

# MIT 501- MILLENNIUM EXCHANGE GUIDE TO TESTING SERVICES

Issue 3.5

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**BORSA ITALIANA**

# TABLE OF CONTENTS

- 1. INTRODUCTION..... 3**
  - 1.1. Purpose..... 3**
  - 1.2. Document Series ..... 3**
  - 1.3. Document history ..... 4**
  - 1.4. Enquiries ..... 5**
- 2. SERVICE OVERVIEW ..... 6**
  - 2.1. Access to the CDS..... 6**
  - 2.2. Certification ..... 7**
- 3. TRADING SERVICES..... 8**
  - 3.1. Participant enablement ..... 9**
  - 3.2. Connectivity ..... 10**
  - 3.3. Model based Testing..... 10**
    - 3.3.1. Trading Gateway Failover and Recovery .....10
  - 3.4. Service Times ..... 11**
    - 3.4.1. CDS Service Times .....11
  - 3.5. Maintenance Days ..... 11**
  - 3.6. Broadcast Data ..... 11**
  - 3.7. Trading connectivity..... 11**
    - 3.7.1. "Standard" CDS IP addressing .....12
    - 3.7.2. "Legacy" CDS IP addressing .....13
    - 3.7.3. Connectivity Policy .....14
  - 3.8. FTP/SFTP Reference data..... 15**
  - 3.9. Group Ticker Plant Testing Service..... 15**

# 1. INTRODUCTION

The Customer Testing Services are available to support customers in their development and testing of the Millennium Exchange Platform.

## 1.1. Purpose

The purpose of this document is to provide an overview of the Customer Testing Services on the new Millennium Exchange platform and the related market structure information to assist customers in their development and testing.

## 1.2. Document Series

This document is part of a series of documents which provide an overview of the trading and information services available for Borsa Italiana and EuroTLX post the migration to Millennium Exchange.

For reference the full range of documents is available at the following link:

Italian Version:

**[www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.htm](http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.htm)**

English Version:

**[www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.en.htm](http://www.borsaitaliana.it/borsaitaliana/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.en.htm)**

### ***Group Ticker Plant***

The full current versions of Group ticker plant documents can be found at:

**<https://www.borsaitaliana.it/borsaitaliana/gestione-mercati/group-ticker-plant/overview.en.htm>**

This series principally covers non-regulatory information and does not override or supersede the Rules of Borsa Italiana Exchange.

## 1.3. Document history

This document has been through the following iterations:

Issue	Date	Description
1.0	03 August 2011	
2.0	07 November 2011	Updated IP addresses for the first version of CDS environment
2.1	July 2013	Updated IP addresses for additional Native Trading Gateways
3.0	August 2019	<p>According to the new Hardware Refresh, updated version published via the Borsa Italiana's website and distributed to customers:</p> <p>Section removed: 3.3.2. due to the decommission of MITCH market data service.</p> <p>Update section: 3.9 any reference to the MITCH market data service has been removed.</p>
3.1	April 2020	Update section: 3.7.1 reference to the FIX Trading Gateway 2 have been removed.
3.2	May 2020	Update section: 1.2; 3.7.3, 3.7.1 reference to the DropCopy Gateway 02 have been removed.
3.3	May 2020	Update section 3.8 – added credentials for EuroTLX market (ftp service) Updated section 3.3.1 - Trading Gateway Failover and Recovery
3.4	March 2021	Added SFTP connectivity details
3.5	October 2021	New IP addresses for new standard and legacy CDS environment

In subsequent issues, where amendments have been made to the previous version, these changes will be identified using a series of side bars as illustrated opposite.

