



Connecting to MexDer



CONTENTS

INTRODUCTION	1
1. MEXDER'S NETWORK DESCRIPTION	2
2. CONNECTIVITY SCHEMES FOR REMOTE MEMBERS	3
2.1 SCHEME A: CONNECTION THROUGH THE BMV GROUP NETWORK	3
2.2 SCHEME B: CONNECTION VIA BT	5
2.3 SCHEME C: CONNECTION VIA MEXDER'S NODE	6
2.4 CO-LOCATION	7
2.4 MEXDER'S TRADING POINT OF PRESENCE IN NEW YORK	9
3. CONNECTION TO THE TEST ENVIRONMENT	10
MEXDER VPN CONNECTION CONDITIONS	
TESTS CALENDAR	
HOURS	
ACCESS CODES TO THE TESTING ENVIRONMENT	
INQUIRIES & COMMENTS	
CONTRACTS AVAILABILITY AND MARKET INFORMATION	
4. CERTIFICATION AND CONNECTION TO PRODUCTION	11
5. CONTACT MEXDER	11



INTRODUCTION

MexDer offers MexFix, which is an interface, developed in FIX (Financial Information eXchange) protocol version 4.4.

This mechanism allows Members to connect remotely to our market using their own front-end trading system or any other developed by a MexDer-certified Independent Software Vendor (ISV).

The purpose of this manual is to supply the technical elements necessary for current and potential MexDer members and ISVs to establish a remote connection through MexFix with the following information:

- a) Network Description.
- b) Communication: Requirements and alternatives.
- c) Testing Environment: Technical specifications.
- d) Accessing MexFix production environment: Procedure.

In addition you will find further information in our website: http://www.mexder.com.mx/wb3/wb/MEX/mexfix/_rid/5?lng_act=lng_step2&language=en which contains: technical documents, interface examples, and encryption tables for MexFix.

To connect to MexDer via MexFix, please contact us by phone (5255) 5342 9924, (5255) 5342 9927 or by e-mail: ftsc@grupobmv.com.mx.



