LME Systems Connectivity Guide

Version 5.2

Access to LME Systems

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LME IT Service Desk
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Disclaimer

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1 Document Overview

1.1 Purpose

This document aims to provide Members or Vendors wishing to connect to the LME systems across the WAN with appropriate information pertaining to firewall configuration.

1.2 Scope

Systems in scope of this document are all LME 3rd party facing systems, including test environments.

1.3 Document Owner

The LME Networks Operations team is the owner of this document.

1.4 Intended Audience

This document is aimed at IT professionals, project managers and business analysts.

1.5 Pre-requisites and Assumptions

Readers should be familiar with the following system principles and technology:
- Local and Wide-Area networking (LAN and WAN)
- Firewall technologies
- Routing Protocols
- Transport Protocols (UDP/TCP)
- Switching
- Network Address Translation (NAT)
- Domain Name System (DNS)

1.6 Third Party

The LME acknowledges that all product and company names mentioned herein may be the trademarks of their respective owners.

1.7 Document Sections

This reference guide is organised into sections to guide the reader to relevant areas of the document to retrieve the information required to configure and prepare access to specific LME Systems. These sections are:

- LMEnet (COLT WAN Service)
- Community Data Centre (CDC)
- Production Services
- Internet Services
- Market Test Services

1.8 Document Support

If you have any issues or questions regarding the information in this document, please call the LME IT Service Desk on +44 (0)207 113 8550 or alternatively send your queries via email to itservicedesk@lme.com.

2   LMEnet

The tables over the following pages represent the current IP and port assignments for all LME systems which are available to LME Members over the LMEnet WAN service, provided by COLT. These tables are intended to be a generic guide to all systems rather than a mandatory firewall rule base, individual Members should configure the relevant access to the ports/services outlined below based on their own requirements.

All sessions from members to LME systems will be initiated from the member side. Firewall rules should therefore be unidirectional from the member LAN outbound to LME systems, unless otherwise stated.

For more detailed information on the LMEnet product offering, please visit our website:
https://www.lme.com/en/Trading/Systems/LMEnet

2.1   Routing

The below subnets should be routed via the LMEnet service:

Prefixes available via LMEnet		
Address Range	**Subnet Mask (Prefix)**	**Use**
213.86.73.64	255.255.255.192 (/26)	Production DC 1 Unicast Services
213.86.73.128	255.255.255.248 (/29)	Production DC 1 Multicast A Feed Source
213.86.73.136	255.255.255.248 (/29)	Production DC 1 Multicast B Feed Source
213.86.73.0	255.255.255.192 (/26)	Production DC 2 Unicast Services
213.86.73.144	255.255.255.248 (/29)	Production DC 2 Multicast A Feed Source
213.86.73.152	255.255.255.248 (/29)	Production DC 2 Multicast B Feed Source
213.86.73.192	255.255.255.192 (/26)	Market Test (Test A & B) Unicast Services
213.86.73.160	255.255.255.248 (/29)	Market Test (Test A) Multicast A Feed Source
213.86.73.168	255.255.255.248 (/29)	Market Test (Test A) Multicast B Feed Source
213.86.73.176	255.255.255.248 (/29)	Market Test (Test B) Multicast A Feed Source
213.86.73.184	255.255.255.248 (/29)	Market Test (Test B) Multicast B Feed Source
193.93.83.224	255.255.255.255 (/32)	Production and Market Test LMEnet Multicast RP A Feed
193.93.83.225	255.255.255.255 (/32)	Production and Market Test LMEnet Multicast RP B Feed

2.2   WAN Security Policy

The LME has defined a WAN security policy as set out below; no access to systems will be permitted outside these rules.

- All unencrypted data flow between members and LME systems (at present this is only FIX protocol for LMEselect & LMEsmart) must traverse either a secure VPN across the public Internet or the LMEnet. At no time will production data be transmitted across the public internet in plain text.

- LMEsword is the only exception to the above rule as it natively encrypts traffic using TLS and PKI. However, it is mandated that all LMEsword traffic must traverse LMEnet, this is due to the function of the LMEsword system and the higher risk profile that it presents to the LME and Members.

2.3   Domain Name System

The LME has deployed a Domain Name System (DNS) which provides members with the option of using a Fully Qualified Domain Name (FQDN) when connecting to LME systems. While LME does not mandate the use of FQDN it is highly recommended as the key benefits of this service are speed of failover and reduction of administrative overhead.

The LME utilises Global Server Load Balancing (GSLB) to direct traffic to the active application site via intelligent DNS resolution. Members should implement DNS forwarding on relevant local resolvers for the zone **prd.lmexgw.com** to the GSLBs. The IP addresses of the GSLBs are shown below:

Production GSLB IPs		
DC1	DC2	Test (DC1)
213.86.73.99	213.86.73.34	213.86.73.250

3   Community Data Centre (CDC)

The LME Community Data Centre (CDC) offering is the fastest access model for trading on the LMEselect platform. The CDC facilitates the lowest latency solution for algorithmic trading strategies. It enables the user to place their trading application order management system and associated network equipment in an LME-approved data centre which is connected to the LMEselect matching engine via the LME Network.

External network latency is defined as the time it takes a data packet to reach its destination and return an acknowledgement to the originating source, in this case the LMEselect gateway. Latency is dependent on the distance between the source and destination and the network path in between. In trading terms this can be measured by the round-trip time taken by an order execution. The LME manages latency to the point that network traffic exits the LME network (i.e., the CDC cross-connect port, or the LMEselect TAX gateway for traditional connectivity).

3.1   Routing

The below subnets are routed via the CDC & LMEnet service:

Prefixes available via Production CDC		
Address Range	**Subnet Mask (Prefix)**	**Use**
213.86.73.64	255.255.255.192 (/26)	Production DC 1 Unicast Services
213.86.73.128	255.255.255.248 (/29)	Production DC 1 Multicast A Feed Source
213.86.73.136	255.255.255.248 (/29)	Production DC 1 Multicast B Feed Source
213.86.73.0	255.255.255.192 (/26)	Production DC 2 Unicast Services
213.86.73.144	255.255.255.248 (/29)	Production DC 2 Multicast A Feed Source
213.86.73.152	255.255.255.248 (/29)	Production DC 2 Multicast B Feed Source

Prefixes available via Market Test CDC		
Address Range	**Subnet Mask (Prefix)**	**Use**
213.86.73.192	255.255.255.192 (/26)	Market Test (Test A & B) Unicast Services
213.86.73.160	255.255.255.248 (/29)	Market Test (Test A) Multicast A Feed Source
213.86.73.168	255.255.255.248 (/29)	Market Test (Test A) Multicast B Feed Source
213.86.73.176	255.255.255.248 (/29)	Market Test (Test B) Multicast A Feed Source
213.86.73.184	255.255.255.248 (/29)	Market Test (Test B) Multicast B Feed Source

3.2   Connection Specifications

- 1000Mbps physical access port.
- Multimode Fibre (MMF) Connections.

