



T7 Release 9.0 - Cash Market

September 2020



Agenda

- **Introduction and cornerstones**
 - What's new
 - Introduction schedule
 - Publication schedule
- **Trade-at-Close**
- **New T7 FIX LF Gateway**
- **Further Changes and Enhancements**

What's new

Main features

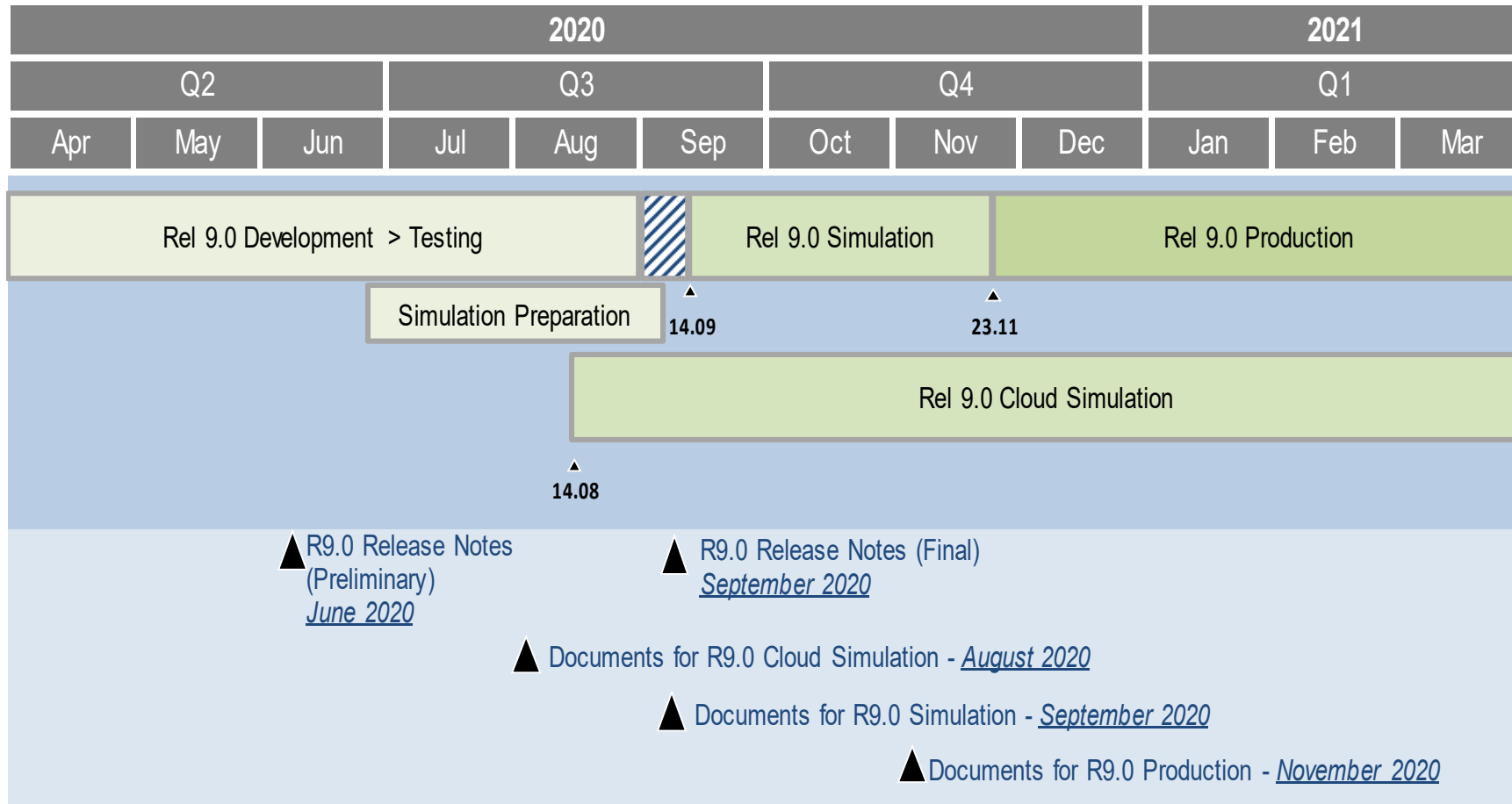
Trade-at-Close
New T7 FIX LF Gateway
Further Changes and Enhancements

