

T7 Release 13.0 – Xetra Midpoint

Cash Market Focus Call

10 September 2024



DEUTSCHE BÖRSE
GROUP

Agenda

Overview & Introduction

Xetra Midpoint

ISV & Software Registration Process via Member Section

Enhancements of Short Code & Algo ID Solution

Further Changes & Enhancements

1 Overview & Introduction



T7 Release 13.0 in a nutshell

New Features & Enhancements

	T7 Xetra XETR	T7 Börse Frankfurt XFRA
Xetra Midpoint	X	
Enhancements of the Short Code and Algo ID Solution	X	X
ISV and Software Registration Process via Member Section	X	X
Further Changes and Enhancements	X	X

Backwards compatibility for trading interfaces



No

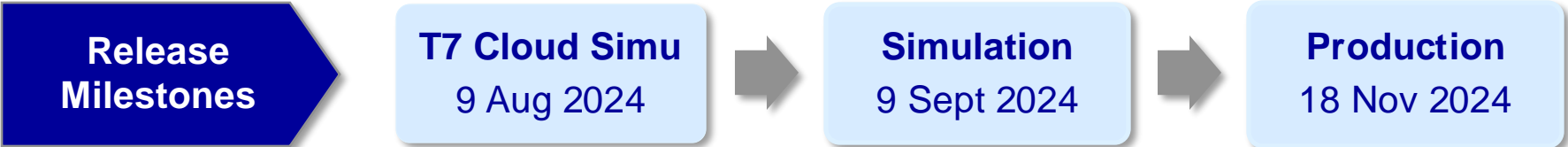
Backwards compatibility for market & reference data interfaces



No

Introduction Schedule

2024							2025			
Q2		Q3			Q4		Q1			
May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
			09.08.	T7 Release 13.0 Cloud Simulation						
T7 Release 12.1 Permanent Simulation			09.09.	T7 Release 13.0 Simulation						
							18.11.	T7 Release 13.0 Production		
<ul style="list-style-type: none"> ▲ Preliminary Release Notes - Jun 2024 <ul style="list-style-type: none"> ▲ Documents for Cloud Simulation - Aug 2024 ▲ Final Release Notes - Aug 2024 ▲ Documents for simulation start - Aug 2024 ▲ Documents for production start - Nov 2024 										



Publication Schedule

T7 Release 13.0	Derivatives Markets	Cash Markets	Combined	2024						
				17.06.	07.08.	26.08.	06.09.	04.11.	15.11.	
Preliminary Release Notes	x	x		v1						
Enhanced Trading Interfaces Manual, incl. XSD, XML Representation and Layouts			x		v1	v2			v3	
FIX LF Manual, incl. XSD, XML Representation and Layouts			x		v1	v2			v3	
Market-, Enhanced Order Book- and Reference Data Interfaces Manual incl. XML Fast Templates & FIXML Schema Files			x		v1	v2			v3	
Trader, Admin and Clearer GUI – User Manual	x	x			v1	v2			v3	
Final Release Notes	x	x				v1				
Extended Market Data Services Manual & Underlying Ticker Data Manual incl. XML Fast Templates			x			v1			v2	
XML Report Reference Manual, Modification Notes & XML Schema files			x			v1			v2	
Functional Reference			x			v1				
Functional and Interface Overview			x			v1				
Trader, Admin and Clearer GUI – Installation Manual			x			v1				
Participant and User Maintenance Manual	x	x				v1				
Cross System Traceability			x			v1				
Incident Handling Guide			x			v1				
Participant Simulation Guide			x			v1				
T7 Known Limitations for Simulation			x				v1			
Cash Market Instrument Reference Data Guide		x				v1				
Exchange Rules & Regulations		x						v1	v1	
Market Models		x						v1		
T7 Known Limitations for Production			x							v1

- **Version 1**
- **Version 2 (optional)**
- **Version 3 (optional)**
- All documents are available on www.xetra.com under:

Technology > T7 trading architecture > System documentation > Release 13.0

2 Xetra Midpoint



Xetra Midpoint: Dark pool integrated in global reference market for German equities



