EUREX Architects of trusted markets

T7 Release 12.1

Derivatives Market
Focus call

Agenda

1 Overview and Introduction

2 Market-wide Self-Match Prevention (SMP)

3 Non-Standard Options Volatility Strategies (NOVS)

4 Volatility Interruption Enhancements

5 Extention of Trading Hours for MSCI Index Total Return Futures (TRF)

6 Further Changes & Enhancements

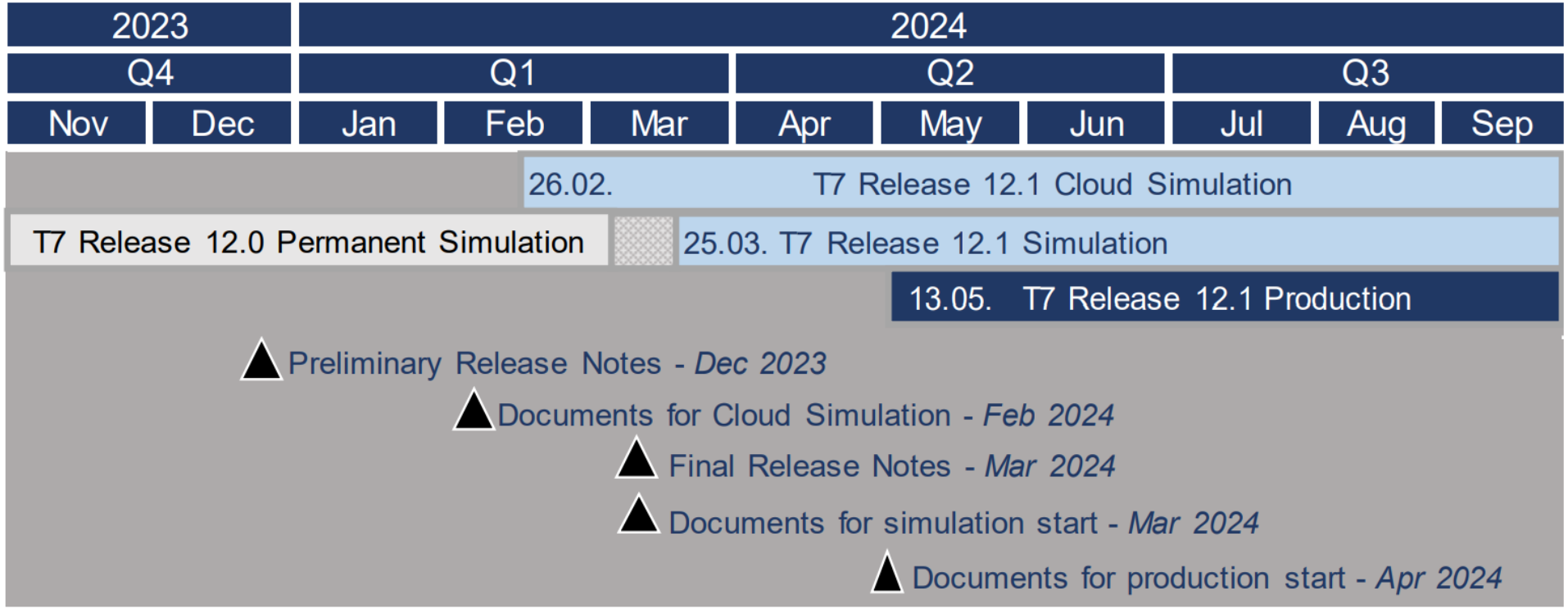
1 Overview and Introduction

Overview of Eurex T7 Release 12.1

Main Features
Market-wide Self-Match Prevention (SMP)
Non-Standard Options Volatility Strategies (NOVS)
Volatility Interruption Enhancements
Extension of Trading Hours in MSCI Total Return Futures (TRF)

Backwards compatibility for trading interfaces	**YES**
Backwards compatibility for market and reference data interfaces	**NO**