Backwards compatibility for trading interfaces	Yes
Backwards compatibility for market and ref data interfaces	No

Release Milestones



Introduction schedule



Publication schedule

T7 Release 9.0	Derivatives	Cash Markets	Combined	Q2 / 2020	Q3 / 2020				Q4 / 2020	
				Jun	Jul	Aug	Sep	Oct	Nov	
T7 Release 9.0 - Release Notes	X	X		◆			●			
T7 Functional Reference			X				●			
T7 Functional and Interface Overview			X				●			
T7 Participant Simulation Guide			X				●			
T7 Cross System Traceability			X				●			
T7 Incident Handling Guide			X				●			
T7 Participant and User Maintenance Manual	X	X					●			
Contract Notes Description		X								●
T7 Known Limitations			X				■			●
T7 Trader, Admin and Clearer GUI – User Manual	X	X					■			●
T7 Trader, Admin and Clearer GUI – Installation Manual			X			●				
T7 Enhanced Trading Interface – Manual incl. Header files			X			◆	■			●
T7 Enhanced Trading Interface-XSD, XML Representation and Layouts			X			◆	■			●
T7 FIX Gateway – FIX 4.2 and 4.4 Manual incl. Fiximate and Repository			X			◆	■			●
T7 Market, - Enhanced Order Book- and Reference Data Interfaces Manual incl. Fast Message Template, Repository & FIXML Schema Files			X			◆	■			●
T7 Extended Market Data Services – Manual incl. Fast Message Template and Underlying Ticker Data			X				■			●
Cash Market Instrument Reference Data Guide		X					●			
T7 XML Report Reference Manual			X				■			●
Common Report Engine User Guide			X			●				
N7 Network Access Guide			X				●			
Exchange Rules & Regulations		X								●
Market Models		X								●

- **Cloud Simulation** (identified by ◆) will be published in August 2020
- **Simulation versions** (identified by ■) will be published in September 2020
- **Production versions** (identified by ●) will be published in, August, September and November 2020
- All documents will be available on www.xetra.com under Xetra > Technology > T7 trading architecture > System documentation > Release 9.0

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Trade-at-Close (1/7)

- New post-close trading service on Xetra (XETR)
- Offers an additional possibility for clients to execute at Xetra closing auction prices, during an interval of up to 10 minutes on the reference market for all equities and ETFs



Key features of Trade-at-Close

- Investors who missed the closing auction will get additional time to trade at a fixed price
- Investors will have an additional possibility to finish parent order execution, in cases where orders were not or only partially executed during continuous trading and previous auctions
- Additional opportunities for market makers to provide liquidity during an additional trading phase
- Easy opt-in processes on master data level (trader ID) and on order-by-order level
- Same fee level as continuous trading and auction, i.e. no additional mark-up
- New trading phase offers matching of additional volume in German equities and ETFs at Xetra closing auction price

Trade-at-Close (2/7)

- During TaC, orders are continuously matched with full pre- and post-trade transparency



- TaC trading phase commences immediately after the end of the closing auction²
- Trading members are able to opt-into TaC per default or on order-by-order basis
- Initial default setting is opt out³
- When opted in, qualifying orders not filled in the closing auction will automatically be transferred into the TaC phase (new orders can also be entered during TaC)
- During TaC, matching will take place continuously with time priority
- TaC offers full pre- and post-trade transparency
- Market orders and limit orders can participate in TaC
- Orders not participating in TaC are not affected

¹ Closing auction has a randomized end, plus potential (extended) volatility interruption.

² Xetra TaC is triggered only if the closing auction ended with a price with positive turnover.

³ Order level opt-in will supersede the trader ID level information.

