading sign character.
FLOAT (based on STRING)	Sequence of digits with optional decimal point and leading sign character.
CHAR (based on STRING)	Single character value, can include any alphanumeric character.
BOOLEAN (based on CHAR)	Char field containing either 'Y' or 'N'.
MULTIPLEVALUESSTRING (based on STRING)	String containing one or more space delimited char fields.
LOCALMKTDATE (based on STRING)	Date of Local Market in YYYYMMDD format.
CURRENCY (based on STRING)	ISO currency code (3 characters).
LENGTH (based on INT)	Length of the FIX LF message in bytes. Value must be positive.
SEQNUM (based on INT)	Message sequence number. Value must be positive.
NUMINGROUP (based on INT)	Number of entries in a repeating group. Value must be positive.
QTY (based on FLOAT)	FLOAT (15.4) field with 15 digits before decimal point and at most 4 significant decimal places.
PRICE (based on FLOAT)	FLOAT (11.8) field representing a price with 11 digits before decimal point and at most 8 significant decimal places.
AMT (based on FLOAT)	FLOAT (11.8) field representing a prices times a quantity with 11 digits before decimal point and at most 8 significant decimal places.

Data Type	Description
UTCTIMESTAMP (based on STRING)	Time/date combination in YYYYMMDD-HH:MM:SS[.sssssssss] format. The milli/micro/nanosecond part is optional. The FIX LF gateway provides timestamps in seconds only.
PERCENTAGE (based on FLOAT)	FLOAT (3.7) field representing a percentage with 3 digits before decimal point and at most 7 significant decimal places.

5 Overview of Supported Message Types

The following message formats are based on:

- Interface Version: 9.0
- Build Number: 90.615.1.ga-90006015-37

6 Message Header and Trailer

6.1 Header

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>8</td><td>BeginString</td><td>Y</td><td>STRING</td><td>Identifies beginning of new message and protocol version.<table><tr><td>Value</td><td>Description</td></tr><tr><td>FIX.4.4</td><td>VERSION 44</td></tr></table></td></tr>
<tr><td>9</td><td>BodyLength</td><td>Y</td><td>LENGTH</td><td>Message length, in bytes, forward to the CheckSum field.</td></tr>
<tr><td>35</td><td>MsgType</td><td>Y</td><td>STRING</td><td>Defines the message type.<table><tr><td>Value</td><td>Description</td></tr><tr><td>0</td><td>Heartbeat</td></tr><tr><td>1</td><td>Test Request</td></tr><tr><td>2</td><td>Resend Request</td></tr><tr><td>3</td><td>Reject</td></tr><tr><td>4</td><td>Sequence Reset</td></tr><tr><td>5</td><td>Logout</td></tr><tr><td>8</td><td>Execution Report</td></tr><tr><td>A</td><td>Logon</td></tr><tr><td>j</td><td>Business Message Reject</td></tr><tr><td>AE</td><td>Trade Capture Report</td></tr><tr><td>h</td><td>Trading Session Status</td></tr><tr><td>UBZ</td><td>User order mass action report</td></tr><tr><td>U6</td><td>Session Details List</td></tr></table></td></tr>
<tr><td>34</td><td>MsgSeqNum</td><td>Y</td><td>SEQNUM</td><td>Message sequence number</td></tr>
<tr><td>43</td><td>PossDupFlag</td><td>N</td><td>BOOLEAN</td><td>Indicates possible retransmission of message with this sequence number.<table><tr><td>Value</td><td>Description</td></tr><tr><td>N</td><td>Original transmission</td></tr><tr><td>Y</td><td>Possible duplicate</td></tr></table></td></tr>
<tr><td>49</td><td>SenderCompID</td><td>Y</td><td>STRING</td><td>Assigned identifier of the party sending the message.</td></tr>
<tr><td>52</td><td>SendingTime</td><td>Y</td><td>UTCTIMESTAMP</td><td>Time of message transmission.</td></tr>
<tr><td>56</td><td>TargetCompID</td><td>Y</td><td>STRING</td><td>Assigned identifier of the party receiving the message.</td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
97	PossResend	N	BOOLEAN	Indicates that message may contain information that has been sent under another sequence number. Value: N = Original transmission; Y = Possible Resend
122	OrigSendingTime	N	UTCTIME-STAMP	Required if PossDupFlag (43) = "Y".

6.2 Trailer

Tag	Field Name	Req'd	Data Type	Description
10	CheckSum	Y	INT	Three byte, simple checksum.

7 Administrative Messages

Overview of messages contained in this section:

FIX Message	MsgType
Logon	A
Logout	5
Heartbeat	0
Test Request	1
Resend Request	2
Reject	3
Sequence Reset	4

7.1 Logon

The Logon message allows the client to connect to the FIX Gateway. It is also used by the FIX Gateway to confirm the logon.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='A' />				
98	EncryptMethod	Y	INT	Method of encryption. Value: 0 — None/other
108	HeartBtInt	Y	INT	Heartbeat interval (seconds). The value must be greater than or equal to 30.
554	Password	N	STRING	Password.
141	ResetSeqNumFlag	N	BOOLEAN	Logon requests with ResetSeqNumFlag (141) set to Y will trigger a reset of Sequence numbers at the participant side only. The Sequence numbering for the messages generated from FIX Gateway will remain unchanged. Value: N — No; Y — Yes, reset Sequence numbers
1600	FIXEngineName	N	STRING	Provides the name of the infrastructure component being used for session level communication. Normally this would be the FIX Engine or FIX Gateway product name. This field is required in the messages sent to the FIX Gateway.
1601	FIXEngineVersion	N	STRING	Provides the version of the infrastructure component. This field is required in the messages sent to the FIX Gateway.
1602	FIXEngineVendor	N	STRING	Provides the name of the vendor providing the infrastructure component. This field is required in the messages sent to the FIX Gateway.
1603	ApplicationSystem-Name	N	STRING	Provides the name of the application system being used to generate FIX application messages. This will normally be a trading system, OMS, or EMS. This field is required in the messages sent to the FIX Gateway.
1604	ApplicationSystem-Version	N	STRING	Provides the version of the application system being used to initiate FIX application messages. This field is required in the messages sent to the FIX Gateway.

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>1605</td><td>ApplicationSystem-Vendor</td><td>N</td><td>STRING</td><td>Provides the vendor of the application system. This field is required in the messages sent to the FIX Gateway.</td></tr>
<tr><td>1408</td><td>DefaultCstmApplVer-ID</td><td>Y</td><td>STRING</td><td>The default custom application version ID that is the default for a session.</td></tr>
<tr><td>28763</td><td>DefaultCstmApplVer-SubID</td><td>N</td><td>STRING</td><td>Interface subversion. Identifies interface changes within one T7 release. Response only.