Maximize Liquidity

Xetra Midpoint enables participants to seamlessly trade selected equities & ETFs in dark order book, pegging orders to Midpoint and executing Dark-Lit Sweep to Xetra CLOB with zero latency



Matching Logic

Execution maximization based on volume-time priority. Protect your orders with MAQ (minimum acceptable quantity)



Price Improvement

Profit from significant price improvement by saving half the spread compared to aggressive CLOB orders



Confidentiality and Speed

With no pre-trade transparency, safeguard your intentions while enjoying zero latency connectivity to reference market Xetra



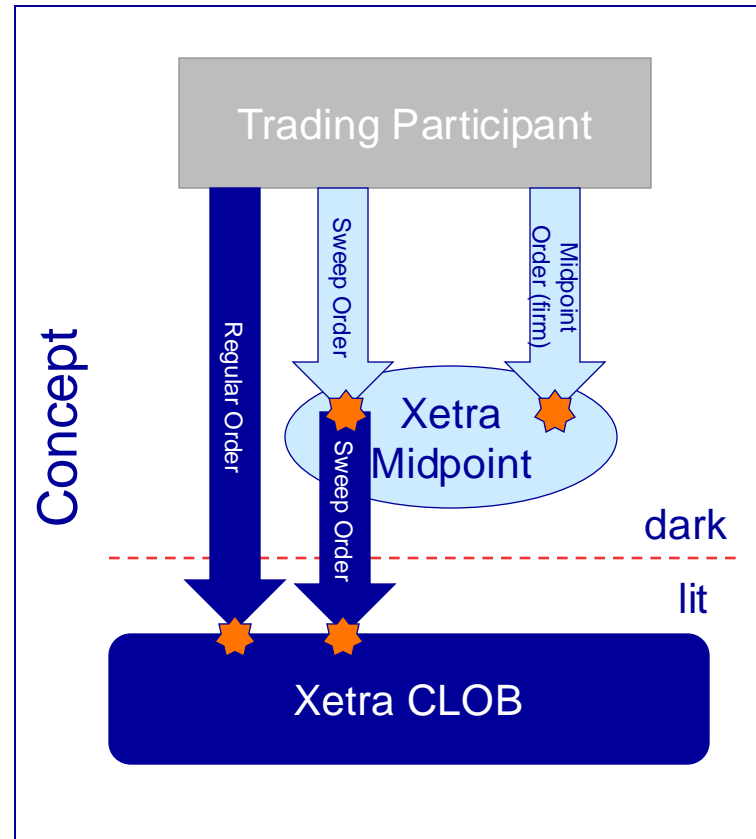
Efficient Reporting

Benefit from Separate Reporting MIC Codes & segment MICs under operating MIC XETR, ensuring streamlined reporting processes under MiFIR Reference Price Waiver*



Advanced Order Options

Benefit from order limits, IOC, FOK functionalities, empowering you with flexible trading strategies.



XETRA

Midpoint Commercials

- Pricing: Midpoint orders: 0.3bps
- Sweep orders: Standard pricing
- Attractive Incentives for launch phase (until end of 2026, tbd)

Be part of Xetra Midpoint as of **25 November 2024!**

Midpoint Orders vs Midpoint Sweep Orders

Midpoint Orders

- Will be inserted into midpoint order book only
- Any remaining quantity is saved in midpoint order book
- Safeguard: Self-Cross Prevention
 - In case of a cross (SMP ID), sitting midpoint orders will be cancelled
- MAQ definition possible
 - Automatic adaption to remaining order quantity when MAQ exceeds remaining order quantity
- IOC / FOK available
- Order limits available (not restricted to ESMA tick size)

Midpoint Sweep Orders

- Will first be tried for execution in the midpoint order book once
- Any remainder is forwarded to CLOB & treated like a regular order with possible restrictions provided
- No safeguard in midpoint trading, SMP definitions apply in CLOB
- All execution conditions & order restrictions available, only apply in CLOB
- MAQ definition not possible
- Modifications apply to CLOB only

- **Midpoint Orders & Midpoint Sweep Orders must also be MiFID II compliant**
 - **MiFID II validations will also be performed for these orders**