## 1.4. Enquiries

Please contact the Client and Market Services if you have any functional questions about the Millennium Exchange services outlined in this document. The Client and Market Services can be contacted at:

### Client Support

- Toll Free: 0080026772000
- From Mobile: +390245411399
- Email: **client-support@borsaitaliana.it**

### Market-Access

- Telephone: +39 0272426 668
- Email: **market-access@borsaitaliana.it**

### Customer Relationship Management Technology

- Telephone: +39 0272426 512
- Email: **clients-services@borsaitaliana.it**

## 2. SERVICE OVERVIEW

The CDS provides a fully functioning live simulation of the Live Service against which our customers can develop, test, and run their Trading and Information applications.

This CDS environment is based on the software specific for Italian cash markets, and will include some functionalities introduced for this. It also provides model based testing scenarios to help customers with their development efforts.

The Borsa Italiana S.p.A. offers a wide range of testing services. Customers can use the testing services to:

- Test the functional interface between their software applications and the Borsa Italiana Stock Exchange Millennium Gateways.
- Certify their software applications for use on the Live Service
- Test trading strategies against a simulation of the Live Service
- Provide market participants with a safe training environment away from the Live Service
- Test their application's ability to recover from service disruptions

It is important to highlight that there are two CDS environments:

- "Standards" CDS, that may run either on the live version of the platform (if no planned version updates/new releases are in progress) or on the "next" (newer) version of the platform (if a planned version update/new release is in progress)
- 
- "Legacy" CDS, that always run on the live version of the platform

### 2.1. Access to the CDS

To access the CDS customers will be required to complete a CDS Order Form and Customer Requested Form. Customers will then be sent a CDS Configuration Form showing full technical details of their CDS configuration.

Full IP address information is provided in paragraph 3.6, 3.7 and 3.8.

## 2.2. Certification

Mandatory certification will be required for all applications that wish to connect to the production environment. Full details of the certification process are available in the following documents:

- MIT502 - Guide to Application Certification
- MIT503 - Certification Report

Certifications are usually executed on the "Standard" CDS but exceptionally (under specific circumstances) might be executed on the "Legacy" environment.

# 3. TRADING SERVICES

Participants will connect to each interface via a FIX or Native Gateway, depending on the functionality they require (see figure 1 on below page).

- **FIX Trading Gateway**
  - Trading Interface (FIX)
    - Order / quote entry and immediate confirmation of Automatic Trades
- **Native Trading Gateway**
  - Trading Interface (Native)
    - Order / quote entry and immediate confirmation of Automatic Trades (Note – Firm Quote entry is not supported)
- **Post Trade Gateway (FIX)**
  - 'Enriched' near real-time trade confirmation of Automatic Trades (including cancellations)<sup>1</sup>
- **Drop Copy Gateway (FIX)**
  - 'Copy To' functionality

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<sup>1</sup> Including any Exchange initiated cancellations