<table><tr><td>Value</td><td>Description</td></tr><tr><td>C0001</td><td>Cash subversion</td></tr></table></td></tr>
<tr><td>339</td><td>TradSesMode</td><td>N</td><td>INT</td><td>Trading Session Mode. Response only.
<table><tr><td>Value</td><td>Description</td></tr><tr><td>1</td><td>Development</td></tr><tr><td>2</td><td>Simulation</td></tr><tr><td>3</td><td>Production</td></tr><tr><td>4</td><td>Acceptance</td></tr><tr><td>5</td><td>Disaster Recovery</td></tr></table></td></tr>
<tr><td colspan="5"><Trailer /></td></tr>
</table>

7.2 Logout

The Logout message initiates or confirms the termination of a FIX session.It is also used by the FIX Gateway to reject the FIX session logon.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='5' />				
58	Text	N	STRING	Free format text string.
1409	SessionStatus	N	INT	Session status. Value: 4 – Session logout complete Value: 5 – Invalid user name or password
<Trailer />				

7.3 Heartbeat

The Heartbeat message may be used by the client and the FIX Gateway to monitor the status of the communication link during periods of inactivity.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='0' />				
112	TestReqID	N	STRING	Identifier included in Test Request message to be returned in resulting Heartbeat.
<Trailer />				

7.4 Test Request

The Test Request message is used to trigger a heartbeat message from the opposing application.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='1' />				
112	TestReqID	Y	STRING	Identifier included in Test Request message to be returned in resulting Heartbeat.
<Trailer />				

7.5 Resend Request

The Resend Request is used by the client and the FIX Gateway to initiate the retransmission of messages in a recovery scenario.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='2' />				
7	BeginSeqNo	Y	SEQNUM	Message Sequence number of first message in range to be resent.
16	EndSeqNo	Y	SEQNUM	Message Sequemce number of last message in range to be resent.
<Trailer />				

7.6 Reject

The Reject message is used by the FIX Gateway when a message is received but cannot be properly processed due to a session-level rule violation.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='3' />				
45	RefSeqNum	Y	SEQNUM	Reference message Sequence number.
58	Text	N	STRING	Free format text string.
371	RefTagID	N	INT	The tag number of the FIX field being referenced.
372	RefMsgType	Y	STRING	The MsgType (35) of the FIX message being referenced.

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>373</td><td>SessionRejectReason</td><td>N</td><td>INT</td><td>Code to identify reason for a session-level Reject message.
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>0</td><td>Invalid tag number</td></tr>
<tr><td>1</td><td>Required tag missing</td></tr>
<tr><td>2</td><td>Tag not defined for this message type</td></tr>
<tr><td>3</td><td>Undefined tag</td></tr>
<tr><td>4</td><td>Tag specified without value</td></tr>
<tr><td>5</td><td>Value is incorrect for this tag</td></tr>
<tr><td>6</td><td>Incorrect data format for value</td></tr>
<tr><td>7</td><td>Decryption problem</td></tr>
<tr><td>8</td><td>Signature problem</td></tr>
<tr><td>9</td><td>CompID Problem</td></tr>
<tr><td>10</td><td>Sending time accuracy problem</td></tr>
<tr><td>11</td><td>Invalid msgtype</td></tr>
<tr><td>12</td><td>XML Validation Error</td></tr>
<tr><td>13</td><td>Tag appears more than once</td></tr>
<tr><td>14</td><td>Tag specified out of required order</td></tr>
<tr><td>15</td><td>Repeating group fields out of order</td></tr>
<tr><td>16</td><td>Incorrect NumInGroup count for repeating group</td></tr>
<tr><td>17</td><td>Non 'data' value includes field delimiter</td></tr>
<tr><td>18</td><td>Invalid/Unsupported Application Version</td></tr>
<tr><td>99</td><td>Other</td></tr>
</table></td></tr>
<tr><td>25023</td><td>ReturnCode</td><td>N</td><td>INT</td><td>Return code.</td></tr>
<tr><td colspan="5"><Trailer /></td></tr>
</table>

7.7 Sequence Reset

The Sequence Reset message has two modes: Gap Fill mode is used in response to a Resend Request when one or more messages must be skipped over. Reset mode specifies an arbitrarily higher new Sequence number after an uncoverable application failure.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='4' />				
123	GapFillFlag	N	BOOLEAN	Indicates that the Sequence Reset message is replacing administrative or application messages which will not be resent. Value: N — Sequence Reset, Ignore Msg Seq Num Value: Y — Gap Fill Message, Msg Seq Num Field Valid
36	NewSeqNo	Y	SEQNUM	New Sequence number.
<Trailer />				

8 Application Messages

Overview of messages contained in this section:

FIX Message	MsgType
Trade Capture Report	AE
Trading Session Status	h
Session Details List	U6
Execution Report	8
User Order Mass Action Report	UBZ
Business Message Reject	j

8.1 Trade Capture Report

The Trade Capture Report message is used to report trades and trade reversals via FIX Back-office sessions.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='AE' />				
<Instrument>				
55	Symbol	Y	STRING	T7 product identifier. If the ISIN is used as instrument identifier in the FIX request (SecurityAltID (455)), the product identifier is allowed but not required. If no product identifier is provided Symbol (55) must contain '[N/A]'.
48	SecurityID	Y	INT	T7 instrument identifier.
22	SecurityIDSource	Y	STRING	Source of the securityID Value: M — Marketplace-assigned identifier
<SecurityAltIDGrp>, cardinality: 1, record counter: NoSecurityAltID				
455	SecurityAltID	Y	STRING	Security identifier as ISIN
456	SecurityAltIDSource	Y	STRING	Source of the SecurityAltID (455). Only ISIN is allowed. Value: 4 — ISIN
</SecurityAltIDGrp>				
223	CouponRate	N	PERCENTAGE	The rate of interest that, when multiplied by the principal, par value, or face value of a bond, provides the currency amount of the periodic interest payment. The coupon is always cited, along with maturity, in any quotation of a bond's price.
28890	DeliveryType	N	INT	Identifies type of settlement. Value: 1 — Auslandskassenverein (AKV) 2 — Girosammelverwahrung (GS) 3 — Streifbandverwahrung (STR) 4 — Wertpapierrechnung (WPR) 5 — Non-collective safe custody securities to be settled via T2S (AKT)

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>28896</td><td>LastCouponDeviation-Indicator</td><td>N</td><td>INT</td><td>Last coupon deviation indicator.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>Short period</td></tr><tr><td>2</td><td>Long period</td></tr><tr><td>3</td><td>Only one coupon</td></tr><tr><td>4</td><td>Short - two interest payments due</td></tr><tr><td>5</td><td>Long - two interest payments due</td></tr><tr><td>6</td><td>Perpetual</td></tr></table></td></tr>
<tr><td>28897</td><td>RefinancingEligibility-Indicator</td><td>N</td><td>INT</td><td>Ability of a security to be accepted for refinancing.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No</td></tr><tr><td>1</td><td>Yes</td></tr></table></td></tr>
<tr><td colspan="5"></Instrument></td></tr>
<tr><td colspan="5"><RegulatoryTradeIDGrp>, cardinality: 1, record counter: NoRegulatoryTradeIDs</td></tr>
<tr><td>1903</td><td>RegulatoryTradeID</td><td>N</td><td>STRING</td><td>Trading Venue Transaction Identifier (TVTIC).</td></tr>
<tr><td>1906</td><td>RegulatoryTrade-IDType</td><td>N</td><td>INT</td><td>Specifies the type of trade identifier provided in RegulatoryTradeID (1903).<table><tr><th>Value</th><th>Description</th></tr><tr><td>5</td><td>Trading venue transaction identifier (TVTIC)</td></tr></table></td></tr>
<tr><td colspan="5"></RegulatoryTradeIDGrp></td></tr>
<tr><td colspan="5"><SRQSRelatedTradeIDGrp>, cardinality: unrestricted, record counter: NoSRQSRelatedTradeIDs</td></tr>
<tr><td>25152</td><td>SRQSRelatedTradeID</td><td>N</td><td>INT</td><td>Provides together with the NegotiationID a link to the corresponding Xetra/Eurex Enlight deal.</td></tr>
<tr><td colspan="5"></SRQSRelatedTradeIDGrp></td></tr>
<tr><td colspan="5"><RootParties>, cardinality: 0-1, record counter: NoRootPartyIDs, containing occurrences: root_execution_venue</td></tr>
<tr><td>1117</td><td>>RootPartyID</td><td>Y</td><td>STRING</td><td>Root party identifier.</td></tr>
<tr><td>1118</td><td>>RootPartyIDSource</td><td>Y</td><td>CHAR</td><td>Identifies class or source of the RootPartyID (1117) value.<table><tr><th>Value</th><th>Description</th></tr><tr><td>D</td><td>Proprietary custom code</td></tr><tr><td>G</td><td>Market identifier code</td></tr></table></td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
1119	>RootPartyRole	Y	INT	Identifies the type role of the RootPartyID (1117) specified. Value: 1 = Executing firm; 12 = Executing trader; 36 = Entering trader; 73 = Execution venue
</RootParties>				
<TrdCapRptSideGrp>, cardinality: 1-2, record counter: NoSides, containing occurrences: Side1 , Side2				
54	>Side	Y	CHAR	Side of trade. Value: 1 = Buy; 2 = Sell
1005	>SideTradeReportID	N	STRING	Used on a multi-sided trade to designate the ReportID.
1506	>SideTradeID	N	INT	Used to represent the trade ID for each side of the trade assigned by an intermediary.
<Parties>, cardinality: 1-23, record counter: NoPartyIDs				
448	>PartyID	Y	STRING	Party identifier/code. Party identifier/code. See PartyIDSource (447) and PartyRole (452).
447	>PartyIDSource	Y	CHAR	Identifies class or source of the PartyID (448) value. Required if PartyID is specified. Value: D = Proprietary custom code; H = Kassenverein number; P = Short code identifier

