



# LMEnet

## Market Participant Connectivity Guide

Please respond to:

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# 1 Purpose

This document outlines LMEnet – what it is, its features and benefits and how to gain connectivity to the WAN.

## 2 Overview

The London Metal Exchange (LME) is working with technology services leader Colt to launch LMEnet, a dedicated network for LME systems that will give the LME community a fast, reliable and secure connection to the LME's electronic systems, market data and LMEclear. LMEnet links into the Colt trading telecommunications network, PrizmNet, and supports three tiers of connectivity options for LME users, according to their performance and latency requirements. LMEnet also features Colt's unique advanced service monitoring tool, which allows users to assess latency and bandwidth use. The Services are optimised for uninterrupted access to the LME systems during trading hours, in particular the trading system, and the trading system GUI (graphical user interface). Such features will include but not be limited to:

- High availability architecture for resilient connectivity.
- Rapid failover mechanism for resilient connectivity
- Session persistence of LMESelect GUI TCP sessions during failover.
- Scalability of Market Participant connectivity.
- No single point of failure.

## 3 Availability

### 3.1 Who can use LMEnet?

LMEnet is for connectivity to the Exchanges systems and can be ordered by any Market Participant that is approved by the LME and has signed the connectivity agreement.

### 3.2 Order Process

Market Participants should contact the LME Technical Account Management team ([tam@lme.com](mailto:tam@lme.com)) to start the process.

### 3.3 Service

#### LMEnet

- Circuit availability: 99.999%
- Packet loss 0.1%
- Optimal failover time 1 sec
- A range of capacities (10Mbps-1Gb)
- Latency: 1ms to 44ms based on location (10Mbps-1Gb)



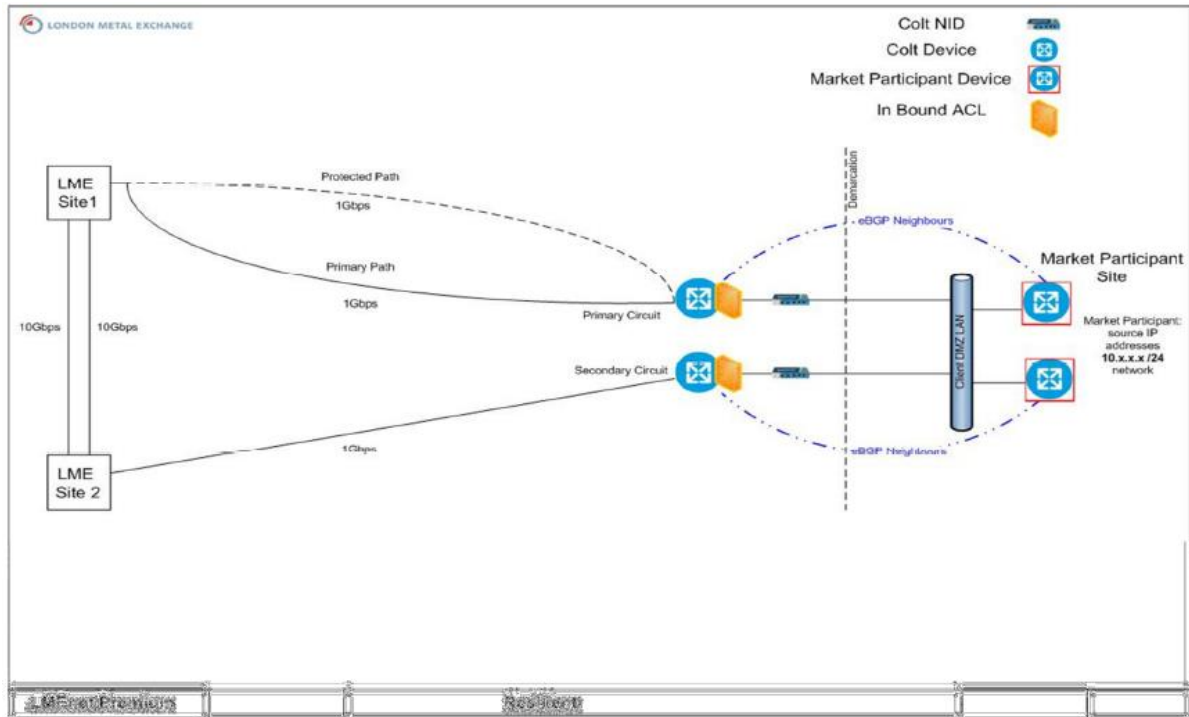
## 4 Design Principles

The Design Principles for the Services are:

