Long-Term Stock Exchange

LTSE Very Simple Market™ Connectivity Guide

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Introduction

The Long-Term Stock Exchange's (LTSE), Very Simple Market™, primary trading platform is located in the Equinix data center (NY4) in Secaucus, NJ, is accessible to Members, Sponsored Participants, Service Bureaus, Data Recipients and Extranet Providers. LTSE has a secondary data center (for Disaster Recovery or DR) at the Equinix data center (CH2) in Chicago, IL. Connectivity to the DR center will not be mandatory for all participants however it is recommended to minimize service disruption in the event of a disruption of the primary system.

The LTSE test facility is cloud based and accessible through an internet connection. Participants may use the test facility for FIX certification and non-production testing of the trading system functionality.

Please note that all connectivity options are subject to the possibility of variations in performance, including delays to system access and trade execution for a number of standard capacity reasons and market conditions.

LTSE Connectivity Data Center Locations

LTSE POP	Disaster Recovery	Test Facility
Equinix (NY4) 755 Secaucus Rd., Secaucus, NJ	Equinix (CH2) 350 East Cermak Rd., Chicago, IL	Internet IP: [contact Market Operations]

LTSE supports the following network connectivity choices for access the the system:
- Internet for certification or test sessions to the test facility
- Cross-Connect
- Extranet Providers
- Private line

	Primary Site	Disaster Recovery	Test Facility
Data Center	NY4 Equinix Secaucus, NJ	CH2 Equinix Chicago, IL	Internet
Site Status	Primary	Warm/Secondary	Test available 24/6
Circuit from Telco	Yes	Yes	No
Access to Production	Yes	No	No

Access to Disaster Recovery	No	Yes	No
Access to Test Facility	No	No	Yes
10G Monthly Recurring Connectivity Fees	No	No	No
LTSE Contact	techops@longtermstockexchange.com		

LTSE will support 10Gbps physical interface only for the Production and Disaster Recovery sites. The Test Facility will be available by internet connection.

Connectivity Choices

Cross-Connect

Participants and Extranet Providers may cross-connect to LTSE at Equinix Secaucus (NY4) for access to the primary system. Participants and Extranet Providers with a presence at the Disaster Recovery site may cross-connect to LTSE at Equinix Chicago (CH2) for access to the Disaster Recovery site.

- Participants and Extranet Providers with their own space in the data center may request an in-house cross-connect directly from the data center providers to connect from the Participants demarcation point to LTSE's demarcation point.
- Participants and Extranet Providers that do not have a presence can lease space in either datacenter from the data center providers directly.
- Single mode fiber - 10Gbps
- Participants and Extranet Providers desiring to cross-connect must execute an LTSE Connectivity Services Agreement and Physical Port Order Form

Extranet

Participants may access LTSE by an Extranet provider
- Extranets have provisioned connections to the Production and Disaster Recovery sites.
- Contact information for available extranet providers can be obtained by contacting techops@longtermstockexchange.com

Reasons for using an Extranet provider
- Ease and speed of turn-up are important
- Outsourcing of network services and network management is an option

Direct Connection via Private Line

Participants and Extranet Providers may connect to LTSE by Private Line
- LTSE does not provide co-location.
- Cross-connect from Telco demarcation point to LTSE's network with a 10 Gigabit Ethernet interface.
- Contact your carrier of choice to arrange connectivity to LTSE.
- Participants and Extranet Providers desiring direct connectivity must execute an LTSE Connectivity Services Agreement and Physical Port Order Form.

Internet

Participants may connect over the Internet to the Test Facility
- IP Address of the host presented to LTSE must be registered.

Ordering a Cross Connect

Agreement and Order Form

Participants must execute and deliver a LTSE Connectivity Services Agreement and Physical Port Order Form by email to techops@longtermstockexchange.com.

LOA

Upon approval of a cross-connect request, LTSE Technology Operations will provide a Letter of Authorization (LOA) with the cage, cabinet, panel and port pair assignment. The Participants or Extranet Provider requesting the cross connect is known as the primary side.

Data Center Provider Request

Participants or Extranet Providers submit a cross-connect request with the appropriate data center provider (Equinix NY4 and CH2) in the case of the production system. The data center provider will need the LOA and primary side details to complete the connection. The primary side customer is responsible for any data center setup fees and monthly costs associated with the cross-connect. As the primary side customer, the Participant or Extranet Provider is also responsible for initiating troubleshooting requests with the data center provider in the event of a down cross connect.

For the Test Facility contact marketops@longtermstockexchange for access.

Bandwidth, Order Entry Ports and Market Data

Market Data Feed

LTSE will not offer a market data feed to any participant of the Exchange. All trade and quote information will be available on the SIP. There are no hidden order types offered however odd lot orders will be accepted and visible in the Order Book page on the Exchange website.

FIX Order Entry

Bandwidth recommended for submitting orders via FIX depends on expected Participant order volume. However, the Exchange is requiring a minimum 10 Gigabit connection. LTSE supports FIX 4.2 for order entry.

Drop Copy Information

LTSE supports FIX 4.2 for Drop Copy information. The service may be configured to send executions based on various combinations of information relating to a specific Member firm's Clearing MPIDs and sessions. With proper authorization, a single FIX drop copy session can be used to obtain information about multiple Members.

Test Facility

Contact Market Operations for internet connectivity information to the cloud based Test Facility by emailing marketops@longtermstockexchange.com.

Providers for Telecom, Extranet Providers and Support

LTSE will work with most infrastructure providers who have experience with the stringent requirements for financial market participation. Some services providers available within the Secaucus and/or Chicago data centers are mentioned below but are not meant to indicate a LTSE preference or recommendation.

Extranet Providers

Extranet providers are required to sign an Extranet Addendum to the LTSE Connectivity Services Agreement. In order to be considered for the Extranet Provider service, the firm should:

1. Identify themselves as an Extranet in publically available marketing materials.
2. Sign a Connectivity Services Agreement including the Extranet Addendum.
3. Provide customers reliable, redundant physical connectivity to one or more of the Exchange sites: Equinix (NY4) data center in Secaucus, NJ; Equinix (CH2) data center in Chicago, IL.
4. Physical connectivity must be managed by the Extranet Provider
5. Extranet Provider must present customers to the Exchange within their own, dedicated IP address subnet range. Overlapping IP subnets or using a single, NAT address is not permitted.
6. Extranet Provider will provide the Exchange with monthly reporting, detailing customer's name, assigned IP subnet, and subscribed market data feeds.
7. Providers must maintain a staffed network support phone number between the hours of 7:00 AM – 6:00 PM ET.

Support

Please email questions or comments regarding this guide to marketops@longtermstockexchange.com. Support will be provided for all interested parties including Participants, Extranet Providers and telecommunications providers through this email address 24/7 for setup and continued support of connectivity to LTSE. If a call is needed, please use 813-575-2602.