



**Simulation Guide of Eurex Clearing's CCP  
valid from 23 July 2018**

- PUBLIC -

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## 1 Introduction

This document provides an overview of the CCP simulation facilities available to Members of Eurex Clearing AG. It should serve as a guide to project teams and line management to allow for efficient and smooth simulation testing for both market participants as well as internal users of the system.

It provides information regarding all necessary simulation related resources and dependencies such as contact details, batch schedules, available instruments etc. The times referred to in this document are Central European Time (CET).

For Eurex Clearing's Lending CCP service, Pirum Systems Ltd., Eurex Repo-SecLend Market (ERSLM) and EquiLend Europe Limited will participate in the simulation as Third Party Flow Provider (TPFP).

While Clearstream Banking Frankfurt (CBF) will be connected most of the time, the ICSDs Clearstream Banking Luxembourg (CBL), Euroclear Bank (EB), SIX SIS, ESES markets and CREST will not be connected during simulation. All settlement confirmations will therefore be simulated by a settlement tool.

The Tri-party Collateral Agents (TPCA) for the Lending CCP CBL and EB will not be connected during the simulation either, the MT569 report for allocated collateral will not be generated for Members and Eurex Clearing's CCP. The TPCA feedback for Eurex Clearing's CCP will hence be generated by a simulator tool.

All Member documents providing information regarding the new and existing functionality can be found on the Eurex Clearing website ([www.eurexclearing.com](http://www.eurexclearing.com)) under the following path: Error! Hyperlink reference not valid.

**Technology > Eurex Clearing's Securities CCP > System documentation > [current Release]**

## 2 Support

Eurex Clearing provides general support to the Members during permanent simulation. The following teams may be contacted on exchange trading days for questions and comments regarding simulation:

### **Eurex Clearing Functional Helpdesk CCP**

Telephone: +49 (69) 21 1 – 1 19 40

Fax: +49 (69) 21 1 – 1 43 34

Availability: 08:00 a.m. - 06:00 p.m. CET (on exchange trading days)

Email: [ccp@eurexclearing.com](mailto:ccp@eurexclearing.com)

Internet pages: [www.xetra.de](http://www.xetra.de), [www.eurexclearing.com](http://www.eurexclearing.com), [www.deutsche-boerse.com](http://www.deutsche-boerse.com)

### **Eurex Clearing Technical Helpdesk CCP**

Telephone: Please use your individual VIP number

Availability: 08:00 a.m. - 06:00 p.m. CET (on exchange trading days)

Email: [cts@eurexclearing.com](mailto:cts@eurexclearing.com)

Internet pages: [www.xetra.de](http://www.xetra.de), [www.eurexclearing.com](http://www.eurexclearing.com), [www.deutsche-boerse.com](http://www.deutsche-boerse.com)

### **Functional Helpdesk Xetra (XETR)**

Telephone: +49 (69) 211 – 1 14 00

Fax: +49 (69) 211 – 1 14 01

Availability: 08:00 a.m. - 06:00 p.m. CET (on exchange trading days)

Email: [xetrahelpdesk@deutsche-boerse.com](mailto:xetrahelpdesk@deutsche-boerse.com)

### **Functional Helpdesk Börse Frankfurt (XFRA)**

Telephone: +49-(69) 211 – 1 10 50 für XFRA

Fax: +49-(69) 211 – 1 44 11

Availability: 8.00 a.m. – 6.00 p.m. CET (on exchange trading days)

Email: [frankfurt.trading@deutsche-boerse.com](mailto:frankfurt.trading@deutsche-boerse.com)

### **Clearstream Banking Customer Service**

Telephone: +49 (69) 211 – 1 11 77

Fax: +49 (69) 211 – 1 37 01

Availability: 08:00 a.m. - 06:00 p.m. CET (on exchange trading days)

Email: [csdomestic@clearstream.com](mailto:csdomestic@clearstream.com)

CASCADE and KADI requests can be addressed to the Clearstream Banking Customer Service Domestic.