Midpoint Matching Algorithm

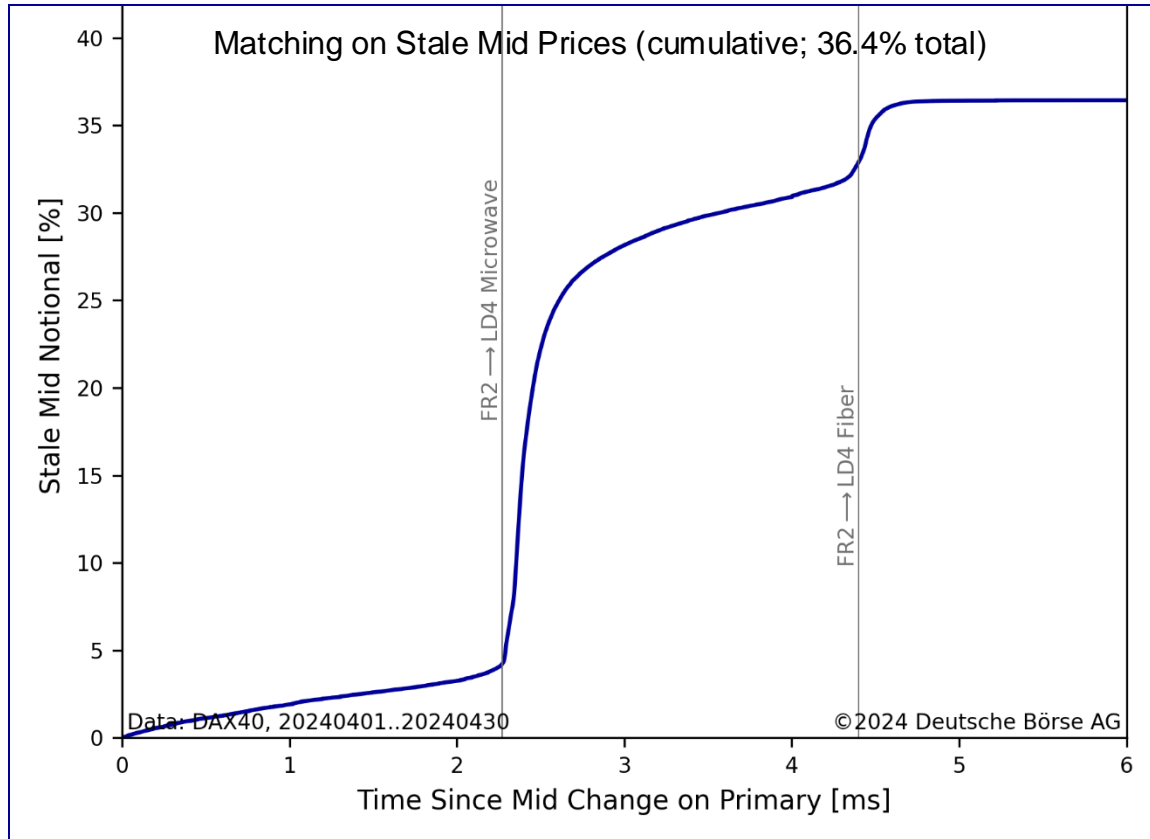
- Matching Trigger Events: Incoming Order, Change of Midpoint Price
- Prioritization: Volume-Time Priority under consideration of MAQ
- Execution principle: maximization of overall execution volume

Bid Time	Qty	MAQ	Midpoint Order Limit	Midpoint Order Limit	MAQ	Qty	Ask Time
10:00	100	100	9,90	M	75	75	10:01
10:05	100	100	M				
10:02	50	-	M				
10:04	25	-	9,90				

- Current midpoint price: 10,00 EUR
- Potential triggers:
 - Incoming Midpoint Sell Order (Market) with quantity 25, executed together with resting 10:01 sell order against 10:05 buy order
 - Change from midpoint price to 9,90 EUR leads to execution of 10:02 and 10:04 buy orders against 10:01 sell order

Dark Trading and Latency costs

DAX40 instruments at London MTFs



Data source: Refinitiv

- Chart shows cumulative notional value of DAX40 trades on dark venue (hosted on London data center) away from Xetra Midpoint vs. latency since Midpoint on Xetra changed
- In total, ca. 30% of notional is latency-arbitrated
- Stale prices are on average 2.6 bps from Xetra Midpoint