Introduction Schedule



Release Milestones

T7 Cloud Simu
26 Feb 2024

Simulation
25 Mar 2024

Production
13 May 2024

Publication Schedule

T7 Release 12.1	Derivatives Markets	Cash Markets	Combined	2023	Q1/2024			Q2/2024	
				Dec	Jan	Feb	Mar	Apr	May
Preliminary Release Notes	x	x		◆					
Enhanced Trading Interfaces Manual, incl. XSD, XML Representation and Layouts			x			◆	■	●	
FIX LF Manual, incl. XSD, XML Representation and Layouts			x			◆	■	●	
Market-, Enhanced Order Book- and Reference Data Interfaces Manual incl. XML Fast Templates & FIXML Schema Files			x			◆	■	●	
Trader, Admin and Clearer GUI – User Manual	x	x				◆	■	●	
Final Release Notes	x	x					◆		
Extended Market Data Services Manual & Underlying Ticker Data Manual incl. XML Fast Templates			x				◆	■	
XML Report Reference Manual, Modification Notes & XML Schema files			x				◆	■	
Functional Reference			x				◆		
Functional and Interface Overview			x				◆		
Trader, Admin and Clearer GUI – Installation Manual			x				◆		
Participant and User Maintenance Manual	x	x					◆		
Cross System Traceability			x				◆		
Incident Handling Guide			x				◆		
Participant Simulation Guide			x				◆		
T7 Known Limitations for Simulation			x				◆		
Cash Market Instrument Reference Data Guide		x					◆		
Exchange Rules & Regulations		x						◆	
Market Models		x						◆	
T7 Known Limitations for Production			x						◆

- **Version 1**
  (identified by ◆) to be published in Dec 2023
- **Version 2 (optional)**
  (identified by ■) to be published in Mar 2024
- **Version 3 (optional)**
  (identified by ●) to be published in Apr 2024
- All documents available on www.eurex.com
  under: *Support* > *Initiatives & Releases* > *T7 Releases* > *T7 Release 12.1*

Competence Center for T7 Releases
New Support Approach

Starting 26th of February, traditional account management approach has been replaced with the dedicated Competence Center for all client inquries related to upcoming T7 Releases.

Competence Centers are our response to the feedback garnered from the client satisfaction questionnaire. As we introduce this new approach, we aim to enhance your experience with our support services.

Benefits:

- Streamlining bilateral interaction
- Faster response time
- Even higher quality of support

We kindly request directing all inquiries and questions regarding T7 Release 12.1 scope items to client.services@deutsche-boerse.com

2 Market-wide Self-Match Prevention (SMP)

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Current Situation: SMP Type A

SMP Type A

- Optional from a technical point of view.
- Flexible SMP application per order or quote dependent on order layout field MatchInstCrossID (28744).
- If that is the case, the match between the two orders is prevented and the quantity, which would have matched, is removed from the order quantity, for both the incoming order and the book order.
- Only continuous trading and not operational across order books – i.e., no synthetic matching or auctions.
- SMP Type A billed identical to order execution and is counted for MM rebates as well as execution statistics.

Consider a scenario where participant X enters a sell order 600 @ 99.0 with SMP ID 123 for a certain instrument. The order book situation on the buy side is:

Price Level	Price	Quantity	Order Owner	SMP ID Participant X
1	100.0	200	Participant Y	
1	100.0	50	Participant X	123
2	99.6	100	Participant X	123
3	99.5	50	Participant Z	

The matching is executed in the following steps:

Steps	Enhanced SMP workflow T7 10.0
1	Execute 200@100.0 against participant Y
2	Reduce incoming order by 50 due to SMP, while the sitting order at price level (1) is deleted.
3	Reduce incoming order by 100 due to SMP, while the sitting order at price level (2) is deleted.
4	executed 50@99.5 against participant Z
5	Incoming order with 200@99.0 remaining quantity gets written into the orderbook

Future Situation

Distinguishing existing (Type A) and new (Market-wide) SMP functionality

Applies to both SMP functionalities

- Optional from a technical point of view
- Both SMPs will not interact and per order or quote either SMP ID Type A or market-wide SMP ID can be used – not together
- SMP deletion scope will remain unchanged
- SMP will be billed identical to order execution and is also counted for MM rebates and into execution statistics