### **Member Section Team**

Telephone: +49 (69) 21 1 – 1 78 88

Availability: 08:00 a.m. - 06:00 p.m. CET  
EMail: [member.section@eurexclearing.com](mailto:member.section@eurexclearing.com)  
Website: [www.eurexclearing.com](http://www.eurexclearing.com)

**Lending CCP service specific support:**

**Third Party Flow Provider**

**Pirum Systems Ltd.**

Mr. Rajen Sheth,  
Telephone: +44 (0)20 7220 0963  
Fax: +44 (0)20 7220 0977  
EMail: [rajen.sheth@pirum.com](mailto:rajen.sheth@pirum.com)  
Website: [www.pirum.com](http://www.pirum.com)

**EquiLend Europe Ltd.**

EquiLend Support Operations  
Telephone: +1 212 901 2240  
Email: [support@equilend.com](mailto:support@equilend.com)

**Marketing & Sales Eurex Repo-SecLend Market**

Telephone: +49 69 211 140 40  
Fax: +49 69 211 144 22  
EMail: [sales@eurexrepo.com](mailto:sales@eurexrepo.com)  
Website: [www.eurexrepo.com](http://www.eurexrepo.com)

**Functional Helpdesk Eurex Repo**

Telephone: +41 43 430 7220  
Availability: 7.30 a.m. – 6.00 p.m. CET (on exchange trading days)  
Email: [funchelp@eurexrepo.com](mailto:funchelp@eurexrepo.com)

For specific project support, please contact your applicable key account manager.

### **3 Member Activities**

This chapter describes the simulation preparation steps to be taken by the Members. The simulation preparation tasks are divided into two sections. The first section describes technical and functional preparations (Eurex Clearing's CCP and Lending CCP), whereas the second section describes necessary data setup requirements for roles and relationships for and between Members.

#### **3.1 General Preparation**

##### **Technical Connection – Eurex Clearing**

Clearing Members are requested to verify their new or existing connections to the simulation environments of the relevant systems – Eurex Clearing's CCP, T7 (Trading Architecture for Cash and Derivatives Markets), Börse Frankfurt (XFRA), F7 (Eurex Repo) and C7 (Eurex Exchange Clearing). Members are encouraged to verify the availability of all applications used in the simulation and to check that all required users are set up and access rights have been granted to them.

##### **Securities Clearing GUI - Browser requirements**

In order to connect successfully to the Securities Clearing GUI and to ensure a smooth service it is recommended to use the following browsers to connect to the GUI:

- For Windows XP and higher – Internet Explorer 8.0 or Firefox 5.0 or higher
- For Linux – Firefox 5.0 or higher

For further information regarding the Securities Clearing GUI are available in the following documents:

- User Guide for the Securities Clearing GUI
- User Guide to log into Securities Clearing GUI

##### **Technical Connection – Third Party Flow Provider**

Lending CCP Clearing Members are requested to verify their new or existing connection to Pirum Systems Ltd. and/or ERSLM / EquiLend Europe Limited, as they will act as the flow provider for the Securities Lending Business.

#### **3.2 Functional Preparations**

Members' functional preparation should include the setup of the back office. Back office staff are responsible for the provision of setup data and forms to Eurex Clearing. Members planning to participate in the simulation should verify their individual setup as well as clearing relationship and inform Eurex Clearing of any changes that may be required.

All appropriate forms that are necessary for a Clearing Membership application can be found on the Eurex Clearing website. In case of further questions, please do not hesitate to contact your designated Eurex Clearing key account manager.

A participant in Eurex Clearing's Lending CCP business can become a Clearing Member (CM), Agent Lender or Specific Lender License holder.

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### **Back Office**

All simulation participants are encouraged to check and adjust the selection of reports via the Report Selection window available in the Securities Clearing GUI.

Participants in the Eurex Clearing's Lending CCP are encouraged to check and adjust the selection of reports via the Report Selection window available in the Securities Clearing GUI .

### **Member Relationships**

Clearing Members that are not acting as Trading Participants themselves, must ensure that their simulation activities are fully supported by a connected Trading Participant. If the Clearing Member uses a Settlement Institution appropriate support is required by this third party as well.

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## 4 Simulation Approach

In order to provide realistic conditions for testing, the simulation will be set up and conducted in a production-like manner. Production-like refers to interfaces, tools and techniques. All other aspects of the simulation will be conducted as in production as far as possible.

### 4.1 General Model

Eurex Clearing's CCP simulation is characterized by the following aspects:

#### Open Simulation

Eurex Clearing's CCP simulation is predominantly an open or "free-style" simulation. As such, simulation participants can define and perform their own internal simulation scenarios as appropriate for the new / changed functionality.

#### General

Eurex Clearing's CCP Members may participate at any time, provided the technical connection and logon test has been successfully processed. Functional support by Eurex Clearing Operations, Risk Control, T7 Trading and technical support by the Customer Technical Support will be staged during the helpdesk opening hours from 8.00 am until 6.00 pm each simulation working day.

Due to limited performance capacity in simulation, members are not allowed to perform high volume tests. Members not complying with this restriction will have their trades deleted in the system.