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>452</td><td>>PartyRole</td><td>Y</td><td>INT</td><td>Party Role.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Executing firm</td></tr><tr><td>3</td><td>Client ID</td></tr><tr><td>4</td><td>Clearing firm</td></tr><tr><td>7</td><td>Entering firm</td></tr><tr><td>10</td><td>Settlement location</td></tr><tr><td>12</td><td>Executing trader</td></tr><tr><td>16</td><td>Executing system</td></tr><tr><td>36</td><td>Entering trader</td></tr><tr><td>55</td><td>Session ID</td></tr><tr><td>59</td><td>Executing unit</td></tr><tr><td>66</td><td>Market Maker</td></tr><tr><td>90</td><td>Settlement Firm</td></tr><tr><td>91</td><td>Settlement Account</td></tr><tr><td>122</td><td>Investment decision maker</td></tr></table></td></tr>
<tr><td>2376</td><td>>PartyRoleQualifier</td><td>N</td><td>INT</td><td>Indicates the nature of value submitted in the field PartyID (448). PartyRoleQualifier (2376) = 21 (Specialist) and 22 (Algorithm) are only possible together with PartyIDSource (447) = 'D'. PartyRoleQualifier (2376) = 24 (Natural person) is only possible together with PartyIDSource (447) = 'P'. PartyRoleQualifier (2376) = 21 (Specialist) is not allowed in request messages.<table><tr><th>Value</th><th>Description</th></tr><tr><td>21</td><td>Specialist</td></tr><tr><td>22</td><td>Algorithm</td></tr><tr><td>24</td><td>Natural person</td></tr></table></td></tr>
<tr><td>802</td><td>>NoPartySubIDs</td><td>N</td><td>NUMINGROUP</td><td>Number of PartySubIDs. Only one entry. Only in combination with PartyRole (452) = 7 (Entering firm), 12 (Executing trader) and 36 (Entering trader) possible.</td></tr>
<tr><td>523</td><td>>PartySubID</td><td>N</td><td>STRING</td><td>Person (Short name).</td></tr>
<tr><td>803</td><td>>PartySubIDType</td><td>N</td><td>INT</td><td>Type of PartySubID.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Firm</td></tr><tr><td>2</td><td>Person</td></tr></table></td></tr>
<tr><td colspan="5"></Parties></td></tr>
<tr><td>25027</td><td>>PartyIDClearingUnit</td><td>N</td><td>STRING</td><td>Party ID Clearing Unit.</td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
25120	>PartyIDSettlement-Unit	N	STRING	Party ID Settlement Unit.
<ClrInstGrp>, cardinality: 1, record counter: NoClearingInstructions				
577	ClearingInstruction	N	INT	Indicator to specify if a non-CCP trade is internalised or aggregated. Value: 2 – Bilateral netting only (aggregation) Value: 13 – Self clearing (internalisation)
</ClrInstGrp>				
157	>NumDaysInterest	N	INT	Number of Days of Interest for convertible bonds and fixed income. Value may be negative.
159	>AccruedInterestAmt	N	AMT	Amount of Accrued Interest for convertible bonds and fixed income.
119	>SettlCurrAmt	N	AMT	Total amount due expressed in settlement currency.
155	>SettlCurrFxRate	N	FLOAT	Foreign exchange rate used to compute SettlCurrAmt (119) from Currency (15) to SettlCurrency (120). The exchange rate as a multiplicative factor, converting the settlement amount given in instrument currency into the settlement amount given in settlement currency. The multiplicative factor is calculated as settlement currency exchange rate to Euro divided by instrument currency exchange rate to Euro.
58	>Text	N	STRING	Free format text string.
1072	>SideGrossTradeAmt	N	AMT	The gross trade amount for this side of the trade.
1115	>OrderCategory	N	CHAR	Defines the type of interest behind a trade (fill or partial fill). Value: 1 – Order Value: 2 – Quote

Tag	Field Name	Req'd	Data Type	Description
1444	>SideLiquidityInd	N	INT	Indicates whether the order added or removed liquidity. Field is used only for on-book trades. Value: 1 = Added Liquidity (passive); 2 = Removed Liquidity (aggressive); 4 = Auction (neither passive nor aggressive, includes VDO matching at midpoint)
37	>OrderID	N	INT	Exchange Order ID generated by the T7 system.
40	>OrdType	N	CHAR	Order type. Value: 1 = Market; 2 = Limit; 3 = Stop; 4 = Stop limit; P = Pegged
44	>Price	N	PRICE	Price per unit of quantity (e.g. per share).
151	>LeavesQty	N	QTY	Quantity open for further execution. If the OrdStatus (39) is Canceled, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty (38) - CumQty (14).
14	>CumQty	N	QTY	Cumulated executed quantity of an order. Total quantity (e.g. number of shares) filled.
<OrderAttributeGrp>, cardinality: 1-2, record counter: NoOrderAttributes				
2594	>OrderAttributeType	N	INT	Type of order attribute. Value: 2 = Liquidity Provision Activity Order
2595	>OrderAttributeValue	N	STRING	Value associated with the order attribute type specified in OrderAttributeType (2594). Value: Y = Attribute is set.
</OrderAttributeGrp>				
25008	>FreeText2	N	STRING	Assigned by the party which originates the order.
25107	>FreeText4	N	STRING	Free-format text field for trader-specific or customer related comments.