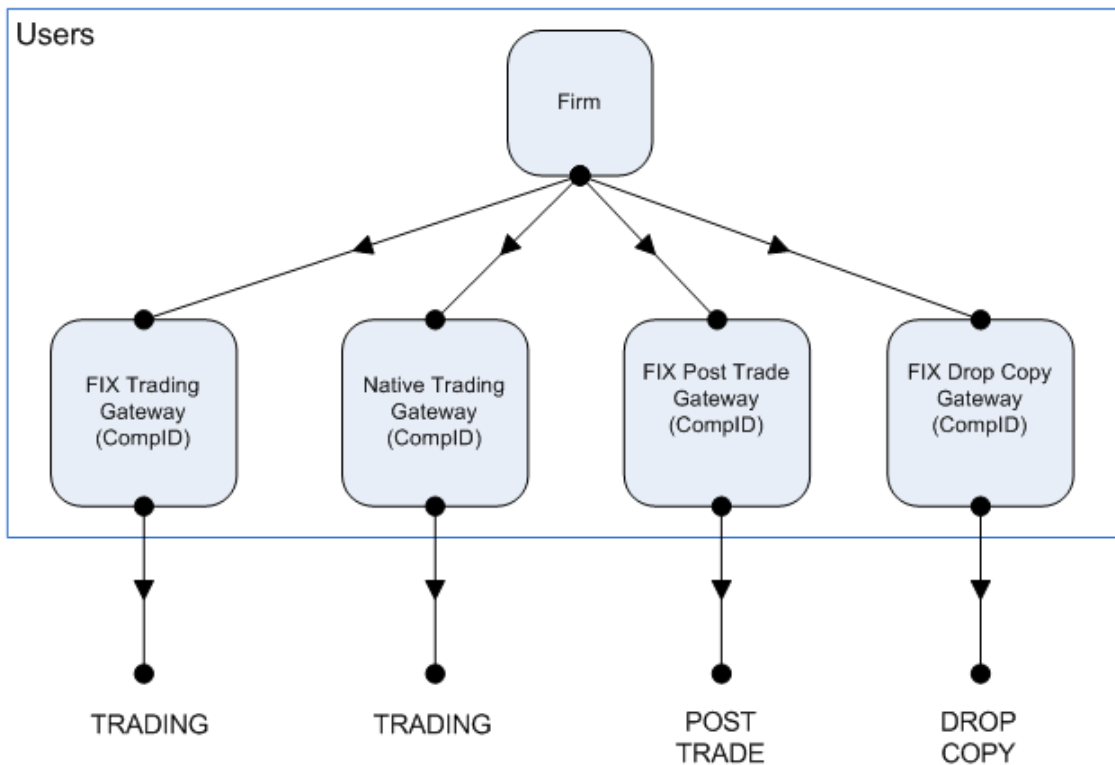


Figure 1 – Customer interfaces

### 3.1. Participant enablement

Customers will have to request the trading (native or FIX) Comp IDs to the Client Technology Services Italy.

Considering the interface to which they will connect, customers can request the following type of users:

- Native Trading Gateway Standard (10 tps)
- Native Trading Gateway Advanced (30 tps)
- Native Trading Gateway (Specialist, bid only)
- FIX 5.0 Trading Gateway Standard (10 tps)
- FIX 5.0 Trading Gateway Advanced (30 tps)
- FIX 5.0 Trading Gateway (Specialist, bid only)
- Drop Copy Real Time
- Post Trade Real Time
- Query Manager (OOBD and OTBD)
- Company Supervisor

- GTP/GTP lite

For the full list of type of users please refer to document MIT201.

## 3.2. Connectivity

Customers can establish a connection to CDS environment in the following ways:

- Over the BIt Network
- Via Co Location
- Via a Service Provider
- Via VPN
- CMC Open Connectivity Model

## 3.3. Model based Testing

The CDS environment has been enhanced to model specific scenarios on a more frequent basis than customers will encounter on the Live Service, such as service disruptions. Customers can use these scenarios to assist with their testing and development.

### 3.3.1. Trading Gateway Failover and Recovery

In order to support customers with their recovery testing, every Friday, starting from 15:00, the following FIX components will be failed in turn, in sequence:

- Primary FIX Trading Gateways
- Primary FIX Post Trade Gateways
- Primary FIX Drop Copy Gateways

Customers connected to a Primary Gateway during these times can detect the disconnection and re-connect to their designated secondary gateway. Please note that once connected to the secondary (alternate) FIX gateway, the initial sequence number received will be the last one received once connected to the primary gateway + 5000. Customers will remain connected to the Secondary Gateway for the remainder of the day.

In addition, in the same time window also the following Native trading gateways will be failed:

- Native Trading 02

- Native Trading 04

Customers connected to these gateways will be disconnected and can re-connect to one of the Native gateways still available.

Customers will remain connected to the new Native Gateway for the remainder of the day.

## 3.4. Service Times

### 3.4.1. CDS Service Times

The service hours for the CDS environment are the following (in CET/CEST):

Session	Start Time	End Time
Pre-Trading	7.45.00	9.00.00
Regular Trading	9.00.00	18.00.00
Closing Price Publication	18.00.00	18.00.01

Please note that trades executed on CDS will not be sent to Clearing.