#### Corporate Action Focus Days

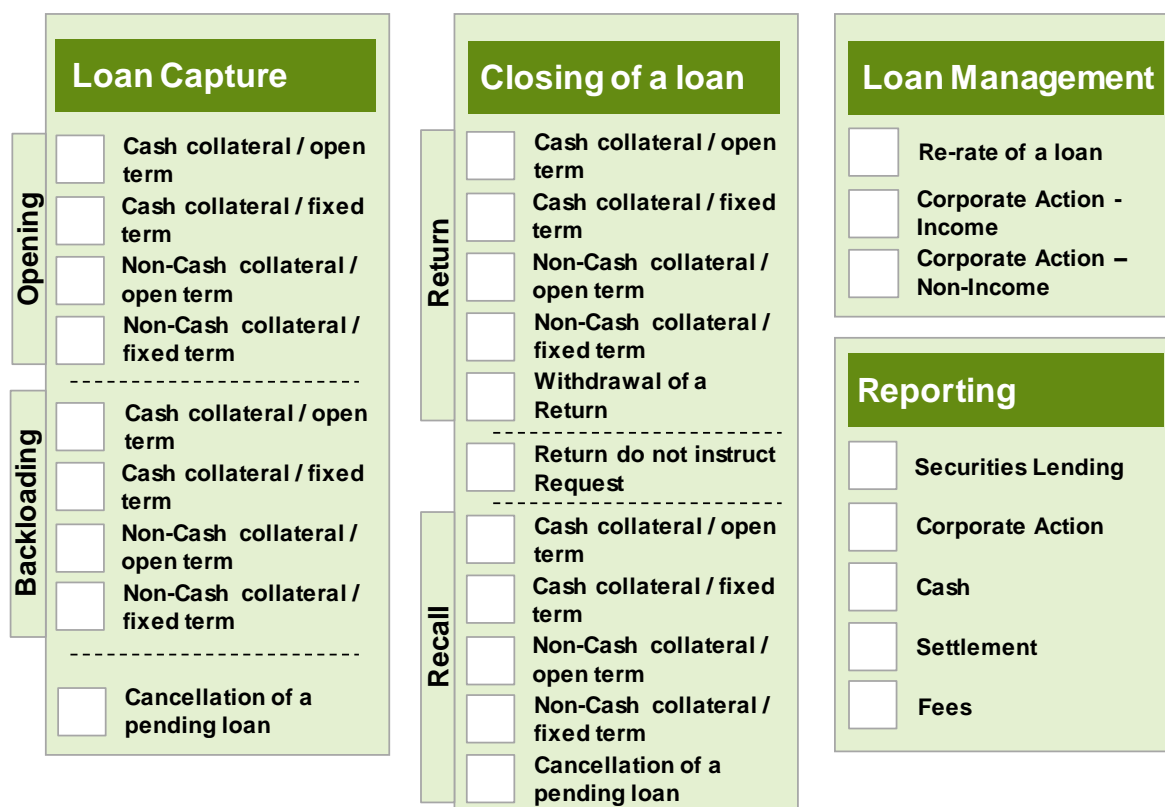
Focus days can be planned for individual Members on a request basis.

#### Test Scenarios for Lending CCP Service

Eurex Clearing's CCP simulation for the Lending CCP is unguided. First time participants in the Securities Lending market will be provided with guidance and support where needed. The table provides an overview of possible test scenarios. For Lending CCP participants no general focus days are planned.

All participants of the Securities Lending Market are asked to prepare their test scenarios on the following basis:





Picture 1: Overview of recommended Test Scenarios

A more detailed description of the individual scenarios can be found in the latest version of "Eurex Clearing Lending CCP Process Manual" which is available on request.

A detailed description of the reports can be found in the document "Description of Reports Formatted layout CCP" which can be found under the following path:

[www.eurexclearing.com](http://www.eurexclearing.com) > Technology > Eurex Clearing's Securities CCP > System Documentation > Release 15.0

The Clearing Members using Pirum's Voluntary Corporate Action offering should align the technical requirements directly with Pirum.

### CSD Connection

Clearstream Banking Frankfurt (CBF) will be connected to Eurex Clearings simulation environment. In order to prevent the exhaustion of holdings it is advised to use only small quantities of securities per trade.

Other CSDs will not be connected to the simulation. An internal settlement simulator tool processes instructions for these CSDs. All instructions will settle.

### **TPCA Connection**

Tri-party Collateral Agents, Euroclear Bank, CBL and BNY Mellon are not connected during the simulation and hence MT569-Tri-party Collateral and Exposure Statement detailed reporting for allocated collateral will not be available for Members. The TPCA feedback will be generated by a simulator tool (CCP).

