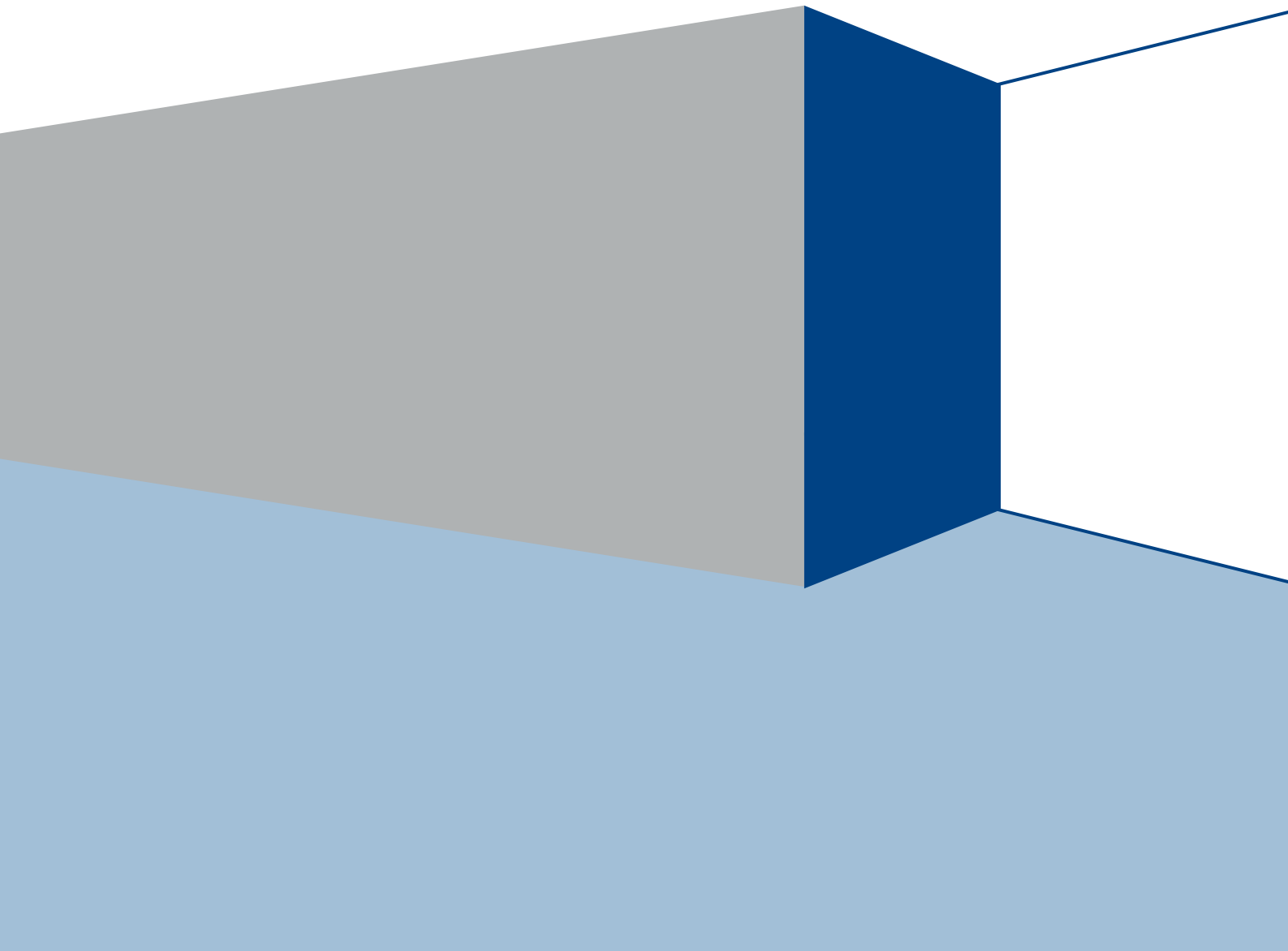




London
Stock Exchange

SERVICE AND TECHNICAL DESCRIPTION

Member Authorised Connection



Contents

1	Service Description	3
1.1	Introduction	3
1.2	Scope and readership	3
1.3	Features of the service	3
1.4	Trade processing	5
1.5	Clearing and settlement	6
1.6	Risk management controls and procedures	6
1.7	Exchange's right to refuse a MAC	7
1.8	Contra trades	7
1.9	Service issues	7
1.10	Trading interfaces	8
2	Technical Description	9
2.1	Introduction	9
2.2	Enhanced order routing capabilities	9
2.3	Enhanced participant structure	9
2.4	Connectivity options	10
2.5	MAC service configuration	12
2.6	Testing requirements	12
2.7	Enablements	13
3	Providing a Member Authorised Connection	14
3.1	Process	14
3.2	Contact details	14
3.3	Timescale	14

1 Service Description

1.1 Introduction

The London Stock Exchange (the Exchange) is committed to enhancing market access for the benefit of the market as a whole. As part of this commitment, the Exchange is introducing a new direct, low latency connectivity solution for non member firms. Member Authorised Connection (MAC) allows non member firms to access the Exchange's centrally cleared order driven Trading Services under an authorising member firm's trading codes.

