SOLA 7
Dress Rehearsal Guide
September 26th 2015
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1.0 Introduction

1.1 Purpose

The purpose of this document is to describe the activities that will take place on Saturday September 26th 2015 during the 3rd Dress Rehearsal of the migration of the IDEM, IDEX and AGREX markets to the new SOLA 7 platform.

The purpose of the Dress Rehearsal is to verify that all participants’ applications can correctly access the IDEM, IDEX and AGREX markets and that all participants are able to perform trading activities and receive market data after the migration to SOLA 7.

In particular, participants who will attend are required to:

1. verify their logon procedures for all their:
   a. SOLA production users
   b. HSVF connections
   c. all GTP Lite users
2. verify they correctly receive GTP multicast flow for IDEM, IDEX and AGREX
3. execute Trading activities validating the correct functioning their Trading applications
4. execute Market Making activities validating the correct functioning their Quoting applications
5. verify the connectivity to the SOLA Disaster Recovery site and the capability of trading after a Disaster Recovery Invocation
Customers should be aware that within the SOLA 7 migration project 3 Dress Rehearsals have been scheduled, please find below the dates:

- September 12th 2015
- September 19th 2015
- September 26th 2015

1.2 Readership

This document outlines the Dress Rehearsal activities that will take place on Saturday September 26th 2015.

1.3 Document history

This document has been through the following iterations.

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>August 2015</td>
<td>First version to be approved internally and distributed to customers.</td>
</tr>
</tbody>
</table>

1.4 Enquiries

Please contact either Client Technology Services or your Technical Account Manager if you have any functional questions about the SOLA derivatives Market services outlined in this document.

Client Technology Services Italy can be contacted at:

- **Technical Account Management**
  Telephone: +39 02 72 42 6 348 – 606 – 647 - 333
  Email: clients-services@borsaitaliana.it

- **Service Desk**
  Free Toll Number: 00800 26772000
  From mobile: +39 02 45411399
  Email: service-desk@borsaitaliana.it
2.0 Dress Rehearsal Overview

2.1 Introduction

SOLA 7 is the new release of the SOLA platform that is already in use by the London Stock Exchange Derivatives Market since March 2015. With SOLA 7 a set of new functionalities will be introduce, in particular:

- 4 legs Strategies
- Bundled Orders
- Self Execution Prevention
- Third Party Trade Workflow

but customers should be aware that the above list functionalities although already active in CDS will not be activated in production at the go-live and therefore will not be activated during all the Dress Rehearsals that will take place before the go-live. The above listed functionalities will be activated at a later stage (the date will be confirmed once available). Moreover, customers should be aware that the protocol version that will have to be used during the Dress rehearsal is the same active in CDS (test) environment (although the above functionalities will not be activated) and that the SOLA 7 specific technical functionalities (Dissemination of Group Information via HSVF via the GR - Group Status, GS - Group Status Strategy and GC - Group Status Schedule Notice messages and the “End of Recovery” on HSVF) will be available during the test.

Together with SOLA 7, the Hardware infrastructure of IDEM market will be upgraded in order to:

- refresh and strengthening of the infrastructure
- improve system’s capacity
- reduce system’s latency

It is therefore very important to test together the new platform with customers during the 3 Dress Rehearsals that will take place in September 2015.

2.2 Available Systems

The test is performed in the production environment of all the services involved:

- SOLA production systems (for both SAIL, FIX and HSVF services)
- GTP Lite production systems
- GTP production systems
- BCS production
- BTS production; customer are informed that the BTS client version to be used during the test will be published on Borsa Italiana website at the link:
  
  http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/bts-bittradingstation/bts.en.htm
Customer should be informed that the Millennium IT Platform is out of scope and will not be available during the test.

Customers should also be informed that IDEX Trayport Service will not be activated during the dress rehearsal.

2.3 Test Description

All IDEM, IDEX and AGREX customers are required to logon to the SOLA platform and the market data Feed services they use (HSVF or GTP/GTP Lite or both).

Customers are requested to:

- enter orders and quotes and get executions on the IDEM, IDEX and AGREX markets simulating a standard trading day
- participate to the Disaster Recovery Invocation verify the correct functioning of their application and of the new platform is such situation.