3.3   Connection Recommendations

The LME recommends physical diversity using 2x Ethernet cross connects from the Member's presence to the LME's presence.

The CDC Data Centre is only located in InterXion Lon 1 Data Centre, although the connectivity between the CDC and the LME core network is completely resilient it's advisable that a separate connection to LME Applications is maintained i.e., LMEnet.

3.4   Domain Name System

Domain Name System (DNS) is available for Members who are connected to the LME using CDC. Speed of failover and reduction of administrative overhead are key benefits of this service. While the LME does not mandate the use of FQDN, it is highly recommended.

The LME utilises Global Server Load Balancing (GSLB) to direct traffic to the current active application site via intelligent DNS resolution. Members should implement DNS forwarding on relevant local resolvers for the zone **prd.lmexgw.com** to the GSLBs. The IP addresses of the GSLBs are shown below:

Production GSLB IPs		
DC1	DC2	Test (DC1)
213.86.73.99	213.86.73.34	213.86.73.250

3.5   Requirements

- Members are to use subnets supplied by the LME for access into LME systems.
- Users will be responsible for any network address translation (NAT).
- LME will only use border gateway protocol (BGP) as a routing protocol with customers.
- Members are responsible for all connectivity and hosting provision external to the LME CDC switches; LME will provide assistance to interface with the Datacentre provider if needed.

3.6   Restrictions

Users should deploy switch hardware connection to the LME network so that no server attaches directly to the CDC. The LME will not accept traffic that is sourced from any members private RFC1918 or any registered IP address space which is publicly routed; only traffic sourced from the IP range(s) allocated to the participant by the LME will be accepted.

4 Production Services

The Production environment is split into two sites: Data Centre 1 and Data Centre 2:

- DC1 – is the primary operational site for the majority of LME applications.
- DC2 – is the standby operational site for the majority of LME applications.

The Production environment is accessible via LMEnet and the CDC. A subset of production services are accessible via the internet.

4.1 Production Systems Detailed Host Information (with LMEselect v9)

Detailed Host Information – DC1 Production (LMEnet & CDC Access)			
LME IPv4 Subnet: 213.86.73.64/26			
System	**IP**	**Fully Qualified Domain Name**	**Port(s)**
LMEselect - GUI	213.86.73.66	tax.select.prd.lmexgw.com	5025, 5035, 5045
LMEselect - FSOE	213.86.73.66	fsoe.select.prd.lmexgw.com	5555
LMEselect - FSMDF	213.86.73.66	fsmdf.select.prd.lmexgw.com	7980
LMEselect - FSDC	213.86.73.66	fsdc.select.prd.lmexgw.com	7990
LMEselect - FSCL	213.86.73.66	fscl.select.prd.lmexgw.com	8000
LMEprism - HTTPS	213.86.73.81	lmeprism.prd.lmexgw.com	443
LMEprism - SFTP	213.86.73.81	sftp.lmeprism.prd.lmexgw.com	22
LME - SFTP	213.86.73.89	sftp.exch.prd.lmexgw.com	22
LME Clear - SFTP	213.86.73.125	sftp.clear.prd.lmexgw.com	22
LMEsword - HTTPS[1]	213.86.73.83	lmesword.prd.lmexgw.com	443
LMEsource - RTS	213.86.73.120	rts.source.prd.lmexgw.com	55455
LME SFTP (UDG)[2]	213.86.73.123	sftp.prd.lmexgw.com	22
LMEmercury - GUI[3]	213.86.73.124	as.clear.prd.lmexgw.com	443
LMEmercury - FSMD	213.86.73.124	fsmd.clear.prd.lmexgw.com	6980
LMEmercury - FSMEM1	213.86.73.124	fsmem1.clear.prd.lmexgw.com	7997
LMEsmart - FIX	213.86.73.74	fix.lmesmart.prd.lmexgw.com	13200
LMEsmart - GUI	213.86.73.74	web.lmesmart.prd.lmexgw.com	443
LMEselect Algo Test - GUI	213.86.73.67	algotax.select.prd.lmexgw.com	9004, 9005, 9006
LMEselect Algo Test - FSOE	213.86.73.67	algofsoe.select.prd.lmexgw.com	9000
LMEselect Algo Test - FSMDF	213.86.73.67	algofsmdf.select.prd.lmexgw.com	9002
LMEselect Algo Test - FSDC	213.86.73.67	algofsdc.select.prd.lmexgw.com	9001
LMEselect Algo Test - FSCL	213.86.73.67	algofscl.select.prd.lmexgw.com	9007

Note: All ports are TCP

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[1] LMEsword URL is 'https://lmesword.prd.lmexgw.com/lmesword/'

[2] MiFID related file transfers submitted via the LME Universal Data Gateway ("UDG") for Personally Identifiable Information 'PII',
Commodity Position Reports 'CPR', Tradeable Instrument Files 'TIF' and Post Trade Transparency 'PTT'

[3] LMEmercury GUI UR is 'https://as.clear.prd.lmexgw.com/lmeclear/'

Detailed Host Information – DC2 Production (LMEnet & CDC Access)

LME IPv4 Subnet: 213.86.73.0/26

System - Protocol	IP	Fully Qualified Domain Name	Port(s)
LMEselect - GUI	213.86.73.2	tax.select.prd.lmexgw.com	5025, 5035, 5045
LMEselect - FSOE	213.86.73.2	fsoe.select.prd.lmexgw.com	5555
LMEselect - FSMDF	213.86.73.2	fsmdf.select.prd.lmexgw.com	7980
LMEselect - FSDC	213.86.73.2	fsdc.select.prd.lmexgw.com	7990
LMEselect - FSCL	213.86.73.2	fscl.select.prd.lmexgw.com	8000
LMEprism - HTTPS	213.86.73.17	lmeprism.prd.lmexgw.com	443
LMEprism - SFTP	213.86.73.17	sftp.lmeprism.prd.lmexgw.com	22
LMEsword - HTTPS[4]	213.86.73.19	lmesword.prd.lmexgw.com	443
LMEsource - RTS	213.86.73.56	rts.source.prd.lmexgw.com	55455
LME SFTP	213.86.73.25	sftp.exch.prd.lmexgw.com	22
LME SFTP (UDG)	213.86.73.23	sftp.prd.lmexgw.com	22
LMEmercury - GUI[5]	213.86.73.60	as.clear.prd.lmexgw.com	443
LMEmercury- FSMD	213.86.73.60	fsmd.clear.prd.lmexgw.com	6980
LMEmercury - FSMEM1	213.86.73.60	fsmem1.clear.prd.lmexgw.com	7997
LME Clear - SFTP	213.86.73.61	sftp.clear.prd.lmexgw.com	22
LMEsmart - FIX	213.86.73.10	fix.lmesmart.prd.lmexgw.com	13200
LMEsmart - GUI	213.86.73.10	web.lmesmart.prd.lmexgw.com	443
LMEselect Algo Test - GUI	213.86.73.3	algotax.select.prd.lmexgw.com	9004, 9005, 9006
LMEselect Algo Test - FSOE	213.86.73.3	algofsoe.select.prd.lmexgw.com	9000
LMEselect Algo Test - FSMDF	213.86.73.3	algofsmdf.select.prd.lmexgw.com	9002
LMEselect Algo Test - FSDC	213.86.73.3	algofsdc.select.prd.lmexgw.com	9001
LMEselect Algo Test - FSCL	213.86.73.3	algofscl.select.prd.lmexgw.com	9007