Unlike the traditional Direct Market Access (DMA) model which requires orders submitted by the customer to be routed through the Order Management System (OMS) of the member firm, MAC allows a non member firm to have a direct technical connection to the Exchange and submit orders under an authorising member firm's trading codes. However, the member firm must be satisfied it has relevant controls and procedures in place to ensure compliance with its obligations as an authorising member firm, and have appropriate systems and controls over the trades and orders of its MAC customer(s).

1.2 Scope and readership

The aim of this document is to provide a detailed description of the Exchange's MAC provision. The document specifies the commercial details for an authorising member firm wishing to provide MAC.

This document is also aimed at readers requiring an understanding of the technical aspects of the service. It details the information needed for an authorising member firm to successfully update its systems prior to when a MAC is launched.

It is assumed that readers are familiar with the Exchange's Technical Specifications that are available on the Exchange's website at www.londonstockexchange.com/en-gb/products/membershiptrading/techlib/techspecs.htm

1.3 Features of the service

- MAC will only be available to non member firms.
- MAC customers will be able to trade all centrally cleared securities on the Exchange's centrally cleared order books; SETS, SETSqx, EUROSETS (and IOB from Q1 2009) as long as their authorising member firm is able to access, clear and settle that order book. Off book and OTC trade reporting will not be supported.