SMP Type A

- SMP Type A applies on business unit level
- Traders can use SMP ID Type A without additional limitations imposed by T7

Market-wide SMP

- Market-wide SMP will focus on across business unit level but can also be applied within a business unit
- Market-wide SMP requires ID creation first and then registration of unique market-wide SMP IDs via Eurex T7 before usage – via Eurex Admin GUI
- Market-wide SMP IDs will be stored and persisted in T7 for the lifetime of the market-wide SMP ID, given by the expiry date

Market-wide SMP – Overview

	SMP ID Creation	SMP Maintenance	SMP Application	SMP Prevention
	NEW!	NEW!	Comparable to today	Same as today

Market-wide SMP	• Trading Participants will optionally be able to request a new unique, market-wide SMP IDs in T7 (called SMP creation).
	• The market-wide SMP IDs will be stored and persisted in T7 for the lifetime of the market-wide SMP ID.
	• Information needed for the creation of a market-wide SMP ID
	  ◦ Beneficiary Owner
	  ◦ External Description
	  ◦ Internal Description
	  ◦ Expiration date
		• Once successfully created, a market-wide SMP ID will become available for usage on the next business day.
		• Other Trading Participants will be able to register for a market-wide SMP ID. For this, certain information of the SMP ID will have to be shared between the Trading Participants outside of T7 (called SMP registration).
		• Via the Eurex Admin GUI, maintenance of all market-wide SMP IDs is possible, be it own created or registered.
			• Market-wide SMP IDs can only be sent via orders and quotes in case the member is either the owner or registered to this SMP ID
			• Existing ETI tag 28744 will be re-used and can be populated with SMP ID according to Type A or market-wide SMP ID
			• Dedicated new flag on the order layout will be available to indicate usage of a market-wide SMP ID
			• It will be able to use either SMP Type “A”, or market-wide SMP ID in an order – not both.
				• The mechanism of preventing orders from matching with each other due to the market-wide SMP will follow the same logic as for SMP Type “A”
				• SMP Type “A” will not interact with market-wide SMP
				• Trading participants will receive an electronic notification whether a usual SMP Type “A” or a market-wide SMP action was performed.

3 Non-Standard Options Volatility Strategies

Current Situation: NOS & OVS

Non-Standard Option Strategies (NOS)

- Eurex offers flexible option customization through **Non-Standard Options Strategies (NOS).** Unlike pre-defined templates, NOS allows users to design their own options by specifying buy/sell indicators & leg ratios for each component leg

- To ensure proper functionality, Eurex defines limits
  - Maximum number of legs per NOS: 6
  - Maximum leg ratio value: 99
  - Maximum ratio difference between legs within the same NOS: 4 times

- For effective leg combination, all legs within a NOS must belong to the same product & share identical contract size (trading unit) and version number.

Option Volatility Strategies (OVS)

- **Eurex Option Volatility Strategies (OVS)** provide a structured approach to options trading with underlying futures. Unlike freely designed option strategies, OVS leverages pre-defined templates like Call-Underwriting (Call-U) or Put-and-Collect (Put+U) that combine options legs with corresponding underlying futures leg to achieve delta-neutral instruments

- Each OVS instrument is clearly defined by its chosen template, the specific price & quantity of underlying futures leg (which neutralizes delta exposure), & an options multiplier (ranging from 100 to 1000) that uniformly scales all option leg ratios within the strategy

- Notably, pricing and order matching for OVS solely consider standard options strategy embedded within OVS instrument, ensuring efficient execution based on familiar option mechanics

Future Situation: NOVS

Non-Standard Option Volatility Strategies (NOVS)

- Eurex expands delta-neutral trading with **Non-Standard Option Volatility Strategies (NOVS)** in T7 Release 12.1. Unlike pre-defined OVS templates, NOVS allows creation of customized options strategies beyond OVS templates hedged with a futures leg to achieve delta neutrality.