## 3.5. Maintenance Days

On occasion the Exchange will have to close CDS to perform upgrades or maintenance activities. Customers will be informed of maintenance days and early CDS closures via communications from Client Technology Services Italy.

## 3.6. Broadcast Data

The market data service on the Italian instance of the Millennium Exchange platform is the GTP/GTPLite.

## 3.7. Trading connectivity

Each Gateway interface will have two IP addresses acting as Primary and Secondary and customers will be allocated which gateway they can connect to during the enablement

process. Customers should configure to connect to both IP addresses and ports. The list of Trading IP addresses for each service is detailed below.

The list of Trading IP addresses for each service is detailed below.

### 3.7.1. "Standard" CDS IP addressing

Exchange Gateway (Trading) Services	Customer Information		Service Availability under normal operational state
	Exchange IP Address	TCP Port	
Fix Trading GW 01 - Channel 1	212.239.27.1	51411	Available
Fix Trading GW 01 - Channel 1 Alternate	212.239.27.2	51411	Passive (Down)
Fix Trading GW 01 - Channel 2	212.239.27.1	51412	Available
Fix Trading GW 01 Channel 2 - Alternate	212.239.27.2	51412	Passive (Down)
Native Trading 01	212.239.27.5	51441	Available
Native Trading 02	212.239.27.6	51442	Available
Native Trading 03	212.239.27.5	51443	Available
Native Trading 04	212.239.27.6	51444	Available
Native Trading 01 Recovery	212.239.27.5	51451	Available
Native Trading 02 Recovery	212.239.27.6	51452	Available
Native Trading 03 Recovery	212.239.27.5	51453	Available
Native Trading 04 Recovery	212.239.27.6	51454	Available
Post Trade Router 01 - Channel 1	212.239.27.9	51421	Available
Post Trade Router 01 - Channel 1 Alternate	212.239.27.10	51421	Passive (Down)
Post Trade Router 01 - Channel 2	212.239.27.9	51422	Available
Post Trade Router 01 -Channel 2 Alternate	212.239.27.10	51422	Passive (Down)
Drop Copy 01 - Channel 1	212.239.27.13	51431	Available
Drop Copy 01 - Channel 1 Alternate	212.239.27.14	51431	Passive (Down)
Drop Copy 01 - Channel 2	212.239.27.13	51432	Available
Drop Copy 01 - Channel 2 Alternate	212.239.27.14	51432	Passive (Down)

## 3.7.2. "Legacy" CDS IP addressing

## 3.7.2.1. Main Markets

<b>Exchange Gateway (Trading) Services</b>	<b>Customer Information</b>		<b>Service Availability under normal operational state</b>
<b>Service</b>	<b>Exchange IP Address</b>	<b>TCP Port</b>	
Fix Trading GW 01 - Channel 1	212.239.27.15	51411	Available
Fix Trading GW 01 - Channel 1 Alternate	212.239.27.16	51411	Passive (Down)
Fix Trading GW 01 - Channel 2	212.239.27.15	51412	Available
Fix Trading GW 01 Channel 2 - Alternate	212.239.27.16	51412	Passive (Down)
Native Trading 01	212.239.27.3	51441	Available
Native Trading 02	212.239.27.4	51442	Available
Native Trading 03	212.239.27.3	51443	Available
Native Trading 04	212.239.27.4	51444	Available
Native Trading 01 Recovery	212.239.27.3	51451	Available
Native Trading 02 Recovery	212.239.27.4	51452	Available
Native Trading 03 Recovery	212.239.27.3	51453	Available
Native Trading 04 Recovery	212.239.27.4	51454	Available
Post Trade Router 01 - Channel 1	212.239.27.11	51421	Available
Post Trade Router 01 - Channel 1 Alternate	212.239.27.12	51421	Passive (Down)
Post Trade Router 01 - Channel 2	212.239.27.11	51422	Available
Post Trade Router 01 -Channel 2 Alternate	212.239.27.12	51422	Passive (Down)
Drop Copy 01 - Channel 1	212.239.27.17	51431	Available
Drop Copy 01 - Channel 1 Alternate	212.239.27.18	51431	Passive (Down)
Drop Copy 01 - Channel 2	212.239.27.17	51432	Available
Drop Copy 01 - Channel 2 Alternate	212.239.27.18	51432	Passive (Down)

