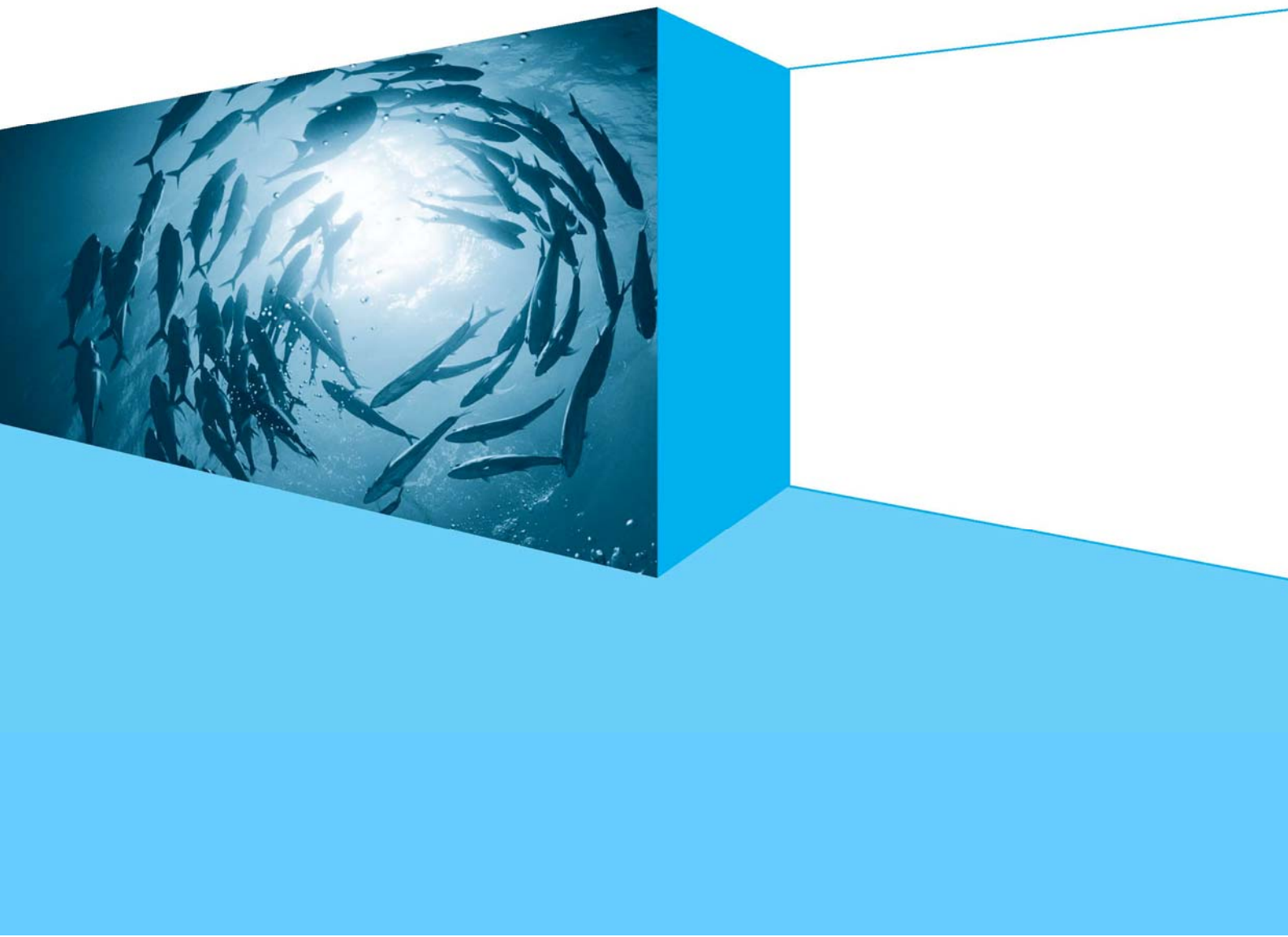




London
Stock Exchange Group

SERVICE AND TECHNICAL DESCRIPTION - JANUARY 2009

Market Data Optimisation 2009





Document History

December 2008 First issue published on website

January 2009 Updated to reflect the revised HVS multicast addresses and the inclusion of the 5BY/5FM changes

Amendment Indication

To indicate the location of an amendment within the text of this document, a left-hand marginal rule is placed alongside the amended part of the text (as shown in this paragraph).