Tag	Field Name	Req'd	Data Type	Description
25108	>OrderIDSfx	N	INT	Order identification suffix generated by the T7 system. An increase of the peak or overall quantity leads to a new timestamp, loosing time priority and the assignment of a new order id suffix, whereas a reduction maintains the original timestamp and order id suffix.
</TrdCapRptSideGrp>				
30	LastMkt	Y	EXCHANGE	Operating MIC. Market Identifier Code of the trading market according to ISO 10383.
31	LastPx	Y	PRICE	Price of this (last) fill.
32	LastQty	Y	QTY	Quantity (e.g. shares) bought/sold on this (last) fill.
64	SettlDate	Y	LOCALMKT-DATE	Specific date of trade settlement (SettlementDate) in YYYYMMDD format.
75	TradeDate	Y	LOCALMKT-DATE	Indicates date of trade referenced in this message in YYYYMMDD format.
120	SettlCurrency	Y	CURRENCY	Currency code of settlement denomination.
571	TradeReportID	Y	INT	Unique identifier of the Trade Capture Report.
574	MatchType	N	INT	The point in the matching process at which this trade was matched. Value: 3 – Confirmed Trade Report; 4 – Auto Match Incoming; 5 – Cross Auction; 7 – Call Auction; 11 – Auto Match Resting; 12 – Auto Match at Midpoint (VDO); 14 – Continuous Auction
828	TrdType	Y	INT	Identifier of the trade type. Value: 0 – Regular Trade (on-book); 54 – OTC; 1005 – Large in scale; 1006 – Xetra/Eurex EnLight triggered trade
830	TransferReason	Y	STRING	Reason trade is being transferred Value: 1 – Owner; 2 – Clearer

Tag	Field Name	Req'd	Data Type	Description
856	TradeReportType	Y	INT	Type of Trade Report. Value: Description 0: Submit 2: Accept 5: No/Was (Replaced) 6: Trade Report Cancel 7: (Locked-In) Trade Break 11: Alleged New 13: Alleged No/Was
880	TrdMatchID	N	INT	Identifier assigned to a trade by a matching system.
1003	TradeID	Y	INT	The unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty.
1011	MessageEventSource	Y	INT	Receiver of a message. Value: Description 200: On-Book Trade Notification 201: TES Trade Notification
1126	OrigTradeID	N	INT	Used to preserve original trade id when original trade is being referenced in a subsequent trade transaction such as a transfer.
1390	TradePublishIndicator	N	INT	Indicates if a trade should be or has been published via a market publication service. Value: Description 2: Deferred Publication 3: Published
1724	OrderOrigination	N	INT	Direct market access identifier. Value: Description 5: Direct market access
1815	TradingCapacity	N	INT	Trading capacity. Value: Description 1: Customer (Agency) 3: Issuer/Liquidity Provider 5: Principal (Proprietary) 6: Market Maker 9: Riskless Principal
2489	PackageID	N	INT	Identifier for a TES trade.

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>2490</td><td>TradeNumber</td><td>N</td><td>INT</td><td>Execution Counter. Number of Trade Capture Reports belonging to the same price level (match step) of a match event. Field is used only for on-book trades.</td></tr>
<tr><td>28610</td><td>MatchSubType</td><td>N</td><td>INT</td><td>Indicates the call auction type the trade originates from. Field is used only for on-book trades.
<table>
<tr><th>Value</th><th>Description</th></tr>
<tr><td>1</td><td>Opening auction</td></tr>
<tr><td>2</td><td>Closing auction</td></tr>
<tr><td>3</td><td>Intraday auction</td></tr>
<tr><td>4</td><td>Circuit breaker auction</td></tr>
<tr><td>5</td><td>Trade at Close</td></tr>
</table></td></tr>
<tr><td>28758</td><td>NegotiationID</td><td>N</td><td>STRING</td><td>ID of a Xetra/Eurex EnLight negotiation.</td></tr>
<tr><td>30060</td><td>UTransactTime</td><td>Y</td><td>STRING</td><td>Transaction timestamp. Number of nanoseconds since Jan 1, 1970.</td></tr>
<tr><td colspan="5"><Trailer /></td></tr>
</table>

8.2 Trading Session Status

The Trading Session Status message informs about session related events.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='h' />				
58	Text	N	STRING	Free format text string.
336	TradingSessionID	Y	INT	Identifier for trading session. Value: 1 — Description: Day
1368	TradSesEvent	Y	INT	Trading session event type. Value: 103 — Description: End of restatement Value: 201 — Description: Message transmission ended
340	TradSesStatus	Y	INT	State of the trading session. Value: 0 — Description: Unknown Value: 2 — Description: Open Value: 3 — Description: Closed
1300	MarketSegmentID	N	INT	Product identifier.
30060	UTransactTime	N	STRING	Transaction timestamp. Number of nanoseconds since Jan 1, 1970.
30075	UTradeDate	N	LOCALMKT-DATE	Date of trading session in YYYYMMDD format.
<Trailer />				

8.3 Session Details List

Session Details List provides a list of all trading sessions of the own business unit.

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5"><Header with MsgType='U6' /></td></tr>
<tr><td colspan="5"><SessionGrp>, cardinality: unrestricted, record counter: NoSessions</td></tr>
<tr><td>28766</td><td>GatewaySessionID</td><td>Y</td><td>INT</td><td>The gateway session ID.</td></tr>
<tr><td>28730</td><td>SessionMode</td><td>Y</td><td>INT</td><td>The session type.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>ETI High Frequency session</td></tr><tr><td>1</td><td>ETI Low Frequency session</td></tr><tr><td>2</td><td>T7 GUI session</td></tr><tr><td>3</td><td>FIX LF session</td></tr></table></td></tr>
<tr><td>28735</td><td>SessionSubMode</td><td>Y</td><td>INT</td><td>The session subtype.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Regular Trading session</td></tr><tr><td>1</td><td>FIX Trading session</td></tr></table></td></tr>
<tr><td colspan="5"></SessionGrp></td></tr>
<tr><td>30060</td><td>UTransactTime</td><td>Y</td><td>STRING</td><td>Transaction timestamp. Number of nanoseconds since Jan 1, 1970.</td></tr>
<tr><td colspan="5"><Trailer /></td></tr>
</table>

8.4 Execution Report

The Execution Report message is used to confirm the receipt of an order, confirm changes to an existing order, transmit all active orders, relay fill information, reject orders.