Note: All ports are TCP

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[4] LMEsword URL is 'https://lmesword.prd.lmexgw.com/lmesword/'
[5] LMEmercury GUI URL is 'https://as.clear.prd.lmexgw.com/lmeclear/'

4.2   Production Systems Detailed Host Information (with LMEselect v10)

LMEselect v10 gateways are deployed in **active/standby pairs** within each data centre e.g., PSG1 - Futures Binary Partition Gateway (Normally Active) and PSG1s - Futures Binary Partition Gateway (Normally Standby). Market participants (members and non-members) should initially attempt connection to the normally active gateway – e.g., PSG1. When the normally active gateway connection is unavailable, participants should connect to the standby gateway - e.g., PSG1s.

In the event of a failure of an active LMEselect v10 gateway, an automated failover to the standby LMEselect v10 gateway will occur. Participant connectivity will be lost from the active LMEselect10 gateway and will remain unavailable for the remainder of the trading day. Participants will be required to attempt re-connection to the standby LMEselect v10 gateway.

LMEsource v4 RTS gateways are deployed in **active/active pairs** within each data centre. Participants can make connection to either LMEsource v4 RTS gateway, e.g. RTS1 or RTS2. When the chosen LMEsource v4 RTS gateway connection is unavailable, participants should connect to the alternative LMEsource v4 RTS gateway for the remainder of the trading day.

Participants should not expect system communications from the LME in event of gateway failure within the current active data centre. In the event of complete loss of LMEselect v10 and LMEsource v4 services within the primary (i.e. current active) data centre, participants should expect to be informed by the LME that LMEselect v10 and LMEsource v4 services will be failed over to the secondary data centre.

Detailed Host Information – DC1 Production (LMEnet & CDC Access)

LME IPv4 Subnet: 213.86.73.64/26

System	IP	Fully Qualified Domain Name	Port
LMEprism - HTTPS	213.86.73.81	lmeprism.prd.lmexgw.com	443
LMEprism - SFTP	213.86.73.81	sftp.lmeprism.prd.lmexgw.com	22
LME - SFTP	213.86.73.89	sftp.exch.prd.lmexgw.com	22
LME Clear - SFTP	213.86.73.125	sftp.clear.prd.lmexgw.com	22
LMEsword - HTTPS[6]	213.86.73.83	lmesword.prd.lmexgw.com	443
LME SFTP (UDG)[7]	213.86.73.123	sftp.prd.lmexgw.com	22
LMEmercury - GUI[8]	213.86.73.124	as.clear.prd.lmexgw.com	443
LMEmercury - FSMD	213.86.73.124	fsmd.clear.prd.lmexgw.com	6980
LMEmercury - FSMEM1	213.86.73.124	fsmem1.clear.prd.lmexgw.com	7997
LMEsmart - FIX	213.86.73.74	fix.lmesmart.prd.lmexgw.com	13200
LMEsmart - GUI	213.86.73.74	web.lmesmart.prd.lmexgw.com	443
LMEselect – Futures FIX Convenience Gateway - Active	213.86.73.90	cgw1.select.prd.lmexgw.com	30001
LMEselect – Futures FIX Convenience Gateway - Standby	213.86.73.90	cgw1s.select.prd.lmexgw.com	30002
LMEselect – Drop Copy FIX Gateway – Active	213.86.73.90	dcg1.select.prd.lmexgw.com	31001
LMEselect – Drop Copy FIX Gateway – Standby	213.86.73.90	dcg1s.select.prd.lmexgw.com	31002
LMEselect – Risk Management FIX Gateway – Active	213.86.73.90	rmg1.select.prd.lmexgw.com	33001

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[6] LMEsword URL is 'https://lmesword.prd.lmexgw.com/lmesword/'

[7] MiFID related file transfers submitted via the LME Universal Data Gateway ("UDG") for Personally Identifiable Information 'PII', Commodity Position Reports 'CPR', Tradeable Instrument Files 'TIF' and Post Trade Transparency 'PTT'.

[8] LMEmercury GUI URL is 'https://as.clear.prd.lmexgw.com/lmeclear/'

Detailed Host Information – DC1 Production (LMEnet & CDC Access)

LME IPv4 Subnet: 213.86.73.64/26

System	IP	Fully Qualified Domain Name	Port
LMEselect – Risk Management FIX Gateway – Standby	213.86.73.90	rmg1s.select.prd.lmexgw.com	33002
LMEselect – Futures Binary Partition Gateway – Active	213.86.73.90	psg1.select.prd.lmexgw.com	32001
LMEselect – Futures Binary Partition Gateway – Standby	213.86.73.90	psg1s.select.prd.lmexgw.com	32002
LMEselect – Algo Test FIX Convenience Gateway	213.86.73.90	cgw3.select.prd.lmexgw.com	30005
LMEselect – Algo Test Binary Partition Gateway	213.86.73.90	psg3.select.prd.lmexgw.com	32005
LMEsource – RTS1 Service - Active	213.86.73.90	rts1.source.prd.lmexgw.com	55455
LMEsource – RTS2 Service - Active	213.86.73.90	rts2.source.prd.lmexgw.com	55456

Note: All ports are TCP

Detailed Host Information – DC2 Production (LMEnet & CDC Access)

