ISE T7 Release 7.0

Member Simulation Guide

Abstract

This document describes the timeline, new and changed features as well as simulation focus days for T7 Release 7.0 Simulation. Members should use this document to plan and prepare their T7 Release 7.0 simulation participation. This document should be read alongside the "ISE T7 Release 7.0 Preliminary Release Notes", all required technical interface descriptions, and the "Simulation Calendar", available on www.ise.ie under:

Products & Services > Trading Members > Equity Trading >Trading System

Contents

Definitions and abbreviations

Term	Explanation
CCP	Central Counter Party
EOBI	T7 Enhanced Order Book Interface
ETI	T7 Enhanced Trading Interface
The Exchange	The Irish Stock Exchange plc, trading as Euronext Dublin
FIX	Financial Information eXchange protocol
ISE T7	The electronic trading system of the Exchange
MDI	T7 Market Data Interface (netted)
MiFID II	Markets in Financial Instruments Directive
T7	T7 trading system developed by Deutsche Börse Group
RDF	Reference Data File
RDI	Reference Data Interface

1. Simulation Overview

1.1 Introduction

The purpose of T7 Release 7.0 simulation is to provide an opportunity for members and service providers to become familiar with the enhanced functional and technical setup and features of ISE T7 Release 7.0 in preparation for production.

The key objectives of the Release 7.0 Simulation are to:

- Provide high quality information and simulation to support member readiness.
- Familiarise members with the changed trading services functionality.
- Enable early identification of issues both from the T7 side and from the members' side to minimise risk for Release 7.0 launch and production operation.

ISE T7 Release 7.0 simulation is scheduled for the period from Monday, 24th September until Friday, 30th November 2018. The production launch of ISE T7 Release 7.0 is planned for Monday, 3rd December 2018.

The Exchange offers several dedicated focus days during the simulation phase to help participants with testing of specific features of ISE T7. On those focus days, which are marked in the simulation calendar, special testing scenarios will be provided. This document describes the various test scenarios for ISE T7 Simulation.

The Simulation Calendar for ISE T7 Release 7.0 is available on the website under the following path:

www.ise.ie > Products & Services > Trading Members > Equity Trading >Trading System >ISE T7 Release 7.0 Documents

A description of the release relevant changes and technical enhancements is contained in the "**ISE T7 RELEASE 7.0 RELEASE NOTES**" as well as Interface Specifications and User Manuals also available on the website.

1.2 Intended Audience

This document serves as the guide for all simulation participants. In particular, the following participants will be involved in the simulation:

- Trading members
- Service Providers
- Back office and other settlement functions, including clearing members
- IT departments
- Network operations (WAN and LAN)
- Organisational departments

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 organisations of members and service providers is recommended as soon as possible. All parties involved, e.g. central coordinators, system administrators, traders and service providers, should be aware of their tasks.

1.3 Timeline

Below are the key dates regarding the introduction of T7 Release 7.0:

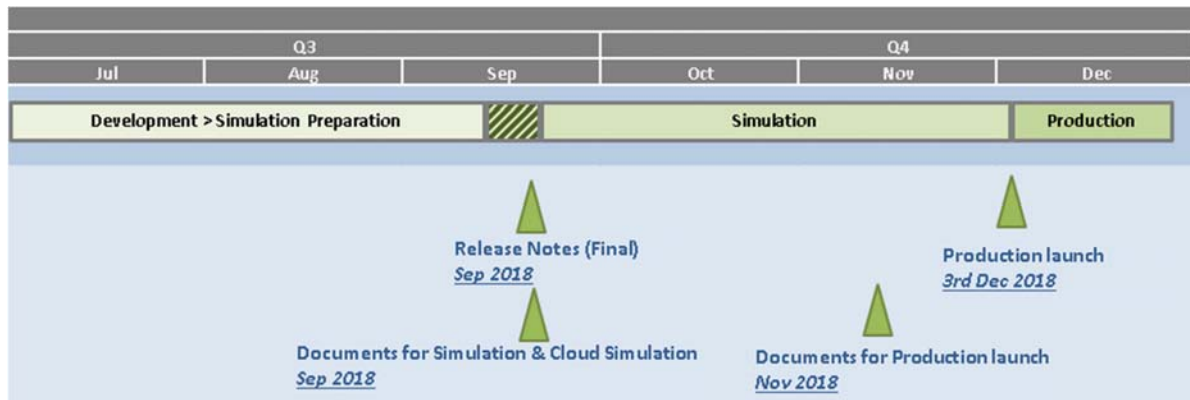|	
• T7 Release 6.1 to Release 7.0 simulation conversion	7 – 23 September 2018
• Start of ISE T7 Release 7.0 simulation	24 September 2018
• Conversion of production environment 6.1 to 7.0	1/2 December 2018
• Connection Test	1 December 2018
• ISE T7 Release 7.0 production launch	3 December 2018

