

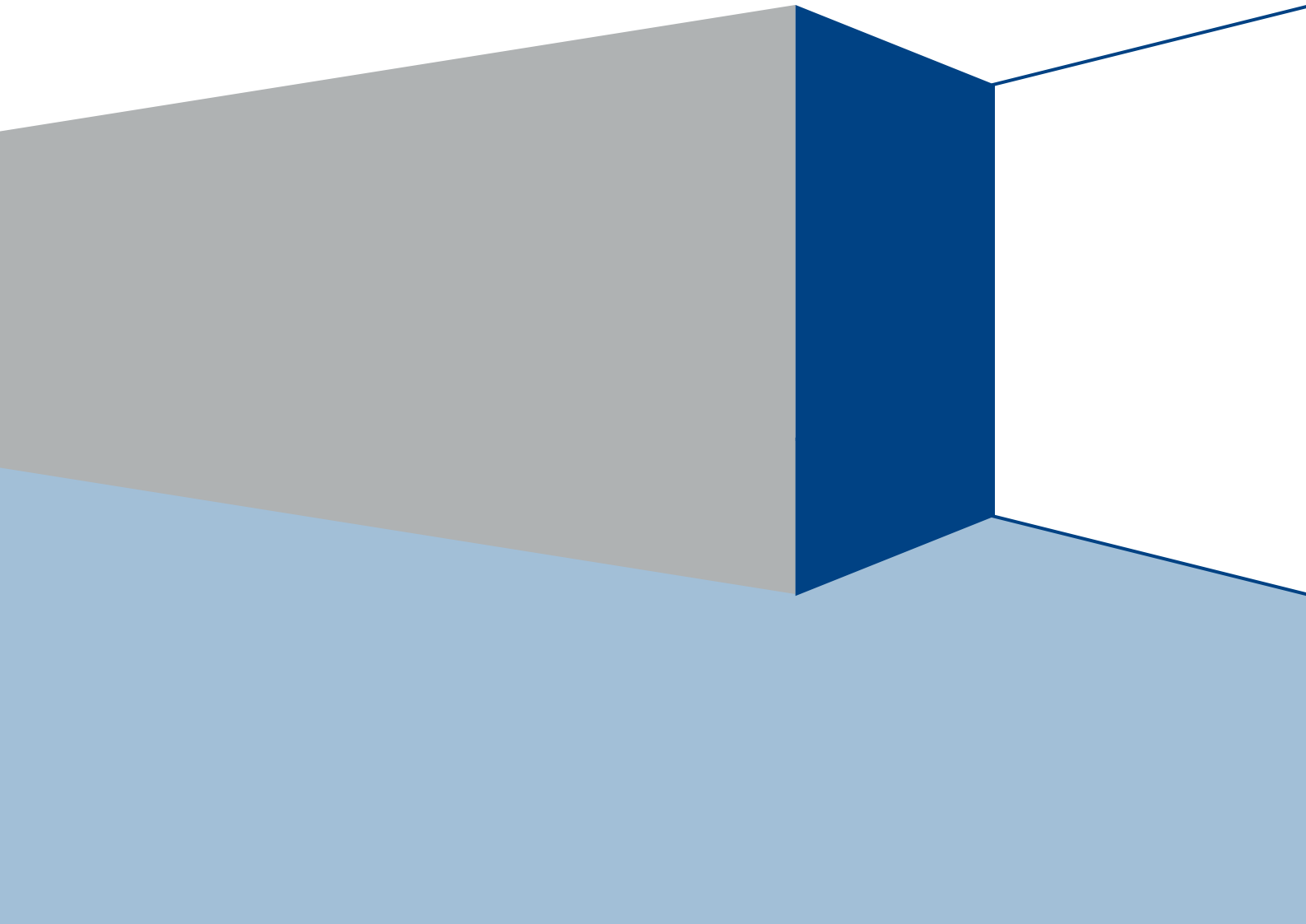


London
Stock Exchange

MIT702 · MILLENNIUM EXCHANGE

Optimised Data Delivery Service Launch Guide

Issue 1.0 · 5 August 2011



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1 Overview

Optimised Data Delivery aims to improve on the market leading performance of the Millennium Exchange solution. In response to client demand, the London Stock Exchange will shortly provide a Level 2-ITCH real time market data service with reduced latency.

The service will launch on **Monday 22 August 2011** and will initially be available to all 10Gb Exchange Hosting clients. The service will then be made available to all remaining Exchange Hosting clients and those clients connecting via an Extranex 1Gb optical SAP. This service will be made available at no commercial charge.

1.1 Document History

This document has been subject to the following iterations:

Issue	Date	Description
1.0	5 August 2011	First issue of this document published via the Exchange's website.

In subsequent issues, where amendments have been made to the previous version, these changes will be identified using a series of side bars as illustrated opposite.