LME Ipv4 Subnet: 213.86.73.0/26

System – Protocol	IP	Fully Qualified Domain Name	Port
LMEprism – HTTPS	213.86.73.17	lmeprism.prd.lmexgw.com	443
LMEprism – SFTP	213.86.73.17	sftp.lmeprism.prd.lmexgw.com	22
LMEsword – HTTPS[9]	213.86.73.19	lmesword.prd.lmexgw.com	443
LME SFTP	213.86.73.25	sftp.exch.prd.lmexgw.com	22
LME SFTP (UDG)	213.86.73.23	sftp.prd.lmexgw.com	22
LMEmercury – GUI[10]	213.86.73.60	as.clear.prd.lmexgw.com	443
LMEmercury- FSMD	213.86.73.60	fsmd.clear.prd.lmexgw.com	6980
LMEmercury – FSMEM1	213.86.73.60	fsmem1.clear.prd.lmexgw.com	7997
LME Clear – SFTP	213.86.73.61	sftp.clear.prd.lmexgw.com	22
LMEsmart – FIX	213.86.73.10	fix.lmesmart.prd.lmexgw.com	13200
LMEsmart – GUI	213.86.73.10	web.lmesmart.prd.lmexgw.com	443
LMEselect – Futures FIX Convenience Gateway – Active	213.86.73.30	cgw1.select.prd.lmexgw.com	30001
LMEselect – Futures FIX Convenience Gateway – Standby	213.86.73.30	cgw1s.select.prd.lmexgw.com	30002
LMEselect – Drop Copy FIX Gateway – Active	213.86.73.30	dcg1.select.prd.lmexgw.com	31001
LMEselect – Drop Copy FIX Gateway – Standby	213.86.73.30	dcg1s.select.prd.lmexgw.com	31002
LMEselect - Risk Management FIX Gateway - Active	213.86.73.30	rmg1.select.prd.lmexgw.com	33001
LMEselect - Risk Management FIX Gateway - Standby	213.86.73.30	rmg1s.select.prd.lmexgw.com	33002
LMEselect – Futures Binary Partition Gateway – Active	213.86.73.30	psg1.select.prd.lmexgw.com	32001
LMEselect – Futures Binary Partition Gateway - Standby	213.86.73.30	psg1s.select.prd.lmexgw.com	32002
LMEselect – Algo Test FIX Convenience Gateway	213.86.73.30	cgw3.select.prd.lmexgw.com	30005
LMEselect – Algo Test Binary Partition Gateway	213.86.73.30	psg3.select.prd.lmexgw.com	32005
LMEsource – RTS1 Service - Active	213.86.73.30	rts1.source.prd.lmexgw.com	55455
LMEsource – RTS2 Service - Active	213.86.73.30	rts2.source.prd.lmexgw.com	55456

Note: All ports are TCP

[9] LMEsword URL is 'https://lmesword.prd.lmexgw.com/lmesword/'
[10] LMEmercury GUI URL is 'https://as.clear.prd.lmexgw.com/lmeclear/'

4.3   Production LMEsource v3 Multicast Market Information Services

Market Data Feed A - DC1 Production

Multicast Feed A Source Subnet: 213.86.73.128/29

Multicast Feed A Source IP: 213.86.73.129

Multicast Feed A Multicast Destination Subnet: 224.0.37.0/26

Channel Name	Realtime		Refresh		LME Source Product(s)
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.37.1	600	224.0.37.2	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.37.3	601	224.0.37.4	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.37.5	602	224.0.37.6	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.37.7	603	224.0.37.8	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.37.9	604	224.0.37.10	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.37.11	605	224.0.37.12	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.37.13	606	224.0.37.14	LME Level 2, LME Member
EMAPI_news	80	224.0.37.62	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.37.63	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.37.61	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP 61000

Market Data Feed B - DC1 Production

Multicast Feed B Source Subnet: 213.86.73.136/29

Multicast Feed B Source IP: 213.86.73.137

Multicast Feed B Multicast Destination Subnet: 224.0.38.0/26

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.38.1	600	224.0.38.2	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.38.3	601	224.0.38.4	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.38.5	602	224.0.38.6	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.38.7	603	224.0.38.8	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.38.9	604	224.0.38.10	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.38.11	605	224.0.38.12	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.38.13	606	224.0.38.14	LME Level 2, LME Member
EMAPI_news	80	224.0.38.62	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.38.63	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.38.61	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP

Market Data Feed A - DC2 Production

Multicast Feed A Source Subnet: 213.86.73.144/29

Multicast Feed A Source IP: 213.86.73.145

Multicast Feed A Multicast Destination Subnet: 224.0.37.0/26

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.37.1	600	224.0.37.2	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.37.3	601	224.0.37.4	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.37.5	602	224.0.37.6	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.37.7	603	224.0.37.8	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.37.9	604	224.0.37.10	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.37.11	605	224.0.37.12	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.37.13	606	224.0.37.14	LME Level 2, LME Member
EMAPI_news	80	224.0.37.62	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.37.63	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.37.61	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP 61000

Market Data Feed B - DC2 Production

Multicast Feed B Source Subnet: 213.86.73.152/29

Multicast Feed B Source IP: 213.86.73.153

Multicast Feed B Multicast Destination Subnet: 224.0.38.0/26

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.38.1	600	224.0.38.2	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.38.3	601	224.0.38.4	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.38.5	602	224.0.38.6	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.38.7	603	224.0.38.8	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.38.9	604	224.0.38.10	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.38.11	605	224.0.38.12	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.38.13	606	224.0.38.14	LME Level 2, LME Member
EMAPI_news	80	224.0.38.62	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.38.63	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.38.61	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP 61000

4.4   Production LMEsource v4 Multicast Market Information Services

Participants are informed that Core multicast products (C1, C2 and C3) includes data for the Base contracts, Growth multicast products (G1, G2 and G3) includes data for the Ferrous contracts and Cash Settled Futures, LBMA multicast product (L1) includes data for the Platinum & Palladium auction prices and the Algo test multicast product (A1) includes data for Algo test (dummy contracts). Note, the A1 multicast product is only available in the production environment.