Figure 1: T7 Release 7.0 document publication and introduction timeline

1.4 T7 Cloud Simulation

In addition to the T7 Integrated Simulation Environment, participants can also use the T7 Cloud Simulation which allows members to test against both the current T7 production and simulation environments. In the cloud environment participants can initiate predefined market scenarios and test specific strategies more easily than in a shared environment. The T7 Cloud simulation is available 24/7 for a fixed price per hour and is accessible using an SSL-encrypted internet connection. For more information on the T7 Cloud Simulation please refer to

www.xetra.com -> *Technology* -> *T7 trading architecture* -> *Cloud Simulation*

1.5 Simulation Calendar

During Simulation, the number of end-of-day batches varies between 2 to 3 each week.

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

www.ise.ie > Products & Services > Trading Members > Equity Trading >Trading System >

ISE T7 Release 7.0 Documents

1.5.1 Guiding principles for simulation calendar

- Simulation is set up and run from both a functional and technical perspective as production-like as possible in order to help simulate business processes under realistic conditions. In order to provide a production-like system environment, the different T7 components are set up as an integrated simulation environment. Nevertheless, system availability and technical performance are scaled to simulation requirements and differ from production.
- T7 Release 7.0 simulation started on 24th September 2018 and will last for approximately seven weeks until 30th November 2018.
- After T7 Release 7.0 simulation has finished on 30th November 2018, T7 Release 7.0 permanent simulation will continue.
- On batch days, calendar days correspond to actual business days. The following days until the next batch day have the business date of this forthcoming batch day. Hence several calendar days (with 24 hours trading availability) constitute one business day.
- Weekends are generally open for simulation, but no technical or functional support will be available.
- It is envisaged that the T7 Release 7.0 simulation back-end systems and network will be re-opened as soon as the batch has been successfully completed. This does not change the daily timetable for simulation.

Please note and be aware of the following T7 Release 7.0 simulation conditions:

1. The T7 Release Simulation is a shared Simulation environment with the purpose of providing participants the opportunity to test functional enhancements for the forthcoming T7 release. Following a release the environment will be available with the current software for further testing of all T7 related functionality. The T7 Simulation is not designed for very extensive or even performance testing. Participants who would like to test scenarios involving an unusually large amount of order and quote transactions and/or trades shall contact their TKAM. The TKAM will ask for the purpose of the test and a detailed description of the participants test scenario (including number of expected orders, quotes and trades). The TKAM together with the participant will evaluate the request and attempt to find a solution which can realistically be provided together with a potential date and time for the execution.

2. The IP addresses for the SFTP solution will change. The impact for participants will be that they will have to adjust the IP addresses. The change of the IP addresses will be effective from November 9th, 2018 in Production. In the Simulation environment, the new IP addresses have to be used as of 15th October 2018. In Production there will be a transition period between 15th October 2018 and 9th November. Details of the change of the IP addresses and the transition period are contained in Notice 37/18.

3. The contract notes in the new 7.0 format (with TVTIC) will be provided by CCP in Simulation from 15th November onwards.

4. In exceptional cases, the EMDS will be available from 9am (Irish time) on Mondays.

1.5.2 Daily Timetable for Simulation

Simulation days will be either batch days or non-batch days (online days). After batch processing, the next online day starts at 09:00 (Irish time). On batch days, online processing ends at 15:00 (Irish time). On online days the system is permanently up and running.

The following table shows an overview of the batch day schedule:

Phase	ISE T7
Pre-Trading*	9:00 – 9:15
Opening Auction*	9:15 – 9:30
Main-Trading	9:30 – 14:30
Closing Auction	14:30 – 14:45
Post-Trading	14:45 – 15:00
Ready for Batch	~15:00
Report Distribution	21:45 – 05:00

* In case the day before was a Batch Day.