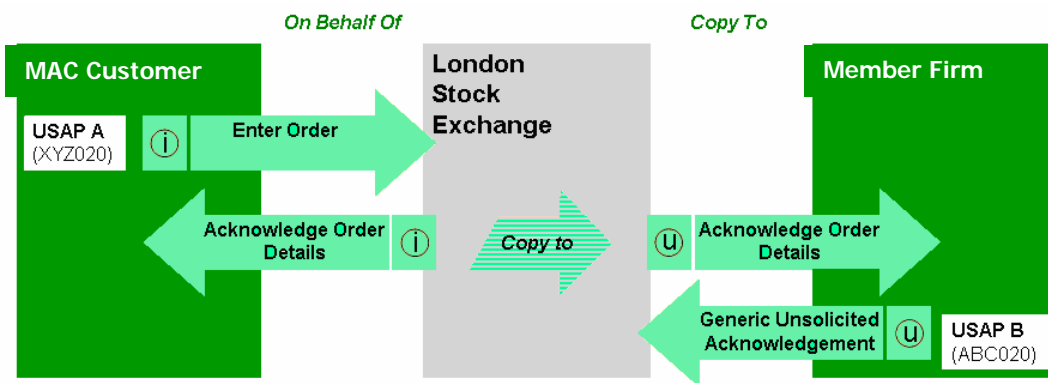
- MAC customers will trade using the authorising member firm's Member ID and will utilise the functionality available in TradElect to trade 'on behalf of' their authorising member, using the member firm's existing codes to place orders directly onto one of the Exchange's centrally cleared order books.
- The authorising member firm is responsible for all orders submitted by its MAC customer(s).
- Authorising firms will receive a 'copy to' message for all orders submitted by their MAC customer(s).
- The Exchange will have no ongoing contact with the MAC customer. The only situations in which contact will occur are if the authorising member firm asks the Exchange to aid the MAC customer in setting up an Extranex connection and during any conformance testing by the MAC customer.
- There will be an application process for each new connection:
 - An authorising member firm must submit to the Exchange a pro forma statement regarding the due diligence it has undertaken confirming the customer's suitability to have a Member Authorised Connection and that it complies with the Exchange's rules. This statement also requires the identity of the MAC customer to be disclosed to the Exchange.
 - A systems diagram will also be required showing how the MAC customer will connect to the Exchange and where the authorising member firm's controls reside, including an explanation of how the controls operate and how they will be maintained by the authorising member firm.
 - The Exchange will subsequently visit the member firm to discuss the controls and due diligence.
- A separate Trader Group will be set up for each MAC customer to ensure its business is clearly segregated.
- Order book volume discount rates will continue to be applied at a member firm level.
- Stamp Duty and Stamp Duty Reserve Tax (SDRT) intermediary relief will continue to apply to those UK based firms acting as authorising member firms. Firms wishing further information regarding this issue should contact HMRC.

1.4 Trade processing

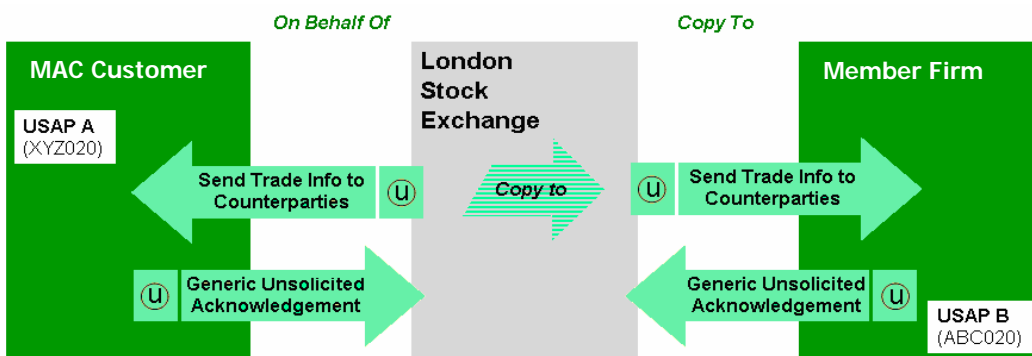
The MAC customer places an order directly onto one of the Exchange's centrally cleared order books, under the authorising member firm's Member ID and a unique Trader Group ID, using the 'on behalf of' functionality in TradElect.

If the order executes immediately, a trade confirmation is sent simultaneously to the MAC customer and the authorising member firm. If the order does not execute, an order confirmation is sent simultaneously to the MAC customer and the authorising member firm as in the diagram below:

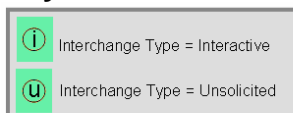
Order Entry:



Order Match:



Key:



1.5 Clearing and settlement

The Exchange uses the Member ID of the authorising member firm in order to identify clearing and settlement arrangements. All MAC customers will therefore be associated with their authorising member firm's clearing and settlement provider.

1.6 Risk management controls and procedures

Authorising member firms retain sole responsibility for any order flow submitted using their Member ID, regardless of Trader Group, including that of MAC customers. Members must ensure that the trade flow has appropriate controls and procedures in place to prevent the entry of erroneous orders. It will not be appropriate to rely solely on the 'copy to' functionality available in TradElect.