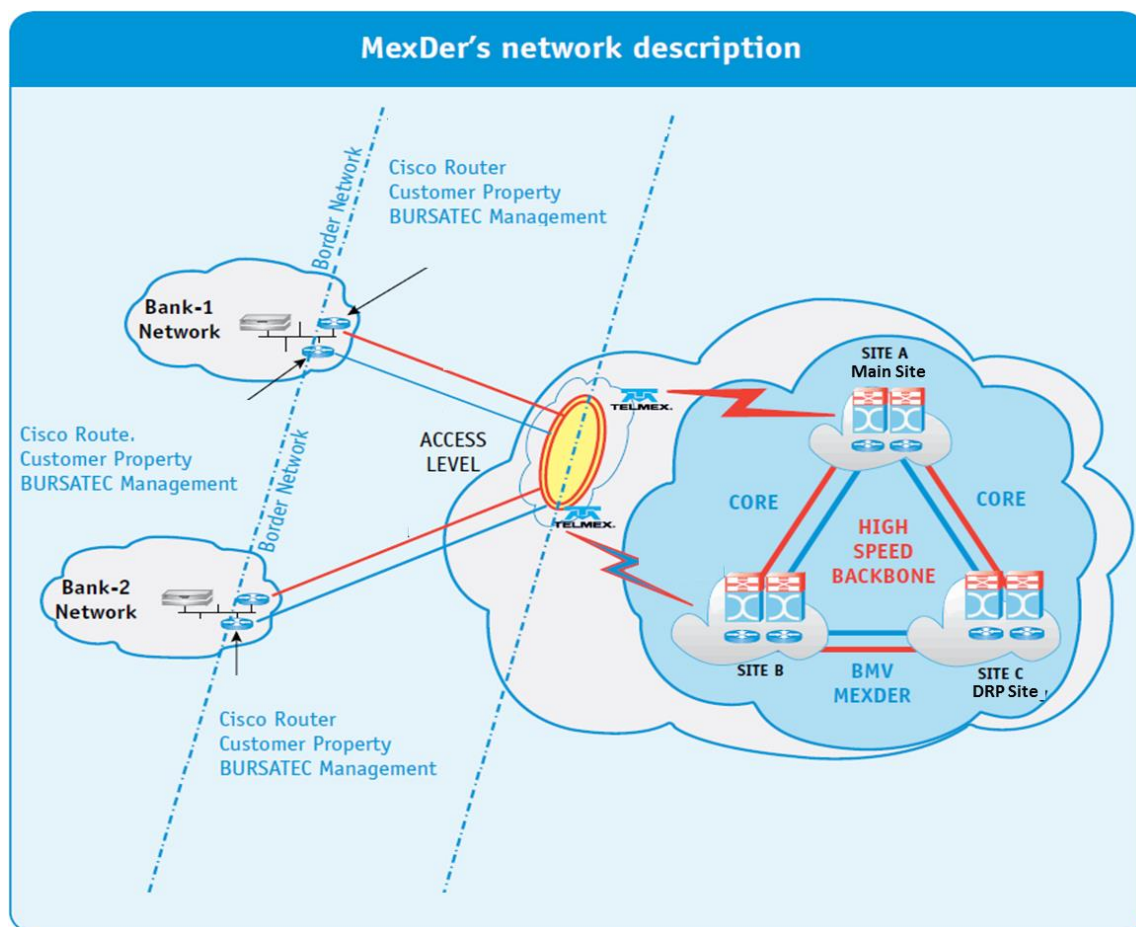
1. MEXDER'S NETWORK DESCRIPTION

MexDer's network is based on an infrastructure with redundant servers, connectivity and data center. It has three different data centers linked by a high-speed "Back Bone" that supports active-active and active-standby configurations.

The network has two levels: the CORE level and the ACCESS level.

The CORE level is the network of the Mexican Stock Exchange Group (BMV Group), which consists of a high-speed Back Bone network. At this level, the network does not allow any type of external connection, thus the network is secure and highly available.

The ACCESS level receives all the external connections from the Exchange's Members. This scheme offers to the participants both redundancies, at the ACCESS level and at the CORE level, providing a Service Level Agreement (SLA) of 99.85% in the external site, and of 99.99% in the internal site.



2. CONNECTIVITY SCHEMES FOR REMOTE MEMBERS

To access MexDer's systems via MexFix, you will need leased lines to trade remotely. Each member will be responsible of leasing and using those lines.

There are three different connectivity schemes to access the network remotely as described below.

2.1 SCHEME A: CONNECTION THROUGH THE BMV GROUP NETWORK (Financial Network)

Financial network is a design with Carrier Ethernet architecture provided by Telmex. Financial Network's links can be hired in all National territory and U.S.A.

The main features of the financial network service for the clients are the following ones:

- Ethernet links with a bandwidth from 2 Mbps to 100 Mbps.
- Pair of links delivered per main site.
- It's possible to deliver only one link for a remote site.
- SLA of 99.99%.
- The links are handled on the Active/Standby scheme.
- Main BMV Data Center and Alternate Data access through the Financial Network.
- Access to the Test-develop Environment in the Alternate site.
- Clearly delimit of a network border between Members/ISV's and BMV.
- BMV Group IT team is responsible of the administration of the routers used for the access to the Financial Network; also assign the IP addressing to configure by the Member in their segment network.
- The links have the same cost in all the national territory.
- Financial Network is administrated by BMV Group IT team.
- The Member cannot directly hire the links with Telmex. BMV Group IT team is in charge of this process.
- Under no condition, the Financial Network service can be used to have the BMV network as a flow system.
- This service is provided only by Telmex, therefore there is no possibility of connecting to the Financial Network with any other Carrier.