1.6 Liquidity for selected products in the simulation environment

Liquidity (bid/ask prices) is planned to be provided on each trading day throughout ISE T7 Release 7.0 simulation in the following products:

IE00BDC5DG00: Bid and Ask prices with an order book depth up to 5

IE0000669501: Bid and Ask prices with an order book depth up to 5

IE00B1HDWM43: Bid and Ask prices with an order book depth up to 5

IE00B1RR8406: Bid and Ask prices with an order book depth up to 5

GB00BY7QYJ50: Bid and Ask prices with an order book depth up to 5

IE00BVGC3741: Bid and Ask prices with an order book depth up to 5

Liquidity will also be provided in the following instruments to support the specific order types noted:

IE00BWT6H894: For testing of Iceberg orders

IE00BYTBXV33: For testing of Volume Discovery orders

IE00BBR67J55: For testing of quotes

1.7 Option for settlement end-to-end tests

Please note that clearing and settlement testing with the CCP and CREST systems need to be arranged with Eurex and Euroclear UK & Ireland, and is only available on certain days. Therefore please provide 2-3 weeks' notice in advance.

2. Enhancements introduced by Release 7.0

Release 7.0 will introduce the following important new enhancements to ISE T7.

2.1 Functional Enhancements

Release 7.0 introduces a number of enhancements to existing functionality.

2.1.1 Enhancement of Quote Mass Cancellation

With T7 Release 7.0, the Quote Mass Cancellation request will be enhanced to allow cancellation of quotes on the BU level, where all sessions will be considered. Thus, the risk for a market maker will be mitigated.
In future, a BU will have the choice of cancelling its quotes based on session or BU level.
This service is available in simulation for testing.

2.1.1.1 Impact on Interfaces

The following interfaces are affected. For detailed changes, please refer to the programming versions of the interface manuals and to the Online Help in the GUIs.

- Trading Interface ETI
- GUI

2.1.2 Enhancement Related to MiFID/MiFIR Requirements

T7 Release 7.0 will introduce some additional functional enhancements to processes related to MiFID/MiFIR requirements. For example, the Trading Venue Transaction Code (TVTIC) will be added to the T7 trade notifications. These enhancements aim at easing the participants' operational workflow.

In addition the approach for identifying DMA (Direct Market Access) order flow is being streamlined. With the introduction of Release 7.0, all trader IDs '*ORS****' used for DMA activity will need to transfer to a '*DMA****' trader ID. '*ORS****' IDs can continue to be used for non-DMA order routing strategies.

The relevant form is available by e-mailing iseT7@ise.ie.

2.2 Technical Enhancements

2.2.1 Removal of Connection Gateways

To reduce the complexity of the ETI session logon process, the connection to the T7 trading system via the Connection Gateway (CGW) will no longer be possible with T7 Release 7.0. Participants can either directly logon to the active Partition Specific (PS) gateway for HF sessions or to any of the LF trading gateways for LF sessions. The IP addresses of the active/standby PS gateways and the LF trading gateways are provided in the N7 Network Access Guide available via the (Xetra/ Eurex) website.
Participants using ETI 6.1 backward compatibility for T7 Release 7.0 will still be able to perform the session logon via the CGW. In the next T7 Release, the CGW will no longer be available.
Prior to the ultimate removal of the CGW with the next T7 Release, the assignment of the CGW to the HF/LF sessions will still be visible in the member portal and will also continue to be provided during the ordering of new sessions. For participants using the ETI 7.0 layouts, this information can be ignored.
Please note that HF sessions are not available for ISE T7.

2.2.2 Data Format Change of Quantity Fields

With the introduction of Release 7.0, the format of the data type qty will be changed from a 4-byte integer to an 8-byte field with four decimals. The enhancement will support bonds and warrants trading.

For more information regarding "Data Format Change of Quantity Fields" please refer to the Release Notes, ETI and FIX Manuals on the Exchange webpage, www.ise.ie, under:

Products & Services > Trading Members > Equity Trading > ISE T7 Trading System

> ISE T7 Release 7.0 documents

2.2.3 T7 Enhanced Trading Interface and FIX Interface

T7 Release 7.0 will provide backwards compatibility for the T7 ETI interface version 6.1, i.e. participants who do not want to use the new functionality will still be able to connect to T7 with the interface layout version 6.1 even after production launch of T7 Release 7.0.

