Eurex Exchange’s T7

Add-on for T7/FX

Participant Simulation Guide

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Abstract

This guide is an add-on document to the T7 Release 4.0 Simulation Guide which describes the specific T7/FX characteristics such as timelines, T7/FX features as well as simulation processing scenarios for the T7/FX Release simulation. This document should be read alongside the existing '**T7 Release 4.0 Simulation Guide',** the **'Eurex Exchange's T7 Release Notes'**, the **'Simulation Calender'** and regularly updated '**Implementation News'** on www.eurexchange.com > Technology

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Definitions and abbreviations

Term	Explanation
ETI	Eurex Enhanced Trading Interface
T7/FX	Eurex Exchange's T7/FX, dedicated T7 application only for FX 23h trading
XML	eXtensible Mark-up Language

1. Simulation Overview

1.1 Introduction

In order to cover the 23 hour trading of FX futures a new instance of T7, running in parallel to the exisiting Eures T7 system, with the Name T7/FX, will be established. The functionality provided in T7 and T7/FX is indentical.
The purpose of the T7/FX release simulation is to provide an opportunity for participants and independent software vendors (ISVs) to become familiar with the functional and technical setup and features of the additional T7/FX instance to prepare for production.

The key objectives of the T7/FX release simulation:

- Provide high quality information and simulation to support participant and independent software vendor (ISV) readiness.
- Familiarize participants with the T7/FX functionality und setup.
- Early identification of issues both from Eurex Exchange and from the participants' side to minimize risk of the T7/FX release launch and production operation.

The T7/FX release simulation execution is scheduled for the period from Friday, 27 January 2017 until Friday, 24 February 2017. The simulation preparation period can be used to setup the users and the sessions and starts on Monday, 09 January 2017 and lasts until Tuesday, 24 January 2017. The production launch of T7/FX is planned for Monday, 27 February 2017.

One permanent test scenario, which covers the whole T7/FX (23h) process stream, will be provided during the simulation phase to help participants become accustomed to the T7/FX features/functions and system dependencies. Details with regards the T7/FX simulation can be found in the latest Simulation Calender.

The latest Simulation Calendar is always available on the Eurex website under the following path:

www.eurexchange.com -> Technology -> Simulation Calendar

A description of the new functionality and technical enhancements has been communicated in the form of of a trading circular (087/16) and clearing circular (118/16) T7/FX announcement, ('Extension of Trading Hours for FX Future') as well as Interface Specifications and User Manuals:

www.eurexchange.com -> Technology -> T7 -> System documentation -> Release 40

1.2 Intended audience

This document serves as the guide for all simulation participants of the Eurex Exchange's T7/FX. In particular, the following groups should participate in the simulation:

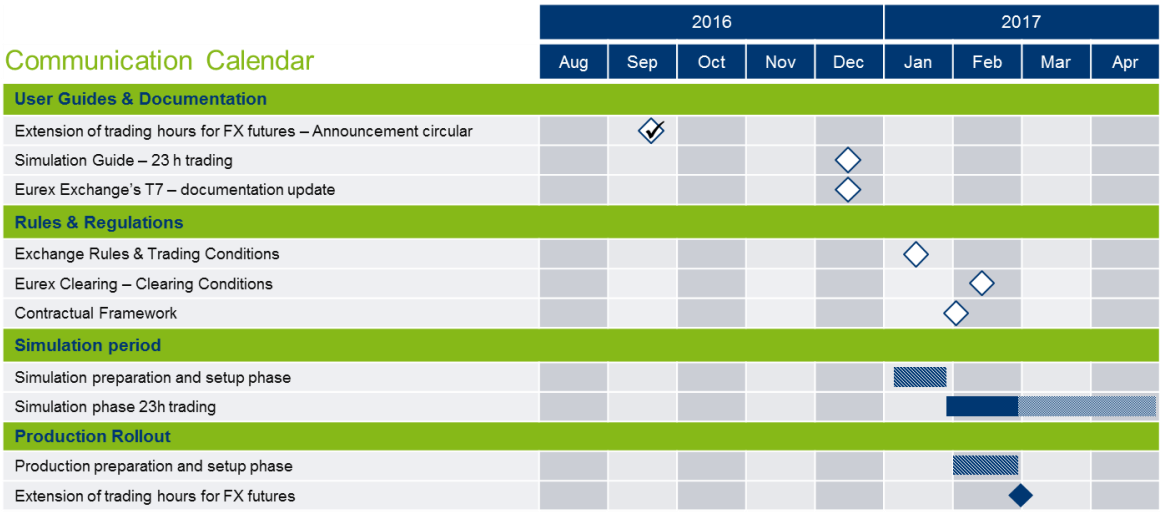
- Eurex Exchange's T7/FX trading participants
- ISVs (Front, Middle and Back office)

In order to achieve a common understanding of the responsibilities and tasks, the distribution of this Simulation Guide to the appropriate project teams and line organizations of participants and ISVs is recommended as soon as possible. All parties involved, e.g. central coordinators, system administrators, traders and ISV representatives, should be aware of their tasks before the start of the simulation.