- All Market Participants will be treated equally. Market Participants are strongly recommended to have resilient / redundant connectivity, and while the LME will offer some flexibility in how this is achieved; those options will be predefined standard allowable configurations.
- Connectivity will be based on diverse routing (carrier/path), unless there is an agreed valid commercial or technical reason where this is not viable.
- Market Participants with single lines to multiple sites (Split Site model) must have those sites linked to different POPs where available.
- All connectivity to comply with LME Security Policies, relevant to the Services.
- The Market Participant Customer Premises Equipment (CPE) provided by Colt will include adequate security controls.
- Failover times will be optimised with a goal of achieving sub 1 second for most network failures, to minimise failure of TCP/IP sessions.
- There will be no single point of failure at any point.
- Remote operational monitoring and management will be enabled, and visible to the LME.
- Deployed technology will be scalable, both technologically and geographically; unless there is an agreed valid commercial or technical reason where this is not viable.
- Latency and utilisation monitoring will be enabled via an on line portal.



## 5 LMEnet Service



### 5.1 LMEnet

LMEnet provides a high quality service for Market Participants who trade, match, clear and use market data but whose strategies are not particularly focused on low latency. Market Participants who require LMEnet will be provided connectivity that will leverage the Supplier’s PrizmNet core network, coupled with Ethernet access circuits from the Supplier and other carriers. Market Participant sites will be connected to two PrizmNet PoPs using carrier diverse circuits. The layer 3 interface between the client site CPE devices and their network equipment could use VRRP or BGP.

- Advanced service monitoring
- Scalable capacity
- Service diversity (carrier and route diversity)

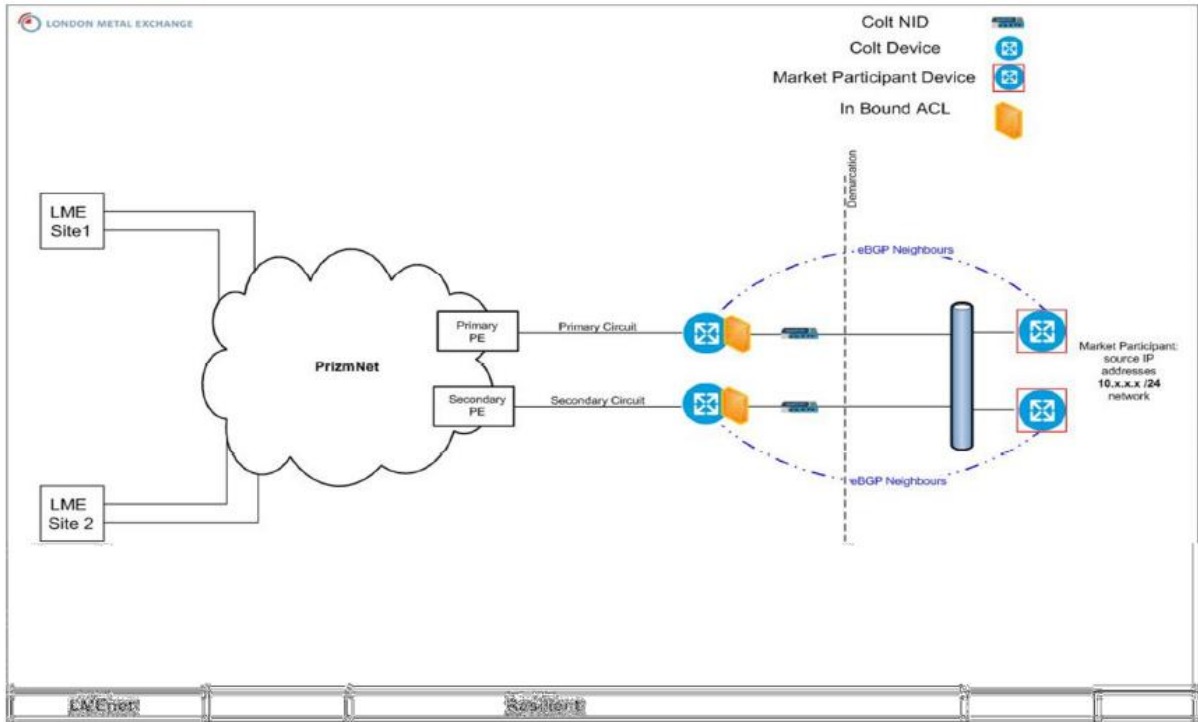
LMEnet solutions available:

- Resilient
- Spilt Site

#### 5.1.1 LMEnet – Resilient

A resilient setup consists of two carrier and route diverse circuits installed to a Market Participant site, where one of the circuits will be primary and the other secondary.





### 5.1.2 LMEnet – Spilt Site

There are multiple scenarios that can form the makeup of a Spilt Site.

- Spilt Site Dual Network – different Market Participant sites with active single circuits to each
- Spilt Site Single Network – different Market Participant sites with primary/secondary single circuits to each
- Spilt Site Stretched Network – different Market Participants sites with primary/secondary single circuits to each, but utilising the Market Participants internal network to create a stretched LAN



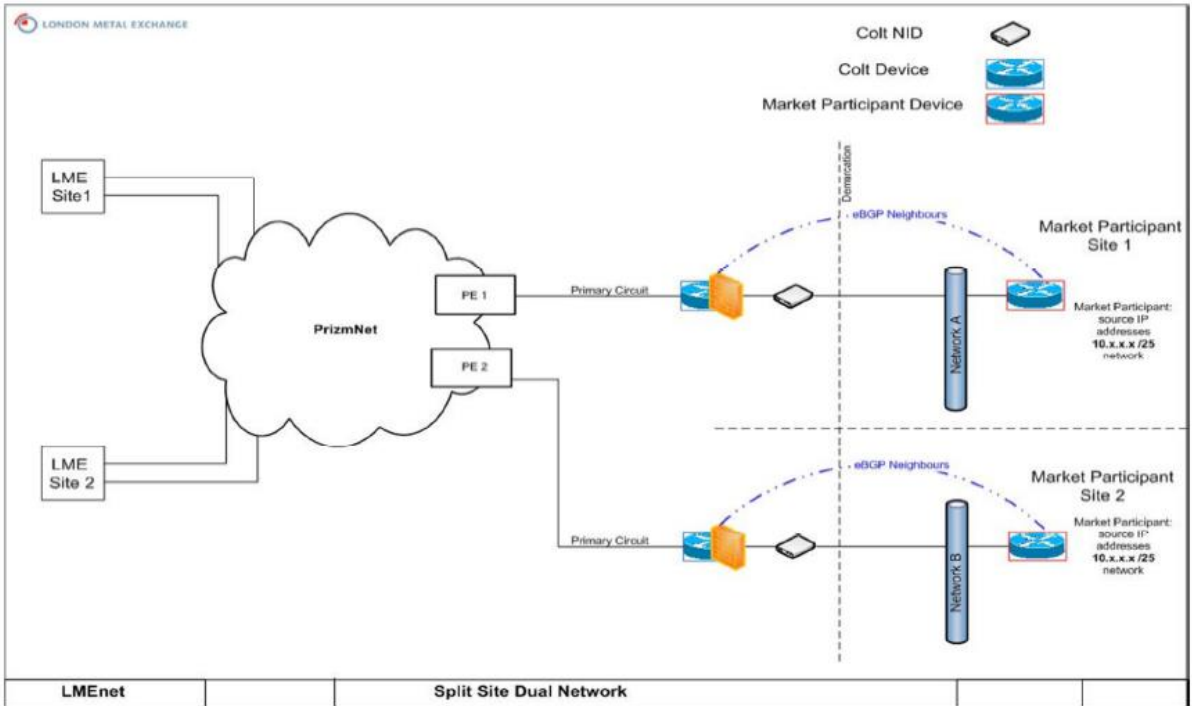


Diagram 4 – Split Site Dual Network

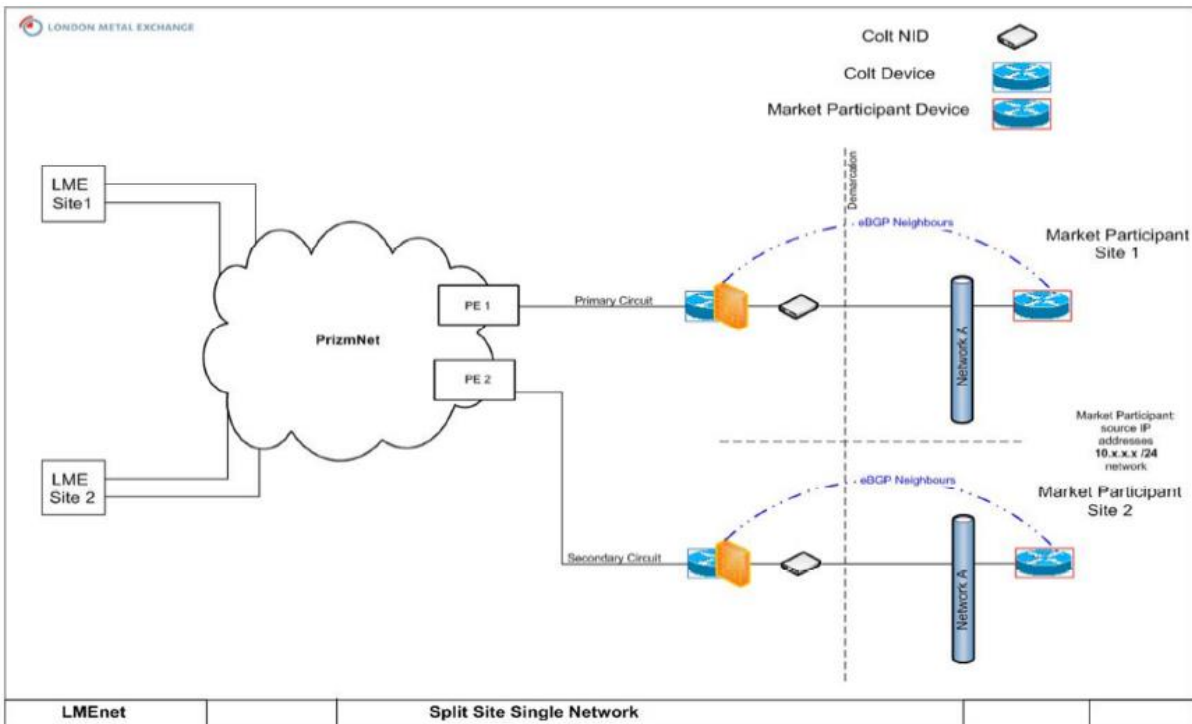


Diagram 5 – Split Site Single Network

Prizmnet

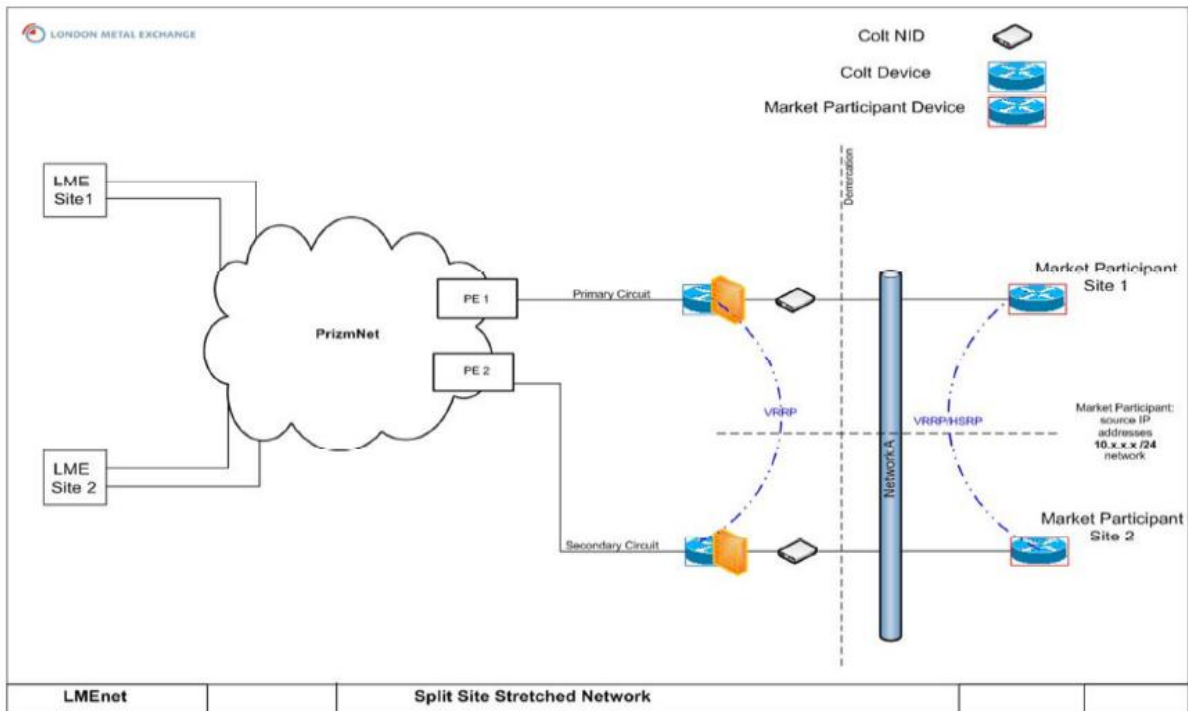


Diagram 6 – Split Site Stretched Network

5.2 LMEnet Remote

LMEnet Remote is for small offices with 1 to 2 users.

The LME will provide two solutions where available

- An MPLS connection delivered using the Supplier VPN (MPLS) Service, either directly on the Supplier network where Supplier have coverage or through an MPLS partner via an NNI. Single circuits and routers will be offered to Market Participants requiring the LMEnet Remote Service.
- An internet VPN connection where a Market Participant can use their own ISP, with IPsec connections established between the managed client site CPE and a VPN concentrator within the IP VPN core.