Detailed information about the ETI changes and enhancements for T7 Release 7.0 is provided in the Trading Interfaces documentation on the Exchange webpage, www.ise.ie, under:

Products & Services > Trading Members > Equity Trading > ISE T7 Trading System

> ISE T7 Release 7.0 documents

Please note that the T7 7.0 FIX Interface will not provide backward compatibility to the previous release.

2.2.4 Market Data and Reference Data Interface Changes

Detailed information on the enhancements and changes in the T7 Market and Reference Data Interfaces with T7 Release 7.0 is available in the respective Interface documentation on the Exchange webpage, www.ise.ie, under:

Products & Services > Trading Members > Equity Trading > ISE T7 Trading System

> ISE T7 Release 7.0 documents

Please note that the T7 7.0 Market and Reference Data Interfaces will not provide backward compatibility to the previous release.

2.3 Reports

The following report will be amended with T7 Release 7.0:

- TC810 - T7 Daily Trade Confirmation

  The report will include deals resulting from TES trades. Please note TES is not relevant for ISE T7.

Details regarding the reports will be published in the "T7 Trading Reports Reference Manual" available on the Exchange webpage, www.ise.ie, under:

Products & Services > Trading Members > Equity Trading > ISE T7 Trading System

> ISE T7 Release 7.0 documents

Please note that the manual describes also all other reports generated on the basis of existing trading data from T7.

3. Simulation Preparation

Preparation activities should be completed prior to the start of testing ISE T7 Release 7.0 Simulation.

3.1 Organisational Preparation

Prior to accessing T7 Release 7.0 simulation, the following organisational preparatory activities need to be completed by all participants to ensure readiness for the simulation phase:

- All members and service providers will be asked to name a person acting as a single point of contact (SPoC) during the simulation. This person shall coordinate all internal activities, functional as well as technical, and shall communicate with affiliated participants during simulation, when collaboration is required. The SPoC maintenance is available via the web application under the following path:

  www.xetra.com -> Member Section -> Technical Service -> Release Contacts

  The SPoC should also be e-mailed to the Exchange: iseT7@ise.ie.

- Documents will be made available in order to facilitate and support general simulation needs. However, in order to simulate the individual requirements members are encouraged to define specific simulation objectives and scenarios on their own.
- Personnel for participation in simulation on the focus days (specified in the simulation calendar) should be identified and confirmed.
- Members are encouraged to set up an internal issue management process.

3.2 Functional Preparation

Members and service providers planning to participate in the simulation should verify their individual setup and inform the Exchange of any changes that may be required prior to the start of their simulation testing activity.

The completion of functional preparations prior to production start is **mandatory**.

3.3 Technical Preparation

In order to ensure technical readiness for simulation, participants should consider the following topics:

- The changes for the following interfaces have to be implemented:
  - T7 Enhanced Trading Interface (ETI)
  - T7 FIX Gateway
  - T7 Market and reference data interfaces
  - Common Report Engine (new and changed reports)
- T7 Release 7.0 will provide backwards compatibility for the T7 ETI version 6.1, i.e.members using the interface layout version 6.1 will still be able to connect to T7 even after production launch of T7 Release 7.0.
  T7 7.0 FIX Interface, Market and Reference Data Interfaces will **not provide** backward compatibility to the previous release.
- Internal resources for timely installation of simulation software should be identified and confirmed.
- Related in-house systems should be set up to simulate subsequent processing.

4. Focus Day Overview

This chapter outlines which focus days will be offered. Focus days are planned and triggered by the Exchange in co-ordination with Deutsche Börse. Focus days can be of technical nature (i.e. Market Data Service Failure), or of functional nature (i.e. Corporate Action).

Recommended test scenarios on the other hand can be done by the participants without any initiating action by the Exchange. Participants can run through these scenarios at their own discretion. These scenarios usually highlight new or changed features of the release and participants are highly advised to perform these scenarios and verify that their procedures and software are fit for these scenarios.