1. Document Scope

The purpose of this document is to provide customers with an overview of a series of changes to the Group's Infolect market data feeds - Service and Performance Channels. The enhancements outlined within this document will ensure the way in which the Group delivers market data is optimised and in line with how it is charged.

This document details each of the technical changes.

This publication constitutes an amendment to the Technical Specifications published by London Stock Exchange Group Plc.

2. Overview

The London Stock Exchange Group is committed to constantly improving and enhancing its market data feeds to ensure that they continue to provide the highest level of service to the market.

Market Data Optimisation 2009 is a series of technical updates to both London Stock Exchange and Borsa Italiana Service and Performance Channels to reflect the commercial decommissioning of the Level 1 Plus tariff, whilst also allowing Exchange Service Channel customers to benefit from the same liquidity aligned structure introduced for Performance Channels.

Following a customer consultation in October the full scope of the changes has been confirmed. Market Data Optimisation 2009 will include:

- The alignment of the Service Channel structure with Performance Channels for UK data.
- The collapsing of the Level 1 and Level 1 Plus channels across all Exchange and Borsa channels.
- The replacement of the 5SE Best Price and 5UP Uncrossing Price with the 5SF Enhanced Best Price and 5UD Uncrossing Price and Volume respectively.
- Migration of the Opening and Closing price messages to the relevant Level 1 channel.
- Decommissioning of the 5BY Buy/Sell Percentage message
- Adjustment to the 5FM Money Flow message

Each item is discussed in more detail below. Appendix B provides a full list of the channels and the message types disseminated following the implementation of these changes.

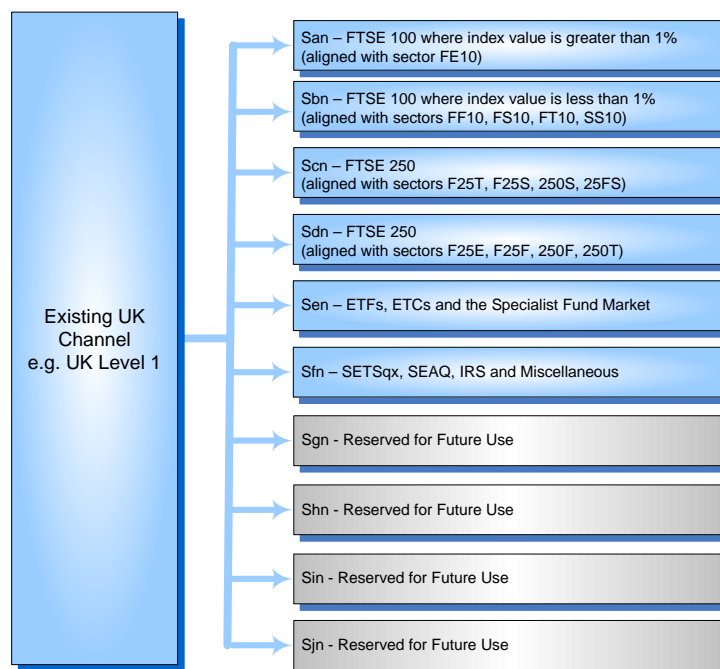
Service Channel restructure

Performance Channels have demonstrated the benefits of a liquidity aligned delivery structure for the UK data channels and the Group is committed to ensuring its Service Channel customers realise these too.

Each data channel, e.g. UK Level 1, will be divided into a subset of 10 multicast groups, each covering a specific portion of the UK market. At launch six of these will disseminate UK market data and four will be reserved for future use, disseminating only idle polls (5IP). Service Channel customers will be required to subscribe to all of the channels within each level of data, e.g. Pa1 to Pj1. This will ensure the Exchange can introduce changes to the structure with minimal impact to market or extensive lead times.