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5"><Header with MsgType='8' /></td></tr>
<tr><td colspan="5"><Parties>, cardinality: 0-5, record counter: NoPartyIDs, containing occurrences: entering_firm , entering_trader , executing_trader , executing_unit , session_ID</td></tr>
<tr><td>448</td><td>>PartyID</td><td>Y</td><td>STRING</td><td>Party identifier/code. Party identifier/code. See PartyIDSource (447) and PartyRole (452).</td></tr>
<tr><td>447</td><td>>PartyIDSource</td><td>Y</td><td>CHAR</td><td>Identifies class or source of the PartyID (448) value. Required if PartyID is specified.
<table><tr><th>Value</th><th>Description</th></tr><tr><td>D</td><td>Proprietary custom code</td></tr><tr><td>H</td><td>Kassenverein number</td></tr><tr><td>P</td><td>Short code identifier</td></tr></table></td></tr>
<tr><td>452</td><td>>PartyRole</td><td>Y</td><td>INT</td><td>Party Role.
<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Executing firm</td></tr><tr><td>3</td><td>Client ID</td></tr><tr><td>4</td><td>Clearing firm</td></tr><tr><td>7</td><td>Entering firm</td></tr><tr><td>10</td><td>Settlement location</td></tr><tr><td>12</td><td>Executing trader</td></tr><tr><td>16</td><td>Executing system</td></tr><tr><td>36</td><td>Entering trader</td></tr><tr><td>55</td><td>Session ID</td></tr><tr><td>59</td><td>Executing unit</td></tr><tr><td>66</td><td>Market Maker</td></tr><tr><td>90</td><td>Settlement Firm</td></tr><tr><td>91</td><td>Settlement Account</td></tr><tr><td>122</td><td>Investment decision maker</td></tr></table></td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
2376	>PartyRoleQualifier	N	INT	Indicates the nature of value submitted in the field PartyID (448). PartyRoleQualifier (2376) = 21 (Specialist) and 22 (Algorithm) are only possible together with PartyIDSource (447) = 'D'. PartyRoleQualifier (2376) = 24 (Natural person) is only possible together with PartyIDSource (447) = 'P'. PartyRoleQualifier (2376) = 21 (Specialist) is not allowed in request messages. Value: 21 = Specialist; 22 = Algorithm; 24 = Natural person
802	>NoPartySubIDs	N	NUMINGROUP	Number of PartySubIDs. Only one entry. Only in combination with PartyRole (452) = 7 (Entering firm), 12 (Executing trader) and 36 (Entering trader) possible.
523	>PartySubID	N	STRING	Person (Short name).
803	>PartySubIDType	N	INT	Type of PartySubID. Value: 1 = Firm; 2 = Person
</Parties>				
<Instrument>				
55	Symbol	Y	STRING	T7 product identifier. If the ISIN is used as instrument identifier in the FIX request (SecurityAltID (455)), the product identifier is allowed but not required. If no product identifier is provided Symbol (55) must contain '[N/A]'.
48	SecurityID	Y	INT	T7 instrument identifier.
22	SecurityIDSource	Y	STRING	Source of the securityID Value: M = Marketplace-assigned identifier
<SecurityAltIDGrp>, cardinality: 1, record counter: NoSecurityAltID				
455	SecurityAltID	Y	STRING	Security identifier as ISIN
456	SecurityAltIDSource	Y	STRING	Source of the SecurityAltID (455). Only ISIN is allowed. Value: 4 = ISIN

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td colspan="5"></SecurityAltIDGrp></td></tr>
<tr><td>223</td><td>CouponRate</td><td>N</td><td>PERCENTAGE</td><td>The rate of interest that, when multiplied by the principal, par value, or face value of a bond, provides the currency amount of the periodic interest payment. The coupon is always cited, along with maturity, in any quotation of a bond's price.</td></tr>
<tr><td>28890</td><td>DeliveryType</td><td>N</td><td>INT</td><td>Identifies type of settlement.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Auslandskassenverein (AKV)</td></tr><tr><td>2</td><td>Girosammelverwahrung (GS)</td></tr><tr><td>3</td><td>Streifbandverwahrung (STR)</td></tr><tr><td>4</td><td>Wertpapierrechnung (WPR)</td></tr><tr><td>5</td><td>Non-collective safe custody securities to be settled via T2S (AKT)</td></tr></table></td></tr>
<tr><td>28896</td><td>LastCouponDeviation-Indicator</td><td>N</td><td>INT</td><td>Last coupon deviation indicator.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>None</td></tr><tr><td>1</td><td>Short period</td></tr><tr><td>2</td><td>Long period</td></tr><tr><td>3</td><td>Only one coupon</td></tr><tr><td>4</td><td>Short - two interest payments due</td></tr><tr><td>5</td><td>Long - two interest payments due</td></tr><tr><td>6</td><td>Perpetual</td></tr></table></td></tr>
<tr><td>28897</td><td>RefinancingEligibility-Indicator</td><td>N</td><td>INT</td><td>Ability of a security to be accepted for refinancing.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No</td></tr><tr><td>1</td><td>Yes</td></tr></table></td></tr>
<tr><td colspan="5"></Instrument></td></tr>
<tr><td colspan="5"><PegInstructions></td></tr>
<tr><td>211</td><td>PegOffsetValue</td><td>N</td><td>PRICE</td><td>Amount (signed) added to the peg for a pegged order in the context of the PegOffsetType (836).</td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
836	PegOffsetType	N	INT	Type of Peg Offset value. Value: 0 = Price; 4 = Percentage
</PegInstructions>				
<MtchgInst>, cardinality: 1, record counter: NoMatchInst				
1625	MatchInst	N	INT	Matching Instruction for the order. Value: 2 = Do not match
28744	MatchInstCrossID	N	INT	Numeric identifier. Contains the Self Match Prevention ID.
</MtchgInst>				
<DisplayInstruction>				
1138	DisplayQty	N	QTY	This field provides the display quantity. For iceberg order entry or modify with DisplayMethod
1084	DisplayMethod	N	CHAR	Defines if the value of the peak quantity after a refresh will be determined absolutely (using the initial value of the DisplayQty (1138)) or randomly (using a random value between DisplayLowQty (1085) and DisplayHighQty (1086)). Value: 1 = Initial; 3 = Random
1085	DisplayLowQty	N	QTY	Defines the lower quantity limit to a randomized refresh of displayed quantity. DisplayLowQty must be less than or equal to DisplayHighQty (1086). Required if DisplayMethod (1084) = "3".
1086	DisplayHighQty	N	QTY	Defines the upper quantity limit to a randomized refresh of displayed quantity. Required if DisplayMethod (1084) = "3".
</DisplayInstruction>				
<OrderEventGrp>, cardinality: 1, record counter: NoOrderEvents				

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>1796</td><td>OrderEventType</td><td>N</td><td>INT</td><td>Information about the status of pending transactions after locked stock (T7 Boerse Frankfurt).<table><tr><th>Value</th><th>Description</th></tr><tr><td>100</td><td>Status after locked Stock - Pending requests discarded</td></tr><tr><td>101</td><td>Status after locked Stock - Pending request executed</td></tr><tr><td>102</td><td>Status after locked Stock - Pending request rejected</td></tr></table></td></tr>
<tr><td colspan="5"></OrderEventGrp></td></tr>
<tr><td>11</td><td>ClOrdID</td><td>N</td><td>STRING</td><td>Unique identifier of an order related task (request) as assigned by the buy-side.</td></tr>
<tr><td>14</td><td>CumQty</td><td>Y</td><td>QTY</td><td>Cumulated executed quantity of an order. Total quantity (e.g. number of shares) filled.</td></tr>
<tr><td>17</td><td>ExecID</td><td>Y</td><td>INT</td><td>The field provides a unique identifier and can be used for the identification of duplicate order messages.</td></tr>
<tr><td>18</td><td>ExecInst</td><td>N</td><td>MULTIPLE-VALUESTRING</td><td>Instructions for order handling on exchange trading floor. If more than one instruction is applicable to an order, this field can contain multiple instructions separated by space.<table><tr><th>Value</th><th>Description</th></tr><tr><td>H</td><td>Reinstate on trading system failure (persistent)</td></tr><tr><td>Q</td><td>Cancel on trading system failure (non-persistent)</td></tr><tr><td>a</td><td>Trailing Stop Peg</td></tr><tr><td>6</td><td>Participate don't initiate (Book or cancel)</td></tr></table></td></tr>
<tr><td>31</td><td>LastPx</td><td>N</td><td>PRICE</td><td>Price of this (last) fill.</td></tr>
<tr><td>32</td><td>LastQty</td><td>N</td><td>QTY</td><td>Quantity (e.g. shares) bought/sold on this (last) fill.</td></tr>
<tr><td>37</td><td>OrderID</td><td>Y</td><td>INT</td><td>Exchange Order ID generated by the T7 system.</td></tr>
<tr><td>38</td><td>OrderQty</td><td>Y</td><td>QTY</td><td>Quantity ordered. This represents the number of shares for equities or par, face or nominal value for FI instruments.</td></tr>
</table>