The focus days and recommended test scenarios for this release simulation are as follows:

Technical Focus Days – Triggered by DBAG:

- Fix Gateway Failover
- Matching Engine Failover and Failure, EOBI Failure
    - o Matching Engine Failover
    - o Matching Engine Failure
    - o T7 Enhanced Order Book Interface (EOBI) Failure
- Market Data Services Failure
- ETI Session to Gateway Reassignment
- Matching Engine Processing Delay
- GUI (forced user log out)

Functional Focus Days – Triggered by the Exchange:

- Corporate Actions

Suggested Test Scenarios that can be executed by participants:

- Volume Discovery Order (VDO)
- Pre-Trade Controls
- Audit Trail Reporting

4.1 Technical Focus Days – Triggered by DBAG

Technical focus days will be offered on several occasions during the simulation period and will be triggered by DBAG. Participants should use this opportunity to test the behaviour of the trading and market data interfaces in conjunction with their own front office applications as well as their order book- and session management systems.

4.1.1 FIX Gateway Failover

In case of a FIX Gateway Application Failover, all FIX sessions connected to this FIX Gateway will be disconnected and the corresponding port will be closed.

Members should then activate the connection to the secondary FIX Gateway. The first FIX session logon to the secondary FIX Gateway may take some seconds. So if a connection or a session logon fails or is not responded to immediately, a second attempt should only be made after 30 seconds.

Schedule:

- 14:00 Irish time: Application Failover FIX Gateway
                                      (IP address: 90.152.253.42 becomes unavailable)
- 14:15 Irish time: Restart of FIX Gateway
                                      (IP address: 90.152.253.42 available again)

- 14:30 Irish time: Application Failover FIX Gateway

    (IP address: 90.153.253.42 becomes unavailable)
- 14:45 Irish time: Restart of FIX Gateway

    (IP address: 90.153.253.42 available again)

These tests are recommended for all ISE T7 participants (Members & Service Providers) using the T7 FIX Interface.

In the event of a FIX Gateway failure, active FIX sessions will be disconnected. FIX sessions may be resumed for the same SenderCompID (49) on the secondary FIX Gateway, using the secondary IP address and port number.

Recovery notes:

In the event that the disconnection was due to an outage on the FIX Gateway side, participants should consider the following recovery mechanisms:

- After reconnection of the FIX session, the FIX Gateway may receive a sequence number higher than the one expected and sends a Resend Request (2) message to the participant.
- The participant should resend all potentially missed messages with PossDupFlag (43) ="Y", to indicate that a message may have been previously transmitted with the same MsgSeqNum (34).
- Please note: No Gap Fill messages should be sent by the participant during the resend series for application messages. Application messages should always be re-transmitted since the T7 FIX Gateway requires all missing application messages for the purpose of reconciliation with the ISE T7 trading system fallback.
- If a participant sends Gap Fill messages during the resend series for application messages the related orders might not be accessible any more via the FIX Gateway and related order specific information will not be forwarded to the FIX session.

➜ The FIX Gateway Failover focus day scenario will be offered between 14:00-15:00 Irish time.

4.1.2 Matching Engine Failover and Failure, EOBI Failure

The T7 simulation system runs on separate partitions. Every process in the partition has a standby partner process that can take over in case the primary process fails. During simulation a failover and a failure of a matching engine will be simulated.

4.1.2.1 Matching Engine Failover

As a precondition participants are advised to enter non-persistent orders and quotes in the simulation environment before the matching engine failover takes place.

In this test scenario the existing matcher processes in the partition will be terminated and the standby partner process will take over. Shortly after the takeover, participants will receive a 'Market Reset Event' message, stating the technical problem and including the message key which is the last reproducible order message.

As a result of the failover, the products from the failed partition will still be tradable. A Market Reset Event message will be triggered. Non-persistent orders and quotes which were inserted earlier will be deleted after the restore of the order book.

There is a "failover time parameter" defined per product. If the failover happens in between that timeframe or the product did NOT have a continuous trading status prior to the corruption, the product will change to product state "halt", after the failover is finished.

Afterwards an order book replay will be sent including the persistent orders which were recoverable. Participants with low frequency sessions will receive an extra end of replay message on a product level.

The Matching Engine failover triggers automatically an EOBI failure.