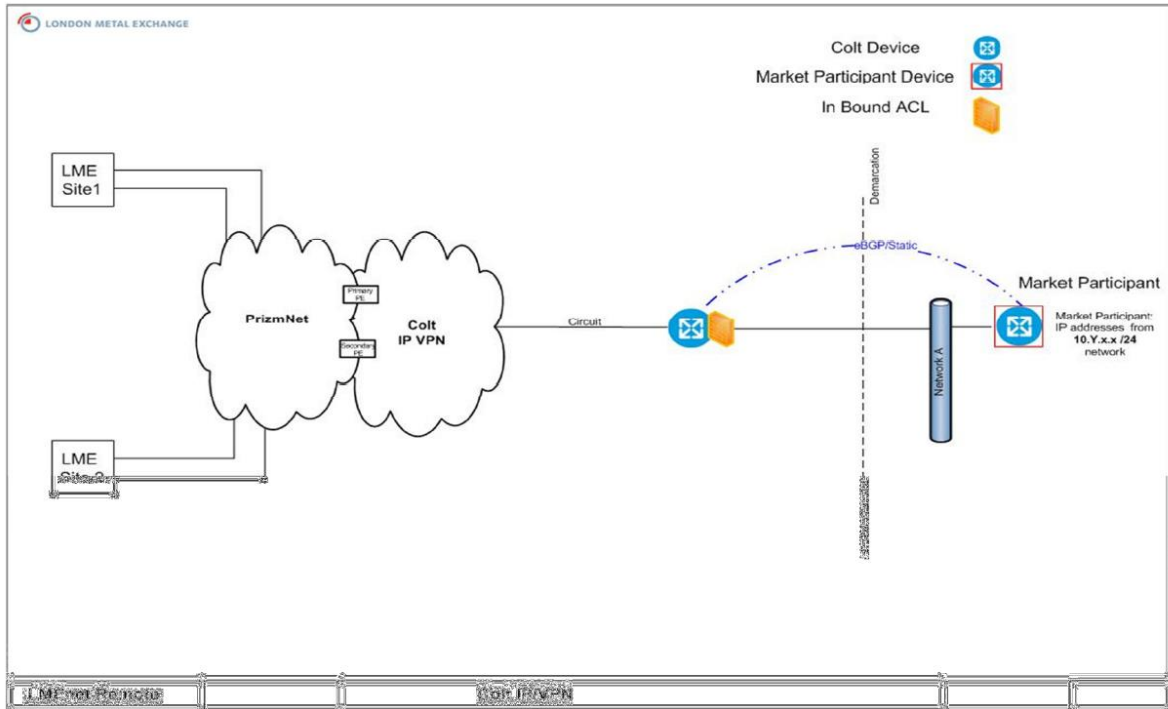


Diagram 7 - LMEnet Remote with Colt circuit

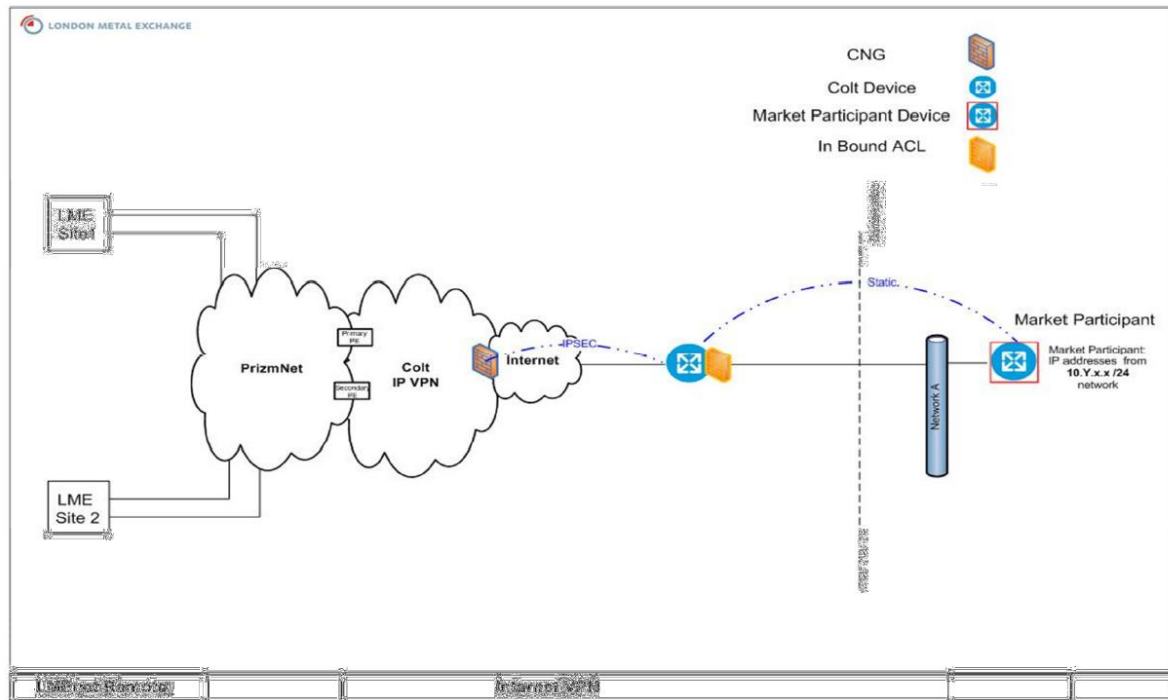


Diagram 8 - LMEnet Remote with other ISP



## 6 Acceptance and Testing

Market participants will have 10 working days for testing and acceptance of the new circuit once Colt has completed handover.