**Xetra Midpoint will have no latency
Participants will NOT be exposed
to any latency costs!**

Instrument Reference Data

T7 Release 13.0

Deutsche Börse Group

Market & Reference Data Interfaces Manual

Version 1

Tag	Field Name	Req'd	Data Type	Description						
28913	MidpointTrading	N	Midpoint-Trading (enum)	Indicates whether the instrument is enabled for Midpoint trading. <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Disabled</td> </tr> <tr> <td>1</td> <td>Enabled</td> </tr> </tbody> </table>	Value	Description	0	Disabled	1	Enabled
Value	Description									
0	Disabled									
1	Enabled									
28914	MidpointExecVenueID	N	string	Market Identifier Code (ISO 10383) used for reporting mid-point trades to the supervisory authority.						

→ See “Instrument Snapshot Message”, T7 Market and Reference Data Interfaces Manual Release 13.0

→ Respectively for other reference data sources, i.e. FIX, Static Instrument Files

- Midpoint trading indicator (enabled / disabled) is the result of
 - Instrument type check (equities, ETFs and depository receipts only)
 - Most relevant market check (Xetra only)
 - DVC suspension status check (only instruments that are currently not suspended on Xetra or EU-wide)
- New Midpoint reporting / segment MICs:
 - XEMA = (Xetra Midpoint) Regulated Market
 - XEMB = (Xetra Midpoint) Open Market
 - XEMI = (Xetra Midpoint) Scale

Order Entry and Modification

Tag	Field Name	Req'd	Len	Ofs	Data Type	Description						
110	MinQty	N	8	64	Qty	Minimal Quantity that has to be executed in MidPoint matching.						
30388	MidPointType	N	1	172	unsigned int	Midpoint order type. <table border="1" data-bbox="1021 539 1493 682"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Midpoint order</td> </tr> <tr> <td>2</td> <td>Midpoint sweep order</td> </tr> </tbody> </table>	Value	Description	1	Midpoint order	2	Midpoint sweep order
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1	Midpoint order											
2	Midpoint sweep order											

- See “New Order (single)” message, T7 Enhanced Trading Interface Cash Message Reference, Release 13.0
- Respectively for order modifications, order deletion reports, order information messages, also in FIX, GUI

- 2 new fields for order entry and modification, re-use of existing order entry and order maintenance messages
- Modifications of MinQty lead to new time stamp (midpoint orders only)
- Modification of MidPointType not possible
- Xetra Retail trading capacities (RMO and RLP) not available for midpoint orders and midpoint sweep orders

Immediate Execution / New Order Response

	Tag	Field Name	Req'd	Len	Ofs	Data Type	Description																
Message Body (1x)	378	ExecRestatement-Reason	Y	2	168	unsigned int	Code to further qualify the field ExecType (150) of the Execution Report (8) message. <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>101</td> <td>Order add accepted</td> </tr> <tr> <td>102</td> <td>Order modify accepted</td> </tr> <tr> <td>105</td> <td>IOC Order accepted</td> </tr> <tr> <td>107</td> <td>FOK Order accepted</td> </tr> <tr> <td>181</td> <td>Ownership Changed</td> </tr> <tr> <td>114</td> <td>Order has been changed to IOC</td> </tr> <tr> <td>205</td> <td>Midpoint Sweep order changed to regular order</td> </tr> </tbody> </table>	Value	Description	101	Order add accepted	102	Order modify accepted	105	IOC Order accepted	107	FOK Order accepted	181	Ownership Changed	114	Order has been changed to IOC	205	Midpoint Sweep order changed to regular order
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	574	MatchType	Y	1	173	unsigned int	The point in the matching process at which this trade was matched. <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Auto-match incoming order</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 order</td> </tr> <tr> <td>14</td> <td>Continuous Auction</td> </tr> <tr> <td>12</td> <td>Auto match at midpoint</td> </tr> </tbody> </table>	Value	Description	4	Auto-match incoming order	5	Cross Auction	7	Call Auction	11	Auto match resting order	14	Continuous Auction	12	Auto match at midpoint		
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FillGrp (n)	1443	>FillLiquidityInd	N	1	208	unsigned int	Indicates whether the order added or removed liquidity. Required only for execution reports generated for fills. <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>Removed Liquidity</td> </tr> <tr> <td>101</td> <td>Removed Liquidity Midpoint</td> </tr> <tr> <td>5</td> <td>Triggered Stop Order</td> </tr> </tbody> </table>	Value	Description	2	Removed Liquidity	101	Removed Liquidity Midpoint	5	Triggered Stop Order								
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→ See “Immediate Execution Response” and “New Order Response”, T7 Enhanced Trading Interface Cash Message Reference, Release 13.0