A member firm must submit to the Exchange a statement regarding the due diligence it has undertaken confirming the customer's suitability to have a Member Authorised Connection and that it complies with the Exchange's trading rules. This document also requires the identity of the MAC customer to be disclosed to the Exchange. The due diligence statement can be found on the Exchange's website at

www.londonstockexchange.com/en-gb/products/membershiptrading/accessnetworkservices/MAC/howtobecomeauthorisingmemberfirm.

In addition to this statement, authorising member firms must also submit a systems diagram showing how the MAC customer will connect to the Exchange and where within this connection the authorising member firm's controls reside, including an explanation of how the controls operate and how they will be maintained by the authorising member firm. The Exchange will subsequently visit the member firm to discuss these controls and the firm's due diligence.

The Exchange will not formally endorse controls or due diligence but retains its right to refuse a MAC.

The Exchange is aware of a number of Independent Software Vendors (ISVs) that may be able to provide software solutions for authorising member firms regarding the controls and procedures that need to be in place to prevent the entry of erroneous orders by MAC customers. A list of these ISVs can be found on the Exchange's website at www.londonstockexchange.com/en-gb/products/membershiptrading/accessnetworkservices/tradingaccess/ISVs/

1.7 Exchange's right to refuse a MAC

The Exchange maintains the right to refuse a member firm's request to provide a customer with a MAC, or to suspend or terminate an existing MAC. The Exchange will provide the member firm with a standardised statement detailing the decision.

1.8 Contra trades

The Exchange will only have a direct relationship with the authorising member firm, including in the event of a live trading issue. Contra requests should be sent electronically, but can be requested via telephone.

- If the Exchange receives an electronic contra trade request from a MAC customer, the Exchange will contact the compliance team of the authorising member firm.
- Telephone requests for a contra trade, relating to a MAC customer's trades, should come from the compliance team of the authorising member firm.

In both cases, if requested to perform contra trades the Exchange will contact the counterparty following the procedure set out in rule 2110 of the Rules of the London Stock Exchange. It should be noted however that member firms are under no obligation to contra a trade at the request of a counterparty.

1.9 Service issues

The Exchange will not have direct contact with a MAC customer, including in the event of a service issue relating to the trades of that MAC customer. The Exchange will only take instructions regarding altering or deleting a MAC customer's trades from the employees of the authorising member firm specified on the Security Contact Form. If the authorising member firm requires different employees to be able to authorise alterations to a MAC customer's trades it must inform the Exchange in writing.

The Exchange reserves the right to disconnect MAC customers at any time.

1.9.1 MAC customer encounters issues or loses connectivity

The MAC customer should contact its authorising member firm.

If the MAC customer has a DMA relationship with its authorising member firm, it is anticipated that the customer could revert back to this model in the event of a loss of MAC connectivity.

1.9.2 Authorising firm encounters issues or loses connectivity

It is the responsibility of the authorising member firm to satisfy itself that it has relevant controls and procedures in place to ensure compliance with its obligations as an authorising member firm at all times. If an authorising member firm loses connectivity with either the Exchange or its MAC customer(s), it must take appropriate action and inform the Exchange of the issue.

1.10 Trading interfaces

As part of enhancing its trading services, the Exchange is planning to introduce a FIX 5.0 interface. This will run in parallel to the existing native trading interface. However, for MAC, the authorising member firms and their MAC customers must match their connectivity. Therefore both MAC customers and their authorising member firms must either both connect via the FIX 5.0 interface or they must both use the native interface.

2 Technical Description

2.1 Introduction

MAC utilises the enhanced message routing capabilities and the enhanced participant structure built into TradElect.

2.2 Enhanced order routing capabilities

There are two enhanced routing functions built into TradElect that facilitate the MAC service: 'on behalf of' and 'copy to'.