As part of this change the ETF/ETC data currently disseminated on S13 - S15 will be migrated to the Sen range of channels.

The diagram below outlines the new data channels and the specific area of the UK market each will support. Details of the multicast IP addresses for each environment are provided in appendix A.



Appendix D provides a full list of the message types that may be disseminated down each channel.

Customers should note the following:

- For the UK Level 2 channels 5MK Market Status Information messages will only be disseminated on Sa2.
- Any cancelled or contra'd trades for a stock that has been moved or deleted will be sent down the Sa1 channel.



Level 1 Plus decommissioning

From 1 January 2009 the existing Level 1 Plus tariff will be discontinued, with the additional added value data available within the existing Level 1 data charge. To ensure Performance and Service channels continue to align with the Group's commercial tariffs the Level 1 and Level 1 Plus channels will be collapsed. The Level 1 Plus channels will be decommissioned with the messages migrated to the relevant Level 1 channel. Although the commercial change does not apply to the Borsa Italiana services, this technical change will also be applied to the Borsa Italiana Service Channels (D01 to D06).

Appendix B provides a full list of all of the Service and Performance Channels available following this change.

Best Price message

To support the decommissioning of the Level 1 Plus channels the 5SF Enhanced Best Price message will move to Level 1 and be the default Best Price message on Infolect, providing customers with both the price and volume at the top of the book. The 5SF message will be renamed to be the 'Best Price and Volume' message.

In line with this change the 5UD Uncrossing Price and Volume will move to the Level 1 channel as the default Uncrossing Price message. The equivalent Level 2 channel will continue to disseminate the 5UP message.

The 5SE Best Price and 5UP Uncrossing Price messages will no longer be disseminated on the Level 1 channel.

Those segments that do disseminate the 5SE/5UP but do not currently disseminate the 5SF or 5UD will be updated to support this change.

Opening/Closing Price migration

The 5PR Opening Price and 5SK Closing Price messages will be migrated from the relevant reference data channel, e.g. S04 to the associated Level 1 multicast group(s), e.g. Sa1 to Sj1, for both Service and Performance Channels.

The move of these messages further enforces the Group's commitment to delivering the data in line with how it is charged, as well as supporting the re-dissemination of Closing Prices in the morning Reference Data Download as a future enhancement.

5BY Buy/Sell Percentage Decommissioning

The 5BY message will no longer be disseminated on Infolect. This change is in direct response to customer feedback following a review of the Group's added value data offering.



5FM Money Flow Message Adjustment

The 'Value not executed on Buy Side' and 'Value not executed on Sell Side' fields will no longer be populated in the 5FM Money Flow message. The title of the 5FM will be updated to be '5FM Value Traded' message' and will continue to publish the value of trades executed on and off book for configured instruments. Please see Appendix C for an updated field specification for this message.

3. Implementation approach

The introduction of Market Data Optimisation 2009 will be a market wide cutover across a single weekend.

Ahead of the go-live weekend Service Channel customers will be required to attend a mandatory dress rehearsal weekend in March to test their systems against the new structure in production. Further details on the weekend are available separately in the 'Guide to the Mandatory Dress Rehearsal Weekend'.

In preparation for the launch of the services on CDS and Production the Group will automatically update all Service Channel enablements with the revised structure, including the Customer Information Enablement Forms (CEIFs).

Performance Channel customers are not required to complete any mandatory migration activities, however, testing in CDS is highly recommended.

4. Customer Testing Services

The changes included within Market Data Optimisation 2009 will be available on the Exchange's full range of Customer Testing Services including the Customer Development Service (CDS), Conformance and HVS.

Customers should note that as part of this work the full set of Service Channel Conformance and HVS multicast IP addresses will change. Service Channel High Volume tests will now be run from the separate High Volume environment currently supporting Performance Channels.