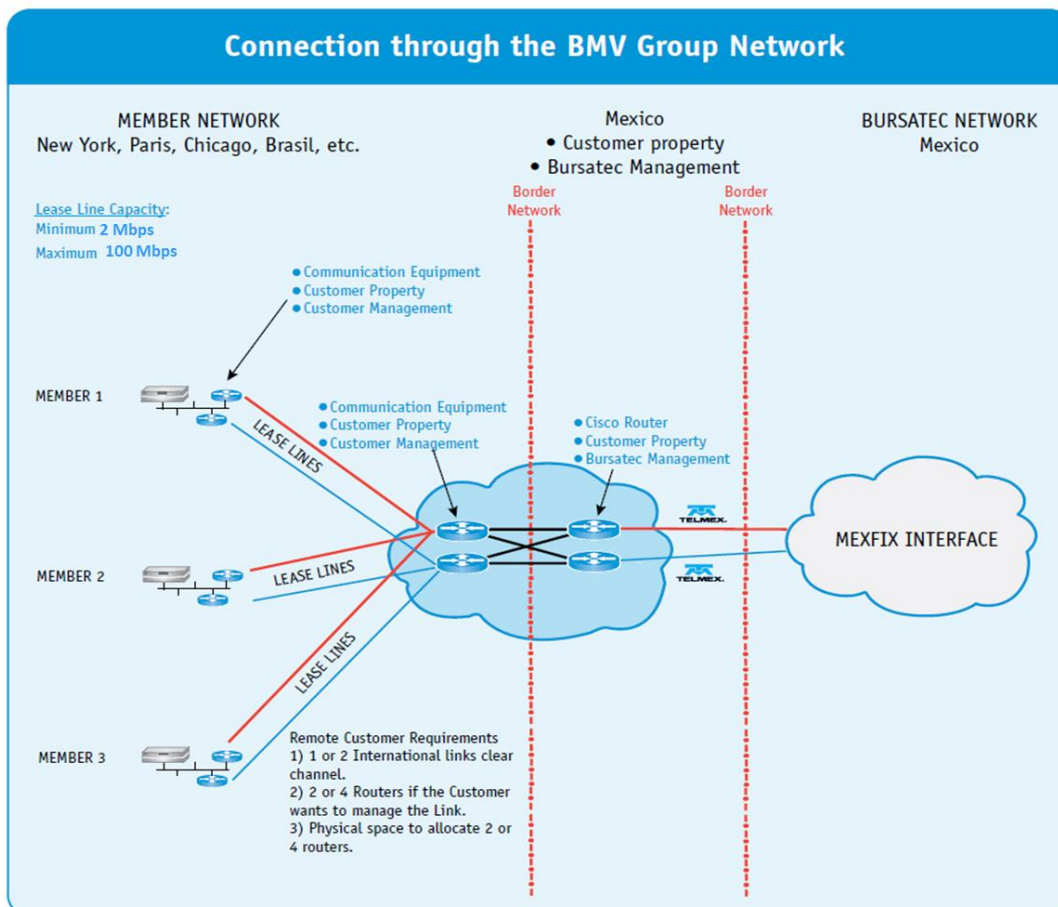
Members that want to connect directly to the BMV Group network must accomplish with the following requirements:

- Two CISCO 2911 routers (minimum required). This hardware will be connected to the BMV Group network and will be managed by BMV Group IT team, which will be called "Access Routers".
- Connectivity hardware owned by the member or ISV required to connect to the ACCESS level, such as Switches, Routers and/or Firewalls. The hardware will be hosted in the Client's Node and will be interconnected to the Access Routers.

- Two Ethernet links, leased from Telmex, which will offer an SLA of 99.85 from the Client's Node to the CORE level of the BMV Group network.
- Depending on your needs one or two international leased lines with the carrier and technology of your choice to the Client's Node.
- Hosting in Mexican territory for the Access Routers, in the Data Center of your choice.
- Physical space of approximately 6m² (65 ft²) to install Telmex's hookup with optical equipment, which we will call "Client's Node", hosted in the same Data Center as the Access Routers.

The minimum suggested bandwidth is 2 Mbps, with another redundant line of the same capacity.