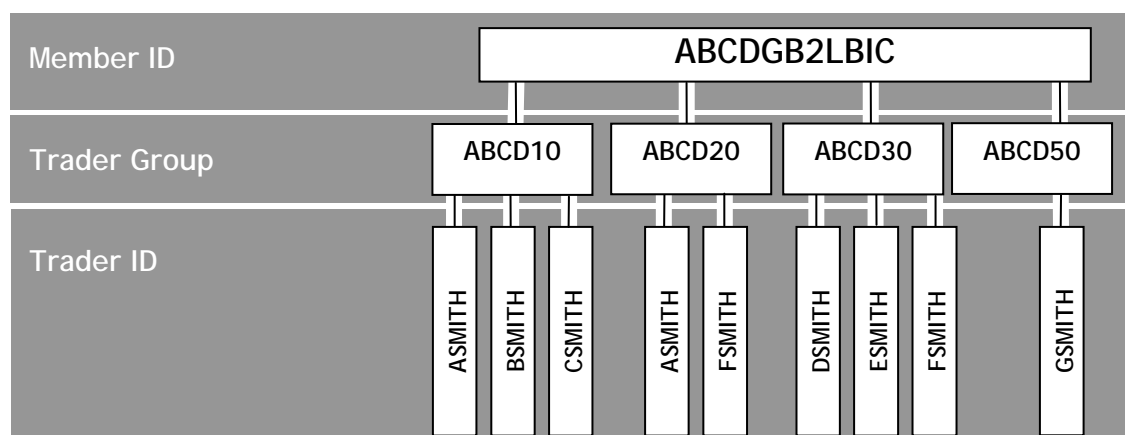
The '**on behalf of**' functionality allows the MAC customer to submit orders on behalf of the authorising member firm.

The '**copy to**' functionality allows all solicited and unsolicited messages to be copied to a designated USAP. Only messages sent from the Exchange to the MAC customer will be copied to the authorising member firm. For example, orders entered by the MAC customer will be acknowledged by TradElect and the acknowledgements, plus any executions, will be copied to the member firm. The 'copy to' functionality does not allow the copying of in-bound messages (ie messages sent from the MAC customer to the Exchange), therefore all 'copy to' messages are 'post event' only.

All authorising member firms have a mandatory requirement to use the 'copy to' functionality.

2.3 Enhanced participant structure

Members are defined in TradElect by the use of a three-tier hierarchy as per the diagram below:



All authorising member firms are required to use a separate Trader Group for each MAC customer. The Trader Group will be set up on the designated USAP at the authorising member firm and the USAP provided to the MAC customer (see section 2.5).

A more detailed explanation of the enhanced order routing and participant structure can be found at the address below in the Interface Specification of the Trading and Information Systems:

<http://www.londonstockexchange.com/en-gb/products/membershiptrading/techlib/techspecs.htm>

2.4 Connectivity options

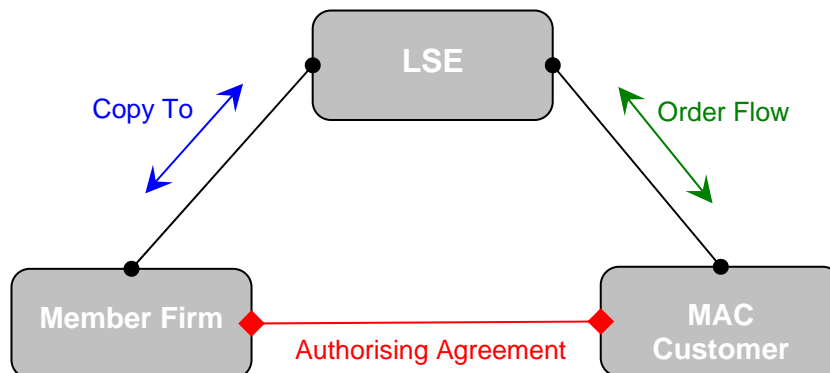
The diagrams below describe the connectivity options that authorising member firms and MAC customers can utilise for the MAC service.

2.4.1 Option 1

In the option below, the MAC customer has its own connection to the Exchange which it uses to send messages. All messages are copied to the authorising member firm by the Exchange.