All customers are recommended to test these changes in CDS. Those customers who do not currently subscribe to the Level 1 Plus Service/Performance channels will be required to complete a Conformance test. All other testing will be in line with the Exchange's standard accreditation policy.

Customers should discuss their testing requirements and arrange testing through their Technical Account Manager.



5. Timescales

The Market Data Optimisation changes have been available on the Customer Development Service since Monday 15 December 2008.

Conformance and High Volume Services are currently scheduled to be available from February 2009.

Market Data Optimisation 2009 is currently scheduled for production in March 2009, subject to market readiness.

All dates will be communicated via Service Announcement.

6. Customer Support

Please find below the contact details of the teams who will be supporting the introduction of these changes;

Client Implementation Team (CIT)

The Client Implementation Team is responsible for co-ordinating the implementation of a customer's Infolect enablements and may be contacted via:

- Client Implementation Team - Tel: +44 (0)20 7797 3232, STX 33232
- E-mail Client Implementation Team at:
clientimplementation@londonstockexchange.com

Requests for new and changes to existing enablements should be submitted via the Exchange's eContracts online order system.

Client Technology Group

The Client Technology Group will provide technical support during the implementation of these changes via:

- The Technical Information Desk on +44 (0)20 7797 3939, STX 33939.
- The Client Technology Group Email via CTGroup@londonstockexchange.com.

Technical queries may also be raised directly through your Technical Account Manager.

Primary Account Manager

Business related queries should be directed to your Primary Account Manager.

Further information will also be available from the Infolect section of our corporate website at www.londonstockexchange.com/infolect.

Appendix A - Multicast IP Address Ranges

Appendix A provides full details of the multicast IP address and port numbers for the new restructured Service Channels on Infolect.

Production

Service Code	Description	Multicast Address
Sa1	SETS: FTSE 100 where index value is greater than 1%	233.115.135.25
Sb1	SETS: FTSE 100 where index value is less than 1%	233.115.135.26
Sc1	SETS: FTSE 250 1	233.115.135.27
Sd1	SETS: FTSE 250 2	233.115.135.28
Se1	SFM, including ETFs and ETCs	233.115.135.29
Sf1	SETS, SETSqx, SEAO, IRS and Miscellaneous	233.115.135.30
Sg1	Reserved for future use	233.115.135.31
Sh1	Reserved for future use	233.115.135.32
Si1	Reserved for future use	233.115.135.33
Sj1	Reserved for future use	233.115.135.34
Sa2	SETS: FTSE 100 where index value is greater than 1%	233.115.135.35
Sb2	SETS: FTSE 100 where index value is less than 1%	233.115.135.36
Sc2	SETS: FTSE 250 1	233.115.135.37
Sd2	SETS: FTSE 250 2	233.115.135.38
Se2	SFM, including ETFs and ETCs	233.115.135.39
Sf2	SETS, SETSqx, SEAO, IRS and Miscellaneous	233.115.135.40
Sg2	Reserved for future use	233.115.135.41
Sh2	Reserved for future use	233.115.135.42
Si2	Reserved for future use	233.115.135.43
Sj2	Reserved for future use	233.115.135.44

All existing channels will remain on their current multicast IP address. The multicast port for all Production Service Channels is 60000.