→ ExecRestatement Reason contained in both messages

- ExecRestatement Reason “205” only relevant for Sweep Orders (if order is entered in CLOB)

→ MatchType and FillLiquidityInd only for execution messages

- MatchType “12” (auto match at midpoint) only if all fills generated by incoming order are in midpoint book, otherwise (if in both, midpoint book and CLOB) MatchType is “4” (auto-match incoming order)

→ FillsGroup part includes FillLiquidityInd field, multiple instances reported per each filled resting order

- “101” for immediate execution in midpoint book
- “2” for immediate execution in CLOB (Sweep Orders only)

→ In case of Sweep Orders, Execution Response or New Order Response is sent only once after full processing of order across both midpoint book and CLOB

Book Order Execution

	Tag	Field Name	Req'd	Len	Ofs	Data Type	Description														
Message Body (1x)	574	MatchType	Y	1	173	unsigned int	The point in the matching process at which this trade was matched. <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>Auto-match incoming order</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 order</td> </tr> <tr> <td>14</td> <td>Continuous Auction</td> </tr> <tr> <td>12</td> <td>Auto match at midpoint</td> </tr> </tbody> </table>	Value	Description	4	Auto-match incoming order	5	Cross Auction	7	Call Auction	11	Auto match resting order	14	Continuous Auction	12	Auto match at midpoint
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7	Triggered Market Order																				

→ See “Book Order Execution”, T7 Enhanced Trading Interface Cash Message Reference, Release 13.0

→ Only relevant for Midpoint Orders resting in Midpoint book (sweep orders transferred to CLOB are treated like “normal” orders (i.e. without any Midpoint Type)

→ MatchType “12” in general Message Body

→ FillsGroup part includes FillLiquidityInd field

→ “100” for passive execution resting midpoint order in midpoint book

Trade Notification

Tag	Field Name	Req'd	Len	Ofs	Data Type	Description																		
574	MatchType	N	1	256	unsigned int	<p>The point in the matching process at which this trade was matched. The value 3 (reporting from recognized markets) represents trades entered by Market Supervision</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>Confirmed Trade Report (reporting from recognized markets)</td> </tr> <tr> <td>4</td> <td>Auto-match incoming order</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 order</td> </tr> <tr> <td>12</td> <td>Auto match at midpoint</td> </tr> <tr> <td>14</td> <td>Continuous Auction</td> </tr> <tr> <td>15</td> <td>Retail</td> </tr> </tbody> </table>	Value	Description	3	Confirmed Trade Report (reporting from recognized markets)	4	Auto-match incoming order	5	Cross Auction	7	Call Auction	11	Auto match resting order	12	Auto match at midpoint	14	Continuous Auction	15	Retail
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15	Retail																							
20473	RootParty- IDExecutionVenue	N	4	497	Fixed String	<p>Market Segment Identification Code Valid characters: \x20, \x22-\x7B, \x7D, \x7E</p>																		

→ See “Trade Notification”, T7 Enhanced Trading Interface Cash Message Reference, Release 13.0

→ MatchType “12”