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>39</td><td>OrdStatus</td><td>Y</td><td>CHAR</td><td>Identifies current status of order.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>New</td></tr><tr><td>1</td><td>Partially filled</td></tr><tr><td>2</td><td>Filled</td></tr><tr><td>4</td><td>Canceled</td></tr><tr><td>6</td><td>Pending cancel</td></tr><tr><td>8</td><td>Rejected</td></tr><tr><td>9</td><td>Suspended</td></tr><tr><td>A</td><td>Pending new</td></tr><tr><td>E</td><td>Pending replace</td></tr></table></td></tr>
<tr><td>40</td><td>OrdType</td><td>N</td><td>CHAR</td><td>Order type.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Market</td></tr><tr><td>2</td><td>Limit</td></tr><tr><td>3</td><td>Stop</td></tr><tr><td>4</td><td>Stop limit</td></tr><tr><td>P</td><td>Pegged</td></tr></table></td></tr>
<tr><td>41</td><td>OrigClOrdID</td><td>N</td><td>STRING</td><td>ClOrdID (11) of the last successfully processed task (request) referring to the specific order.</td></tr>
<tr><td>44</td><td>Price</td><td>N</td><td>PRICE</td><td>Price per unit of quantity (e.g. per share).</td></tr>
<tr><td>54</td><td>Side</td><td>Y</td><td>CHAR</td><td>Side of order.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>58</td><td>Text</td><td>N</td><td>STRING</td><td>Free format text string.</td></tr>
<tr><td>59</td><td>TimeInForce</td><td>N</td><td>CHAR</td><td>Specifies how long the order remains in effect. Absence of this field is interpreted as DAY.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>Day</td></tr><tr><td>1</td><td>Good till Cancel</td></tr><tr><td>3</td><td>Immediate or Cancel</td></tr><tr><td>4</td><td>Fill or Kill</td></tr><tr><td>5</td><td>Good till Crossing</td></tr><tr><td>6</td><td>Good till Date</td></tr></table></td></tr>
<tr><td>99</td><td>StopPx</td><td>N</td><td>PRICE</td><td>Price per unit of quantity (e.g. per share).</td></tr>
</table>

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>150</td><td>ExecType</td><td>Y</td><td>CHAR</td><td>Describes the specific ExecutionRpt while OrdStatus (39) will always identify the current order status.
<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>New</td></tr><tr><td>1</td><td>Partial fill</td></tr><tr><td>2</td><td>Fill</td></tr><tr><td>4</td><td>Canceled</td></tr><tr><td>5</td><td>Replace</td></tr><tr><td>6</td><td>Pending cancel</td></tr><tr><td>8</td><td>Rejected</td></tr><tr><td>9</td><td>Suspended</td></tr><tr><td>A</td><td>Pending new</td></tr><tr><td>D</td><td>Restated</td></tr><tr><td>E</td><td>Pending replace</td></tr><tr><td>F</td><td>Trade</td></tr><tr><td>L</td><td>Triggered by system</td></tr></table></td></tr>
<tr><td>151</td><td>LeavesQty</td><td>Y</td><td>QTY</td><td>Quantity open for further execution. If the OrdStatus (39) is Canceled, Expired, Calculated, or Rejected (in which case the order is no longer active) then LeavesQty could be 0, otherwise LeavesQty = OrderQty (38) - CumQty (14).</td></tr>
<tr><td>336</td><td>TradingSessionID</td><td>N</td><td>INT</td><td>Identifier for trading session.
<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Day</td></tr></table></td></tr>
<tr><td>378</td><td>ExecRestatement-Reason</td><td>N</td><td>INT</td><td>Code to identify reason for an Execution Report message sent with ExecType=Restated or used when communicating an unsolicited cancel.
Valid values are listed after this table.</td></tr>
<tr><td>432</td><td>ExpireDate</td><td>N</td><td>LOCALMKT-DATE</td><td>Date of order expiration (last day the order can trade), always expressed in terms of the local market date. The time at which the order expires is determined by the local market's business practices.</td></tr>
<tr><td>527</td><td>SecondaryExecID</td><td>N</td><td>INT</td><td>Assigned by the party which accepts the order. Can be used to provide the ExecID used by an exchange or executing system.</td></tr>
</table>

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>574</td><td>MatchType</td><td>N</td><td>INT</td><td>The point in the matching process at which this trade was matched.<table><tr><th>Value</th><th>Description</th></tr><tr><td>4</td><td>Auto Match Incoming</td></tr><tr><td>5</td><td>Cross Auction</td></tr><tr><td>7</td><td>Call Auction</td></tr><tr><td>11</td><td>Auto Match Resting</td></tr><tr><td>12</td><td>Auto Match at Midpoint (VDO)</td></tr><tr><td>14</td><td>Continuous Auction</td></tr></table></td></tr>
<tr><td>625</td><td>TradingSessionSubID</td><td>N</td><td>INT</td><td>Optional market assigned sub identifier for a trading session.<table><tr><th>Value</th><th>Description</th></tr><tr><td>2</td><td>Opening auction</td></tr><tr><td>4</td><td>Closing auction</td></tr><tr><td>6</td><td>Scheduled intraday auction only</td></tr><tr><td>8</td><td>Auction only</td></tr><tr><td>105</td><td>Special auction</td></tr></table></td></tr>
<tr><td>851</td><td>LastLiquidityInd</td><td>N</td><td>INT</td><td>Indicator to identify whether this fill was a result of a liquidity provider providing or liquidity taker taking the liquidity. Applicable only for OrdStatus of Partial or Filled.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Add Liquidity</td></tr><tr><td>2</td><td>Removed Liquidity</td></tr><tr><td>4</td><td>Auction (neither passive nor aggressive, includes VDO matching at midpoint)</td></tr><tr><td>5</td><td>Triggered Stop Order</td></tr><tr><td>6</td><td>Triggered One-cancels-the-other Order</td></tr><tr><td>7</td><td>Triggered Market Order</td></tr></table></td></tr>
<tr><td>880</td><td>TrdMatchID</td><td>N</td><td>INT</td><td>Identifier assigned to a trade by a matching system.</td></tr>
<tr><td>1080</td><td>RefOrderID</td><td>N</td><td>INT</td><td>Reference to a private quote. This field will be always delivered together with the field RefOrderIDSource (1081).</td></tr>
</table>

Tag	Field Name	Req'd	Data Type	Description
1081	RefOrderIDSource	N	CHAR	Identifier related to the value delivered in the field RefOrderID (1080). Required if the ExecutionReport (8) contains a reference to a private quote (field RefOrderID (1080)). Value: 5 – QuoteID (117)
1815	TradingCapacity	N	INT	Trading capacity. 1 – Customer (Agency) 3 – Issuer/Liquidity Provider 5 – Principal (Proprietary) 6 – Market Maker 9 – Riskless Principal
2523	CrossedIndicator	N	INT	Indicator will be delivered in case of deletion or modification due to Self Match Prevention. 1 – Cross rejected
1823	Triggered	N	INT	Indicates if an order has been previously triggered. 0 – Not triggered (Default) 1 – Triggered
2404	ComplianceText	N	STRING	Identification of the actual trader behind a transaction, required by Market Surveillance.
25008	FreeText2	N	STRING	Assigned by the party which originates the order.
25107	FreeText4	N	STRING	Free-format text field for trader-specific or customer related comments.
25125	VolumeDiscoveryPrice	N	PRICE	Indicates the second limit price of a volume discovery order.
25023	ReturnCode	N	INT	Return code.
25025	ReturnCodeText	N	STRING	Error text.
30060	UTransactTime	N	STRING	Transaction timestamp. Number of nanoseconds since Jan 1, 1970.