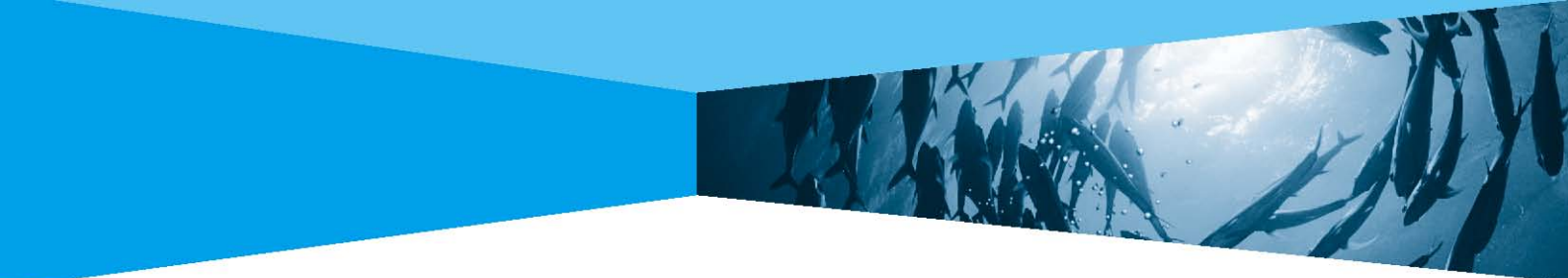
Customer Development Service

Service Code	Description	Multicast Address
Sa1	SETS: FTSE 100 where index value is greater than 1%	233.115.135.95
Sb1	SETS: FTSE 100 where index value is less than 1%	233.115.135.96
Sc1	SETS: FTSE 250 1	233.115.135.97
Sd1	SETS: FTSE 250 2	233.115.135.98
Se1	SFM, including ETFs and ETCs	233.115.135.99
Sf1	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.100
Sg1	Reserved for future use	233.115.135.101
Sh1	Reserved for future use	233.115.135.102
Si1	Reserved for future use	233.115.135.103
Sj1	Reserved for future use	233.115.135.104
Sa2	SETS: FTSE 100 where index value is greater than 1%	233.115.135.105
Sb2	SETS: FTSE 100 where index value is less than 1%	233.115.135.106
Sc2	SETS: FTSE 250 1	233.115.135.107
Sd2	SETS: FTSE 250 2	233.115.135.108
Se2	SFM, including ETFs and ETCs	233.115.135.109
Sf2	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.110
Sg2	Reserved for future use	233.115.135.111
Sh2	Reserved for future use	233.115.135.112
Si2	Reserved for future use	233.115.135.113
Sj2	Reserved for future use	233.115.135.114

All existing channels will remain on their current multicast IP address. The multicast port for all CDS Service Channels is 61000.

Conformance

Service Code	Description	Multicast Address
Sa1	SETS: FTSE 100 where index value is greater than 1%	233.115.135.129
Sb1	SETS: FTSE 100 where index value is less than 1%	233.115.135.130
Sc1	SETS: FTSE 250 1	233.115.135.131
Sd1	SETS: FTSE 250 2	233.115.135.132
Se1	SFM, including ETFs and ETCs	233.115.135.133
Sf1	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.134
Sg1	Reserved for future use	233.115.135.135
Sh1	Reserved for future use	233.115.135.136
Si1	Reserved for future use	233.115.135.137
Sj1	Reserved for future use	233.115.135.138
Sa2	SETS: FTSE 100 where index value is greater than 1%	233.115.135.139
Sb2	SETS: FTSE 100 where index value is less than 1%	233.115.135.140
Sc2	SETS: FTSE 250 1	233.115.135.141
Sd2	SETS: FTSE 250 2	233.115.135.142
Se2	SFM, including ETFs and ETCs	233.115.135.143
Sf2	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.144
Sg2	Reserved for future use	233.115.135.145
Sh2	Reserved for future use	233.115.135.146
Si2	Reserved for future use	233.115.135.147
Sj2	Reserved for future use	233.115.135.148
S04	UK Reference Data	233.115.135.149
S05	International Level 1	233.115.135.150
S07	International Level 2	233.115.135.151
S08	International Reference Data	233.115.135.152
S09	European Level 1	233.115.135.153
S11	European Level 2	233.115.135.154
S12	European Reference Data	233.115.135.155



Service Code	Description	Multicast Address
S13	Covered Warrants Level 1	233.115.135.156
S15	Covered Warrants Level 2	233.115.135.157
S16	Market Status Indicators	233.115.135.158
S17	Market Reference Data	233.115.135.159
S18	RNS	233.115.135.160
S19	DOL (Full)	233.115.135.161
S20	DOL (Changes)	233.115.135.162
S21	UK & International Off Book Trade Reports	233.115.135.163
S22	European Off Book Trade Reports	233.115.135.164
S23	UK & International Off Book Trade Reports Reference Data	233.115.135.165
S24	European Off Book Trade Reports Reference Data	233.115.135.166

The multicast IP addresses for the existing channels have also been updated. The multicast port for all Conformance Service Channels is 62000.