→ RootPartyIDExecutionVenue contains relevant Xetra Midpoint Segment MIC

- XEMA – Regulated Market
- XEMB – Open Market
- XEMI - Scale

Market Data

Tag	Field Name	Req'd	Data Type	Description																				
277	> TradeCondition	N	Trade-Condition (set)	<p>AW = Last Auction Price cannot be combined with any other value and has its own entry in order to convey the auction type through <i>TrdType (828)</i>.</p> <p>XR = Retail price is used to report prices resulting from Retail orders (applicable for cash market products only).</p> <p>BB = Midpoint Price is used to report prices resulting from midpoint orders (applicable for cash market products only).</p> <table border="1"> <thead> <tr> <th>Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>U</td> <td>Exchange Last</td> </tr> <tr> <td>R</td> <td>Opening Price</td> </tr> <tr> <td>AX</td> <td>High Price</td> </tr> <tr> <td>AY</td> <td>Low Price</td> </tr> <tr> <td>AJ</td> <td>Official Closing Price</td> </tr> <tr> <td>AW</td> <td>Last Auction Price</td> </tr> <tr> <td>BD</td> <td>Previous Closing Price</td> </tr> <tr> <td>XR</td> <td>Retail</td> </tr> <tr> <td>BB</td> <td>Midpoint Price</td> </tr> </tbody> </table>	Value	Description	U	Exchange Last	R	Opening Price	AX	High Price	AY	Low Price	AJ	Official Closing Price	AW	Last Auction Price	BD	Previous Closing Price	XR	Retail	BB	Midpoint Price
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BB	Midpoint Price																							

- See “Depth Snapshot Message” and “Depth Incremental Message” in EMDI / MDI, T7 Market and Reference Data Interfaces Manual, Release 13.0
- Trade Condition “BB” for Midpoint trades (also for EOBI messages “trade report”, “trade reversal” and “instrument snapshot”)
- Following Midpoint information will be available in T7 GUI Market view:
 - LstMidpointPrc (like LstPrc)
 - LstMidpointQty (like LstQty)
 - LstMidpointTime (like LstTime)

Order Book

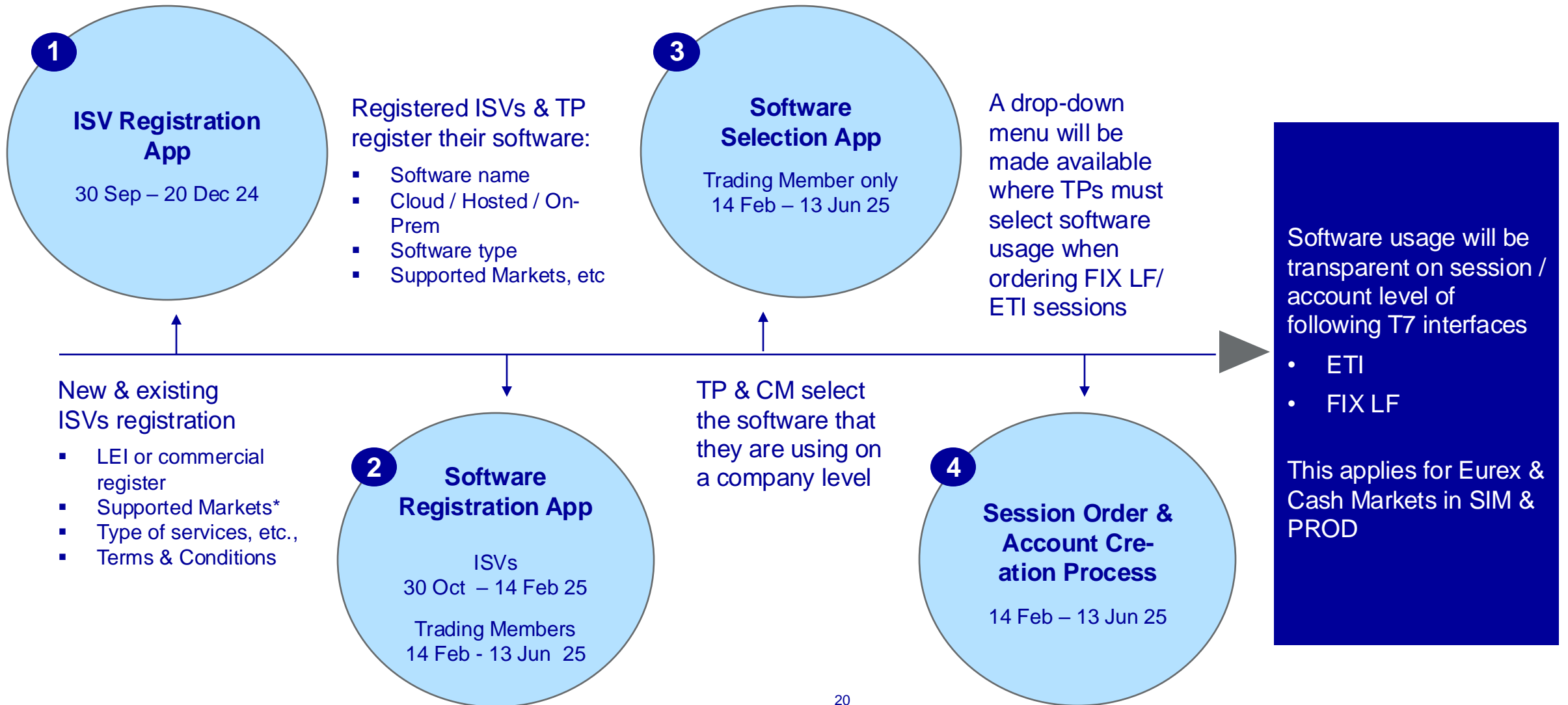
**No pre-trade transparency.
It's a Dark Pool.**



