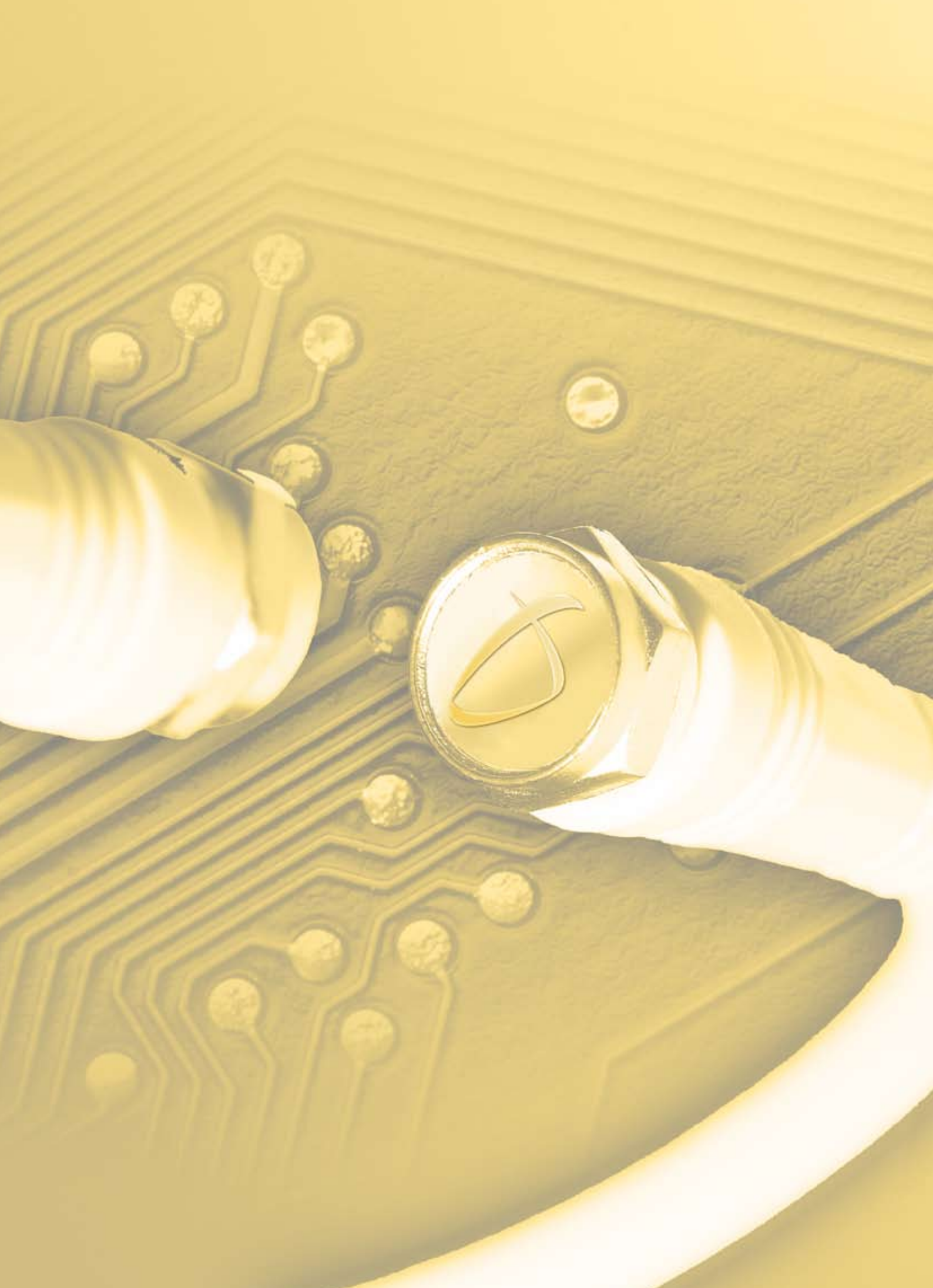


CONNECTING TO MEXDER





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CONNECTING TO MEXDER



## 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/MEX/MexFixEnglish.html> which contains: technical documents, interface examples, and encryption tables for MexFix.