The detailed reporting by TPCA will be processed only in production.

### **Simulation Availability**

In general two to three settlement days a week will be performed. On these days intraday settlement as well as the night time processing will take place. Please see chapter 5.1 for more information.

In order to avoid any possible impact on the end-of-day processing operations of the production system the simulation systems will close earlier on settlement days than the production systems. The envisaged CCP simulation start is 8:30 a.m.. The CCP online end is scheduled for 4:30 p.m.. Please refer to the schedule in chapter 5.2.

## **4.2 Order Entry and Trades Processing**

During the normal Eurex Clearing's CCP Member simulation phases Members have to create trades in the trading venues Xetra (XETR) and Börse Frankfurt (XFRA) (or other connected trading systems like Eurex Exchange and Eurex Repo) by entering orders. The trading venues Xetra (XETR) and Börse Frankfurt (XFRA) offers an automatic matching for a selected set of instruments. These trades will be transferred to Eurex Clearing's CCP system in the same way as in production.

Member documents providing detailed information regarding the order entry and trade processing can be found on the following paths:

- **Xetra (XETR)**  
[www.xetra.com](http://www.xetra.com) > Technology > T7 trading architecture > System documentation
- **Börse Frankfurt (XFRA)**  
[www.xetra.com](http://www.xetra.com) > Member Section > Cash Market Member Section > Cash Market Resources > Documentation > Xetra 17.0
- **Eurex Repo**  
[www.eurexrepo.com](http://www.eurexrepo.com) > Info Center > Publications
- **Eurex Clearing's Lending CCP**

A more detailed description can be found in the latest version of "Eurex Clearing Lending CCP Process Manual" which is available on request.

### 4.3 Participating Systems

A simulation cycle (an end-to-end process) begins with the entering of orders into the trading system and finishes with the settlement of the trades / delivery instructions. From a functional point of view, all Member roles are involved (Trading Participants, Clearing Members, Specific Lender License holder, Agent Lender and Settlement Institutions). From a technical point of view, these processes will incorporate the applications listed below:

System	Short Description
C7	Cash and derivatives (Derivatives clearing)
Clearstream Banking Frankfurt	Central Security Depository systems (settlement, delivery management, corporate actions processing, collateral management etc.) CBF operated systems will run on simulation environment IMS23
EquiLend Europe Ltd.	3rd party flow provider for Securities Lending Market
ERSLM	3rd party flow provider for Securities Lending Market
Eurex Clearing's CCP	Central Counterparty system (Gross Delivery Management, cash management, settlement netting, report and data dissemination, corporate actions processing)
Eurex Clearing's Lending CCP	Central Counterparty system for Eurex Clearing's Lending CCP system
Eurex Repo (F7)	Eurex Repo Markets
PirumSystems Ltd.	3rd party flow provider for Securities Lending Market
PRISMA	Eurex Clearing Prisma, ECAGs portfolio-based margining approach
Risk Engine	Risk Based Margining Calculation (risk position determination, necessary margin requirement calculation, etc.)
StatistiX	Data Warehouse
T2S	European securities settlement engine
T7	Electronic market trading system for the derivatives and cash market
TPCA-Simulator	Simulate Tri-party Collateral Agent

Settlement instructions for all CSDs and (I)CSDs except for CBF will be processed by a simulator tool, which will automatically settle all instructions.

