

# MIT 702 - CONNECTIVITY SPECIFICATION MAIN MARKETS

Issue 2.3

OCTOBER 2021



**BORSA ITALIANA**

# TABLE OF CONTENTS

- 1. Introduction ..... 3**
  - 1.1. Purpose ..... 3**
  - 1.2. Readership ..... 3**
  - 1.3. Document series ..... 3**
  - 1.4. Document History ..... 5**
  - 1.5. Enquiries ..... 6**
- 2. Connectivity ..... 7**
  - 2.1. Production IP addresses and ports..... 7**
    - 2.1.1. Normal Hours ..... 7
  - 2.2. FIX Session ..... 11**
  - 2.3. FIX gateway failover and Disaster Recovery Site ..... 11**
  - 2.4. Native Session..... 13**
  - 2.5. Native gateway failover and Disaster Recovery Site..... 13**
  - 2.6. FTP/SFTP Reference Data ..... 15**
  - 2.7. Connectivity test ..... 16**

# 1. INTRODUCTION

## 1.1. Purpose

The purpose of this document is to provide a technical description about the connectivity to BIT Cash Markets (MTA, MIV, EGM, MAC, ETFplus, MOT, ExtraMOT, SeDeX) on the Millennium Exchange platform.

## 1.2. Readership

This document outlines how to connect to the MIT Trading System.

When read in conjunction with the other Millennium Exchange guides, it is intended that these documents provide all of the details directly connected Borsa Italiana customers require to develop to the new services.

## 1.3. Document series

This document is part of series of documents providing a holistic view of full trading and information services available from Borsa Italiana post the migration to Millennium Exchange.

The current series of documents are set out below:

### ***Trading***

- MIT201 BIT – Guide to New Trading System
- MIT202 BIT – FIX Trading Gateway (FIX 5.0)
- MIT203 BIT – Native Trading Gateway Specification
- MIT204 BIT – Post Trade Gateway (FIX 5.0) Specification
- MIT205 BIT – Drop Copy Gateway (FIX 5.0) Specification

### ***Market Data***

- MIT305 BIT – Markets Reference Data
- MIT306 BIT – MOT / EuroMOT Instrument Currency

### ***Connectivity***

- MIT701 BIT – Connectivity Specifications TAH
- **MIT702 BIT – Connectivity Specifications Main (this document)**

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

The latest version of this document series can be found at the following link:

**<http://www.borsaitaliana.it/borsaitaliana/intermediari/gestione-mercati/migrazionemillenniumit-mit/millenniumitmigration.en.htm>**

## 1.4. Document History

This document has been through the follow iterations:

Issue	Date	Description
<b>1.0</b>	May 2012	First issue of this document published via the Borsa Italiana's website and distributed to customers.
<b>1.1</b>	November 2013	MITCH source multicast IP addresses amended
<b>1.2</b>	October 2014	Updated version of this document published via the Borsa Italiana's website and distributed to customers. Changes are applied in the following sections: 1.3, 2.3.1
<b>1.3</b>	January 2015	Updated version of this document published via the Borsa Italiana's website and distributed to customers. Changes are applied in the following sections: 2.3.1
<b>1.4</b>	March 2017	Added paragraph 2.8 – TCP responder and heartbeat generator service availability
<b>2.0</b>	August 2019	According to the new Hardware Refresh, updated version published via the Borsa Italiana's website and distributed to customers: Changed Section 1.5, 2.1, 2.4, 2.5 and 2.6.
<b>2.1</b>	June 2020	Added ftp connectivity details for EuroTLX market Changed Section 2.1 and 2.6
<b>2.0</b>	September 2020	Added sftp connectivity details
<b>2.3</b>	October 2021	Update after rebranding of Borsa markets

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.

## 1.5. 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**

Please contact your Business Account Manager if you have any questions about the Millennium Exchange trading functionalities outlined in this document. Business Account Managers (ITA) can be contacted at:

- **MTA / EGM/ MIV / TAH**  
Telephone: +39 0272426418 - 550 - 503 - 539
- **ETFplus / MOT / ExtraMOT / SeDeX**  
Telephone: +39 0272426517

## 2. CONNECTIVITY

### 2.1. Production IP addresses and ports

The IP addresses and ports are listed in the following sections.