To connect to MexDer via MexFix, please contact us by phone at 1866-MEXDER1 or (5255) 5342 9999, or by e-mail: [members@mexder.com](mailto:members@mexder.com).

The information contained in this document is subject to changes or updates without prior notice.

## 1. MEXDER'S NETWORK DESCRIPTION

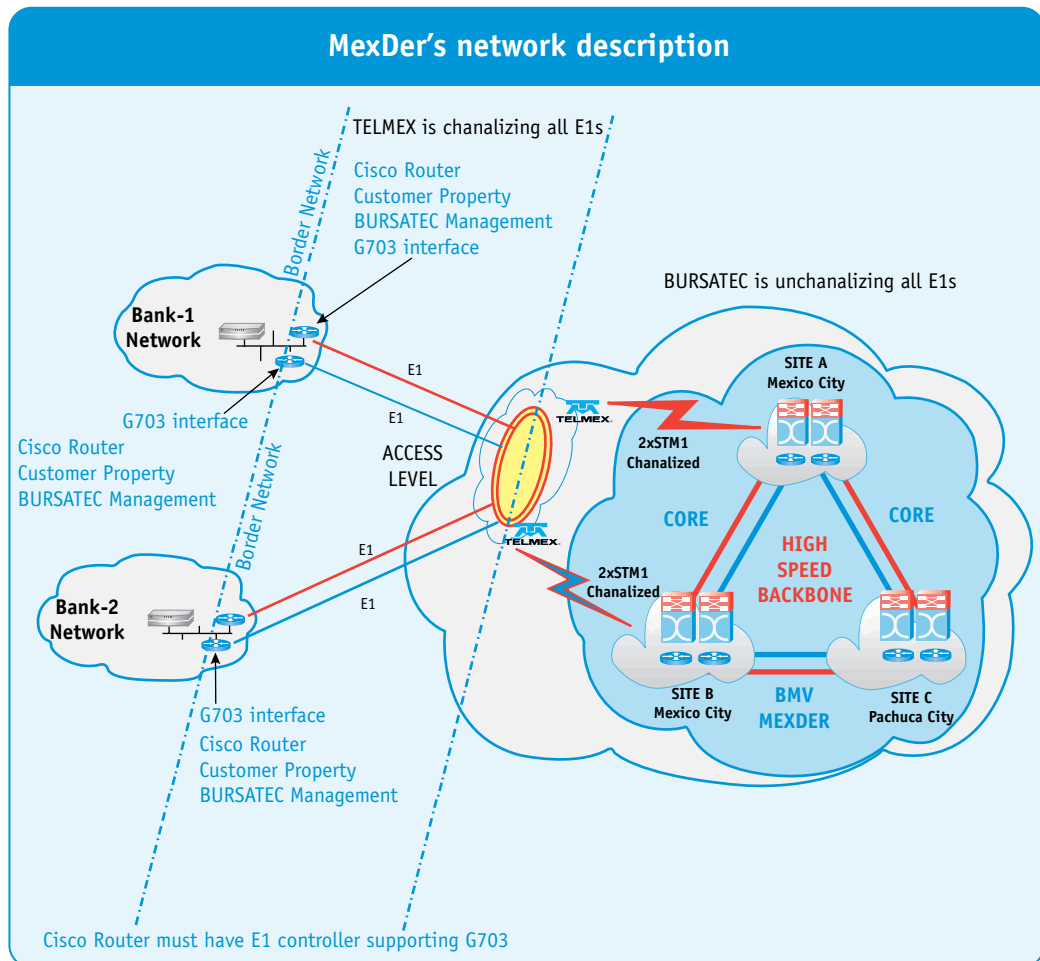
MexDer's network is based on an infrastructure with redundant servers, connectivity and data center. It has three different data centers linked by a high-speed "Back Bone" that supports active-active and active-standby configurations.