## 5 Simulation Preparation and Schedule

### 5.1 Simulation Calendar

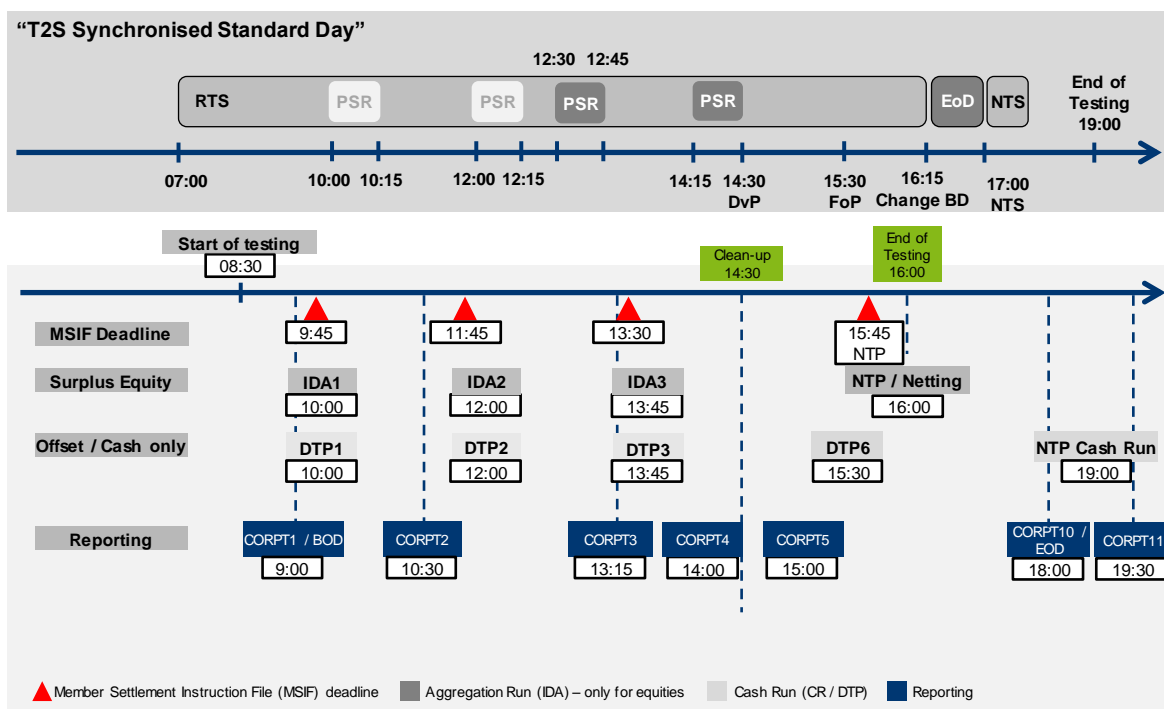
During simulation two to three batch days per week are provided as a standard. The detailed simulation calendar with a day-by-day overview can be downloaded from the Eurex Clearing website [www.eurexclearing.com](http://www.eurexclearing.com) under the path:

[Technology > Simulation Calendar](#)

### 5.2 Daily Schedule

Simulation days will either be batch days or online days. In case the previous day was a batch day, the system and the availability of Eurex Clearing's CCP Gross Delivery Management (GDM) starts at 8.30 a.m. In case the previous day was an online day the system is not closed and GDM is available without break. GDM ends at 4 p.m. on each batch day. Business days correspond to the calendar day on batch days only.

The following schedule of Eurex Clearing's CCP in simulation shows the batch day for equities in EUR which are in collective safe custody at CBF<sup>1</sup>:



Picture 2: Batch day schedule in Eurex Clearing's CCP simulation

<sup>1</sup> Timings for other securities classes may differ.

Due to different settlement timings and processes, some of the deadlines are different between instrument groups. The following tables illustrate the instrument groups and their differences concerning schedule:

Instrument group / Product	Clean-up	MSIF deadline NTP
Equity-style products (EUR) in CSC <sup>1</sup> at Clearstream	14:30	15:45
Equity-style products (non-EUR) in CSC at Clearstream	14:30	16:30
Equity-style products in NCSC <sup>2</sup> at Clearstream	14:30	16:30
Bonds (EUR/non-EUR)	14:30	15:45
Equity-style products (CHF) issued by SIX SIS	14:00	16:30

For the following instrument groups and products that are instructed as Immediate Settlement Instruction (ISI) for settlement on the same day, the following timings are valid in simulation:

Instrument group / Product	Cut-off time for same day settlement / Clean-up
Bonds (EUR/non-EUR) ISI Crossborder	11:00
GC Pooling ISI	14:00
GC Pooling Select ISI	14:00