1.2 Document Scope

This document details the rationale behind the London Stock Exchange's decision to launch the Optimised Data Delivery service, the testing services available to clients in the weeks prior to launch and high level details of the cutover weekend for those clients wanting to be live on the new service from go-live. This document also contains the technical details for the Optimised Data Delivery channels.

2 Service Overview

2.1 Service Structure

The existing Millennium Exchange solution is configured to broadcast multiple messages per UDP packet. Whilst this format is a highly efficient method of message distribution, there may be times of increased latency as the system packages multiple messages into each UDP packet.

As such, the London Stock Exchange will launch a new Optimised Data Delivery service. This service will **not** package multiple messages per UDP packet. Instead, the gateway will transmit each message in a single UDP packet. Whilst clients on the new service will immediately benefit from a reduction in system latency, bandwidth utilisation will increase.

The ITCH channels supporting our most liquid securities will be provided in the new Optimised Data Delivery format; ITCH channels A, B, C, D and G will be optimised from launch. These new ITCH 'Prime' channels will be provided on a new set of multicast IP addresses and will be fully resilient. Those clients operating in the Exchange Hosting suite and those clients with 1Gb Extranex connectivity or above can opt to receive real time market data from the new service. There will be no commercial charge for the new service.

The Exchange will maintain the existing set of multi-message per UDP packet services for those clients without appropriate bandwidth for the optimised service and for those clients who do not want to migrate.

2.2 Service Availability

The new Optimised Data Delivery service was made available on the CDS environment on one ITCH channel. From **Monday 11 July 2011** the current ITCH channel B was configured to provide a single message per UDP packet format. Clients are strongly encouraged to test both feed handlers and applications against the new format ahead of migration to the new service.

Those clients in 10Gb Exchange Hosting can be permissioned to receive this service in parallel with existing Production multi-message services. Clients requiring this service from go-live should request activation of the service by **Wednesday 10 August 2011**. The service will be permissioned for clients from **Monday 22 August 2011**. Legacy multi-message services will be decommissioned upon client request.

Those clients with 1Gb Extranex connectivity, or 1Gb Exchange Hosting will be provided a client cutover weekend to the new service on **Saturday 3 September 2011** following which the full Production service will be available to those clients whom participate and successfully completes the cutover weekend.

In order to facilitate client testing, the new Optimised Data Delivery Service gateways will publish heartbeat messages from 1830hrs – 2100hrs (BST), Monday to Thursday, on the Production multicast addresses. Clients enabled for the service will also be able to TELNET to the TCP/IP Replay and Recovery services on these new gateways.

3 Client Cutover Weekend

The Exchange will provide a client cutover weekend for those 1Gb Extranex and 1Gb Exchange Hosting clients who wish to be live on this service. The client cutover weekend will take place on **Saturday 3 September 2011**. The weekend will follow the standard trading day schedule. For information, a copy of the schedule is detailed below:

Time	Activity
04:00 BST	Reference Data Available
07:50 BST	GTD Orders disseminated
07:50 BST	Opening Auction Call
07:50 – 12:00 BST	Continuous Trading
12:15 – 16:30 BST	Continuous Trading
16:30 – 16:35 BST	Closing Auction Call
18:15 BST	System Shutdown

Participating clients will need to contact their Technical Account Manager in order to request access to the new set of services. Clients should request participation in this cutover weekend by **Wednesday 17 August 2011**.

Legacy services will be decommissioned during the cutover weekend for clients that have successfully completed the cutover to the new service.

Clients are requested to confirm successful testing on **Saturday 3 September 2011** by emailing support@londonstockexchange.com or contacting their Technical Account Manager. Following this confirmation, Production Optimised Data Delivery services will be available to the client from **Monday 5 September 2011**.

The Weekend Activity Monitor will be used as part of this migration. The Weekend Activity Monitor will be made available at the following URL:

<http://wam.londonstockexchange.com/weekendactivitymonitor/>

Any client who does not participate in the client cutover weekend will be subject to standard LCON testing to migrate to the new set of Optimised Data Delivery services at a later date.

4 IP addressing

The new Optimised Data Delivery gateways whilst operating independently, will mirror the existing market data gateway structure; a Primary source ('A' Feed) of data disseminated on clients' Primary circuits and a Secondary source of data ('B' Feed) disseminated on clients' Secondary circuits.