- Key features of NOVS
  - Options strategy design defined by trader (and not referring to strategy templates)
  - Maximum number of options legs: 6 (identical to NOS)
  - Additional futures leg to achieve delta neutrality (similar to OVS)
  - Pricing and matching of NOVS is based on NOS part embedded in NOVS
  - Individual options leg ratio compliant with options leg minimum and maximum quantity (replace options multiplier)
  - Minimum / maximum quantity: 100 / 1000 (similar to minimum and maximum values of options multiplier in OVS)
  - Freely selectable futures leg ratio representing the delta of the embedded NOS part (similar to OVS)
  - Futures leg ratio validation (delta validation) for internal consistency check based on theoretical delta of options part

Example: OVS versus NOVS

Option Volatility Strategy (NOS)

- Delta-neutral strangle (“**STG+U**”) in OESX
- Strategy template chosen: STG + U
- Options Leg 1: **Buy 1 Put** OESX **Jun24 4900**
- Options Leg 2: **Buy 1 Call** OESX **Jun24 5200**
- Options Multiplier (“OptMult”): **100**
- Underlying Leg: **Buy 19** FESX **Jun24 @ 4990**
- Resulting OVS instrument (Eurex T7 Trader GUI display):

  OESX STG 100 Jun24 4900 – 5200 vs B 19 FESX Jun24 @ 4990

- Validations in place:
  - Leg1, Leg2 and underlying leg are in line with strategy template STG+U valid for delta-neutral strangles
  - Options multiplier between 100 and 1000
  - Delta of options part assumed to be given by R_{Und} / OptMult
  - Underlying leg quantity smaller than Options Multiplier

Defined by strategy template

Non-Standard Option Volatility Strategy (NOVS)

- Delta-neutral user-defined strategy similarly to a strangle in OESX
- No strategy template required
- Options Leg 1: **Buy 120 Put** OESX **Jun24 4900**
- Options Leg 2: **Buy 100 Call** OESX **Jun24 5200**
- Underlying Leg: **Buy 21** FESX **Jun24 @ 4990**
- Averaged options part leg ratio $\langle R_{NOS} \rangle = (1/2) \cdot (120 + 100) = 110$
- Resulting NOVS instrument (Eurex T7 Trader GUI display):

  OESX NOVS B120 Jun24 4900 – B100 Jun 24 5200 vs B20 FESX Jun24 @ 4990

- Validations in place:
  - Options Leg1 & Leg2 are valid instruments compliant with definition of NOS
  - Leg1 ratio and Leg2 ratio between 100 and 1000
  - Delta neutrality validation based on $|\delta_{NOS}|$ given by $R_{Und} / \langle R_{NOS} \rangle$ (in example above, $|\delta_{NOS}| = R_{Und} / \langle R_{NOS} \rangle = 21 / 110 = 0.191$)
  - Underlying leg side is reducing the delta of NOS embedded into NOVS

To be specified by entering trader

4 Volatility Interruption Enhancements

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Current Situation: Dynamic Volatility Interruption