#### 2.1.1. Normal Hours

##### *Primary Data Centre*

Exchange Gateway (Trading) Services		
Service	Customer Information	
	Exchange IP Address	TCP Port
Fix Trading GW 01 - Channel 1	194.169.10.1	57251
Fix Trading GW 01 - Channel 1 Alternate	194.169.10.2	57251
Fix Trading GW 01 - Channel 2	194.169.10.1	57252
Fix Trading GW 01 Channel 2 - Alternate	194.169.10.2	57252
Native Trading 01	194.169.10.48	57201
Native Trading 02	194.169.10.48	57203
Native Trading 03	194.169.10.48	57205
Native Trading 04	194.169.10.48	57207
Native Trading 05	194.169.10.48	57209
Native Trading 06	194.169.10.49	57211
Native Trading 07	194.169.10.49	57213
Native Trading 08	194.169.10.49	57215
Native Trading 09	194.169.10.49	57217
Native Trading 10	194.169.10.49	57219
Native Trading 11	194.169.10.50	57221
Native Trading 12	194.169.10.50	57223
Native Trading 13	194.169.10.50	57225
Native Trading 14	194.169.10.50	57227
Native Trading 15	194.169.10.50	57229
Native Trading 01 Recovery	194.169.10.48	57202
Native Trading 02 Recovery	194.169.10.48	57204
Native Trading 03 Recovery	194.169.10.48	57206
Native Trading 04 Recovery	194.169.10.48	57208
Native Trading 05 Recovery	194.169.10.48	57210
Native Trading 06 Recovery	194.169.10.49	57212
Native Trading 07 Recovery	194.169.10.49	57214
Native Trading 08 Recovery	194.169.10.49	57216

Native Trading 09 Recovery	194.169.10.49	57218
Native Trading 10 Recovery	194.169.10.49	57220
Native Trading 11 Recovery	194.169.10.50	57222
Native Trading 12 Recovery	194.169.10.50	57224
Native Trading 13 Recovery	194.169.10.50	57226
Native Trading 14 Recovery	194.169.10.50	57228
Native Trading 15 Recovery	194.169.10.50	57230
Post Trade Router 01 - Channel 1	194.169.10.16	57400
Post Trade Router 01 - Channel 1 Alternate	194.169.10.17	57400
Post Trade Router 01 - Channel 2	194.169.10.16	57401
Post Trade Router 01 -Channel 2 Alternate	194.169.10.17	57401
Drop Copy 01 - Channel 1	194.169.10.32	57500
Drop Copy 01 - Channel 1 Alternate	194.169.10.33	57500
Drop Copy 01 - Channel 2	194.169.10.32	57501
Drop Copy 01 - Channel 2 Alternate	194.169.10.33	57501
BTT FTP/SFTP 1 (Borsa markets)	81.174.64.61	21(FTP) 22(SFTP)
BTT FTP/SFTP 2 (Borsa markets)	81.174.64.62	21(FTP) 22(SFTP)
BTT FTP/SFTP 1 (EuroTLX market)	81.174.64.64	21(FTP) 22(SFTP)
BTT FTP/SFTP 2 (EuroTLX market)	81.174.64.66	21(FTP) 22(SFTP)



**Secondary Data Centre**

<b>Exchange Gateway (Trading) Services</b>		
<b>Service</b>	<b>Customer Information</b>	
	<b>Exchange IP Address</b>	<b>TCP Port</b>
Fix Trading GW 02 - Channel 1	194.169.12.1	57251
Fix Trading GW 02 - Channel 1 Alternate	194.169.12.2	57251
Fix Trading GW 02 - Channel 2	194.169.12.1	57252
Fix Trading GW 02 Channel 2 - Alternate	194.169.12.2	57252
Native Trading 16	194.169.12.48	57201
Native Trading 17	194.169.12.48	57203
Native Trading 18	194.169.12.48	57205
Native Trading 19	194.169.12.48	57207
Native Trading 20	194.169.12.48	57209
Native Trading 21	194.169.12.49	57211
Native Trading 22	194.169.12.49	57213
Native Trading 23	194.169.12.49	57215
Native Trading 24	194.169.12.49	57217
Native Trading 25	194.169.12.49	57219
Native Trading 26	194.169.12.50	57221
Native Trading 27	194.169.12.50	57223
Native Trading 28	194.169.12.50	57225
Native Trading 29	194.169.12.50	57227
Native Trading 30	194.169.12.50	57229
Native Trading 16 Recovery	194.169.12.48	57202
Native Trading 17 Recovery	194.169.12.48	57204
Native Trading 18 Recovery	194.169.12.48	57206
Native Trading 19 Recovery	194.169.12.48	57208
Native Trading 20 Recovery	194.169.12.48	57210
Native Trading 21 Recovery	194.169.12.49	57212
Native Trading 22 Recovery	194.169.12.49	57214
Native Trading 23 Recovery	194.169.12.49	57216
Native Trading 24 Recovery	194.169.12.49	57218
Native Trading 25 Recovery	194.169.12.49	57220
Native Trading 26 Recovery	194.169.12.50	57222
Native Trading 27 Recovery	194.169.12.50	57224
Native Trading 28 Recovery	194.169.12.50	57226
Native Trading 29 Recovery	194.169.12.50	57228
Native Trading 30 Recovery	194.169.12.50	57230
Post Trade Router 02 - Channel 1	194.169.12.16	57400
Post Trade Router 02 - Channel 1 Alternate	194.169.12.17	57400