Customers should be aware that also BCS will participate to the Disaster Recovery invocation, in other words after the invocation customers will have to connect to SDC BCS IP addresses and ports.

Customers are reminded that the configuration active during the Dress Rehearsal will be exactly the same active on September 24th 2015 in terms of:

- available series
- Market Making obligations (in other words Market Makers will be allowed to send quotes only on series on which they were allowed to send quotes on September 24th 2015)

Customers should be aware that GTC an GTD orders will not be brought to SOLA 7 environment neither for the Dress Rehearsals nor at the go-live.

At the end of the test session, participants will be required to:

- restore the trading applications back to the current production version and to prepare their systems for the Monday Live Service on the current version of SOLA Platform.
- send an email to service-deak@borsaitaliana.it confirming the success of the test activity.

The currently live SOLA version (SOLA 5) will be available for login only at the end of the test. BTS will not participate to this part of the test (so BTS will not be available for the check of connectivity to SOLA 5).

We would like to remind you that participants are responsible for the correct operation of their applications after any roll forward / rollback procedure to SOLA trading platform and to the GTP service.

Please note that all communications to customers during the dress rehearsal will be published via the following link:

http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/comunicazionitecniche/comunicazionitecniche.en.htm
3.0 Dress Rehearsal Activities

3.1 Propaedeutic Activities

Before the dress rehearsals, customers are requested to have completed all appropriate development and testing where necessary:

- implemented the changes introduced to the SOLA SAIL, FIX and HSVF protocols by SOLA 7 and tested the new version of their applications
- passed the conformance test on SAIL and/or FIX and/or HSVF services (only for ISVs and Member Firms that develop their own software to trade on SOLA markets)
- received the appropriate software and instructions from their ISVs
- for customer that use BTS: downloaded and installed the correct version of the BTS client from Borsa Italiana website (see above)
- check the connectivity to SDC IP addresses and ports before the Dress rehearsal (telnet connectivity is available during the week)

Customers are reminded that:

- the documentation of the SOLA 7 version of the SOLA platform (for SAIL, FIX and HSVF) is available at the following link:
  http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.htm
- the documentation of the GTP Service is available at the following link:
- as described in section 2.1, the following new functionalities introduced with SOLA 7 will not be activated during the test because will not be activated at the go-live of SOLA 7:
  - 4 legs Strategies
  - Bundled Orders
  - Self Execution Prevention
  - Third Party Trade Workflow
- the GTP and GTP Lite services during Dress Rehearsals will use exactly the same version of the GTP protocol currently available in production, the changes introduced with GTP phase 2 will not be activated in production during the test
3.2 Dress Rehearsal Activities

Customers are reminded that:

- the production IP addresses and ports of the SOLA 7 platform will not differ from the ones currently in production:
  - during the test customers will have to connect to the same IP addresses and ports they use to connect to production every day
  - the list of available IP and ports for the SOLA platform is available in the document “SOLA 7 - SOLA Connectivity Guide” available at the following link:
    http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.htm
  - also the production IP addresses and ports of the GTP and GTP Lite services will not differ from the ones currently in production, the recap of IP and ports for the GTP and GTP Lite services can be found in document GTP004 available at the following link:

Customers are required to logon from all users for both Trading and Market Data Feed services. During the test customers shall perform the following activities:

- verify the connectivity to the new version of SOLA Platform (SOLA 7) for both Trading (SAIL and/or FIX interfaces) and Market Data services (HSVF and/or GTP and/or GTP Lite)
- validate the trading functions of their in-house and/or third party software applications including quoting systems
- verify the correct message handling of the market data feeds through HSVF and/or GTP and/or GTP Lite services

Customers are also warmly invited to perform the following activities:

- **Login Procedures:**
  - Connect to SOLA Platform through all configured users
  - Connect to HSVF and/or GTP Lite through all configured users

- **Trading and Quoting activities:**
  - Enter / Modify / Cancel Orders
  - Trades management
  - Enter Quotes
  - Modify Quotes
  - Delete Quotes

- **Market Data Feed reception:** check correct reception of real time feed (orders and prices)
• At the end of the test session, participants are required to verify the correct restore of their software applications back to the current production version

3.3 Disaster Recovery Invocation

At 11 am CEST (see Session Timetable described in section 4.0 Session Timetable), the Disaster Recovery Invocation will take place.