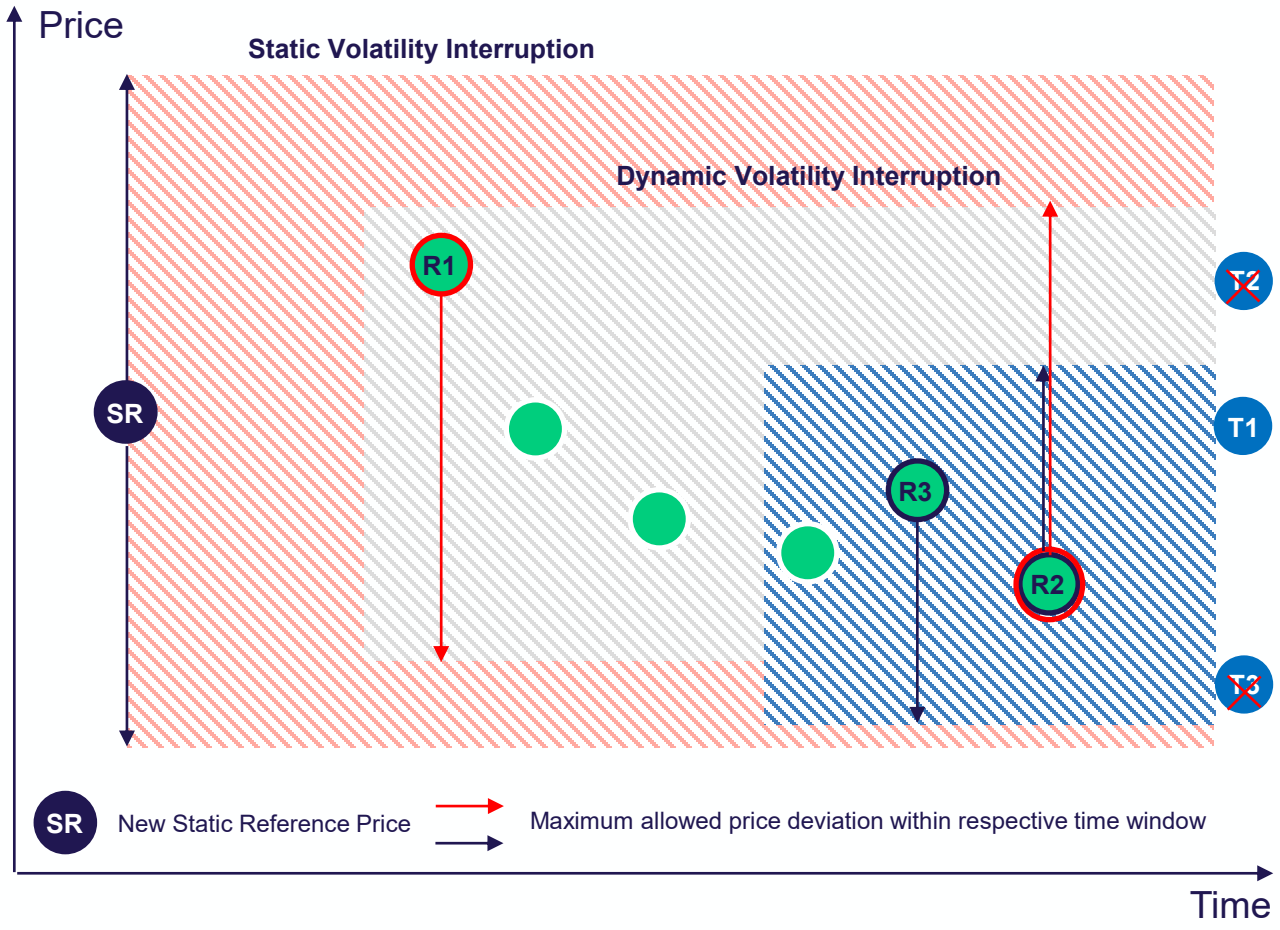
Functional Description

- Each potential new trade price (blue bullet) is checked against previous trades in same instrument (green bullets), that executed within configured time window
- Two lookback time windows defined: "Long" (grey area) & "Short" (blue area) for each product
- Both short & long-time window have own independent set of configuration for parameters of max. allowed price deviation on product level
- Parameters take risk profile & volatility of products into consideration
- Maximum allowed price deviation is calculated by applying configured percentage parameter to highest & lowest prices of previous trades within time windows (red (long) and black (short) circles)

➢ Orders within limits (T1) - inside of parameters of both short 6 long-time window are executed

➢ Orders exceeding limits (T2 – outside of parameters of short-time window, T3 – outside of parameters of long-term window) trigger interruption.