Post Trade Router 02 - Channel 2	194.169.12.16	57401
Post Trade Router 02 -Channel 2 Alternate	194.169.12.17	57401
Drop Copy 02 - Channel 1	194.169.12.32	57500
Drop Copy 02 - Channel 1 Alternate	194.169.12.33	57500
Drop Copy 02 - Channel 2	194.169.12.32	57501
Drop Copy 02 - Channel 2 Alternate	194.169.12.33	57501
BTT FTP/SFTP 1 (Borsa markets)	81.174.64.189	21(FTP) 22(SFTP)
BTT FTP/SFTP 1 (EuroTLX markets)	81.174.64.192	21(FTP) 22(SFTP)

## 2.2. FIX Session

The interface is a point-to-point service based on the technology and industry standards TCP/IP, FIXT and FIX. The session and application event models and messages are based on versions 1.1 and 5.0 (Service Pack 2) of the FIXT and FIX protocols respectively.

## 2.3. FIX gateway failover and Disaster Recovery Site

### FIX Gateways (Trading, Post Trade and Drop Copy) failover

In the event of failure of a single FIX Gateway participants should connect / logon via the corresponding Alternate gateway. Any attempt to logon to the Alternate Gateway outside of any failure event will be refused.

In case of unexpected disconnection from the FIX Gateway participants should attempt to re-connect a total of three times, with 3 seconds between each attempt, before attempting to connect to the Alternate Gateway.

Once connected to the Alternate Gateways, the FIX Gateway will increment outbound (to the participant) message sequence numbers by a configurable amount (customer inbound sequence number incremented to 5000) to ensure that any messages in-flight at the time of failure can be recovered.

Following log-on to the Alternate Gateway any Execution Reports or Trade Capture Reports generated by the system whilst participants are disconnected (including deletions due to Cancel on Disconnect) will automatically be re-sent. Should the number of messages that need to be re-sent exceed 2000 then only the last 2000 messages will be re-sent. Customers will be required to send a Resend Request to recover the remaining messages.

After six failed connection attempts (three on each Gateway) this may indicate a serious issue and the Exchange should be contacted for guidance.

Please contact the Client Support ([client-support@borsaitaliana.it](mailto:client-support@borsaitaliana.it), Toll Free: 0080026772000, from mobile +390245411399).

### **Disaster Recovery Site**

Millennium Exchange operates in cold standby mode. In the event of total loss of the Primary Site London Stock Exchange will activate the Disaster Recovery Site. This procedure is expected to take in the order of 2 hours.

In the event of disaster recovery only trades that have been sent to participants via a Trade Capture Report (TCR) from the Post Trade Gateway will be guaranteed to have been sent to clearing and settlement (if applicable).

Participants should disregard any trades for which only the Execution Report (and not the TCR) has been sent.

Once the Disaster Recovery Site is active then all order and quote books will be cancelled and the trading system will be re-started.

Participants should note that no updated Execution Reports will be sent identifying those orders cancelled together with the activation of the DR site.

Following the Disaster Recovery invocation, participants should connect to the Disaster Recovery Gateways.

All instruments will be reinstated in an auction call state. Instruments for which this is not applicable will be reinstated to a Pre-Mandatory Trading Session.

Following recovery to the Disaster Recovery Site it is recommended for all participants to:

- execute an Own Trade Download to confirm which trades have been sent to clearing and settlement
- execute an Own Order Book Download to confirm that no orders are currently active

Once the Disaster Recovery Site is active all FIX message sequence numbers will be reset to 1 on the Exchange FIX Gateways. Customers must also reset their outgoing sequence numbers to 1 before reconnecting to Disaster Recovery Site.