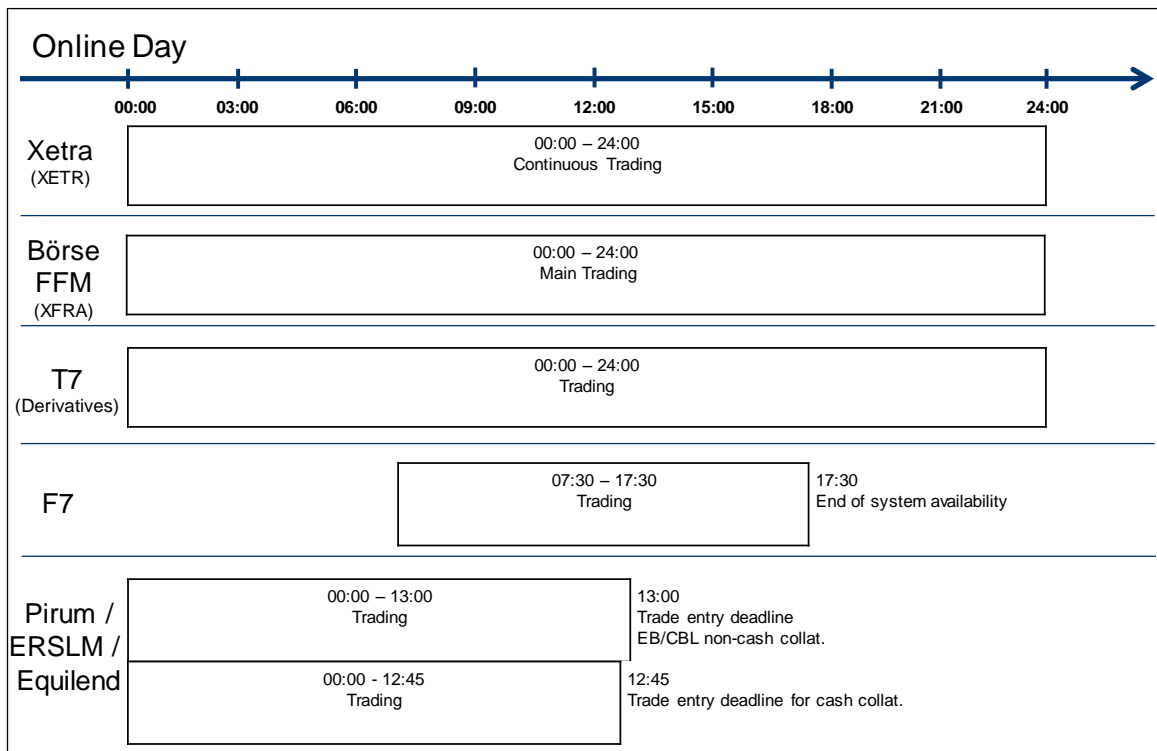
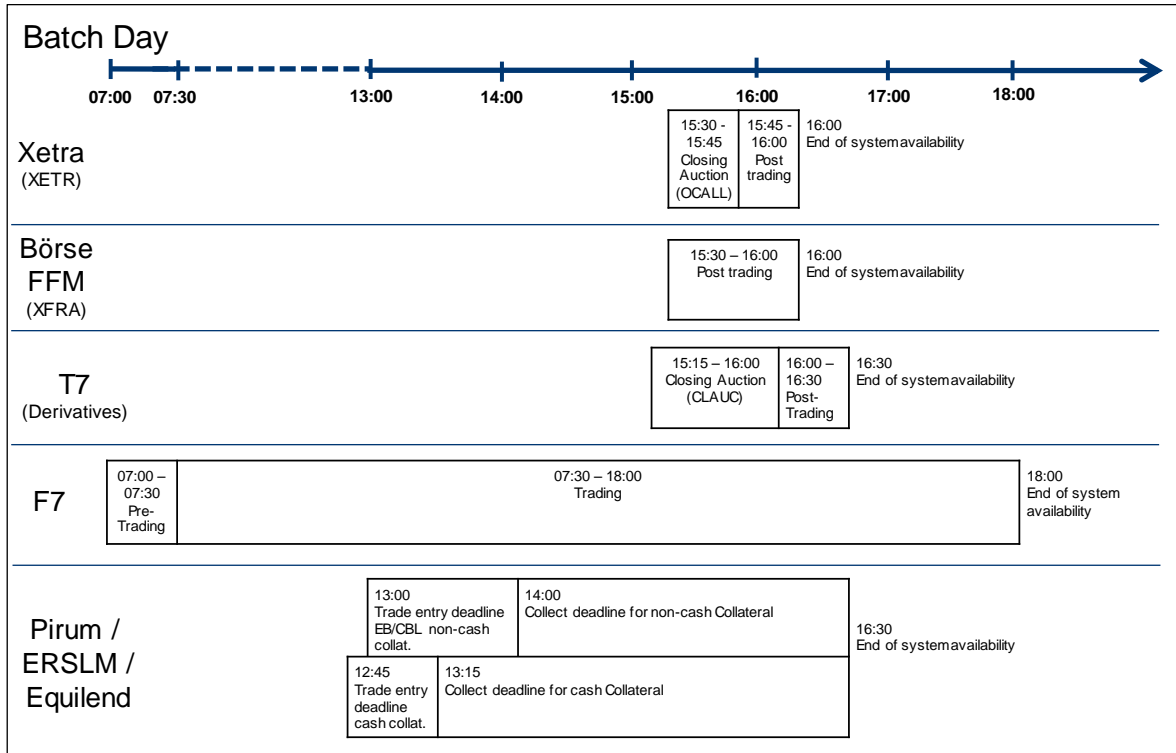
Eurex Clearing's Lending CCP Members are informed that TPCA simulators are active only on batch days; hence no non-cash settlement will take place on online days. At collect deadline of cash and non-cash no clean-up process will be executed on batch days.