Market Data Feed A – DC1 Production

Multicast Feed A Source Subnet: 213.86.73.128/29

Multicast Feed A Source: 213.86.73.131

Multicast Feed A Multicast Destination Subnet: 224.0.240.0/24

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
Core_FuturesL1_TopBook	111	224.0.240.11	611	224.0.240.12	C1
Core_FuturesL2_AggBook	112	224.0.240.13	612	224.0.240.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.240.15	613	224.0.240.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.240.18	C1, C2, C3
Core_Futures_RefData	115	224.0.240.19	615	224.0.240.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.240.21	616	224.0.240.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.240.85	705	224.0.240.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.240.87	706	224.0.240.88	C2, C3
Core_PRM_RefPrices	207	224.0.240.89	707	224.0.240.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.240.91	708	224.0.240.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.240.93	709	224.0.240.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.240.35	631	224.0.240.36	G1
Growth_FuturesL2_AggBook	132	224.0.240.37	632	224.0.240.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.240.39	633	224.0.240.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.240.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.240.43	635	224.0.240.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.240.45	636	224.0.240.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.240.95	715	224.0.240.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.240.97	716	224.0.240.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.240.99	717	224.0.240.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.240.101	718	224.0.240.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.240.119	807	224.0.240.120	L1
Algo_FuturesL2_AggBook	102	224.0.240.3	-	-	A1
Algo_FuturesL3_OrderbyOrder	103	224.0.240.5	-	-	A1
Algo_Futures_RefData	105	224.0.240.7	-	-	A1
Algo_Futures_IntradayStats	106	224.0.240.9	-	-	A1
IOR_RefData	200	224.0.240.83	700	224.0.240.84	C2, C3, G1, G2, G3
DR Signal	81	224.0.240.1	-	-	C1, C2, C3, G1, G2, G3, L1, A1

Note: All ports are UDP 61000

Market Data Feed B – DC1 Production

Multicast Feed B Source Subnet: 213.86.73.136/29

Multicast Feed B Source: 213.86.73.139

Multicast Feed B Multicast Destination Subnet: 224.0.241.0/24

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
Core_FuturesL1_TopBook	111	224.0.241.11	611	224.0.241.12	C1
Core_FuturesL2_AggBook	112	224.0.241.13	612	224.0.241.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.241.15	613	224.0.241.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.241.18	C1, C2, C3
Core_Futures_RefData	115	224.0.241.19	615	224.0.241.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.241.21	616	224.0.241.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.241.85	705	224.0.241.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.241.87	706	224.0.241.88	C2, C3
Core_PRM_RefPrices	207	224.0.241.89	707	224.0.241.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.241.91	708	224.0.241.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.241.93	709	224.0.241.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.241.35	631	224.0.241.36	G1
Growth_FuturesL2_AggBook	132	224.0.241.37	632	224.0.241.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.241.39	633	224.0.241.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.241.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.241.43	635	224.0.241.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.241.45	636	224.0.241.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.241.95	715	224.0.241.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.241.97	716	224.0.241.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.241.99	717	224.0.241.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.241.101	718	224.0.241.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.241.119	807	224.0.241.120	L1
Algo_FuturesL2_AggBook	102	224.0.241.3	-	-	A1
Algo_FuturesL3_OrderbyOrder	103	224.0.241.5	-	-	A1
Algo_Futures_RefData	105	224.0.241.7	-	-	A1
Algo_Futures_IntradayStats	106	224.0.241.9	-	-	A1
IOR_RefData	200	224.0.241.83	700	224.0.241.84	C2, C3, G1, G2, G3
DR Signal	81	224.0.241.1	-	-	C1, C2, C3, G1, G2, G3, L1, A1

Note: All ports are UDP 61000

Market Data Feed A – DC2 Production

Multicast Feed A Source Subnet: 213.86.73.144/29

Multicast Feed A Source: 213.86.73.147

Multicast Feed A Multicast Destination Subnet: 224.0.240.0/24

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
Core_FuturesL1_TopBook	111	224.0.240.11	611	224.0.240.12	C1
Core_FuturesL2_AggBook	112	224.0.240.13	612	224.0.240.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.240.15	613	224.0.240.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.240.18	C1, C2, C3
Core_Futures_RefData	115	224.0.240.19	615	224.0.240.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.240.21	616	224.0.240.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.240.85	705	224.0.240.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.240.87	706	224.0.240.88	C2, C3
Core_PRM_RefPrices	207	224.0.240.89	707	224.0.240.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.240.91	708	224.0.240.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.240.93	709	224.0.240.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.240.35	631	224.0.240.36	G1
Growth_FuturesL2_AggBook	132	224.0.240.37	632	224.0.240.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.240.39	633	224.0.240.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.240.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.240.43	635	224.0.240.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.240.45	636	224.0.240.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.240.95	715	224.0.240.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.240.97	716	224.0.240.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.240.99	717	224.0.240.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.240.101	718	224.0.240.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.240.119	807	224.0.240.120	L1
Algo_FuturesL2_AggBook	102	224.0.240.3	-	-	A1
Algo_FuturesL3_OrderbyOrder	103	224.0.240.5	-	-	A1
Algo_Futures_RefData	105	224.0.240.7	-	-	A1
Algo_Futures_IntradayStats	106	224.0.240.9	-	-	A1
IOR_RefData	200	224.0.240.83	700	224.0.240.84	C2, C3, G1, G2, G3
DR Signal	81	224.0.240.1	-	-	C1, C2, C3, G1, G2, G3, L1, A1

Note: All ports are UDP 61000

Market Data Feed B – DC2 Production

Multicast Feed B Source Subnet: 213.86.73.152/29

Multicast Feed B Source: 213.86.73.155

Multicast Feed B Multicast Destination Subnet: 224.0.241.0/24

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
Core_FuturesL1_TopBook	111	224.0.241.11	611	224.0.241.12	C1
Core_FuturesL2_AggBook	112	224.0.241.13	612	224.0.241.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.241.15	613	224.0.241.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.241.18	C1, C2, C3
Core_Futures_RefData	115	224.0.241.19	615	224.0.241.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.241.21	616	224.0.241.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.241.85	705	224.0.241.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.241.87	706	224.0.241.88	C2, C3
Core_PRM_RefPrices	207	224.0.241.89	707	224.0.241.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.241.91	708	224.0.241.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.241.93	709	224.0.241.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.241.35	631	224.0.241.36	G1
Growth_FuturesL2_AggBook	132	224.0.241.37	632	224.0.241.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.241.39	633	224.0.241.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.241.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.241.43	635	224.0.241.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.241.45	636	224.0.241.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.241.95	715	224.0.241.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.241.97	716	224.0.241.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.241.99	717	224.0.241.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.241.101	718	224.0.241.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.241.119	807	224.0.241.120	L1
Algo_FuturesL2_AggBook	102	224.0.241.3	-	-	A1
Algo_FuturesL3_OrderbyOrder	103	224.0.241.5	-	-	A1
Algo_Futures_RefData	105	224.0.241.7	-	-	A1
Algo_Futures_IntradayStats	106	224.0.241.9	-	-	A1
IOR_RefData	200	224.0.241.83	700	224.0.241.84	C2, C3, G1, G2, G3
DR Signal	81	224.0.241.1	-	-	C1, C2, C3, G1, G2, G3, L1, A1

Note: All ports are UDP 61000

5 Internet Services

A limited number of Production services are available over the internet. The LME utilises Global Server Load Balancing (GSLB) to direct traffic to the current active application site via intelligent DNS resolution.