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 lease 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

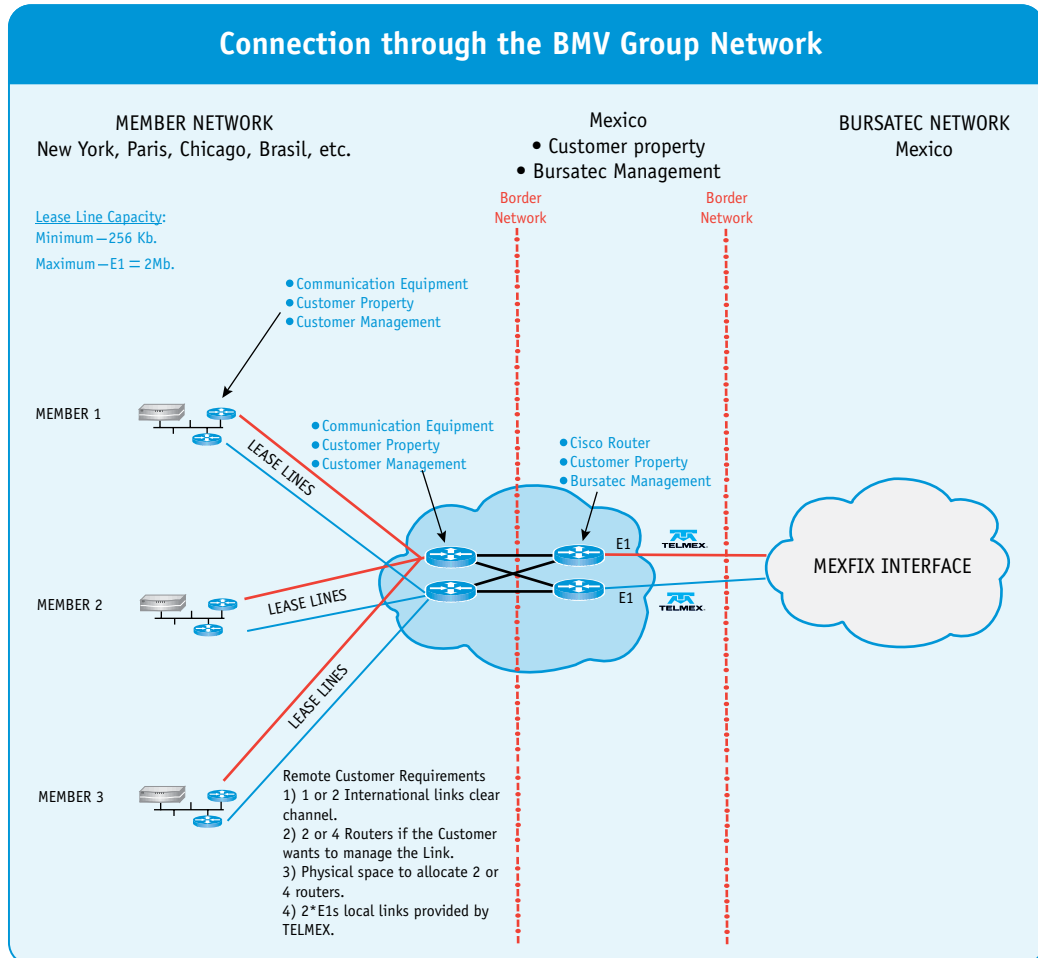
Members that want to connect directly to the BMV Group network must have the following:

- Two CISCO 1800 routers (**minimum required**), with E1 controller cards. This hardware will be connected to the BMV Group network and will be managed by Bursatec (MexDer and BMV Group IT Company), 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 Clear Channel E1s, 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 6m<sup>2</sup> (**65 ft<sup>2</sup>**) 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 256 Kbps, 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.