## 2.4. Native Session

The A single client may have multiple connections to the server (i.e. a user can maintain multiple sessions if he has multiple UserIDs).

Each client will use the IP address and port of Native gateway to establish a TCP/IP session with the server. The client will initiate a session at the start of each trading day by sending the Logon message.

## 2.5. Native gateway failover and Disaster Recovery Site

### Native gateway failover

In case of unexpected disconnection from a Native Trading Gateway participants might attempt to connect to a different Native Trading Gateway.

Customers will be connecting to one of the available Native Trading Gateways. Participants must connect to the Real-Time channel before connecting to the corresponding Recovery Channel.

Following this any missed messages or Execution Reports generated by the system whilst participants are disconnected can be recovered via a Missed Message Request.

If a service interruption occurs in the Native Recovery Channel (due to Order Cache outage) the Native Gateway will send a *System Status* message to all logged in clients of that gateway's recovery channel with AppID stamped to indicate the service non availability of the partition. When this message is received, the clients are expected identify that the recovery service is not available for the partition indicated by AppID. They would be able to continue recovery activities on other partitions without interruptions. If the gateway was in the middle of serving a *Missed Message Request*, it will send a *Transmission Complete/Missed Message Report* message with 'ResponseType' = 3 (service unavailable) to the client. If a new *Missed Message Request* is sent by a user, the gateway will reject the message with a *Missed Message Request Ack* message with 'ResponseType' = 3 (service unavailable) to the client. Once the service is available again, Native Gateway will send another *System Status* message with AppID to indicate the service availability of the partition to the clients who are still connected on to the recovery channel with 'AppStatus' = 1. When this message is received, the clients are expected to resend the request for missed messages (preferably from the point of interruption) to the gateway to resume the missed message recovery.

**Disaster Recovery Site**

Millennium Exchange operates in cold standby mode. In the event of total loss of the Primary Site London Stock Exchange will activate the Disaster Recovery Site. This procedure is expected to take in the order of 2 hours.

In the event of disaster recovery only trades that have been sent to participants via a Trade Capture Report (TCR) from the Post Trade Gateway will be guaranteed to have been sent to clearing and settlement (if applicable). Participants should disregard any trades for which only the Execution Report (and not the TCR) has been sent.

Once the Disaster Recovery Site is active then all order and quote books will be cancelled and the trading system will be re-started.

Participants should note that no updated Execution Reports will be sent identifying those orders cancelled together with the activation of the DR site.

Following the Disaster Recovery invocation, participants should connect to the Disaster Recovery Gateways.

Any requests for missed messages on the Native Recovery channel will not return any messages from the Exchange.

All instruments will be reinstated in an auction call state. Instruments for which this is not applicable will be reinstated to a Pre-Mandatory Trading Session.

Following recovery to the Disaster Recovery Site it is recommended for all participants to:

- execute an Own Trade Download to confirm which trades have been sent to clearing and settlement
- execute an Own Order Book Download to confirm that no orders are currently active

## 2.6. FTP/SFTP Reference Data

MIT 305 and 306

Reference data will be available in PRODUCTION environment for all customers upon FTP and SFTP connection to the server:

- For **Borsa Italiana** markets

- PDC
  - 81.174.64.61
  - 81.174.64.62
- SDC
  - 81.174.64.189

Standard username and password available for the connection are:

User: **trm2USER**

Pw: **F1les4You**

- For **EuroTLX** markets

- PDC
  - 81.174.64.64
  - 81.174.64.66
- SDC
  - 81.174.64.192

Standard username and password available for the connection are:

User: **tlxUSER**

Pw: **RefD4t4TLX**

Should the number of messages that need to be re-sent exceed 2000 then only the last 2000 messages will be re-sent. Customers will be required to send a Resend Request to recover the remaining messages.

## 2.7. Connectivity test

In order to facilitate connectivity tests a tcp responder and heartbeat generator service is available on Millennium IT platform out of market hours.

The connectivity service (response to TCP telnet and multicast heartbeats generators) is available for BIT Main markets:

- Every day of the week (week end included) between 8.30 pm CET and 11 pm CET
- From 8.30 pm CET on Saturday to 11 pm CET on Sunday

All the TPC gateway for Main Market are available (both PDC and SDC).

Please note that **login will not be available (only telnet)**.

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Client Support



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