5.1 Production Systems LMEselect v9 Detailed Host Information

Detailed Host Information – DC1 Production (Internet Access)			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port**
LME - SFTP	212.161.85.9	sftp.exch.prd.lmexgw.com	22
LMEclear - SFTP	212.161.85.8	sftp.clear.prd.lmexgw.com	22
LME SFTP (UDG)	212.161.85.35	sftp.prd.lmexgw.com	22
LME - SFTP (Public)[11]	212.161.85.35	sftp.prd.lmexgw.com	22
LMEbullion - Auction	-	pgm.lmebullion.com[12]	443
LMEbullion - Report	-	www.lmebullion.com[13]	443
LMEshield	212.161.85.27	lmeshield.prd.lmexgw.com	443

Note: All ports are TCP

Detailed Host Information – DC2 Production (Internet Access)			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port**
LME - SFTP	205.217.4.238	sftp.exch.prd.lmexgw.com	22
LMEclear - SFTP	205.217.4.239	sftp.clear.prd.lmexgw.com	22
LME SFTP (UDG)	205.217.4.240	sftp.prd.lmexgw.com	22
LME - SFTP (Public)[14]	205.217.4.240	sftp.prd.lmexgw.com	22
LMEbullion - Auction	-	pgm.lmebullion.com[15]	443
LMEbullion - Report	-	www.lmebullion.com[16]	443
LMEshield	206.150.180.82	lmeshield.prd.lmexgw.com	443

Note: All ports are TCP

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[11] Non - Member access for retrieval of Tradeable Instrument Files 'TIF' and Post Trade Transparency 'PTT' files

[12] https://pgm.lmebullion.com

[13] https://www.lmebullion.com/auction

[14] Non - Member access for retrieval of Tradeable Instrument Files 'TIF' and Post Trade Transparency 'PTT' files

[15] https://pgm.lmebullion.com

[16] https://www.lmebullion.com/auction

6   Market Test Services

6.1   Market Test System Definitions

Market Test is split into two separate environments - Market Test A and Market Test B. The Market Test environments are accessible over LMEnet and CDC, however Market Test is only present in DC1. A subset of Market Test services are accessible via the internet, these are detailed in the Internet section of this document.

Market Test Environments	
Market Test System	**Usage**
A	Market Test - Production-Mirror Version
B	Market Test - UAT Version

- **Market Test A:** Application versions replicate LME's current production system versions and provide our existing market participants a testing platform to test their FIX feeds, trading strategies, internal systems, etc. It is also used to allow potential new client's exposure to LME's trading systems.

- **Market Test B:** This is where LME deploys and test fixes and upgrades to their systems which includes, but is not limited to, LMEselect, LMEsource, LMEsmart, and LMEmercury. This environment can be accessed by existing and/or new market participants to test their systems/platforms against LME's future systems releases/upgrades.

6.2   Domain Name System

The LME utilises Global Server Load Balancing (GSLB) to direct traffic to the current active application site via intelligent DNS resolution. Members should implement DNS forwarding on relevant local resolvers for the zones **mta.lmexgw.com** and **mtb.lmexgw.com** to the GSLBs. The IP addresses of the GSLBs are shown below:

GSLB Devices			
GSLB	**LMEnet**	**CDC**	**Internet**
GSLB 1	213.86.73.250	213.86.73.250	212.161.85.185
GSLB 2	-	-	212.161.85.121

6.3   Market Test Systems Detailed Host Information

6.3.1   Market Test A (LMEnet and CDC Access)

Detailed Host Information – DC1 Market Test A (LMEnet & CDC Access)			
LMEnet IPv4 Subnet: 213.86.73.192/26			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port(s)**
LMEselect - GUI	213.86.73.237	tax.select.mta.lmexgw.com	5025, 5035, 5045
LMEselect - FSOE	213.86.73.237	fsoe.select.mta.lmexgw.com	5555
LMEselect - FSMDF	213.86.73.237	fsmdf.select.mta.lmexgw.com	7980
LMEselect - FSDC	213.86.73.237	fsdc.select.mta.lmexgw.com	7990
LMEselect - FSCL	213.86.73.237	fscl.select.mta.lmexgw.com	8000
LMEselect Algo Test - GUI	213.86.73.239	algotax.select.mta.lmexgw.com	9004, 9005, 9006
LMEselect Algo Test - FSOE	213.86.73.239	algofsoe.select.mta.lmexgw.com	9000
LMEselect Algo Test - FSMDF	213.86.73.239	algofsmdf.select.mta.lmexgw.com	9002
LMEselect Algo Test - FSDC	213.86.73.239	algofsdc.select.mta.lmexgw.com	9001
LMEselect Algo Test - FSCL	213.86.73.239	algofscl.select.mta.lmexgw.com	9007
LMEsword - HTTPS[17]	213.86.73.202	lmesword.mta.lmexgw.com	443
LME - SFTP	213.86.73.210	sftp.exch.mta.lmexgw.com	22
LME - SFTP (UDG)	213.86.73.223	sftp.mta.lmexgw.com	22
LMEmercury - GUI[18]	213.86.73.220	as.lmemercury.mta.lmexgw.com	443
LMEmercury - FSMD	213.86.73.220	-	6980
LMEmercury - FSMEM1	213.86.73.220	-	7997
LME Clear - SFTP	213.86.73.221	sftp.clear.mta.lmexgw.com	22
LMEprism - HTTPS	213.86.73.211	lmeprism.mta.lmexgw.com	443
LMEprism - SFTP	213.86.73.211	sftp.lmeprism.mta.lmexgw.com	22
LMEsmart - GUI	213.86.73.214	lmesmart.mta.lmexgw.com	443
LMEsmart - FIX	213.86.73.215	fix.lmesmart.mta.lmexgw.com	13200
LMEsource - RTS1	213.86.73.241	rts1.source.mta.lmexgw.com	55455
LMEsource - RTS2	213.86.73.242	rts2.source.mta.lmexgw.com	55455

Note: All ports are TCP

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[17] LMEsword URL is 'https://lmesword.mta.lmexgw.com/lmesword/'
[18] LMEmercury GUI URL is 'https://as.lmemercury.mta.lmexgw.com/lmeclear/'