## 3.7.2.2. TAH Market

Exchange Gateway (Trading) Services	Customer Information		Service Availability under normal operational state
	Service	Exchange IP Address	
Fix Trading GW 01 - Channel 1	212.239.27.49	57351	Available
Fix Trading GW 01 - Channel 1 Alternate	212.239.27.50	57351	Passive (Down)
Fix Trading GW 01 - Channel 2	212.239.27.49	57352	Available
Fix Trading GW 01 - Channel 2 Alternate	212.239.27.50	57352	Passive
Native Trading 01	212.239.27.33	57701	Available
Native Trading 02	212.239.27.34	57702	Available
Native Trading 01 Recovery	212.239.27.33	57711	Available
Native Trading 02 Recovery	212.239.27.34	57712	Available
Post Trade Router 01 - Channel 1	212.239.27.45	57450	Available
Post Trade Router 01 - Channel 1 Alternate	212.239.27.46	57450	Passive (Down)
Post Trade Router 01 - Channel 2	212.239.27.45	57451	Available
Post Trade Router 01 -Channel 2 Alternate	212.239.27.46	57451	Passive (Down)
Drop Copy 01 - Channel 1	212.239.27.47	57550	Available
Drop Copy 01 - Channel 1 Alternate	212.239.27.48	57550	Passive (Down)
Drop Copy 01 - Channel 2	212.239.27.47	57551	Available
Drop Copy 01 - Channel 2 Alternate	212.239.27.48	57551	Passive (Down)

## 3.7.3. Connectivity Policy

Customers are requested to configure all test IP addresses available, even if connectivity will be granted on a subset of them. Each Gateway supports 2 channels to accept orders. The main channel is the active one. The Alternate channel is passive and it will only create the server to accept client connections when the main channel fails over.

## 3.8. FTP/SFTP Reference data

Reference data will also be available in CDS environment for all customers upon FTP (Port 21) and SFTP (Port 22) connection to the server

- 212.239.27.225

Standard username and password available for the connection are:

- For Borsa Italiana markets:

User: **trm2USER**

Pw: **F1les4You**

- For EuroTLX market:

User: **tlxUSER**

Pw: **RefD4t4TLX**

It should be noted that in CDS/test environment the Reference Data reported in Market Reference Data files are not daily updated. This means that Prices fields will be populated with static values. Legacy" CDS is aligned with production in terms of instruments every week.

Therefore, for the "Legacy" CDS it is necessary to use the Production Reference Data generated each Friday (for example for Week 4, the Reference Data from Production to be used is the one generated on Friday from Week 3).

## 3.9. Group Ticker Plant Testing Service

In early 2012, the London Stock Exchange Group announced its intention to launch a Group Ticker Plant (GTP) which is designed to revolutionise the real-time market data services, delivering ultra low latency feeds through new technologies and facilitating the launch of new products and services.

In preparation for the phased launch of the Group Ticker Plant, the Borsa Italiana S.p.A. has launched a testing service in the CDS environment. The testing service will allow customers the ability to interact with the GTP multicast data prior to accessing the Live Service environment. Further information on the GTP testing services can be found in the GTP005 – Testing Services Guide found at the below link.

**<https://www.borsaitaliana.it/borsaitaliana/gestione-mercati/group-ticker-plant/overview.en.htm>**

# CONTACT

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