Trade-at-Close (3/7)

Illustrative example – Share AAA

17:35:03CET

Bid			Ask		
# orders	Qty	Limit	Limit	Qty	# orders
			63	300	2

17:37CET – Buy order Y

Bid			Ask		
# orders	Qty	Limit	Limit	Qty	# orders
1	100	63			

17:38CET – Buy order X

Bid			Ask		
# orders	Qty	Limit	Limit	Qty	# orders
2	250	63			

- At 17:35:03 after determination of the closing auction price (63) with positive turnover. Cumulated size available on sell side is 300 from orders rolled over from closing auction with price limit displayed of 63. Total of 2 orders in the book.
- At 17:37, buy limit order Y for 400 shares. Order limit is better or equal to auction price (63). Order executed for 300 shares at 63. Remaining 100 shares displayed in order book with price limit 63.
- At 17:38, buy limit order X for 150 shares. Order limit is better or equal to auction price (63).
- Order enters the book with displayed limit at 63. Only cumulated sizes and orders are displayed. Order Y has time priority over order X.

Trade-at-Close (4/7)

Functionality

Availability	<ul style="list-style-type: none">• Available on Xetra (MIC Code: XETR)• Enabled for all instruments on XETR (bluechip shares, mid- and small-cap shares, ETPs)• Start 17:35 CET + random, following closing auction (and volatility/extended volatility interruptions)• End 17:45 CET
Order Types	<ul style="list-style-type: none">• Market orders, limit orders (price limit better or equal to auction price)• Self match prevention available
Execution price & matching	<ul style="list-style-type: none">• Execution price is closing auction price• Matching based on time priority
Validity	<ul style="list-style-type: none">• Order transfer: Good for day, good till date• New order: Good for day, good till date, FOK, IOC
Transparency	<ul style="list-style-type: none">• Pre-trade: best price level with # of orders and accumulated volume, for buy and sell sides• Immediate post-trade publication

Trade-at-Close (5/7)

Impact on Interfaces

ETI	<ul style="list-style-type: none">• New field <i>TradeAtCloseOptIn</i> (30625) with valid values 0=No and 1=Yes will be introduced in <i>New Order Single</i> and <i>Extended Order Information</i> messages• New valid value to be introduced: <i>MatchSubType</i> (28610): 5 Trade-at-Close
FIX	<ul style="list-style-type: none">• New field <i>TradeAtCloseOptIn</i> (30625) with valid values 0=No and 1=Yes will be introduced in the messages <i>New Order Single</i> and <i>Execution Report</i>• <i>New valid</i> value will be introduced: <i>MatchSubType</i> (28610): 5 TRADE_AT_CLOSE
Reference Data	<ul style="list-style-type: none">• Modified schedule will be published in trading schedule CSV file in Static Instrument Reference Data files (RDF)
Market Data	<ul style="list-style-type: none">• Market data in the TaC show will show closing auction price and accumulated quantity of all orders which potentially match at this price and which have the opt-in flag set for trading in TaC• Trades resulting from TaC are reported in usual way with a new valid value for TaC for the trading status• In EMDI, MDI and EOBI following values will be shown: <i>SecurityTradingStatus</i> (326): 217 Trade-at-Close and <i>SecurityMassTradingStatus</i> (1679): 217 Trade-at-Close

Trade-at-Close (6/7)

Impact on Interfaces

Xetra Trader GUI	<ul style="list-style-type: none">• In <i>Order entry</i> view a new checkbox will exist where the flag for TaC can be set• In <i>Orders</i> view, <i>Order History</i> view a new column for the TaC flag will exist• In <i>Trades</i> view, <i>Trades Summary</i> view a new valid value for TaC will be displayed in column <i>MatchSubType</i>
Xetra Admin GUI	<ul style="list-style-type: none">• In <i>User Maintenance wizard</i>, on the <i>General Attributes</i> tab a new checkbox will define the default setting for the TaC flag (intra-day modifications are possible)
XML Reports	<ul style="list-style-type: none">• Impacted Reports (reflect setting of TaC flags in orders, trades, and User profile default settings) TC540 Daily Order Maintenance TC550 Open Order TC810 T7 Daily Trade Confirmation TC910 T7 Daily Match Step Activity RD110 User Profile Maintenance RD115 User Profile Status