1.3 Timeline

Below the key dates concerning the introduction of Eurex Exchange's T7/FX release are outlined.

- T7/FX simulation preparation (user setup, session ordering) 09 January - 24 January 2017
- T7/FX release simulation 27 January - 24 February 2017
- T7/FX production preparation (user setup, session ordering) 30 January - 24 February 2017
- T7/FX production launch 27 February 2017



1.4 Simulation calendar

During Simulation, generally three end-of-day batches per week will be performed.

The Simulation Calendar will be available on Eurex Exchange's website under the following path:

www.eurexchange.com -> Technology -> Simulation Calendar

1.4.1 Guiding principles for simulation calendar

- The simulation will be set up and run from both a functional and technical perspective as production-like as possible to help simulate business processes under realistic conditions. In order to provide a production-like system environment, the different Eurex components will be set up as an integrated simulation environment. Nevertheless, system availability and technical performance will be scaled to simulation requirements and will differ from production.
- The T7/FX release simulation is planned to start on the 27 January 2017 and will last for approximately four weeks until 24 February. All functional and technical preparations should be completed before the start of the simulation.
- After the T7/FX release simulation has finished on the 24 February 2017, the Eurex Exchange's T7/FX release permanent simulation will continue.
- Weekends are generally open for simulation, but no technical and functional support will be available on weekends.
- In order to provide those participants and independent software vendors (ISVs) not located in a European time zone with the maximum possible access to the simulation environment, it is envisaged that the Eurex Exchange's T7/FX release participant simulation back-end system and network will be re-opened as soon as the T7/FX batch has been successfully completed but before the T7 participant simulation back-end system and network is re-opened. This sequencing is necessary to ensure a smooth execution of the permanent simulation processing scenario which is described in chapter four.

2. Overview of all new and modified features to be introduced by Eurex Exchange's T7/FX release

2.1 T7/FX characteristics

2.1.1 T7/FX overview

- **Used Environments for T7/FX**
  T7/FX is a new instance, which will run in parallel with T7 and trading on T7/FX will be on the same market place MIC "XEUR" as all of the Eurex Exchange's derivatives. New environment IDs are introduced to be able to address each instance selectively.

  - The environment IDs for T7/FX and T7 are as follows:

	Production	Simulation
T7/FX	70	75
T7	90	95

- **Product Scope:**
  The following Products are considered to be in scope for T7/FX.

  - EUR/USD Futures FCEU
  - EUR/CHF Futures FCEF
  - EUR/GBP Futures FCEP
  - GBP/USD Futures FCPU
  - GBP/CHF Futures FCPF
  - USD/CHF Futures FCUF

  The following Rolling Spot Futures are in scope as well and will be available in the T7/FX simulation from February 10 2017.

  - EUR/USD RSF Futures RSEU
  - EUR/CHF RSF Futures RSEF
  - EUR/GBP RSF Futures RSEP
  - GBP/USD RSF Futures RSPU
  - GBP/CHF RSF Futures RSPF
  - USD/CHF RSF Futures RSUF
  - AUD/USD RSF Futures RSAU
  - AUD/JPY RSF Futures RSAY
  - EUR/AUD RSF Futures RSEA
  - EUR/JPY RSF Futures RSEY
  - USD/JPY RSF Futures RSUY
  - NZD/USD RSF Futures RSNU

2.1.2 T7/FX specific application functionality

Trading functionality

The trading functionality for FX Futures is the same as for other Eurex products. Since FX Options are not traded on T7/FX, the following features are currently not supported

- Option Volatility Strategies
- TES Volatility Trades

T7/FX reference data

The main difference in the behaviour of T7/FX simulation compared to the existing T7 simulation resides in the update procedure for reference data. On T7/FX, some reference data updates will be postponed by a day (TA112 GTS Series Reference Data, TA280 GTS Member Parameter, TT127 GTS Member Product Status) in order to allow for a shorter down time due to End of day (EoD) processing. One can thus distinguish a "fast track" EoD processing on Tuesday-Thursday where reference data are updated with one day delay, and a standard EoD processing only on the last business day of the week allowing for a full alignment with T7 once a week (reference data updated without one day delay).