4.1.2.2 Matching Engine Failure

For the execution of a matching engine failure both matcher processes will be crashed for a partition in simulation. The test case will have an impact on all products available on this partition in permanent simulation. As long as the partition is not available, i.e. not restarted by the exchange, participants will neither be able to receive public market data for products linked to that partition, nor will they be able to enter orders.

A Market Reset Event message will be sent out to participants when the matching engine has been restarted. Additionally the market data service will still be available but will send only unchanged data to participants.

The Matching Engine failure triggers automatically an EOBI failure as well.

4.1.2.3 T7 Enhanced Order Book Interface (EOBI) Failure

Prior to the focus day, participants should check whether they are able to receive market data from the T7 Enhanced Order Book Interface (EOBI), i.e. they should try to send some orders in equities which are available in the ISE T7 permanent simulation. Public market data information from EOBI will be provided in packages/UDP datagrams marked with a *MarketSegmentID*, i.e., product identifier; *PartitionID*; *ApplSeqNum* (continuous numbering format); Packages are sent over redundant multicast address and port combinations. Each package is uniquely identified by its *MarketSegmentID* and *ApplSeqNum* combination. In addition to the packet sequence numbering, individual messages are sequenced by *MsgSeqNum* which is contiguous per *MarketSegmentID*.

In case of an EOBI Failure, both the *ApplSeqNum* and the *MsgSeqNum* for a specific *MarketSegmentID* will restart from 1.

An EOBI Failure is triggered together with a matching engine failover or failure. Participant applications should notice this, whenever an *ApplSeqNum* is received which is smaller than one which has already been received for a specific *MarketSegmentID* and multicast address:port combination. Whenever a participant application detects a restart of the *MsgSeqNum* as well, it must rebuild all order books for this *MarketSegmentID* again from the EOBI snapshot channel.

All non-persistent orders entered prior to the failover will be deleted. The receiving application needs to invalidate its view of the order book and refresh once an explicit message has been received containing new information.

➜ Matching Engine and EOBI Failover / Failure scenario will be offered between 14:00-15:00 Irish time.

4.1.3 Market Data Services Failure

Prior to the focus day participants should check whether they receive market data from ISE T7, i.e. they should try to send some orders in instruments which are available in ISE T7 permanent simulation. Market data information will be provided in packages marked with a *SenderCompID; PartitionID; PacketSeqNum* (continuous numbering format); the *MessageSeqNum* (continuous per *SenderCompID* multicast address and port combination) and a *MarketSegmentID*. The *SenderCompID* always remains constant for a product during the whole business day, if there is no failover.

When the market data failure is initiated, a crash will be simulated within the partition for market data services. During that time participants can try to insert new orders (and quotes if assigned as a market maker) for that instrument. As a result they will receive a message that the associated partition is not available. As long as the partition is not available, i.e. not restarted by the exchange, participants will neither be able to receive market data for products linked to that partition, nor be able to enter orders. In this test scenario all partitions in simulation will be affected and therefore the test will refer to all products which are available at that time in the permanent simulation.

Participants can identify this failover scenario by comparing the *SenderCompID* value with the previous value. A new *SenderCompID,* which is available in the packet header and in each data message for incremental and snapshots, indicates the partition failure. Additionally the *PacketSeqNum* will be reset to 1.

Once this condition is observed, it can be assumed that a failover scenario took place and the rebuild of the order book can be started. All non-persistent orders entered prior to the failover will be deleted. The receiving application needs to invalidate its view of the order book until an explicit message has been received containing new information.

➜ The Market Data Services Failure scenario will be offered between 14:00-15:00 Irish time.

4.1.4 ETI Session to Gateway Reassignment

Participants interact with the trading gateways by means of low frequency sessions. The primary and secondary gateway, to which a session is assigned, is contained in the response to the gateway request message which is issued as the first step in the connection process. Under normal circumstances the assignment of the session to a trading gateway will not change on a day-to-day basis but either as a result of hardware failure or due to the reassignment of sessions for load balancing purposes the session to gateway assignment can and will change.

Participants must not only ensure that their applications support the automatic gateway reassignment but also that their application can handle a logon to the primary or secondary gateway should one of the logins fail. Hardcoding of gateway assignments may lead to the inability to connect to the trading gateways.