6.3.2 Market Test A (Internet Access)

Detailed Host Information – DC1 Market Test A (Internet Access)			
Public IPv4 Subnet: 212.161.85.192/26			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port(s)**
LMEselect - GUI	212.161.85.230	tax.select.mta.lmexgw.com	5025, 5035, 5045
LMEselect - FSOE	212.161.85.230	fsoe.select.mta.lmexgw.com	5555
LMEselect - FSMDF	212.161.85.230	fsmdf.select.mta.lmexgw.com	7980
LMEselect - FSDC	212.161.85.230	fsdc.select.mta.lmexgw.com	7990
LMEselect - FSCL	212.161.85.230	fscl.select.mta.lmexgw.com	8000
LMEselect Algo Test - GUI	212.161.85.232	algotax.select.mta.lmexgw.com	9004, 9005, 9006
LMEselect Algo Test - FSOE	212.161.85.232	algofsoe.select.mta.lmexgw.com	9000
LMEselect Algo Test - FSMDF	212.161.85.232	algofsmdf.select.mta.lmexgw.com	9002
LMEselect Algo Test - FSDC	212.161.85.232	algofsdc.select.mta.lmexgw.com	9001
LMEselect Algo Test - FSCL	212.161.85.232	algofscl.select.mta.lmexgw.com	9007
LMEsword - HTTPS[19]	212.161.85.194	lmesword.mta.lmexgw.com	443
LME Clear - SFTP	212.161.85.210	sftp.clear.mta.lmexgw.com	22
LME - SFTP	212.161.85.211	sftp.exch.mta.lmexgw.com	22
LME - SFTP (Public)	212.161.85.208	sftp.mta.lmexgw.com	22
LME - SFTP (UDG)	212.161.85.208	sftp.mta.lmexgw.com	22
LMEprism - HTTPS	212.161.85.195	lmeprism.mta.lmexgw.com	443
LMEprism - SFTP	212.161.85.195	sftp.lmeprism.mta.lmexgw.com	22
LMEmercury - GUI[20]	212.161.85.212	as.clear.mta.lmexgw.com	443
LMEmercury - FSMD	212.161.85.212	-	6980
LMEmercury - FSMEM1	212.161.85.212	-	7997
LMEsmart - GUI	212.161.85.234	lmesmart.mta.lmexgw.com	443
LMEsmart - FIX	212.161.85.235	fix.lmesmart.mta.lmexgw.com	13200

Note: All ports are TCP

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[19] LMEsword URL is 'https://lmesword.mta.lmexgw.com/lmesword/'
[20] LMEmercury GUI URL is 'https://as.clear.mta.lmexgw.com /lmeclear/'

6.3.3 Market Test B (LMEnet and CDC Access)[21]

Detailed Host Information – DC1 Market Test B (LMEnet & CDC Access)			
LMEnet Subnet: 213.86.73.192/26			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port**
LMEsword - HTTPS[22]	213.86.73.234	lmesword.mtb.lmexgw.com	443
LMEmercury - GUI[23]	213.86.73.252	as.lmemercury.mtb.lmexgw.com	443
LMEmercury - FSMD	213.86.73.252	-	6980
LMEmercury - FSMEM1	213.86.73.252	-	7997
LMEsmart - GUI	213.86.73.216	lmesmart.mtb.lmexgw.com	443
LMEsmart - FIX	213.86.73.217	fix.lmesmart.mtb.lmexgw.com	13200
LMEselect - FIX Convenience Gateway	213.86.73.229	cgw1.lmeselect.mtb.lmexgw.com	30001
LMEselect - Binary Partition Gateway	213.86.73.229	psg1.lmeselect.mtb.lmexgw.com	32001
LMEselect - FIX Risk Mgt Gateway	213.86.73.229	rmg1.lmeselect.mtb.lmexgw.com	33001
LMEselect - FIX Drop Copy Gateway	213.86.73.229	dcg1.lmeselect.mtb.lmexgw.com	31001
LMEsource - RTS1	213.86.73.228	rts.source.mtb.lmexgw.com	55455

Note: All ports are TCP

6.3.4 Market Test B (Internet Access)[24]

Detailed Host Information – DC1 Market Test B (Internet Access)			
Public IPv4 Subnet: 212.161.85.192/26			
System - Protocol	**IP**	**Fully Qualified Domain Name**	**Port**
LMEsword - HTTPS[25]	212.161.85.207	lmesword.mtb.lmexgw.com	443
LMEmercury - GUI[26]	212.161.85.213	as.clear.mtb.lmexgw.com	443
LMEmercury - FSMD	212.161.85.213	-	6980
LMEmercury - FSMEM1	212.161.85.213	-	7997
LMEsmart - GUI	212.161.85.236	lmesmart.mtb.lmexgw.com	443
LMEsmart - FIX	212.161.85.237	fix.lmesmart.mtb.lmexgw.com	13200
LMEselect - FIX Convenience Gateway	212.161.85.242	cgw1.lmeselect.mtb.lmexgw.com	30001
LMEselect - Binary Partition Gateway	212.161.85.242	psg1.lmeselect.mtb.lmexgw.com	32001
LMEselect - FIX Risk Mgt Gateway	212.161.85.242	rmg1.lmeselect.mtb.lmexgw.com	33001
LMEselect - FIX Drop Copy Gateway	212.161.85.242	dcg1.lmeselect.mtb.lmexgw.com	31001

Note: All ports are TCP

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[21] LMEselect v10

[22] LMEsword URL is 'https://lmesword.mtb.lmexgw.com/lmesword/'

[23] LMEmercury GUI URL is 'https://as.lmemercury.mtb.lmexgw.com/lmeclear/'

[24] LMEselect v10

[25] LMEsword URL is 'https://lmesword.mtb.lmexgw.com/lmesword/'

[26] LMEmercury GUI URL is 'https://as.clear.mtb.lmexgw.com/lmeclear/'

6.4   Market Test LMEsource Multicast Market Information Services

6.4.1   Market Test A (LMEnet and CDC Access)

Market Data Feed A (Market Test A)

Multicast Feed A Source Subnet: 213.86.73.160/29

Multicast Feed A Source IP: 213.86.73.161

Multicast Feed A Multicast Destination Subnet: 224.0.37.64/26

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.37.65	600	224.0.37.66	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.37.67	601	224.0.37.68	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.37.69	602	224.0.37.70	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.37.71	603	224.0.37.72	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.37.73	604	224.0.37.74	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.37.75	605	224.0.37.76	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.37.77	606	224.0.37.78	LME Level 2, LME Member
EMAPI_news	80	224.0.37.125	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.37.126	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.37.124	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP 51000

Market Data Feed B (Market Test A)