Tag	Field Name	Req'd	Data Type	Description
25108	OrderIDSfx	N	INT	Order identification suffix generated by the T7 system. An increase of the peak or overall quantity leads to a new timestamp, loosing time priority and the assignment of a new order id suffix, whereas a reduction maintains the original timestamp and order id suffix.
30625	TradeAtCloseOptIn	N	BOOLEAN	Indicates whether this order is eligible for Trade at Close match. Value: N — Not eligible for Trade at Close match Value: Y — Eligible for Trade at Close match
<Trailer />				

Valid Values of ExecRestatementReason (datatype INT)

Valid Value	Description
0	GT corporate action
1	GT renewal / restatement (no corporate action, order book restatement)
8	Exchange Option
100	Unknown Order State
101	Order Added
102	Order Replaced
103	Order Canceled
105	Immediate or Cancel Order Canceled
107	FOK Order canceled
108	Book Order executed
114	Order has been changed to IOC
122	Instrument State Change
138	Pending New
139	Pending Replace
141	Pending New Applied
142	Pending Replace Applied
146	End od Day Processing
148	Order Expiration Intraday
149	Closing Auction Only Order Activated
150	Closing Auction Only Order Inactivated
151	OAO Order activated
152	OAO Order inactivated
153	AAO Order activated
154	AAO Order inactivated

155	Order Refreshed
159	Intraday Auction Order has been activated
160	Intraday Auction Order has been inactivated
164	One-cancels-the-other Order Triggered
172	Stop Order Triggered
181	Ownership Changed
197	Order Cancellation Pending
199	Pending Cancellation Executed
212	Book Or Cancel Order Canceled
213	Trailing Stop Update
237	Exceeds maximum quantity
238	Invalid Limit Price
241	User does not exist
242	Session does not exist
243	Invalid Stop Price
245	Instrument does not exist
246	Busines Unit Risk Event
261	Panic Cancel
292	Divident Payment
294	Last Trading Day
295	Trading Parameter Change
296	Currency Change
297	Product Assignment Change / Special Event
298	Reference Price Change
300	Tick Rule Change
316	Quote Request Solution Order Expiry

8.5 User Order Mass Action Report

This message informs about unsolicited mass cancellation events.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='UBZ' />				
<Instrument>				
55	Symbol	Y	STRING	T7 product identifier. If the ISIN is used as instrument identifier in the FIX request (SecurityAltID (455)), the product identifier is allowed but not required. If no product identifier is provided Symbol (55) must contain '[N/A]'.
48	SecurityID	Y	INT	T7 instrument identifier.
22	SecurityIDSource	Y	STRING	Source of the securityID Value: M – Description: Marketplace-assigned identifier
<SecurityAltIDGrp>, cardinality: 1, record counter: NoSecurityAltID				
455	SecurityAltID	Y	STRING	Security identifier as ISIN
456	SecurityAltIDSource	Y	STRING	Source of the SecurityAltID (455). Only ISIN is allowed. Value: 4 – Description: ISIN
</SecurityAltIDGrp>				
223	CouponRate	N	PERCENTAGE	The rate of interest that, when multiplied by the principal, par value, or face value of a bond, provides the currency amount of the periodic interest payment. The coupon is always cited, along with maturity, in any quotation of a bond's price.
28890	DeliveryType	N	INT	Identifies type of settlement. Value: 1 – Description: Auslandskassenverein (AKV) Value: 2 – Description: Girosammelverwahrung (GS) Value: 3 – Description: Streifbandverwahrung (STR) Value: 4 – Description: Wertpapierrechnung (WPR) Value: 5 – Description: Non-collective safe custody securities to be settled via T2S (AKT)

Tag	Field Name	Req'd	Data Type	Description
28896	LastCouponDeviation-Indicator	N	INT	Last coupon deviation indicator. Value: Description 0: None 1: Short period 2: Long period 3: Only one coupon 4: Short - two interest payments due 5: Long - two interest payments due 6: Perpetual
28897	RefinancingEligibility-Indicator	N	INT	Ability of a security to be accepted for refinancing. Value: Description 0: No 1: Yes
</Instrument>				
<Parties>, cardinality: 3-4, record counter: NoPartyIDs, containing occurrences: entering_trader , entering_firm , executing_trader , session_ID				
448	>PartyID	Y	STRING	Party identifier/code. Party identifier/code. See PartyIDSource (447) and PartyRole (452).
447	>PartyIDSource	Y	CHAR	Identifies class or source of the PartyID (448) value. Required if PartyID is specified. Value: Description D: Proprietary custom code H: Kassenverein number P: Short code identifier

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>452</td><td>>PartyRole</td><td>Y</td><td>INT</td><td>Party Role.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Executing firm</td></tr><tr><td>3</td><td>Client ID</td></tr><tr><td>4</td><td>Clearing firm</td></tr><tr><td>7</td><td>Entering firm</td></tr><tr><td>10</td><td>Settlement location</td></tr><tr><td>12</td><td>Executing trader</td></tr><tr><td>16</td><td>Executing system</td></tr><tr><td>36</td><td>Entering trader</td></tr><tr><td>55</td><td>Session ID</td></tr><tr><td>59</td><td>Executing unit</td></tr><tr><td>66</td><td>Market Maker</td></tr><tr><td>90</td><td>Settlement Firm</td></tr><tr><td>91</td><td>Settlement Account</td></tr><tr><td>122</td><td>Investment decision maker</td></tr></table></td></tr>
<tr><td>2376</td><td>>PartyRoleQualifier</td><td>N</td><td>INT</td><td>Indicates the nature of value submitted in the field PartyID (448). PartyRoleQualifier (2376) = 21 (Specialist) and 22 (Algorithm) are only possible together with PartyIDSource (447) = 'D'. PartyRoleQualifier (2376) = 24 (Natural person) is only possible together with PartyIDSource (447) = 'P'. PartyRoleQualifier (2376) = 21 (Specialist) is not allowed in request messages.<table><tr><th>Value</th><th>Description</th></tr><tr><td>21</td><td>Specialist</td></tr><tr><td>22</td><td>Algorithm</td></tr><tr><td>24</td><td>Natural person</td></tr></table></td></tr>
<tr><td>802</td><td>>NoPartySubIDs</td><td>N</td><td>NUMINGROUP</td><td>Number of PartySubIDs. Only one entry. Only in combination with PartyRole (452) = 7 (Entering firm), 12 (Executing trader) and 36 (Entering trader) possible.</td></tr>
<tr><td>523</td><td>>PartySubID</td><td>N</td><td>STRING</td><td>Person (Short name).</td></tr>
<tr><td>803</td><td>>PartySubIDType</td><td>N</td><td>INT</td><td>Type of PartySubID.<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Firm</td></tr><tr><td>2</td><td>Person</td></tr></table></td></tr>
<tr><td colspan="5"></Parties></td></tr>
<tr><td colspan="5"><NotAffectedOrdersGrp>, cardinality: unrestricted, record counter: NoNotAffectedOrders</td></tr>
</table>