## Connection through the BMV Group Network



## 2.2 SCHEME B: CONNECTION VIA BT

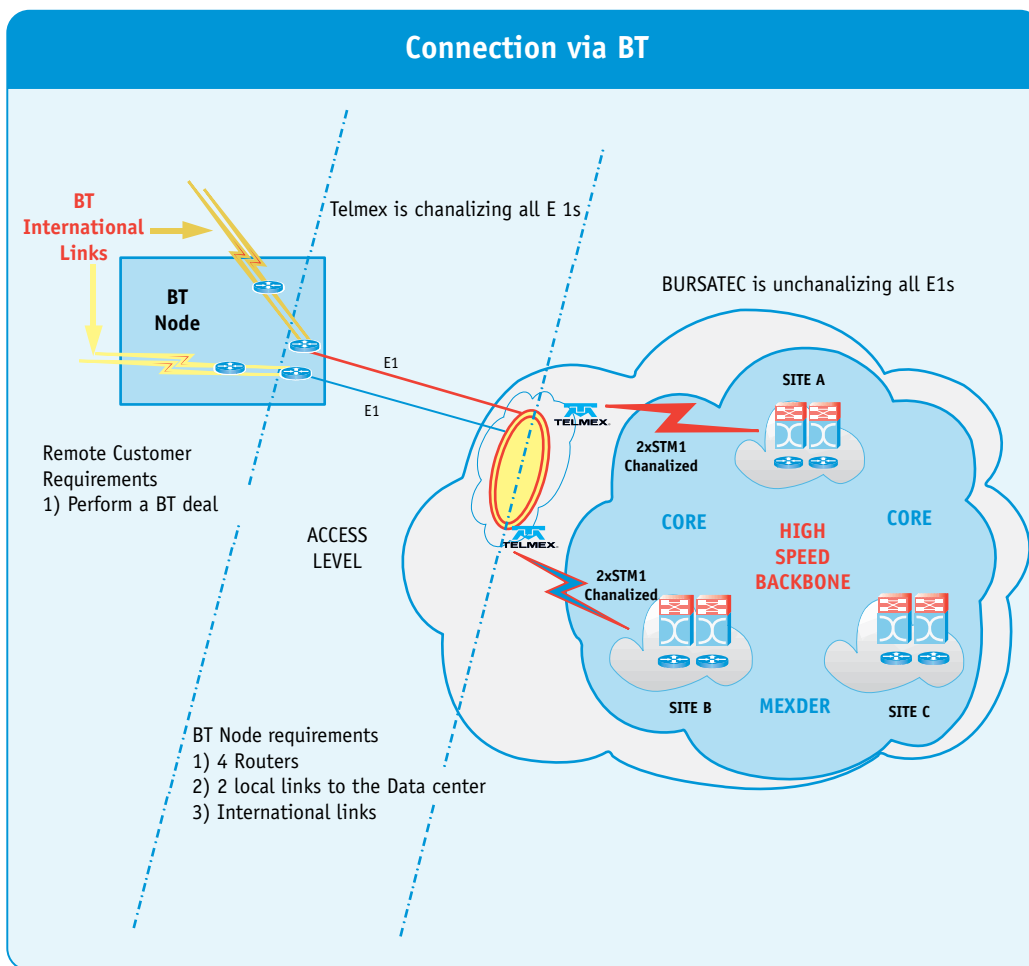
BT is a leading world provider of secure, reliable and scalable connectivity to the global financial community.

- 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.
- Bursatec supplies the IP addresses for this type of connection.
- Minimum of 256 Kbps bandwidth.
- For more information and pricing, please contact BT.



**Contact BT:**

**BT Radianz New York Sales**  
 Phone: +1-212-415-4694



**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 E1 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 256 Kbps each with the carrier of its choice.