Multicast Feed B Source Subnet: 213.86.73.168/29

Multicast Feed B Source IP: 213.86.73.169

Multicast Feed B Multicast Destination Subnet: 224.0.38.64/26

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
EMAPI_LMEBASE_static	100	224.0.38.65	600	224.0.38.66	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_status	101	224.0.38.67	601	224.0.38.68	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_topbook	102	224.0.38.69	602	224.0.38.70	LME Level 1
EMAPI_LMEBASE_L15book	103	224.0.38.71	603	224.0.38.72	LME Level 2, LME Member
EMAPI_LMEBASE_trade	104	224.0.38.73	604	224.0.38.74	LME Level 1, LME Level 2, LME Member
EMAPI_LMEBASE_trade_stat	105	224.0.38.75	605	224.0.38.76	LME Level 2
EMAPI_LMEBASE_asianref	106	224.0.38.77	606	224.0.38.78	LME Level 2, LME Member
EMAPI_news	80	224.0.38.125	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_dr_signal	81	224.0.38.126	-	-	LME Level 1, LME Level 2, LME Member
EMAPI_Auc_news	82	224.0.38.124	-	-	LME Level 1, LME Level 2, LME Member

Note: All ports are UDP 51000

6.4.2 Market Test B (LMEnet and CDC Access)[27]

Participants are informed that Core multicast products (C1, C2 and C3) includes data for the Base contracts, Growth multicast products (G1, G2 and G3) includes data for the Ferrous contracts and Cash Settled Futures, LBMA multicast product (L1) includes data for the Platinum & Palladium auction prices.

Market Data Feed A (Market Test B)					
Multicast Feed A Source Subnet: 213.86.73.176/29					
Multicast Feed A Source: 213.86.73.178					
Multicast Feed A Multicast Destination Subnet: 224.0.230.0/24					
Channel Name	**Realtime**		**Refresh**		**Product**
	Ch-ID	**Ch-IP**	**Ch-ID**	**Ch-IP**	
Core_FuturesL1_TopBook	111	224.0.230.11	611	224.0.230.12	C1
Core_FuturesL2_AggBook	112	224.0.230.13	612	224.0.230.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.230.15	613	224.0.230.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.230.18	C1, C2, C3
Core_Futures_RefData	115	224.0.230.19	615	224.0.230.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.230.21	616	224.0.230.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.230.85	705	224.0.230.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.230.87	706	224.0.230.88	C2, C3
Core_PRM_RefPrices	207	224.0.230.89	707	224.0.230.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.230.91	708	224.0.230.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.230.93	709	224.0.230.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.230.35	631	224.0.230.36	G1
Growth_FuturesL2_AggBook	132	224.0.230.37	632	224.0.230.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.230.39	633	224.0.230.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.230.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.230.43	635	224.0.230.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.230.45	636	224.0.230.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.230.95	715	224.0.230.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.230.97	716	224.0.230.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.230.99	717	224.0.230.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.230.101	718	224.0.230.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.230.119	807	224.0.230.120	L1
IOR_RefData	200	224.0.230.83	700	224.0.230.84	C1, C2, C3, G1, G2, G3
DR Signal	81	224.0.230.1	-	-	C1, C2, C3, G1, G2, G3, L1

Note: All ports are UDP 51000

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[27] LMEsource v4

Market Data Feed B (Market Test B)

Multicast Feed B Source Subnet: 213.86.73.184/29

Multicast Feed B Source: 213.86.73.186

Multicast Feed B Multicast Destination Subnet: 224.0.231.0/24

Channel Name	Realtime		Refresh		Product
	Ch-ID	Ch-IP	Ch-ID	Ch-IP	
Core_FuturesL1_TopBook	111	224.0.231.11	611	224.0.231.12	C1
Core_FuturesL2_AggBook	112	224.0.231.13	612	224.0.231.14	C2
Core_FuturesL3_OrderbyOrder	113	224.0.231.15	613	224.0.231.16	C3
Core_Futures_TradeReplay	-	-	614	224.0.231.18	C1, C2, C3
Core_Futures_RefData	115	224.0.231.19	615	224.0.231.20	C1, C2, C3
Core_Futures_IntradayStats	116	224.0.231.21	616	224.0.231.22	C2, C3
Core_IOR_StatusOrdersTrade	205	224.0.231.85	705	224.0.231.86	C2, C3
Core_IOR_PreTradeTransparency	206	224.0.231.87	706	224.0.231.88	C2, C3
Core_PRM_RefPrices	207	224.0.231.89	707	224.0.231.90	C2, C3
Core_PRM_DailySummaryPositions	208	224.0.231.91	708	224.0.231.92	C2, C3
Core_PRM_DailySummaryWarrants	209	224.0.231.93	709	224.0.231.94	C2, C3
Growth_FuturesL1_TopBook	131	224.0.231.35	631	224.0.231.36	G1
Growth_FuturesL2_AggBook	132	224.0.231.37	632	224.0.231.38	G2
Growth_FuturesL3_OrderbyOrder	133	224.0.231.39	633	224.0.231.40	G3
Growth_Futures_TradeReplay	-	-	634	224.0.231.42	G1, G2, G3
Growth_Futures_RefData	135	224.0.231.43	635	224.0.231.44	G1, G2, G3
Growth_Futures_IntradayStats	136	224.0.231.45	636	224.0.231.46	G2, G3
Growth_IOR_StatusOrdersTrade	215	224.0.231.95	715	224.0.231.96	G1, G2, G3
Growth_IOR_PreTradeTransparency	216	224.0.231.97	716	224.0.231.98	G1, G2, G3
Growth_PRM_RefPrices	217	224.0.231.99	717	224.0.231.100	G1, G2, G3
Growth_PRM_DailySummaryPositions	218	224.0.231.101	718	224.0.231.102	G1, G2, G3
LBMA_PRM_RefPrices	307	224.0.231.119	807	224.0.231.120	L1
IOR_RefData	200	224.0.231.83	700	224.0.231.84	C1, C2, C3, G1, G2, G3
DR Signal	81	224.0.231.1	-	-	C1, C2, C3, G1, G2, G3, L1

Note: All ports are UDP 51000

7 LMEtrader

LMEtrader GUI is a web based application available to participants which facilitates order management and trade activity on the LMEselect platform (both on the current version 'v9' and on the future version 'v10'). This GUI can be accessed over the Internet for both the market test and production environments. Additionally, participants can access the LMEtrader GUI via any existing direct connectivity (Direct Connect or Private Lines) they may have with Trading Technologies (TT). Please contact the LME Trading Operations team at tradingoperations@lme.com to establish links with existing direct connectivity with TT, or to set up a new direct connectivity arrangement with TT. Please note that the LMEtrader GUI, on both LMEselect v9 and v10, cannot be accessed using participants existing LMEnet or LME CDC cross connect connections.

Market Test A (Internet Access)	
LMEtrader App	**URL**
Setup App	https://setup-uat.trade.tt/ext-uat-cert?idp=lme#company/
Trade App	https://lme-uat.trade.tt/workspaces/latest

Production (Internet Access)	
LMEtrader App	**URL**
Setup App	https://setup.trade.tt/?idp=lme
Trade App	https://lme.trade.tt