HVS

Service Code	Description	Multicast Address
Sa1	SETS: FTSE 100 where index value is greater than 1%	233.115.135.193
Sb1	SETS: FTSE 100 where index value is less than 1%	233.115.135.194
Sc1	SETS: FTSE 250 1	233.115.135.195
Sd1	SETS: FTSE 250 2	233.115.135.196
Se1	SFM, including ETFs and ETCs	233.115.135.197
Sf1	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.198
Sg1	Reserved for future use	233.115.135.199
Sh1	Reserved for future use	233.115.135.200
Si1	Reserved for future use	233.115.135.201
Sj1	Reserved for future use	233.115.135.202
Sa2	SETS: FTSE 100 where index value is greater than 1%	233.115.135.203
Sb2	SETS: FTSE 100 where index value is less than 1%	233.115.135.204
Sc2	SETS: FTSE 250 1	233.115.135.205
Sd2	SETS: FTSE 250 2	233.115.135.206
Se2	SFM, including ETFs and ETCs	233.115.135.207
Sf2	SETS, SETSqx, SEAQ, IRS and Miscellaneous	233.115.135.208
Sg2	Reserved for future use	233.115.135.209
Sh2	Reserved for future use	233.115.135.210
Si2	Reserved for future use	233.115.135.211
Sj2	Reserved for future use	233.115.135.212
S04	UK Reference Data	233.115.135.213
S05	International Level 1	233.115.135.214
S07	International Level 2	233.115.135.215
S08	International Reference Data	233.115.135.216
S09	European Level 1	233.115.135.217
S11	European Level 2	233.115.135.218
S12	European Reference Data	233.115.135.219



Service Code	Description	Multicast Address
S13	Covered Warrants Level 1	233.115.135.220
S15	Covered Warrants Level 2	233.115.135.221
S16	Market Status Indicators	233.115.135.222
S17	Market Reference Data	233.115.135.223
S18	RNS	233.115.135.224
S19	DOL (Full)	233.115.135.225
S20	DOL (Changes)	233.115.135.226
S21	UK & International Off Book Trade Reports	233.115.135.227
S22	European Off Book Trade Reports	233.115.135.228
S23	UK & International Off Book Trade Reports Reference Data	233.115.135.229
S24	European Off Book Trade Reports Reference Data	233.115.135.230

The multicast IP addresses for the existing channels have also been updated. The multicast port for all Conformance Service Channels is 63000.

Appendix B - Service and Performance Channels

Appendix B provides a full list of the channels available on Infolect following the implementation of these changes.

London Stock Exchange Service Channels

Service Code	Description
Sa1	SETS: FTSE 100 where index value is greater than 1%
Sb1	SETS: FTSE 100 where index value is less than 1%
Sc1	SETS: FTSE 250 1
Sd1	SETS: FTSE 250 2
Se1	SFM, including ETFs and ETCs
Sf1	SETS, SETSqx, SEAQ, IRS and Miscellaneous
Sg1	Reserved for future use
Sh1	Reserved for future use
Si1	Reserved for future use
Sj1	Reserved for future use
Sa2	SETS: FTSE 100 where index value is greater than 1%
Sb2	SETS: FTSE 100 where index value is less than 1%
Sc2	SETS: FTSE 250 1
Sd2	SETS: FTSE 250 2
Se2	SFM, including ETFs and ETCs
Sf2	SETS, SETSqx, SEAQ, IRS and Miscellaneous
Sg2	Reserved for future use
Sh2	Reserved for future use
Si2	Reserved for future use
Sj2	Reserved for future use
S04	UK Reference Data
S05	International Level 1
S07	International Level 2