Trade-at-Close (7/7)

Technical specifications: Opt-in and transparency messages

Opt-in at order entry level – supported trading interfaces

Interface	Opt-in order fields
ETI	add a new valid value <i>Trade_at_Close=5</i> in <i>Field MatchSubType(28610)</i> define a new field <i>TradeAtCloseOptIn</i> (0-no, 1-yes, <empty> ¹) add <i>TradeAtCloseOptIn</i> to <i>NewOrderSingleRequest</i> (10100), <i>OrderExecReportBroadcast</i> (10117)
FIX	<i>NewOrderSingle Request</i> – new field <i>TradeAtCloseOptIn</i> (0-no, 1-yes,<empty1)
GUI	TaC checkbox with three valid values ('false', 'true')

Order book and trade publication via our interfaces - Pre-Trade

Interface	Message	Comment
EOBI	eobi.TopOfBook	Price level details for TaC price and available quantity
EMDI/MDI	mdd.DepthIncremental	Price level details for TaC price and available quantity

Post-Trade

Interface	Message	How to see TaC
EOBI	TradeReport	TradeCondition = eobi.TradeCondition.TradeAtClose,
EMDI	TradeEntryGrp	TradeCondition = mdd.TradeConditionSet(['U','TC',])
ETI	TradeNotification	MatchType = Auto_match_incoming, MatchSubType = TRADE_AT_CLOSE

¹Empty field will lead to default opt-out

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New T7 FIX LF Gateway

- FIX gateway will be integrated closer into T7 architecture
- New customer interface features would include the following:
 - FIX 4.4 Protocol
 - Offered in parallel to the existing FIX interface
 - Replace the existing interface after a transition period
- New T7 FIX LF Gateways for back-office sessions will be introduced in Q1 2021
- Further details and timeline to be provided with sufficient lead time

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Further Changes and Enhancements (1/2)

Enhanced Maintenance of Text Field Configuration	<ul style="list-style-type: none">• Head Traders able to maintain Group Shared entries of their group• Supervisors able to maintain BU Shared entries
Liquidity Class available in Reference Data	<ul style="list-style-type: none">• New field available in<ul style="list-style-type: none">– Reference Data Interface (RDI)– All Tradable Instruments CSV file (available on website)
Contract notes: New field for Segment MIC	<ul style="list-style-type: none">• Segment MIC (<i>RootPartyIDExecutionVenue</i> in ETI) that is currently already provided in the trade notifications in T7, will also be included in the contract notes
Report RPTTC540 Daily Order Maintenance	<ul style="list-style-type: none">• Available in XML format (TXT format will not be supported anymore)

Further Changes and Enhancements (2/2)

<p>Change in XML Report TC540 Daily Order Maintenance</p>	<ul style="list-style-type: none"> • New valid value to be introduced <ul style="list-style-type: none"> - Valid Value: 7 - Decode: O - Description: Order Book Restatement • The valid value 7 respective O for activity will indicate records reflecting order book restatement of persistent orders on system start up and intra-day market resets
<p>Change in XML Report TR901MiFID II Message Rate Report</p>	<ul style="list-style-type: none"> • Following fields will be replaced by new descriptions <ul style="list-style-type: none"> - <i>ratioMarketDate</i> - <i>ratioMarketMtd</i> - <i>ratioSingle12M</i>
<p>Change in XML Report TR160 Identifier Mapping Error</p>	<ul style="list-style-type: none"> • Possibility to distinguish on-exchange orders and TES trades • Field <i>exchangeOrderId</i> to be replaced by the field <i>transactionIdentifier</i>
<p>Removal of Xetra BEST</p>	<ul style="list-style-type: none"> • As Xetra BEST is no longer used, the functionality will be removed from T7