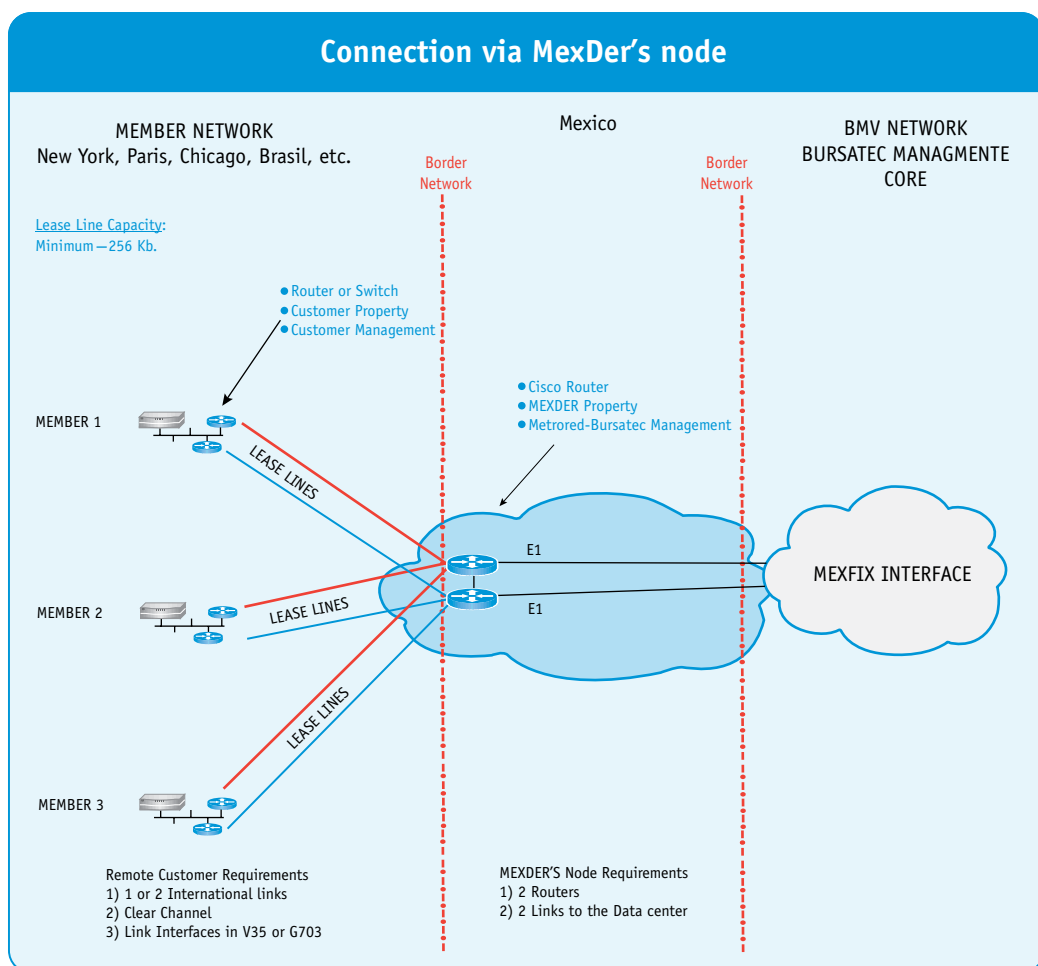
One supplier of this service in Mexico is Metrored ([Wisenet](#)), among others.