Future Situation: Dynamic & Static Volatility Interruptions



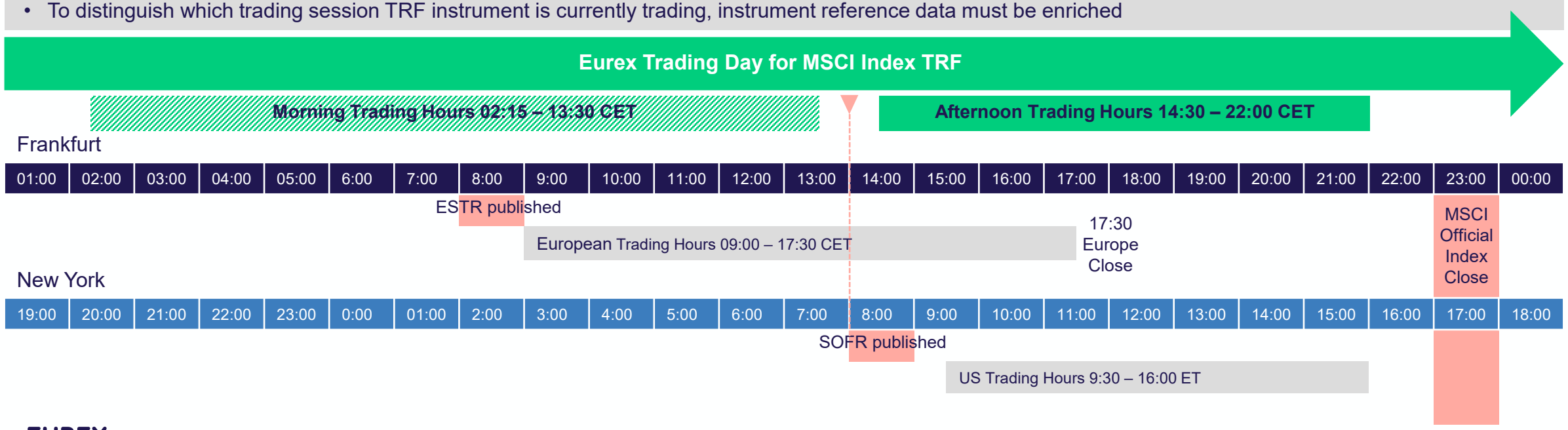
Functional Description

- Eurex introduces static volatility interruption alongside dynamic ranges (not a replacement)
- Static range uses
  - Reference price (e.g., previous day settlement)
  - Percentage & absolute value ranges
- Market informed, if static range triggered interruption.
- Reference price & ranges can be updated intra-day by Market Supervision
- Processing after static interruption similar to dynamic ranges

5 Extention of Trading Hours in MSCI TRF

Trading Hours Extension MSCI Index TRF - Overview

- Eurex introduced **3 new TRF products on MSCI indices** (MSCI World Index TMWO, MSCI EAFE Index TMFA, MSCI Emerging Markets Index TMEM
- New products **denominated in USD,** Clearing prices calculated based on **Secured Overnight Financing Rate (SOFR)** published daily by Federal Reserve Bank of New York at 8:00 am ET (14:00 CET)
- Fof MSCI Index TRF, Eurex will enable TRF trading before updating funding rate & instead use previous day's funding rate for calculation of clearing prices (relevant for TAM trades).
- Due to procedural requirements of TRF products, Eurex introduces new products in 2 phases
  - **Phase I** – 11 March 2024: Trading of MSCI Index TRF based on **current day SOFR** in **afternoon trading session** from 14:30 – 22:00 CET
  - **Phase II** – After Release T7 12.1: Additional **morning trading session** from 02:15 – 13:30 CET using **previous day's SOFR**
- To distinguish which trading session TRF instrument is currently trading, instrument reference data must be enriched



6 Further Changes & Enhancements

Further Changes and Enhancements

Removal of TES Compression

- TES Compression will be removed:
  - TES type Compression, TES trade attribute Compression ID, & fee code KD for compression will be removed from TES trades
  - Various messages, fields, or valid values will be removed from *ETI, FIX LF, T7 Trader GUI, T7 XML Reports*

New fields for *ContractDate* in RDI/RDF

- Instrument snapshot of RDI/RDF will be enhanced by new fields
  - *SecurityReferenceDataSupplement* (SecRefDataSupplmnt - tag 2962, identical to ContractDate – tag 30866)
  - MaturityFrequencyUnit (tag 2982), identical to ContractFrequency – tag 30867)

Flexible instruments allowed for EFP-Index TES trades

- TES trades of TES type EFP-Index trading flexible instruments against admitted EFP-Index references will be possible

Maximum Order Value & Maximum Order Quantities in RDI/RDF

- Following fields will be added to RDI/RDF in Product snapshot :
- Maximum Order Value by Exchange
- Maximum Order Quantity by Exchange
- Maximum Calendar Spread Quantity by Exchange
- Maximum TES Quantity by Exchange

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Thank you!
Questions / Answers

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65760 Eschborn

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

Appendix

Market-wide SMP – SMP ID Creation

New screen in the Eurex Admin GUI called market-wide SMP which will be used for creation and maintenance of SMP ID by a Business Unit.