T7/FX Reporting

Due to the addition of a new trading instance supporting a 23h trading session, some trading reports are duplicated, while other reports are merged. For details about this check the amended version of the Eurex XML Reports – Report Reference Manual. The updated version of this document will be made available on the Eurex website in December 2016.

In the T7/FX simulation preparation period from 09 January to the 24 January 2017 only the Trading RDS Reports will be activated. The remaining ones will be activated from the 27 of January 2017 onwards.

Clearing and Risk management features

All trades executed in T7/FX will be captured and cleared in C7.

The calculation of the initial margins for FX Futures is completely integrated into the margin methodology of Eurex Clearing Prisma. Margin offsets will be granted between FX Options and FX Futures within the same liquidation group. Margin figures for Members which have FX Futures and Rolling Spot Futures are calculated on a near time basis during FX nightly trading hours. Eurex Clearing Prisma will issue the below mentioned margin reports to these Clearing Members in a 10-minutes interval showing the margin shortfall and surplus and a breakdown on account level.

- CN042 – Night Margin Call
- CN060 – Nightly Margin Summary
- CN050 – Nightly Daily Margin

These reports are provided only to those Clearing Members which hold an open position in FX Futures or are actively trading in these products. The reports are provided on the Common Report Engine (CRE)

2.1.3 Dedicated 'Landing Page' for T7/FX

T7/FX GUI's will be started from a dedicated landing page which is identical to the existing T7 landing page. The new page will be accessible for internet as for leased line access as the T7 page with the addition of "/FX/".

URL address: http://webgui.eurexchange.com/fx

2.1.4 Setup up and configuration of SAP components in the member portal

Setup of the sessions

T7/FX requires individual ETI sessions to connect to the trading system. Sessions can/have (to) be requested as any other ETI session using the Member Portal and can be ordered with the beginning of the T7/FX simulation preparation phase up from the 09 January 2017. The ordered sessions can only be activated with a batch which runs once each business day.

The number of T7/FX sessions per participant will initially be restricted to 50 sessions for production and 30 for simulation.

Currently the following Eurex ETI sessions are available:

- Eurex ETI Low Frequency Light Session (max. 50 Transactions/Second)
- Eurex ETI High Frequency Light Session (max. 50 Transactions/Second)
- Eurex ETI Low Frequency Full Session (max. 150 Transactions/Second)
- Eurex ETI High Frequency Full Session (max. 150 Transactions/Second)
- Eurex ETI Back Office Session

Fix Sessions will not be available

Setup of the users

User IDs for the new trading instance T7/FX have to be requested independently using the User ID Maintenance in the Member Portal. The request and maintenance of a User ID follows the exact same process and principles as for T7.

Setup of the GUI keys

Public GUI keys are not automatically migrated to T7/FX and have to be uploaded by participants.

2.1.5 Setup up and configuration of GUI users

The process for setting up and modifying members and users is identical to T7. Users will not be migrated to T7/FX, therefore the users have to be setup manually.

2.1.6 Eurex website

The system T7/FX documentation will be published with in the existing T7 folder structure as well as the 'Landing Pages'.

3. Simulation preparation

Preparation activities should be completed prior to the start of Eurex Exchange's T7/FX release simulation.

3.1 Organisational preparation

Prior to the start of T7/FX release simulation, the following organisational preparatory activities need to be completed by all participants to ensure readiness for the simulation phase:

- Documents will be made available in order to facilitate and support general simulation needs. However, in order to simulate the individual requirements participants are encouraged to define specific simulation objectives and scenarios on their own.
- Participants are encouraged to set up an internal issue management processes.

3.2 Functional preparation

Participants and independent software vendors (ISVs) planning to participate in the simulation should verify their individual setup/clearing-relationship and inform Eurex Exchange of any changes that may be required prior to the start of their simulation testing activity. Participants should especially verify the product assignments for the respective FX products.

3.3 Technical preparation

In order to ensure technical readiness for simulation, members/ISVs should consider the following topics:

- A technical connection to Eurex Exchange T7/FX systems needs to be established if not already available for T7
- Related in-house systems should be set up to simulate subsequent processing.
- Ordering of the required sessions for T7/FX
- Setup up of the required trading users
- Upload of keys

4. Simulation processing scenarios

4.1 Simulation processing scenario for 23h trading

During simulation the whole T7/FX (23h) process stream will be executed in a production like manner to help participants prepare for T7/FX production. The mentioned scenario will be performed/executed as well as controlled by Trading Operations.