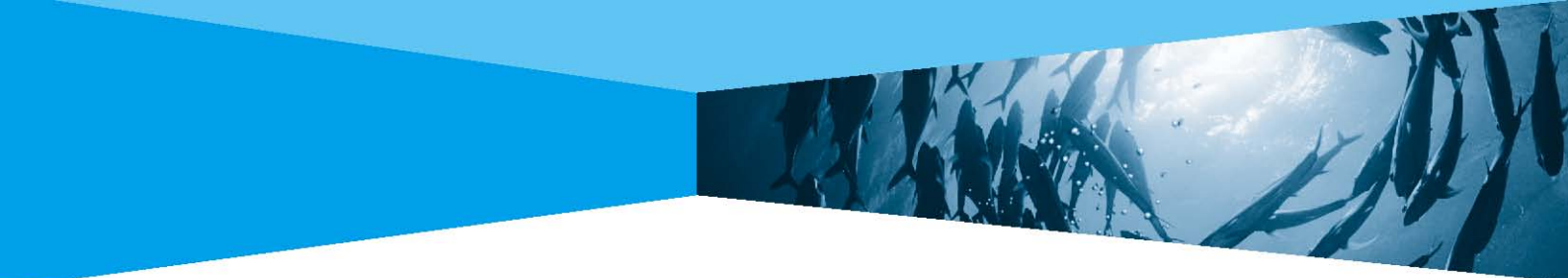
Service Code	Description
S08	International Reference Data
S09	European Level 1
S11	European Level 2
S12	European Reference Data
S13	Covered Warrants Level 1
S15	Covered Warrants Level 2
S16	Market Status Indicators (Exchange)
S17	Market Reference Data
S18	RNS
S19	DOL (Full)
S20	DOL (Changes)
S21	UK & International Off Book Trade Reports
S22	European Off Book Trade Reports
S23	UK & International Off Book Trade Reports Reference Data
S24	European Off Book Trade Reports Reference Data
F01	FTSE Indices UK
F02	FTSE Indices International

Borsa Italiana Service Channels

Service Code	Description
D01	MTA and Expandi Level 1
D03	MTA and Expandi Level 2
D04	MTA and Expandi Reference Data
D05	Market Status Indicators (Borsa)
D06	Market Reference Data

London Stock Exchange Performance Channels

Service Code	Description
Pa1	SETS: FTSE 100 where index value is greater than 1%
Pb1	SETS: FTSE 100 where index value is less than 1%
Pc1	SETS: FTSE 250 1
Pd1	SETS: FTSE 250 2
Pe1	SFM, including ETFs and ETCs
Pf1	SETS, SETSqx, SEAQ, IRS and Miscellaneous
Pg1	Reserved for future use
Ph1	Reserved for future use
Pi1	Reserved for future use
Pj1	Reserved for future use
Pa3	SETS: FTSE 100 where index value is greater than 1%
Pb3	SETS: FTSE 100 where index value is less than 1%
Pc3	SETS: FTSE 250 1
Pd3	SETS: FTSE 250 2
Pe3	SFM, including ETFs and ETCs
Pf3	SETS, SETSqx, SEAQ, IRS and Miscellaneous
Pg3	Reserved for future use
Ph3	Reserved for future use
Pi3	Reserved for future use
Pj3	Reserved for future use
P04	UK Reference Data
P05	International Level 1
P07	International Level 2
P08	International Reference Data
P09	European Level 1



Service Code	Description
P11	European Level 2
P12	European Reference Data
P13	Covered Warrants Level 1
P15	Covered Warrants Level 2
P16	Market Status Indicators (Exchange)
P17	Market Reference Data
P18	RNS
P19	DOL (Full)
P20	DOL (Changes)

Appendix C – 5FM Value Traded

Appendix A provides an updated message specification for the 5FM Value Traded message.

5FM Value Traded

Description: This message will disseminate the cumulative value of Automatic and Manual Trades for a Tradable Instrument in configured Market Segments.