The Access Routers may interconnect with the routers or communications hardware of the member or ISV, thus establishing a network border.



The requirements for hiring the Financial Network system are the following ones:

- Representation office in National Territory.

- Master Account of Telmex for the links billing.
- Router Cisco 2911 or better capabilities for link hired. This router is administrated by BMV Group IT team.
- Meet Telmex technical requirements of electrical energy, space, environmental conditioning.
- Fill and deliver the Attached I to BMV Group IT team in order to manage the contracting of the links with Telmex.

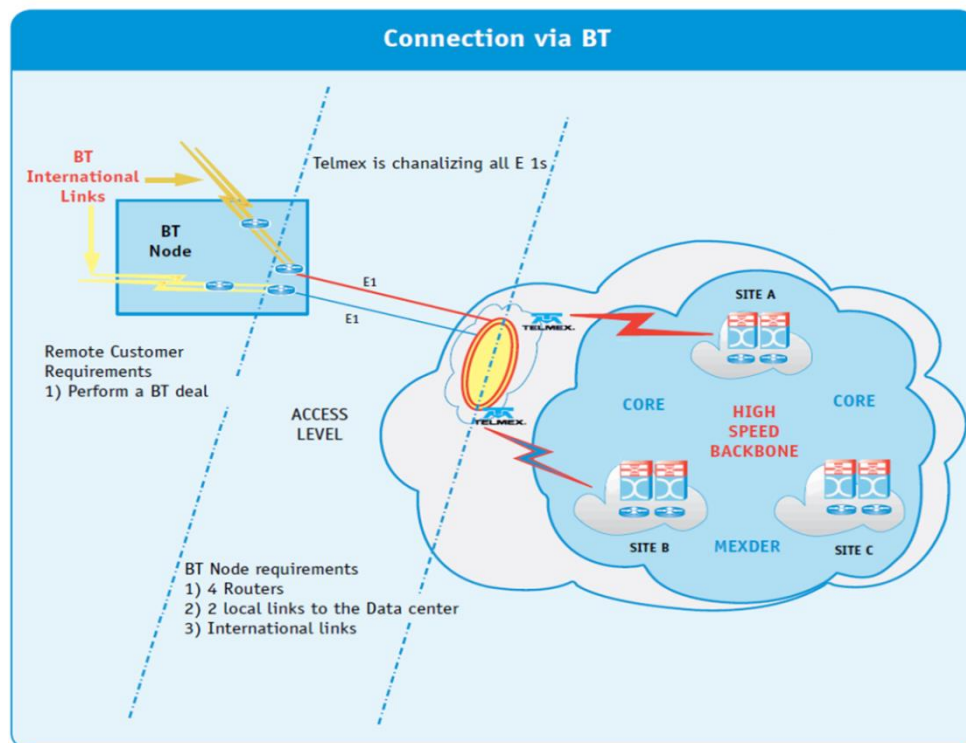
2.2 SCHEME B: CONNECTION VIA BT_RADIANZ

BT Radianz is a leading world provider of secure, reliable and scalable connectivity to the global financial community.

- It has a node in Mexico connected to the BMV Group network, called “RadianzNet”.
- It supplies connection services to MexDer and MexFix.
- Members sign an agreement with BT.
- BMV Group IT team, supplies the IP addresses for this type of connection.
- Minimum of 1 Mbps bandwidth.
- For more information and pricing, please contact BT.

BT Radianz New York Sales

Phone: +1-212-205-1800



2.3 SCHEME C: CONNECTION VIA MEXDER'S NODE

For those members who do not wish to connect directly to the BMV Group network, MexDer has the communications equipment (Routers and Ethernet links) required for CORE access. This allows them to connect to the network with less investment but with the same level of security.

This type of connection has a recovery cost depending on the bandwidth required. MexDer will notify this cost to the member at the time it is requested.

The member only needs to supply the international leased lines to MexDer's node in Mexico, with a minimum speed of 1 Mbps each with the carrier of its choice.