As part of the process the LME will provide a test plan to allow Market Participants to fully test connectivity and failover.

## 7 Service Management

### 7.1 Fault/Request

The process to log a request or fault is not changing from the current process. All Market Participants should contact the IT service Desk and include the LMEnet team via phone or email to report any problems. Colt will NOT accept any direct request from Market Participants for the LMEnet service.

Reporting production issues - IT Service Desk  
[itservicedesk@lme.com](mailto:itservicedesk@lme.com)  
 0207 113 8550

Changes and queries - LMEnet Team  
[LMEnet@lme.com](mailto:LMEnet@lme.com)

### 7.2 Utilisation Monitoring

A new feature will be available for Market Participants where they can access the SevOne portal and view of reports of the bandwidth and latency performance of their services. A user guide will be provided to help Market Participants use this service.

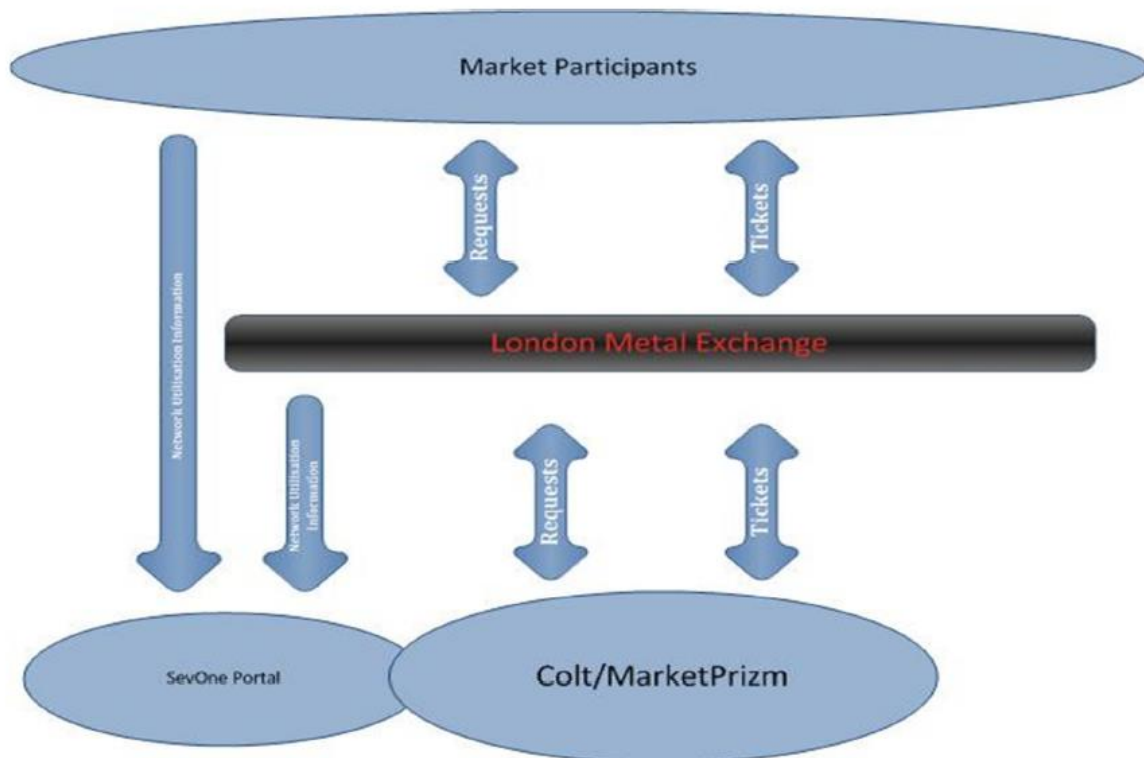


Diagram 9 – Service Management