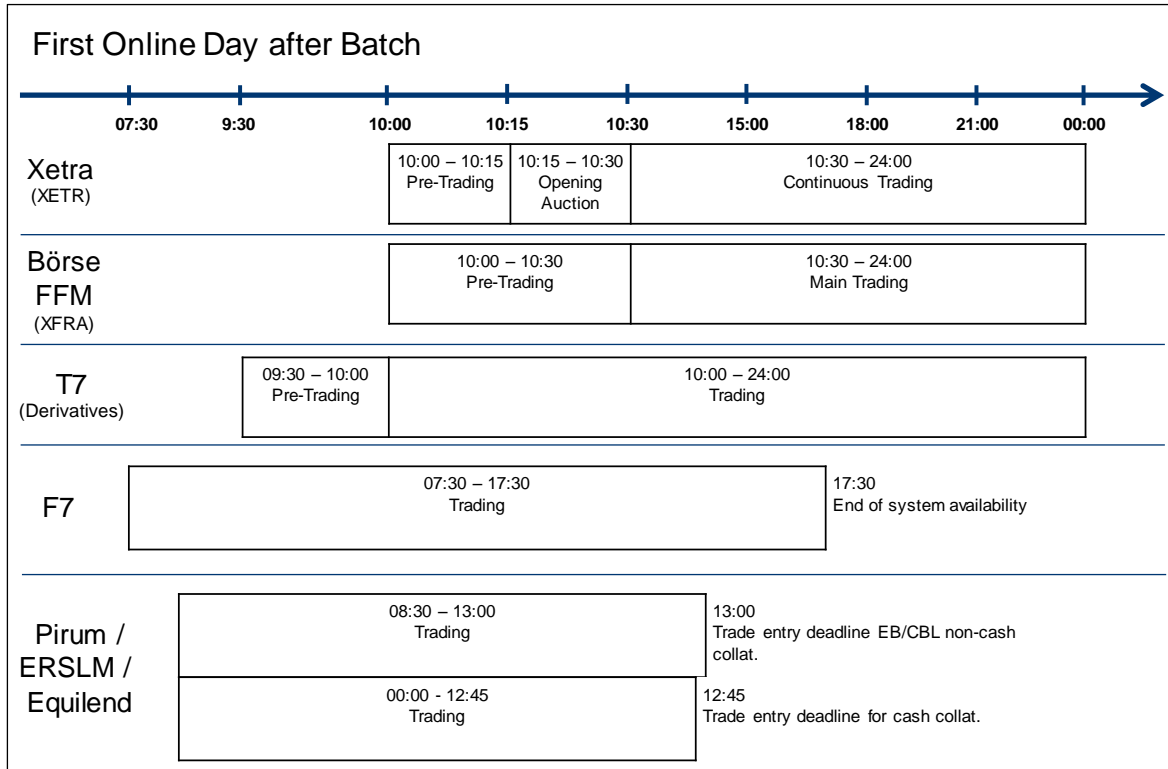
For the Risk Engine, the business day of online days will correspond to the calendar day of the next batch day.

The following figures show the availability of the various trading locations in simulation during batch day, online day and online day after batch day.

<sup>1</sup> Collective safe custody

<sup>2</sup> Non-collective safe custody





Post trading hours refer to Börse Frankfurt Zertifikate (XEXC), Equity / Funds (XEXE) and Subscriptions (XEXF)

The following table shows an overview of the batch day schedule for the Xetra Börse Frankfurt (XFRA) back end:

