Connectivity Overview

LMAX | Digital

Contents

1. Purpose

This document is aimed at a technical audience and provides an overview of the various connectivity options available to connect to LMAX Digital.

2. Definitions

Application Programming Interface (API)

An API is a set of routines, protocols and tools. A good API makes it easier to develop software by providing the building blocks which are then put together by the members developer.

Cross connect

A length of cable ordered through the data center provider than enables interconnectivity within that data center. This connection is a point-to-point link that connects two parties directly together.

Extranet

A third party that provides many-to-many connectivity, such as connections to trading venues, brokers, and information providers.

Financial Information eXchange (FIX)

FIX has become the defacto protocol of the global financial markets. This non-proprietary, free and open standard is used to complete millions of transactions every day. The FIX 4.4 version contains fields for trade reports which are not present in version 4.2. Both protocol versions are used by LMAX trading venues.

LMAX Proximity, Proximity, LMAX Network

The access network to the LMAX Exchanges and Product set at any or all geographic locations to which the member may have been granted access. The demarcation point is the LMAX interface which terminates the members cross connect, or their Service Providers cross connect.

Member, Trading Participant, End User

The party or parties which hold LMAX Group accounts, irrespective of the method used to connect to the LMAX Network, and irrespective of whether they use the connection for trading or solely to access other services.

Service Provider

Any third party who provides services to the End User, for example Extranets, Co-location Providers, Network Service Providers

2. Contact

Please send an email to **neteng@lmax.com** should you require assistance. The LMAX Network team are based in the United Kingdom and work from *09:00 to 18:00* and will work alongside you to find a suitable solution that meets your requirements.

3. Access Methods

3.1 The Internet

Messages are transferred between LMAX and the member via the FIX or HTTP protocol, running over an SSL (Secure Sockets Layer) TCP/IP connection.

For One-click trading, LMAX offers a trading UI.

For automated trading strategies, LMAX offers the following access methods.

- **API:** Message formats include XML/JSON and members can develop their own wrapper or use the customisable .NET and Java Client Librbaries supplied by LMAX to simplify the integration.

- **FIX protocol:** The member must have an assigned LMAX Username/CompID and Password combination. FIX connections to the LMAX Digital Exchange uses version 4.2 and connections to the LMAX Digital Broker uses version 4.4.

3.2 LMAX Proximity

LMAX Proximity is a resilient low latency private IP network managed by LMAX that enables direct cross-connects within specific data centres to connect to the LMAX Group and is aimed towards automated trading. Members should co-locate their equipment within the same data centre to achieve the lowest latency possible. Encryption of data in transit is not required.

- **API:** Message formats include XML/JSON and members can develop their own wrapper or use the customisable .NET and Java Client Libraries supplied by LMAX to simplify the integration.

- **FIX protocol:** The member must have an assigned LMAX Username/CompID and Password combination. FIX connections to the LMAX Digital Exchange use version 4.2 and connections to the LMAX Digital Broker use version 4.4.

In addition, all major Extranet and Service Providers are connected to LMAX Proximity which offer members a choice of managed services such as hosting and connectivity. LMAX Proximity employs a neutral policy in regards to onboarding service providers, but does require the *LMAX Proximity Service Provider Agreement* to be completed.

4.2.1 LMAX Proximity Points Of Presence

Point Of Presence	Address	Media Types
Equinix LD4/LD5/LD6	Buckingham Avenue, Slough	1 Gig LX/SX

5. London Environment Services

5.1 LMAX Digital Trading Venue

5.1.1 LMAX Digital Broker Services

LMAX Digital	LMAX Proximity		Public Internet	
LMAX Digital Broker Service	Target IP	Port	Target URL/IP	Port
FIX 4.4 Order placement	185.122.246.1	50000	fix-order.london-digital.lmax.com	443
FIX 4.4 Market Data	185.122.246.2	50000	fix-marketdata.london-digital.lmax.com	443
Web based API	185.122.246.5	443	web-api.london-digital.lmax.com	443
Web based trading UI	185.122.246.5	443	web-order.london-digital.lmax.com	443

5.1.2 LMAX Digital Exchange Services

London Professional	LMAX Proximity		Public Internet	
LMAX Digital Exchange Service	Target IP	Port	Target URL/IP	Port
Prime Broker Portal	N/A	N/A	mtf-primebroker.london-digital.lmax.com	443
FIX 4.2 Market Data	185.122.246.4	52000	mtf-marketdata.london-digital.lmax.com	443
FIX 4.2 Order placement	185.122.246.0	50000	mtf-order.london-digital.lmax.com	443
FIX 4.4 Trade Reporting	185.122.246.3	50000	mtf-dropcopy.london-digital.lmax.com	443