The MAC customer can choose from any of the available connectivity types offered by the Exchange. More information about the connectivity options on offer can be found at the following address:

<http://www.londonstockexchange.com/en-gb/products/membershiptrading/accessnetworkservices/tradingaccess/>



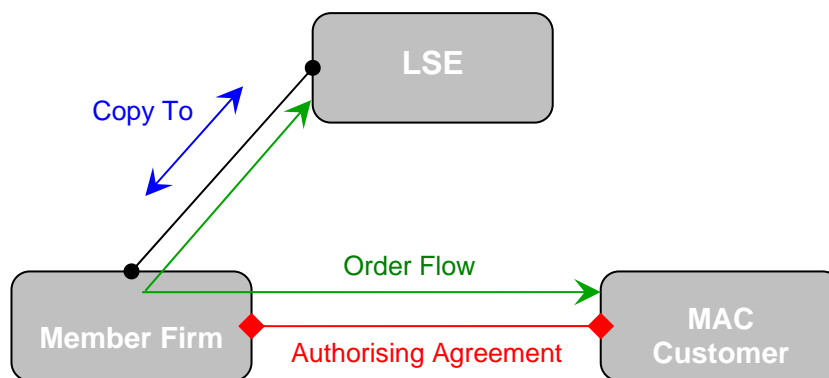
The 'copy to' functionality is bi-directional, ie the Exchange will copy all outbound messages to the designated USAP at the authorising member firm, and should the member firm have a requirement to enter messages on behalf of the MAC customer (eg order deletes), all acknowledgements will be copied to the MAC customer.

A formal agreement is required to be in place between the authorising member firm and MAC customer.

If either the authorising member firm or the MAC customer loses connectivity to the Exchange, all 'copy to' messages will be queued on the Exchange system and will be automatically sent when the disconnected USAP re-connects. Please see section 1.9 for more information.

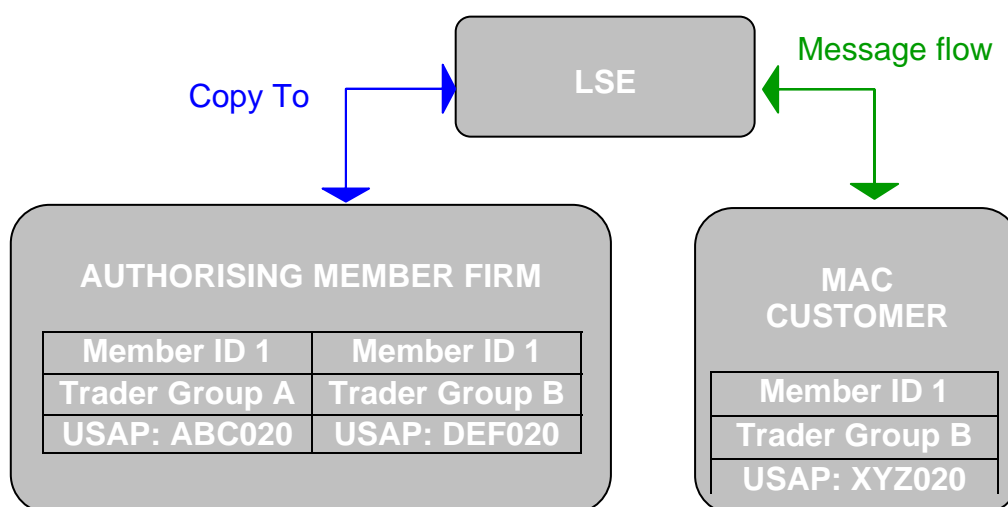
2.4.2 Option 2

In the second option below, the MAC customer uses the authorising member firm's connectivity to send messages to the Exchange.



The difference between this option and a standard DMA set-up is that there is no obligation for the MAC customer to go through the authorising member firm's OMS. However as with Option 1, there is a requirement for a formal agreement to be in place between the two firms.