To assist participants in preparing for the ETI session to gateway reassignment and to ensure that trading applications are able to handle the scenario once it occurs, focus days will be offered whereby the session to gateway assignment will be changed for all sessions.

There will be two focus days for this scenario whereby both focus days will take place in the same week. In the simulation environment the end-of-day processing usually takes place on Tuesday, Wednesday and Thursday.

In the end-of-day processing on the first day where the focus day is specified, all session to gateway mappings will be deleted. Once the simulation environment becomes available again after the end-of-day processing, the assignment of the sessions to the trading gateways will be performed on a "round robin" principle and there will be no way to ascertain which gateway will be assigned in advance. Applications will be required to process the response from the gateway request message to find out which trading gateways can be used for a particular session.

A list of all the possible trading gateways together with their IP addresses is listed in the "T7 Network Access Guide" which is available on the website www.ise.ie: Products & Services > Trading Members > Equity Trading >Trading System >T7 Release 6.1

In the end-of-day processing on the following batch day, the original session to gateway mappings will be restored.

➜ The ETI to Gateway Session Reassignment scenario will be offered over a time spanning two batch days with part one deleting all existing mapping and part two restoring the original session to gateway mappings.

➜ **Please note**

This focus day scenario is only relevant for participants using ETI 6.1 backward compatibility for T7 Release 7.0. Partition specific gateway connectivity is not impacted because there is no preassignment to these gateways. Furthermore to reduce the complexity of the ETI session logon process, the connection to the T7 trading system via the Connection Gateways will no longer be necessary with T7 Release 7.0. Participants can directly logon to any of the LF trading gateways for LF sessions. (The IP addresses of the active/standby LF trading gateways are provided in the N7 Network Access Guide available via the ISE website.)

4.1.5 Matching Engine Processing Delay

This focus day scenario is provided to assist participants in testing the very rare event where massive processing delays occur on a partition. In this scenario the following events will be triggered:

- All non-persistent Orders and Quotes will be deleted for the affected product(s).
- Product-specific DeleteAllOrderQuoteEventBroadcast messages will be sent to all ETI and FIX sessions with MassActionReason set to (111) Product_temporarily_not_tradable.
- For a minimum time period of 10 seconds or until the slow processing is resolved, all transactions except order deletions will be rejected with SessionRejectReason set to (102) Service_Temporarily_Not_Available and VarText 'TRANSACTION REJECTED DUE TO SLOW PARTITION'
- In the event that a product is temporarily not tradable, Participants will be informed when the matching engine will accept transactions again by a TradingSessionStatus message (MsgType (tag 35) = "h") specifying TradSesEvent (tag 1368) = 105 ("Service Resumed").

Please Note: Participants will still be able to send deletion requests for any persistent orders which they would like to remove.

This focus day scenario is performed for the following instrument:

- IE00BJMZDW83

Participants are requested to check that their applications can correctly handle order/quote deletions due to the slow partition state.

➔ Matching Engine Processing Delay focus day scenario will be offered between 14:00-15:00 (Irish time).

4.1.6 GUI (forced user log out)

The GUI Focus Day scenario is provided to make all participants aware of a function within T7 whereby in an emergency/exceptional situation Operations (on behalf of the Exchange) can not only send messages directly to the users screen but also force the termination of the GUI itself. In addition, the focus day is also provided to make participants aware of the effects of a full GUI environment restart. The GUI (forced user log out) focus day will be sub-divided into three parts:

- Send Admin Message only
- Admin Message + Forced Trader GUI Shutdown
- Full GUI environment restart

4.1.6.1 Send Admin Message only

All GUI instances (both Admin and Trading) logged in at the point when the focus day is initiated will receive a message "T7 Focus Day: Focus day "GUI (forced user log out)" started". This message will appear in a new popup window.

This window can be closed by pressing the Confirm button.

4.1.6.2 Admin Message + Forced Trader GUI Shutdown

After this first message the following message will be sent 10 minutes prior to the GUI environment shutdown: "T7 GUI Focus Day: Automatic GUI shutdown has been triggered and the GUI environment will be restarted". On the Trader and Admin GUI the following pop-up windows will be displayed:

The colour of this popup window will turn to yellow 15 seconds prior to the forced shutdown and then turn to red for the last 5 seconds.