The Disaster Recovery Invocation implies:
• the unavailability of the SOLA Primary Data Centre
• the activation of the SOLA Secondary Data Centre

The activation of the SOLA Secondary Data Centre takes approximately two hours, therefore at 12.30 pm CEST connectivity to SDC (login) will be activated and trading will be resumed (in SDC) simulating a full DR situation at 2 pm CEST.

Customers are reminded that the SOLA Disaster Recovery IP and ports are available in the document “SOLA 7 - SOLA Connectivity Guide” available at the following link:

http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazioneidem/migrazioneidem.htm

Customers should be aware that:
• the trades executed before the DR invocation will be valid
• the orders submitted before the DR invocation and still active on the book will be cancelled
• the identifiers of orders submitted and trade executed after the DR invocation will not start from 1 nor from the identifier of the last orders submitted/trade executed before the DR
• for GTP and GTP Lite services Disaster Recovery will not be invoked
• for the BTS service Disaster Recovery will not be invoked

After the Disaster Recovery Invocation customers will be required to:
• Connect to SOLA Platform through all configured users
• Trading and Quoting activities:
  • Enter / Modify / Cancel Orders
  • Trades management
  • Enter Quotes
  • Modify Quotes
  • Delete Quotes
• Market Data Feed reception: check correct reception of real time feed (orders and prices)
a) BCS Disaster Recovery Invocation

Customers are reminded that the BCS SDC IP addresses and ports are the following:

- 194.169.15.141
- 194.169.15.142

on TCP ports 34900.

Customers are also reminded that after the invocation of Disaster Recovery for the BCS service they will receive the following trades:

- Trades on derivative instruments, having the original Contract Number of the trade executed in PDC (Primary Data Centre). These trades should be discarded by clients
- Trades on derivative instruments executed in PDC, with a Contract Number starting from an offset value (500,000). Any split trade will maintain the original contract number; both the Market Contract Number and the Order Number values, related to trades executed in PDC, will remain unchanged
- Trades on derivative instruments executed in SDC (if any), having the Contract Number field restarting from the first value disseminated in PDC. Another offset to the Market Contract Number and Order Number values (generated by the IDEM matching engine and not by the clearing system) of the trades executed in SDC will be applied. The offset will be different from the one applied to the Contract Number value for trades executed in PDC
4.0 Session Timetable

All times are in **Central European Summer Time (CEST)**, that is BST+1 and GMT+2:

<table>
<thead>
<tr>
<th>Event</th>
<th>Start</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Login</td>
<td>9.30</td>
<td>9.45</td>
</tr>
<tr>
<td>Opening Auction (for FIB and MINI)</td>
<td>9.45</td>
<td>10.00</td>
</tr>
<tr>
<td>Continuous Trading</td>
<td>10.00</td>
<td>10.30</td>
</tr>
<tr>
<td>Disaster Recovery Invocation</td>
<td>10.30</td>
<td>12.30</td>
</tr>
<tr>
<td>Login from SDC</td>
<td>12.30</td>
<td>14.00</td>
</tr>
<tr>
<td>Continuous Trading from SDC</td>
<td>14.00</td>
<td>15.30</td>
</tr>
<tr>
<td>Availability of Connectivity to currently live platform (SOLA 5)</td>
<td>15.30</td>
<td>16.00</td>
</tr>
</tbody>
</table>
5.0 Test Results Confirmation

At the end of the test session, Customers are required to confirm the success of their day’s testing with regard to:

1. Logon procedures (before and after Disaster Recovery Invocation)
2. Trading and Market Making standard activity (before and after Disaster Recovery Invocation)

The preferred approach is for customers to send an email to service-desk@borsaitaliana.it and clients-services@borsaitaliana.it.

6.0 Customer Support

During the test session participants can contact the Borsa Italiana Service Desk for assistance:

Toll Free: 0080026772000
From mobile: +39 02 45411399
email: service-desk@borsaitaliana.it

Technical Account Management will also be on hand for any query.