Details of the new multicast IP addresses are overleaf:

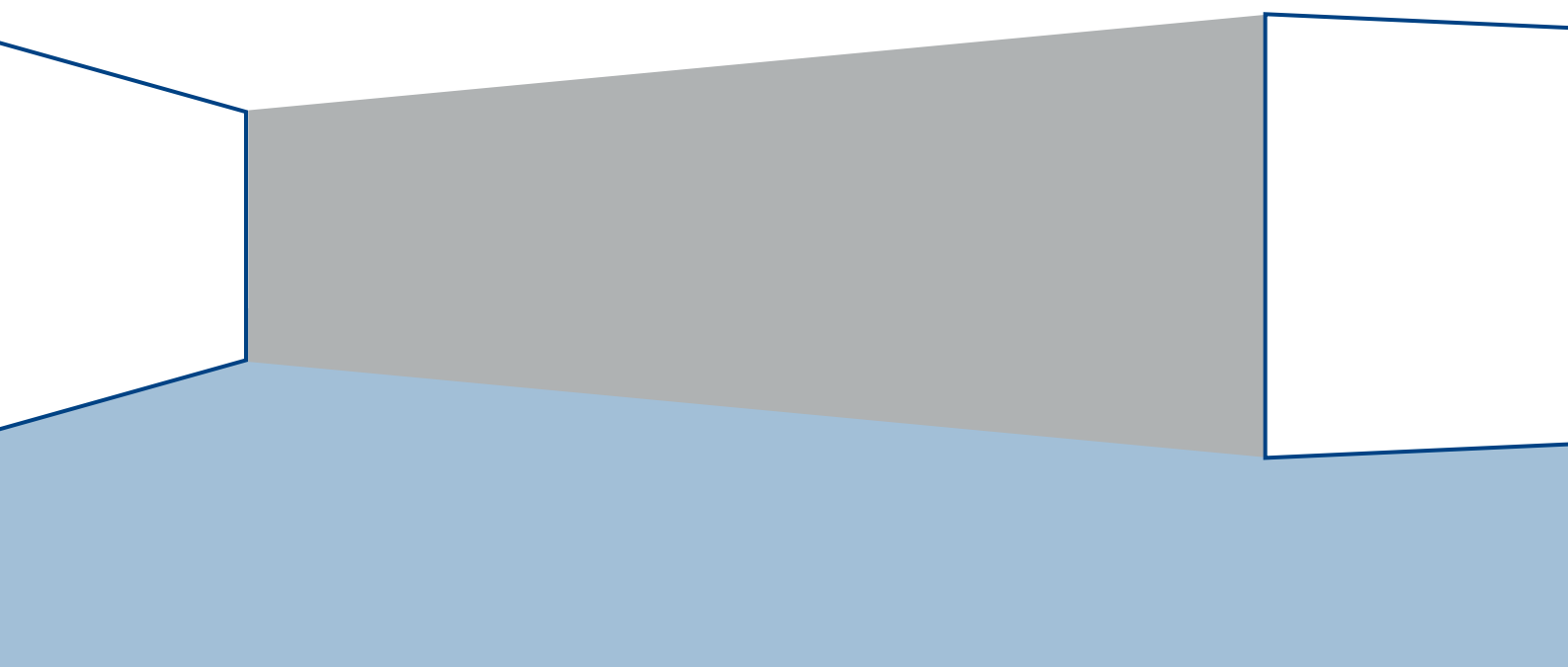
Primary Feed									
			Multicast Primary Feed			Replay Service (Active)		Recovery Service (Active)	
ID	Channel name	Config type	Multicast address (Active)	Multicast Source IP Address	Service Port (UDP)	LSEG VIP IP	TCP Port	LSEG VIP IP	TCP Port
A Prime	FTSE 100 full depth - A	ITCH	224.4.2.56	194.169.8.70	60000	194.169.8.88	63056	194.169.8.88	64056
B Prime	FTSE 100 full depth - B	ITCH	224.4.2.57				63057		64057
C Prime	FTSE 250 full depth	ITCH	224.4.2.58				63058		64058
D Prime	Structured Products full depth	ITCH	224.4.2.59				63059		64059
G Prime	International depth	ITCH	224.4.2.62				63062		64062

Secondary Feed									
			Multicast Secondary Feed			Replay Service (Passive)		Recovery Service (Passive)	
ID	Channel name	Config type	Multicast address (Active)	Multicast Source IP Address	Service Port (UDP)	LSEG VIP IP	TCP Port	LSEG VIP IP	TCP Port
A Prime	FTSE 100 full depth - A	ITCH	224.4.3.56	194.169.8.100	60000	194.169.8.118	63056	194.169.8.118	64056
B Prime	FTSE 100 full depth - B	ITCH	224.4.3.57				63057		64057
C Prime	FTSE 250 full depth	ITCH	224.4.3.58				63058		64058
D Prime	Structured Products full depth	ITCH	224.4.3.59				63059		64059
G Prime	International depth	ITCH	224.4.3.62				63062		64062

5 Support

The London Stock Exchange is committed to supporting all clients throughout this service launch. Clients should, in the first instance, contact their Technical Account Manager to discuss any concerns or queries.

Any issues encountered during the Client Cutover Weekend should be directed to the service desk on 020 7797 1500 or support@londonstockexchange.com or Technical Account Managers.



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