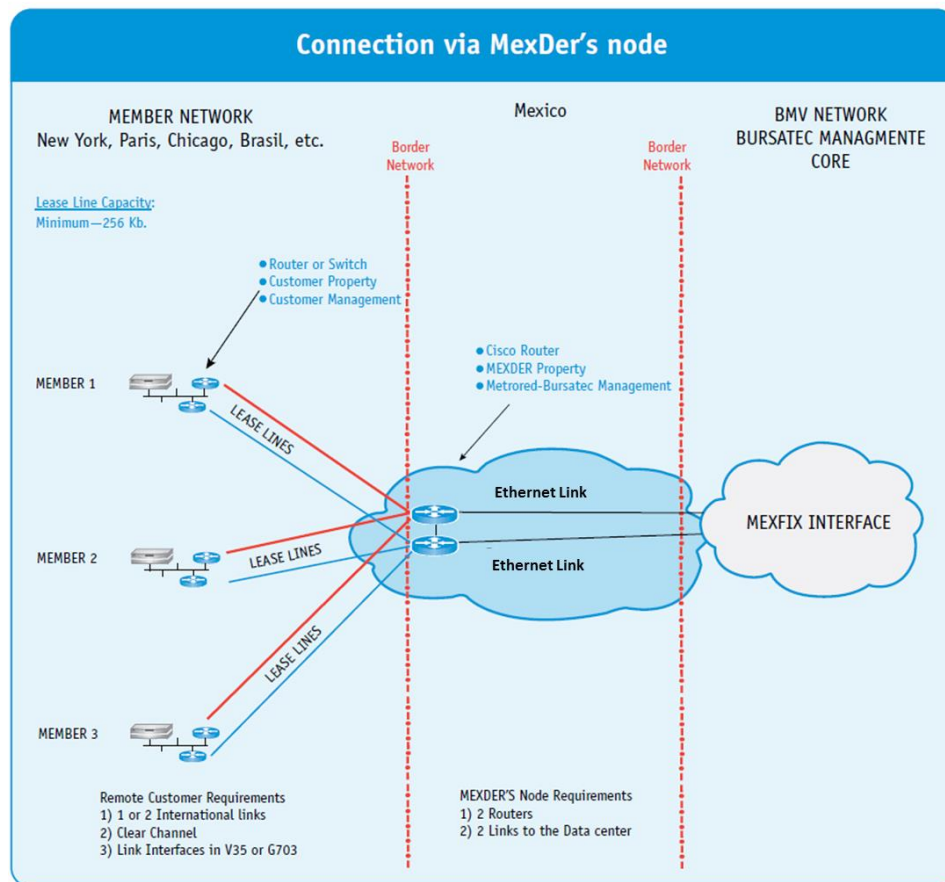
One supplier of this service in Mexico is Metrored (Bestel), among others.

Contact Metrored:

Sergio García Cazariego

Phone: +52 (55) 4000 2517

e-mail: sgarciaca@bestel.com.mx



2.4 CO-LOCATION

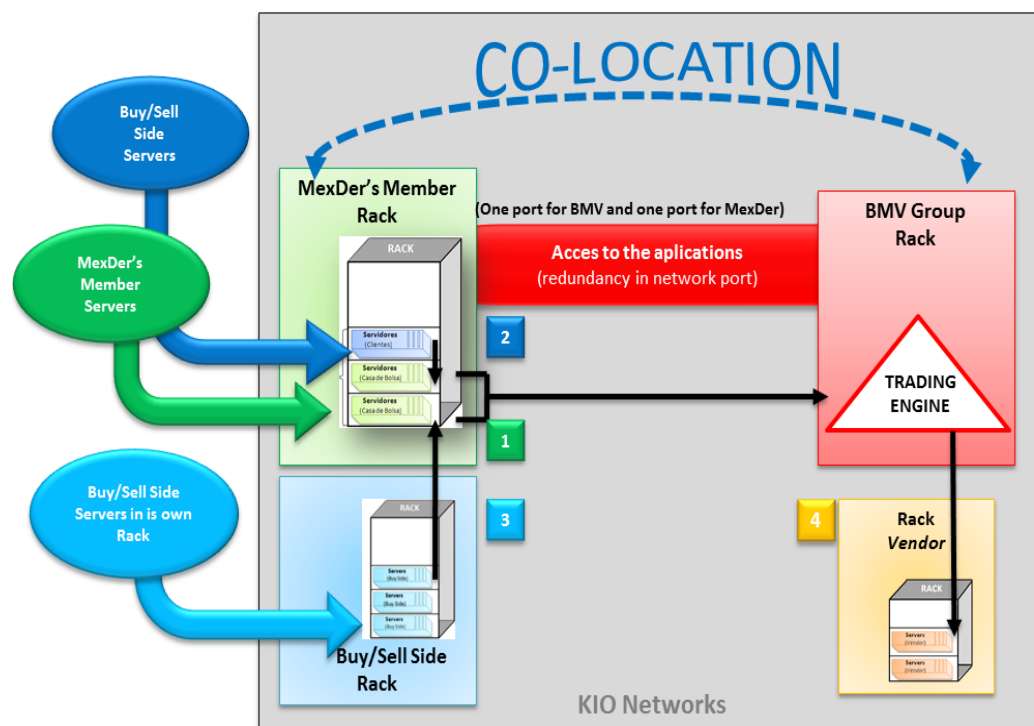
Members of Cash and Derivatives Markets as well as Vendors can co-locate their trading servers and proprietary algorithms next to BMV Group's matching engine seeking latencies below 1 ms (server to server).

The features of this service for the stock exchanges are the following ones:

- Back-to-Back connection with the MexDer's Trading Engine "Monet"
- Ethernet links with a 1 Gbps bandwidth.
- A Pair of links per Member for having high availability is delivered.
- SLA less than or equal to 1ms.
- The links are handled on the Active/Standby scheme.
- Access to the main Data Center of MexDer through the Co-Location Network. Alternate Data Center is not allowed.
- Clearly delimit of a network border between Member and MexDer.
- The Member can hire any carrier to establish the connectivity between their own Data Center and their equipment in the Co-Location network.
- Under no condition, the Co-Location Network service can be used to have the MexDer network as a flow system.

The requirements for hiring the service of the Co-Location network are the following ones:

- Hire, previously authorization of MexDer, the necessary space in the cabinet in the Co-Location Network.
- Choose the adequate Network topology for the Back-to-Back connection with Monet, according to the document "Supported Interconnections of Co-Location".
- Complete the hiring process with MexDer.



1

The MexDer's Member sends his orders to the Matching Engine in Co-Location

2

The Buy/Sell Side placed servers in Members' cage

3

The Buy/Sell Side has his own space and connect to the servers of the Member

4

The Vendor has his own space and receives data feeds in Co-Location for re-distribution

2.5 MEXDER'S TRADING POINT OF PRESENCE IN NEW YORK

With this connectivity scheme, MexDer offers a Point of Presence in Equinix NY5 data center to international customers who don't have a point of presence inside the country and are interested in acquiring access to services and/or applications provided by MexDer.

This solution provides to the client a direct access to the MexDer's Core network, through dedicated circuits.

Each customer shall be responsible for the configuration of his own equipment and if requested, MexDer will offer support of its implementation.

Cross connection between cages/racks are requested by means of a Letter of Agency (LOA) and paid directly by the contracting party.