<table>
<tr><th>Tag</th><th>Field Name</th><th>Req'd</th><th>Data Type</th><th>Description</th></tr>
<tr><td>1371</td><td>NotAffectedOrderID</td><td>N</td><td>INT</td><td>Exchange Order ID of an order whose cancellation is pending.</td></tr>
<tr><td colspan="5"></NotAffectedOrdersGrp></td></tr>
<tr><td colspan="5"><AffectedOrdersGrp>, cardinality: unrestricted, record counter: NoAffectedOrders</td></tr>
<tr><td>535</td><td>AffectedOrderID</td><td>N</td><td>STRING</td><td>Exchange Order ID of a persistent order deleted due to a mass cancellation.</td></tr>
<tr><td colspan="5"></AffectedOrdersGrp></td></tr>
<tr><td>54</td><td>Side</td><td>N</td><td>CHAR</td><td>Side<table><tr><th>Value</th><th>Description</th></tr><tr><td>1</td><td>Buy</td></tr><tr><td>2</td><td>Sell</td></tr></table></td></tr>
<tr><td>44</td><td>Price</td><td>N</td><td>PRICE</td><td>Price per unit of quantity (e.g. per share).</td></tr>
<tr><td>30018</td><td>UExecInst</td><td>N</td><td>MULTIPLE-VALUESTRING</td><td>Reason for mass cancellation.<table><tr><th>Value</th><th>Description</th></tr><tr><td>H</td><td>Reinstate on trading system failure (persistent)</td></tr><tr><td>Q</td><td>Cancel on trading system failure (non-persistent)</td></tr></table></td></tr>
<tr><td>1369</td><td>MassActionReportID</td><td>Y</td><td>INT</td><td>Transaction timestamp.</td></tr>
<tr><td>28721</td><td>MassActionReason</td><td>Y</td><td>INT</td><td>Reason for mass cancellation.<table><tr><th>Value</th><th>Description</th></tr><tr><td>0</td><td>No special reason</td></tr><tr><td>1</td><td>Trading was stopped</td></tr><tr><td>2</td><td>Emergency</td></tr><tr><td>6</td><td>Session loss or logout</td></tr><tr><td>7</td><td>Duplicate Session Login</td></tr><tr><td>8</td><td>Clearing Risk Control</td></tr><tr><td>100</td><td>Internal connection loss</td></tr><tr><td>105</td><td>Product State Halt</td></tr><tr><td>106</td><td>Product State Holiday</td></tr><tr><td>107</td><td>Instrument Suspended</td></tr><tr><td>110</td><td>Volatility Interruption</td></tr><tr><td>111</td><td>Product temporarily not tradeable</td></tr><tr><td>113</td><td>Instrument Stopped</td></tr><tr><td>115</td><td>Instrument Knock Out</td></tr><tr><td>116</td><td>Instrument Sold Out</td></tr><tr><td>118</td><td>Instrument Knock Out has been reverted</td></tr></table></td></tr>
<tr><td colspan="5"><Trailer /></td></tr>
</table>

8.6 Business Message Reject

The Business Message Reject message indicates that an application message has been rejected.

Tag	Field Name	Req'd	Data Type	Description
<Header with MsgType='j' />				
45	RefSeqNum	Y	SEQNUM	Reference message Sequence number.
58	Text	N	STRING	Free format text string.
372	RefMsgType	Y	STRING	The MsgType (35) of the FIX message being referenced.
380	BusinessRejectReason	Y	INT	Code to identify reason for a Business Message Reject message. Value: Description 0: Other 1: Unknown ID 3: Unsupported message type 4: Application not available 5: Conditionally required field missing 6: Not authorized
379	BusinessRejectRefID	N	STRING	The value of the business-level ID field on the message being referenced.
<Trailer />				

9 Occurrences

9.1 OrderAttributeGrp

This section contains all occurrences of structure "OrderAttributeGrp".

liquidity_provision_activity_order

- OrderAttributeType = LIQUIDITY_PROVISION_ACTIVITY_ORDER (mandatory)
- OrderAttributeValue (mandatory)

risk_reduction_order

- OrderAttributeType = RISK_REDUCTION_ORDER (mandatory)
- OrderAttributeValue (mandatory)

9.2 Parties

This section contains all occurrences of structure "Parties".

clearing_firm

- PartyID (mandatory)
- PartyRole = CLEARING_FIRM (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

clearing_unit

- PartyID (mandatory)
- PartyRole = CLEARING_FIRM (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

client_id

- PartyID (mandatory)
- PartyRole = CLIENT_ID (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

entering_firm

- PartyID (mandatory)
- PartyRole = ENTERING_FIRM (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

entering_trader

- PartyID (mandatory)
- PartyRole = ENTERING_TRADER (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

executing_firm

- PartyID (mandatory)
- PartyRole = EXECUTING_FIRM (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

executing_firm_kvno

- PartyID (mandatory)
- PartyRole = EXECUTING_FIRM (mandatory)
- PartyIDSource = KASSENVEREIN_NUMBER (mandatory)

executing_trader

- PartyID (mandatory)
- PartyRole = EXECUTING_TRADER (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)
- PartySubIDType = PERSON (mandatory)

executing_unit

- PartyID (mandatory)
- PartyRole = EXECUTING_UNIT (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

execution_identifier

- PartyID (mandatory)
- PartyRole = EXECUTING_TRADER (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

investment_identifier

- PartyID (mandatory)
- PartyRole = INVESTMENT_DECISION_MAKER (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

session_ID

- PartyID (mandatory)
- PartyRole = SESSION_ID (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)

specialist_firm

- PartyID (mandatory)
- PartyRole = EXECUTING_FIRM (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)
- PartyRoleQualifier = SPECIALIST (mandatory)

specialist_trader

- PartyID (mandatory)
- PartyRole = MARKET_MAKER (mandatory)
- PartyIDSource = PROPRIETARYCUSTOMCODE (mandatory)
- PartySubIDType = PERSON (mandatory)
- PartyRoleQualifier = SPECIALIST (mandatory)

9.3 RootParties

This section contains all occurrences of structure "RootParties".

root_execution_venue

- RootPartyID (mandatory)
- RootPartyIDSource = Market_identifier_code (mandatory)
- RootPartyRole = Execution_venue (mandatory)

9.4 TrdCapRptSideGrp

This section contains all occurrences of structure "TrdCapRptSideGrp".

Side1

- Side (mandatory)
- SideTradeReportID (mandatory)
- SideTradeID (mandatory)
- Parties
  - clearing_firm
  - executing_trader
  - executing_firm
  - executing_unit
  - executing_firm_kvno
  - session_ID
  - client_id
  - investment_identifier
  - execution_identifier
  - clearing_firm
- PartyIDClearingUnit (mandatory)
- PartyIDSettlementUnit (mandatory)
- ClrInstGrp
- NumDaysInterest (mandatory)
- AccruedInterestAmt (mandatory)
- SettlCurrAmt (mandatory)
- SettlCurrFxRate (mandatory)
- Text (mandatory)
- SideGrossTradeAmt (mandatory)
- OrderCategory (mandatory)
- SideLiquidityInd (mandatory)
- OrderID (mandatory)
- OrdType (mandatory)

- Price (mandatory)
- LeavesQty (mandatory)
- CumQty (mandatory)
- OrderAttributeGrp
- FreeText2 (mandatory)
- FreeText4 (mandatory)
- OrderIDSfx (mandatory)

Side2

- Side (mandatory)
- Parties
  - executing_firm
  - executing_unit
  - executing_firm_kvno
  - specialist_firm
  - specialist_trader

A Appendix