3 ISV & Software Registration Process via Member Section



Envisaged Solution



New & existing ISVs registration

- LEI or commercial register
- Supported Markets*
- Type of services, etc.,
- Terms & Conditions

TP & CM select the software that they are using on a company level

*Supported markets for ISV Registration and Software Registration apps are ECAG, EFAG, EXR, Cash Market, and EEX/ECC

4 Enhancements of Short Code & Algo ID Solution



Short Code and Algo ID solution 2.0

Upload functionality

- The file format (fields) of the SC & Algo ID upload files will change.
- The file name will no longer include the trading day but the calendar day of the upload day (incl. weekends).
- eForm enhancements with new values; TR report download option; TR160/162 report display & error correction functionality.



Data processing

- The preliminary file content validations will no longer lead to rejections of the upload file on CUE level.
- The data submitted will be processed in sequence, first records received will be processed first and subsequent records will be processed using the regular logic.
- The FIFO logic allows for intraday processing of data and the provision of intraday reports.
- The new correction functionality is the basis to close gaps in the reporting where SCs were not registered until T+1 EOB.



Short Code and Algo ID solution 2.0

Data feedback

- Intraday TR reports will be provided, in addition to the EoB reports.
- New TR169 report will be introduced.
- The structure of current TR reports will change to reflect the intraday data processing.



Historical data clean-up

- The new correction functionality will be used to enable a historical correction wave to close reporting gaps that occurred in the past.
- The historical correction exercise will start in February 2025 and must be completed until February 2026.
- Reporting data starting from February 2020 will be analyzed and gaps must be closed using the new correction functionality.
- New TR170 and TR171 reports will provide each exchange participant with the data sets that need to be corrected during the historical correction phase.



5 Further Changes & Enhancements

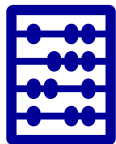


Further Changes & Enhancements



Usage of TLS 1.3 for ETI LF and FIX LF

- Due to improved security features, an upgrade to Transport Layer Security (TLS) version 1.3 is highly recommended for all participants' ETI LF and FIX LF gateway connections.
- At a later point in time after T7 Release 13.0 introduction, TLS version 1.2 will no longer be supported, and version 1.3 will become mandatory.



SenderCompID in EMDI packetHeader will be extended

- The size of the SenderCompID in the EMDI packetHeader will be increased from one to two bytes to extend the supported number range.



RDF files available on the Common Report Engine (CRE) on Saturdays

- RDF files for Monday (respectively the next business day after the weekend) will be created and made available on the Common Report Engine on Saturday, in addition to the creation of the file on Sunday evening/Monday morning.



Improved statistics for XML report PM700 Xetra Retail Liquidity Provider

- Statistics in XML report PM700 Xetra Retail Liquidity Provider will be improved. New numbers will be introduced, e.g. about the relative strength of a Retail Liquidity Provider (RLP), the Retail Liquidity Provider's ranking among all Retail Liquidity Providers, or the median Retail Market Organization (RMO) order size.

Questions & Answers

If you have questions or comments, please send an e-mail to client.services@deutsche-boerse.com

Thank you!



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