**Contact wisenet:**

**Garbiñe De La Mora**

Phone: +(5255) 1084 9024

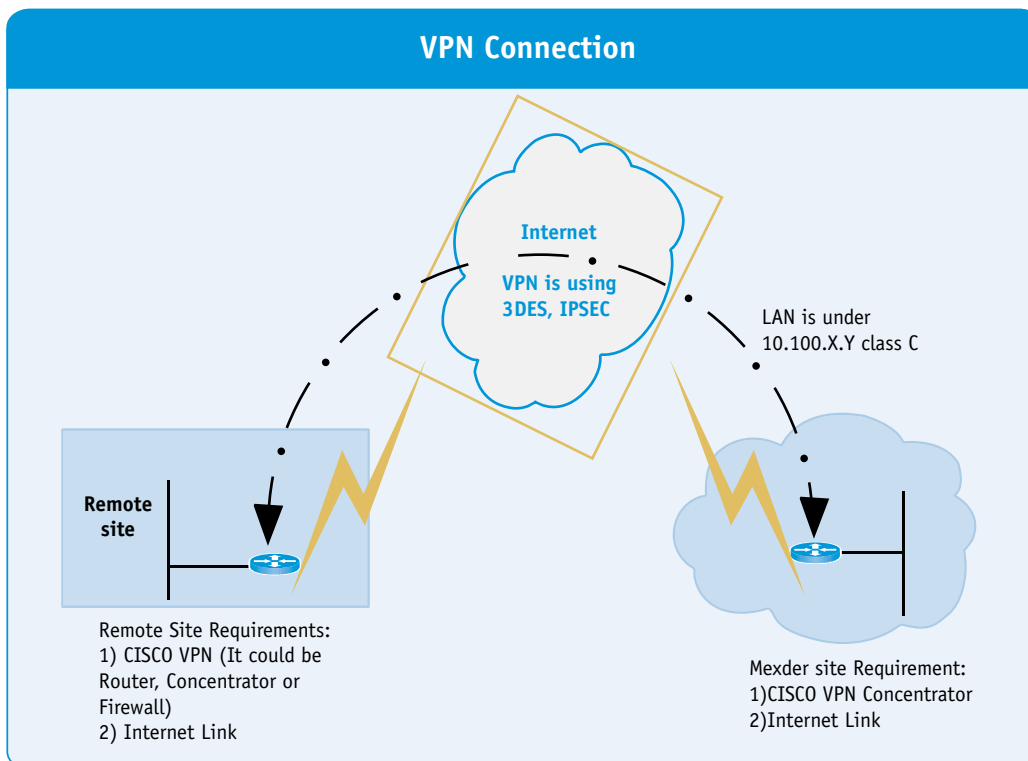
e-mail: garbine.delamora@metrored.com.mx



## 2.4 VPN CONNECTION

A communication tunnel can be established between the LAN networks of both institutions, over the Internet, however MexDer does not recommend this alternative nor guarantees the availability of the service. The exchange reserves the right to accept or refuse this type of connection given that the Internet is a public network and is not subject to any SLA parameter at all, and it cannot guarantee response times or system security.

- The BMV Group network has a VPN concentrator for establishing this type of connection, in which information is transmitted on an encrypted way.
- The VPNs must be site-to-site; in other words, between the VPN concentrator (owned by BMV Group) and a remote CISCO equipment like a router, concentrator or firewall.
- 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 all remote users to have an available capacity of 512 Kbps (both upload and download) in their link to the Internet.





### 3. CONNECTION TO THE TESTING ENVIRONMENT

MexDer has a testing environment on which you can 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/MEX/MexFixEnglish.html> which includes interface specifications, examples, encryption tables, etc.

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

The testing 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 hardware requirements are:

- Internet access by the remote user.
- 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: [mexfix@mexder.com](mailto:mexfix@mexder.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 10:00 to 17:00 hrs. Mexico City time (GMT -06:00).



## ACCESS CODES

In order to connect to the testing environment, MexDer assigns a Member Password, which is independent of the production password. This password is 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 [mexfix@mexder.com](mailto:mexfix@mexder.com).

## CONTRACTS AVAILABILITY AND MARKET INFORMATION

Any futures or options 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.

This document must be signed by the company's legal representative and 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 passwords and IP addresses for the production environment, so they can begin their trading activity.

## 5. CONTACT MEXDER

Phones: 1866-MEXDER1 or (52-55) 5342 9999  
e-mail: [members@mexder.com](mailto:members@mexder.com) and [mexfix@mexder.com](mailto:mexfix@mexder.com)



CONNECTING TO MEXDER



A stylized graphic in shades of blue and yellow. The top and bottom sections are solid yellow. The middle section is light blue with a white vertical line down the center. Two dark blue, hand-like shapes are positioned on either side of the white line, appearing to shake hands. The left hand is on the left side of the white line, and the right hand is on the right side. They are oriented towards each other, with their fingers pointing towards the center.

## CONNECTING TO MEXDER

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E-mail: [members@mexder.com](mailto:members@mexder.com)

[www.mexder.com](http://www.mexder.com)