<u>Simulation</u>	Xetra Börse Frankfurt (XFRA)					
Phase	Warrants Cont. Auction (XEXC)	Equ / Funds (XEXE)	Bonds (XEXB)	Single Auction (XEXO)	IPO/Sub (XEXI)	Warrants Single Auction (XEXS)
Pre-Trading <sup>1</sup>	10:00 – 10:30	10:00 – 10:30	10:15 – 10:30	10:00 – 11:30	10:00 – 11:30	10:10 – 11:00
Opening Auction	n/a					
Main-Trading	10:30 <sup>1</sup> – 00:00 00:00 – 15:30 <sup>2</sup>	10:30 <sup>1</sup> – 00:00 00:00 – 15:30 <sup>2</sup>	10:30 <sup>1</sup> – 00:00 00:00 – 14:30 <sup>2</sup>	11:30 <sup>1</sup> – 00:00 00:00 – 13:00 <sup>2</sup>	11:30 <sup>1</sup> – 00:00 00:00 – 13:00 <sup>2</sup>	11:00 <sup>1</sup> – 00:00 00:00 – 13:00 <sup>2</sup>
Closing Auction	n/a					
Post-Trading <sup>2</sup>	15:30 – 16:00	15:30 - 16:00	14:30 – 16:00	13:00 – 16:00	13:00 – 16:00	13:00 – 16:00
Ready for Batch <sup>2</sup>	~16:00					
Report Distribution <sup>2</sup>	22:45 – 06:00					

<sup>1</sup> In case the day before was a Batch Day

<sup>2</sup> On Batch Days only



## **6 Simulation Data and Parameters**

### **6.1 Member Data Eurex Clearing's CCP**

The following Member types are currently supported:

- Clearing Member (CM)
- Settlement Institution (SI)
- Agent Lender (AL)
- Specific Lender License Holder (SLLH)
- Specific Repo License Holder (SRLH)
- Non Clearing Member (NCM)
- ISA direct Member

The Members wishing to participate in Eurex Clearing's CCP and/or Eurex Clearing's Lending CCP must be set up prior to simulation start with the roles they have specified on the respective setup forms provided to Eurex Clearing.

## **7 Appendices**

### **7.1 Related Documentation**

All Member documentation providing information regarding the functionality of Eurex Clearing's CCP can be found in and downloaded from the Eurex Clearing website [www.eurexclearing.com](http://www.eurexclearing.com) under the path:

[Technology > Eurex Clearing's Securities CCP](#)

### **7.2 Instrument Data for Xetra and Eurex Clearing' Lending CCP**

For information on available instruments please refer to the websites of the trading systems [www.Xetra.com](http://www.Xetra.com) and [www.eurexchange.com](http://www.eurexchange.com).

For instruments eligible for Eurex Clearing's Lending CCP, please contact the applicable Third Party Flow provider(s).

### 7.3 Abbreviations

Abbreviation	Description
ACON	Transaction CA Option Input
AL	Agent Lender
BD	Business Day
C7	Cash and derivatives (Derivatives clearing)
CA	Corporate Action
CASCADE	Central Application for Settlement, Clearing and Depository Expansion
CBF	Clearstream Banking Frankfurt
CBL	Clearstream Banking Luxembourg
CCP	Central Counterparty
CET	Central European Time
CHF	Swiss Francs
CM	Clearing Member
CORPT	Continuous Reporting
CR	Cash Run
CRE	Common Report Engine
CREST	UK-based Central Securities Depository
CS	Clearing Supervision
CSC	Collective Safe Custody
CSD	Central Security Depository
DEL	Standard participant to participant delivery in Crest, of stock and/or cash movement
DTP	Day-Time Processing
DvP	Delivery vs. Payment
EB	Euroclear Bank
ECAG	Eurex Clearing AG
ECB	European Central Bank
EOD	End of Day
Equ	Equities
ERSLM	Eurex Repo-SecLend Market
ESES	European Settlement of Euronext-zone Securities
EUR	Euro
F7	Eurex Repo electronic trading system
FoP	Free-of-Payment

GC	General Collateral
GDM	Gross Delivery Management
GUI	Graphical User Interface
(I)CSD	(International) Central Securities Depository
IDA	Intra-Day Aggregation Run
IPO/Sub	Initial Public Offering / Subscription
ISA	Individual Segregation Account
ISI	Immediate Settlement Instruction
ISIN	International Securities Identification Number
KADI	"Kapitaldienste" Corporate Action Application
Ltd.	Limited
MSIF	Member Settlement Instruction File
MT	Message Type
NCM	Non Clearing Member
NCSC	Non-Collective Safe Custody
NTP	Night-Time-Processing
NTS	Night-Time-Settlement
PoA	Power of Attorney
PSR	Partial Settlement Run
RTS	Real-Time Settlement
SI	Settlement Institution
SIX SIS	Swiss Infrastructure and Exchange SegalInterSettle
SLLH	Specific Lender License holder
SNA	Systems Network Architecture
SRLH	Specific Repo License Holder
T2S	TARGET2 Securities
T7	Eurex Exchange electronic trading system
TM	Trading Member
TPCA	Tri-party Collateral Agents
TPFP	Tri-party Flow Provider