For more information please contact:

ventaspi@grupobmv.com.mx

Market Data Multicast Sells

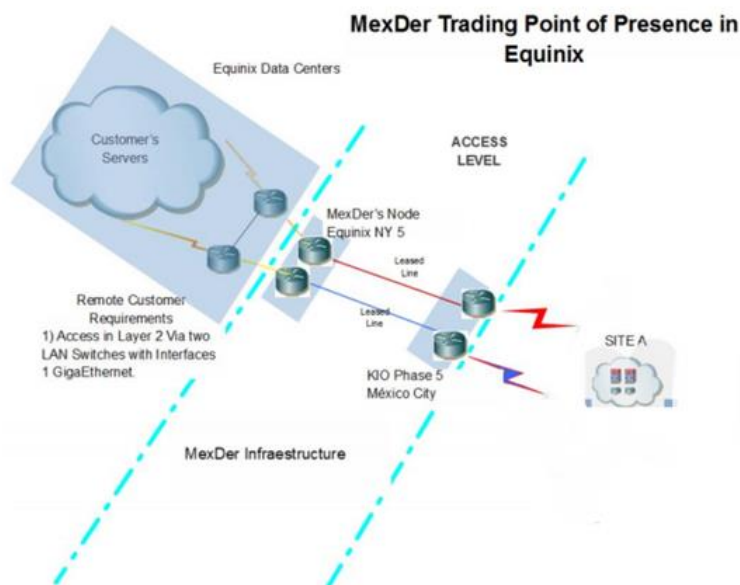
lvazquez@grupobmv.com.mx

Business and Fees

ecalderong@grupobmv.com.mx

Market Data and Trading through FIX Protocol

ispencer@grupobmv.com.mx



3. CONNECTION TO THE TEST ENVIRONMENT

MexDer has a testing environment on which the members and ISVs can certify and verify the functionality of your Systems. It is important that the users previously read the documents published in our website at:

<http://www.mexder.com.mx/wb3/wb/MEX/mexfix>

It includes interface specifications, examples, encryption tables, etc.

Updated versions of MexFix will be available in the test environment, which may be placed in production in the future.

The test environment servers are accessed via the Internet, using a site-to-site VPN that uses encryption and security measures to ensure that only authorized personnel can access the network.

The requirements are:

- Internet access by Site to Site tunnel.
- User must provide a public IP to establish the SetPeer.
- CISCO brand remote equipment with IPSEC 3DES support.
- Fill out the information exchange form as a key, encryption method, etc.
- Fill out the application for the testing environment (Attachment A) and e-mail it to: ftsc@grupobmv.com



MEXDER VPN CONNECTION CONDITIONS

A fixed IP Internet address is required on the user side, which allows the connection from the port for the service, as well as a client VPN (SW or HW) for establishing a secure connection.

We recommend that remote users have an available capacity of 512 Kbps (both upload and download) in their link to the Internet.

TESTS CALENDAR

Business days (trading days for MexDer), as published each year by the National Banking and Securities Commission.

HOURS

From 09:00 to 17:00 hrs. Mexico City time (GMT -06:00).

ACCESS CODES

In order to connect to the testing environment, MexDer assigns FIX Sessions, which is independent of the production FIX Sessions. Those FIX Sessions are requested through the Attachment A.

INQUIRIES & COMMENTS

Any inquiry or failure to report regarding the testing environment or MexFix interface should be communicated by e-mailing the format in Attachment B to ftsc@grupobmv.com.mx.

CONTRACTS AVAILABILITY AND MARKET INFORMATION

Any future or option contract listed on MexDer can be tested in this environment. Users should be aware that the market information in the testing environment does not necessarily bear any relation to reality (the production environment), because it depends on the tests participants.

4. CERTIFICATION AND CONNECTION TO PRODUCTION

Once the trading system is developed and testing has concluded, members should notify MexDer by filling out Attachment C and requesting a System Certification test. The company's legal representative must sign this document. The customer releases MexDer from any liability for the functioning of externally developed systems.

MexDer reserves the right to publish on its website the names of the Members or ISVs that have developed MexFix-compatible interfaces.

In addition to the above, members must meet certain legal requirements in order for MexDer to assign them FIX Sessions and IP addresses for the production environment, so they can begin their trading activity.

5. CONTACT MEXDER

Phones:

Edgar Calderón García
(52-55) 5342 9924
Isaac Spencer Valencia
(52-55) 5342 9927

e-mail: ecalderong@grupobmv.com.mx
ispencer@grupobmv.com.mx