2.5 MAC service configuration



In the example above, the authorising member firm and MAC customer are configured with the same Member ID and Trader Group but different USAPs. The USAPs will be different as the 'copy to' functionality facilitates the copying of messages from one USAP to another. The authorising member firm receives copies of all the MAC customer's solicited and unsolicited messages. Member firms must reply to these messages in the standard manner with a Generic Unsolicited Acknowledgement message.

The authorising member firm has the ability to perform 'on behalf of' actions for the MAC customer. If any actions are performed by the authorising member firm, resulting messages will be sent to the MAC customer and the authorising member firm.

On TradElect, all orders belong to a specific Trader Group. The authorising member firm should NOT use Trader Group B for any of its own trading purposes.

The Exchange uses the Member ID of the authorising member firm in order to identify clearing and settlement arrangements. Therefore, all MAC customers will be associated with the authorising member firm's clearing and settlement provider.

2.6 Testing requirements

The MAC service is currently available on the Customer Development Service (CDS) environment.

The Exchange's standard Accreditation Policy applies to any firm that wishes to access the Production Trading and Information Systems.

The 'copy to' functionality is not covered in the Trading Conformance test. The Exchange recommends that the authorising member firm and their MAC customer(s) test the 'copy to' functionality on the Exchange's CDS environment.

2.7 Enablements

Each authorising member firm will have a parent trading enablement of the form MAP812345.

Each MAC customer will have a trading enablement of the form MAC854321.

A MAC customer may access CDS via the following options:

- MAC Continuous Access with a MCA854321 enablement
- MAC Test Bookable with a MTB854321 enablement.

The standard charges for the customer testing services will apply. An authorising member firm's Continuous Access Agreement will not cover their MAC customer(s) as this agreement is on a SAP by SAP basis.

Any Key Encryption Keys (KEKs) for the MAC service will be sent directly to the authorising member firm.

3 Providing a Member Authorised Connection

3.1 Process

To provide a MAC, a member firm must first contact the Exchange to indicate their interest. Secondly, a member firm must complete their due diligence obligations laid down in the rules and download, complete and sign the MAC due diligence statement which can be found at <http://www.londonstockexchange.com/en-gb/products/membershiptrading/accessnetworkservices/MAC/howtobecomeauthorisingmemberfirm>.

A member firm must also prepare and submit a systems diagram to the Exchange which clearly articulates how the MAC customer will connect to the Exchange and where the member firm's controls will reside, including an explanation of how the controls operate and how they will be maintained by the authorising member firm.

Lastly, a member firm must complete the standard enablement process using the Exchange's eContracts online ordering system.

3.2 Contact details

The Exchange recognises the importance of supporting its customers throughout the implementation of the changes detailed in this document.

- For more information on the technical set up, enablement and testing please contact your **Technical Account Manager** or the **Technical Information Desk** on 0207 797 4216.
- For a commercial and/or business question please contact your **Primary Account Manager**.
- Requests for new and changes to existing enablements should be submitted via the Exchange's eContracts online ordering system. Implementation queries may also be raised directly through the **Client Implementation Team** on 0207 797 3232, or email clientimplementation@londonstockexchange.com

3.3 Timescale

The rules governing Member Authorised Connection will be available from 19 December 2008. These rules will become effective from 5 January 2009. From 5 January authorising member firms will be able to apply to be able to provide a MAC.



London
Stock Exchange

Copyright © December 2008 London Stock Exchange plc.
Registered in England and Wales No. 2075721.

London Stock Exchange plc has used all reasonable efforts to ensure that the information contained in this publication is correct at the time of going to press, but shall not be liable for decisions made in reliance on it.

London Stock Exchange, SETS, TradElect and the coat of arms device are registered trademarks of London Stock Exchange plc. Member Authorised Connection (MAC) is a trademark of London Stock Exchange plc.

London Stock Exchange
10 Paternoster Square
London EC4M 7LS
Telephone: +44 (0)20 7797 1000

www.londonstockexchange.com