4.1.6.3 Full GUI environment restart

Following that a full restart of the GUI environment in simulation will be performed. On the day where the focus day is scheduled, participants will be encouraged to suspend orders so that the effect on suspended orders caused by a GUI restart can be observed. Suspended orders will all be deleted, the rest of the order book will be unchanged after a restart.

➔ The GUI (forced user log out) focus day scenario will be offered between 14:00-14:30 Irish time.

4.2 Functional Focus Days – Triggered by the Exchange

The dates for the functional focus days triggered by the Exchange are displayed in the simulation calendar available on the website *www.ise.ie* -> *Products & Services > Trading Members > Equity Trading >Trading System >ISE T7 Release 7.0 documents*

4.2.1 Corporate Actions

DBAG will trigger a corporate action in a dedicated instrument. The approach will be as follows:

One business day prior to the Focus Day DBAG will maintain the Cum indicator, the Ex date and the dividend amount for the respective instrument. On the Focus Day, the Participants will see the Cum-Indicator. The Participants then should have open orders in POSTR with validity > T. These orders will be deleted during the following batch run. Furthermore, the deletion messages including the order deletion reasons will be sent. On the following business day, (Ex-day) the Participants see the Ex indicator and the reference price is reduced accordingly by the dividend amount.

This focus day scenario is performed for the following instrument:
- IE0001827264

5. Documentation

The following existing documents will be revised for ISE T7 Release 7.0:

ISE T7 Release 7.0	Q3 2018 Sep	Q4 2018 Oct	Q4 2018 Nov	Q4 2018 Dec
Release Notes				
ISE T7 Release 7.0, Release Notes	●			
Simulation				
Participant Simulation Guide	●			
Overview and Functionality				
T7 Functional and Interface Overview	●			
T7 Cross System Traceability	●			
T7 Functional Reference	●			
T7 Incident Handling Guide	●			
Participant and User Maintenance Manual	●			
Known Limitations	▪		●	
GUI Solutions				
T7 Trader, Admin and Clearer GUI – User Manual	▪		●	
T7 Trader, Admin and Clearer GUI - Installation Manual	▪		●	
Trading Interfaces				
T7 Enhanced Trading Interface – Manual incl. Repository and Header files	▪		●	
T7 Enhanced Trading Interface – XML Representation	▪		●	
T7 FIX Gateway - FIX 4.2 and 4.4 Manual incl. Fiximate and Repository	▪		●	
Market and Reference Data Interfaces				
T7 Market-, Enhanced Order Book- and Reference Data Interfaces, Manual incl. Fast Message Template and Repository	▪		●	
T7 Instrument Reference Data Guide	●			
T7 Extended Market Data Services – Manual incl. Fast Message Template and Underlying Ticker Data	▪		●	
Reports				
XML Reports - Reference Manual	▪		●	
Common Report Engine User Guide		●		
Network Access				
N7 Network Access Guide	●			
Go-live				
ISE T7 Release 7.0 Production Launch				△

◆ preliminary versions
▪ simulation versions
● final versions
△ information release

The documents will be available on the ISE website, www.ise.ie, under the following path:

Products-Services > Trading-Members > Equity-Trading-Membership > Trading System >

ISE T7 Release 7.0 Documents

Please note that the outlined schedule is preliminary and subject to change.

6. Support

The standard support times of the Exchange and DBAG will be in effect during the simulation phase. The helpdesk departments and further information sources are as follows

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

Euronext Dublin Traded Markets Infrastructure

Tel: +353 1 6174 200   (09.00 – 17.30 (Irish time), Monday – Friday)
E-mail: iset7@ise.ie

Functional Helpdesk DBAG

Phone: +49 (69) 211 - 1 14 00   (08:00 - 17:00 Irish time)
- Functional trading related issues
- Functional focus days
- Product data management
- Market Control
- Simulation participation and execution

Helpdesk Clearing Data Control DBAG

Phone: +49-69-211-1 24 53   (07:00 - 19:00 Irish time)
- Entitlement Management
- Participant- and user data management

Customer Technical Support DBAG

Phone: individual VIP number   (24 hours, Monday - Friday)
- All Technical issues related to the simulation environment (e.g. connectivity issues)
- Technical focus days