The scenario which applies to the same situation as in production with SoD T7/FX at 00:00 CET will in simulation be tested after normal simulation batch time (starting EoD at 4:30pm CET)

- Step 1: T7/FX Start of Day (neither C7, T7 nor Eurex Classic online but Prisma night processing for incoming trades remains to be 'switched' on)
- Step 2: C7, Eurex Classic and T7 (all systems) online

Step 1 reflects the system landscape during the night trading session. Step 2 reflects the regular day trading session

4.2 Simulation processing scenario for FX Rolling Spot Futures

As part of the FX initiative, it is envisaged to introduce FX Rolling Spot Futures (RSF). The setup of the RSF's is expected with the start of the T7/FX simulation phase on the 27 January 2017, whereby two FX RSF's are expected to be available already in December in the T7 trading environment.

Due to the perpetual nature of the product (daily rollover of all positions) and the fact that it replicates holding a FX spot position and entering a T/N FX swap each day to synthetically move the spot FX delivery day, a daily adjustment of the variation margin is required for cleared contracts, to account for the costs of the T/N FX swap. This is technically achieved by booking technical trades at a correction price which is then used in the EoD calculation of the variation margin.

Technical trades will trade out "to close" the ending position balance of the previous day at the defined position closing price e.g. for FX rolling spot positions it is the prevailing spot FX rate as determined by 360T at around 17:00 CET and trade in "to open" the ending position balance of the previous day at the defined position reopening price (per member and account), which e.g. for FX rolling spot positions is the prevailing spot FX rate as determined by 360T at around 17:00 CET plus or minus the prevailing T/N FX swap rate as determined by 360T at around 17:00 CET. Technical trades are required both for the long and short side of the ending balance.

The technical trades will have the following characteristics:

- Booked as off-book trades (TES)
- Technical trades will be automatically approved by T7, Eurex Exchange's trading system, by using a dedicated technical user ID
- The technical user ID will be set up by Eurex Clearing and will be assigned to those market participants who are admitted for trading and clearing the Rolling spot future contract

- Field "text 3" is reserved for entries generated by Eurex Exchange only. Field "Text 3" will contain the T/N FX swap rate in the first six characters, the seventh character will be an "O" or a "C", depending whether it is an opening or the closing technical trade

Participants and ISVs are encouraged to test these products as well in order to make sure they can handle the workflow for these products as well.

5. Documentation

5.1 Documentation Schedule

The following existing documents will be revised for the T7/FX release.

- T7/FX Participant Simulation Guide (Add-on to the T7 Release 4.0 Participant Simulation Guide)
- Eurex Trader and Admin GUI – Installation manual
- Eurex XML Reports – Refernce Manual
- Eurex Network Access Manual

These documents will be published on the Eurex website:

www.eurexchange.com -> Technology -> T7 -> System Documentation -> Release 4.0

6. Support

The standard support times of Eurex Exchange will be in effect during the simulation phases. The helpdesk departments and further information sources are provided in the following section.

6.1 Contacts and support hours

The following helpdesks provide first level support for specific topics from Monday till Friday:

6.1.1 Member/ Vendor Services & Admission Team

Phone: +49-69-211-1 17 00 (09:00 - 18:00 CET)

- Participants readiness activities
- Participant preparation requirements
- Participant setup questions for simulation and production
- Participant data changes for simulation and production
- ISV related queries

6.1.2 Functional Helpdesk Eurex

Phone: +49-69-211-1 12 10 (07:00 - 22:30 CET)

- Functional trading related issues for Eurex Exchange's T7
- Functional focus days
- Product data management
- Market Control
- Simulation participation and execution

6.1.3 Helpdesk Clearing Data Control

Phone: +49-69-211-1 24 53 (08:00 - 20:00 CET)

- Clearing functionality
- Entitlement Management
- Participant- and user data management

6.1.4 Customer Technical Support

Phone: individual VIP number (24 hours, Monday - Friday)

6:00 - 0:00 Frankfurt local time:

- All Technical issues related to the simulation environment (e.g. connectivity issues)

- Technical focus days

0:00 - 6:00 Frankfurt local time:

- Log of call/email in a ticket/case for following up by further processing teams.

6.2 Further sources of information

Changes and further information regarding the simulation for Eurex Exchange's T7/FX will be provided via the following channels:

1. Circulars
2. Info-Mail
3. Implementation News on Eurex Exchange's website for T7 under following path:

www.eurexchange.com -> Technology -> T7 -> Implementation News

7. Change log

The document contains the following changes compared to the previous versions.

No	Date	Chapter	Change
1.0	23 November 2016	All	Initial version for Eurex Exchange's T7/FX Release
1.1	08 February 2017	2.1.1	Updated the list of FX futures available on T7/FX and the timeline for Rolling Spot Futures