Information to be provided for creation:

- Beneficiary Owner (String 20-20)
- Public Information (String 1-20)
- Internal Description (String 1-40)
- Expiration Date (Date)

T7 will create new unique market-wide SMP ID in status „pending activation“ – usage of order entry only possible on the next business day when status „active“

On the day of creation, the new SMP ID can be deleted immediately or directly shared with other members outside of T7 (see next page)

Example:

Beneficiary Owner: 529900UT4DG0LG5R9O07

Public Information: DEPOT XXYYPP

Internal Description: ACCOUNT XXZZ OWNER XYZ

Expiration Date: 31.12.9999

In case of no-unique information, a warning message is displayed

Validations:

- Beneficiary Owner and Public Information combination must be unique
- Expiration Date is set to business day T+1 at minimum
- A total of 50 market-wide SMP ID per member (status quo)

SMP ID Status “Pending Activation”:

- SMP ID cannot yet be used on order entry
- SMP ID can be deleted with immediate effect
- SMP ID can be registered by other members in case details are shared

SMP ID Status “Active”:

- SMP ID can yet be used on order entry
- SMP ID cannot be deleted with immediate effect
- SMP ID can be registered by other members in case details are shared

Additional Information:

- A new daily report RD230 will provide an overview of creation, registration, deletion and maintenance of market-wide SMP ID per business unit.
- A new daily report RD235 will provide an overview over all active and about to expire market-wide SMP ID per business unit.

Market-wide SMP – SMP ID Maintenance and Registration

The creator of a market-wide SMP ID will become the technical owner with the right to change parameters of this SMP ID (e.g. expiry) or to delete the SMP ID

Usage in own Business Unit

- Once the market-wide SMP ID is „active“ on the next business day, all traders of the owner’s business unit can use the market-wide SMP ID on order and quote entry without restriction.

Market-wide SMP IDs can only be sent via orders or quotes by the owner of that market-wide SMP ID or a business unit registered for this market-wide SMP ID

Usage across Business Units

- In order to be able to register to a market-wide SMP ID which is owned by another business unit, some details of a market-wide SMP ID must be shared between business units outside of T7.
- Key to be shared is:
  - Market-wide SMP ID and Beneficiary Owner or,
  - Market-wide SMP ID and Expiry
- The other business unit must perform a registration via the Eurex Admin GUI with this key information. The registration becomes active on the next business day.

Market-wide SMP – SMP ID Deletion

SMP Deletion Processing

- Owners of market-wide SMP IDs will be entitled to delete or modify their own market-wide SMP IDs on the day of creation. For this a deletion or modification action can be performed via the Eurex Admin GUI.
- Owners of market-wide SMP IDs will be able to set the expiry day to T+1 if the market-wide SMP ID should expire before its previously set expiry day. This new expiry day will then be the last day of usage of a market-wide SMP ID.
- Daily T7 XML reports will be provided with information on SMP IDs about to expire, either registered or created.
- In case the owner of a market-wide SMP ID will not update the expiry date latest on the day of expiry (T+1), with start of the next business day T+2, the SMP ID will be removed from the system.
- **In case of an expiry of a market-wide SMP ID, all orders and quotes that remain in the order book with this market-wide SMP ID, either from the creator of the ID or from registered Trading Participants, will be deleted with the start of the next business day.**
- Likewise, a modification action on the expiry date of an SMP ID can be performed in case a future deletion is planned – also here, a minimum of T+1 for the day of expiry is enforced.

➢ **We recommend to all trading participants acting as owner of a market-wide SMP ID to schedule expirations well upfront such that all registered to this SMP ID have enough time to check possible implications for their orders.**

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