Message Type: '5FM'

Version Identifier: 'AA'

Field Name	Offset	Length	Format
Segment Code	37	4	A
Sector Code	41	4	A
Tradable Instrument Code	45	12	A
SEDOL Code	57	7	A
Country of Register	64	2	A
Currency Code	66	3	A
Reserved Field	69	28	N
Reserved Field	97	28	N
Money Flow Value Executed	125	28	N
Off Book Money Flow Value Executed	153	28	N
Date of Preparation	181	8	N
Time of Preparation	189	6	N
Total Length	195 bytes		

Appendix D - Channel Messages

Appendix C provides a full list of the messages available on each channel following this change.

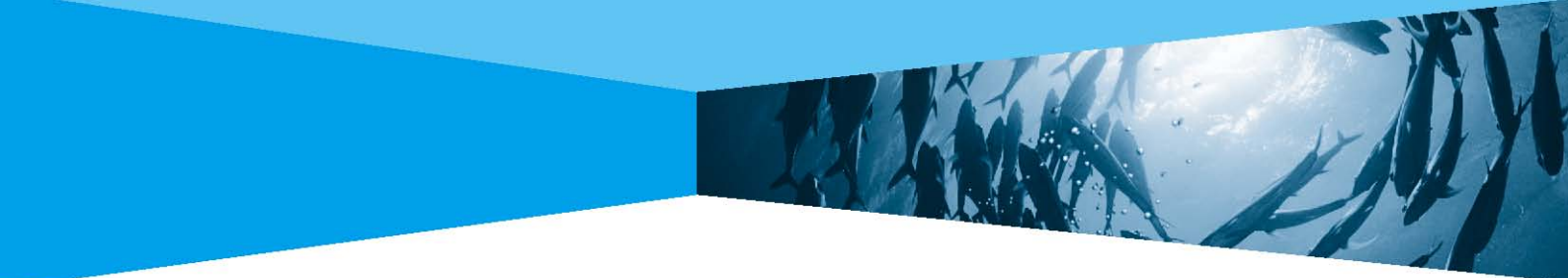
Service Name	Service/Performance Channel
UK Level 1	Sa1, Sb1, Sc1, Sd1, Se1, Sf1, Sg1, Sh1, Si1, Sj1/ Pa1, Pb1, Pc1, Pd1, Pe1, Pf1, Pg1, Ph1, Pi1, Pj1
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5AP Average Cumulative Volumes 5AB Return Measures 5AF Alphas/Betas 5DV Cumulative Number and Volume of Trades 5EM Ex Marker Status 5FM Value Traded 5IP Idle Poll 5MH Mid High/Low 5MV Market Share top 5 5OZ Trade Report 5PP Market Share Ratio and Market Capitalisation 5PR Opening Price 5SF Best Price and Volume 5SG Announcement Message 5SK Closing Price 5TH Trade High/Low 5VO VWAP from Trades 5VW VWAP from Automatic Trades 5TW Time Weighted Average Spread 5UD Uncrossing Price and volume</p>	

Service Name	Service/Performance Channel
UK Level 2	Sa2, Sb2, Sc2, Sd2 Se2, Sf2, Sg2, Sh2, Si2, Sj2/ Pa3, Pb3, Pc3, Pd3 Pe3, Pf3, Pg3, Ph3, Pi3, Pj3

MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:

5CT	Tradable Instrument Control
5EM	Ex-Marker Status
5IP	Idle Poll
5MK	Market Status Information
5OE	Order Deletion/Expiry/Fully Matched
5OL	Temporary Period for tradable Instrument/Currency
5OO	Order Details
5OV	Tradable Instrument/Currency Period Change
5OW	Sector Period Change
5QT	Quote Update
5SG	Announcement Message
5SN	Quote Close
5SX	Uncrossing Completed
5UP	Uncrossing Price

Please note that the numerical identifier for the Level 2 channels will differ across Performance and Service Channels. Although the Service Codes for existing channels will not be updated within the scope of this work, these will be updated in the future to be logical and contiguous.



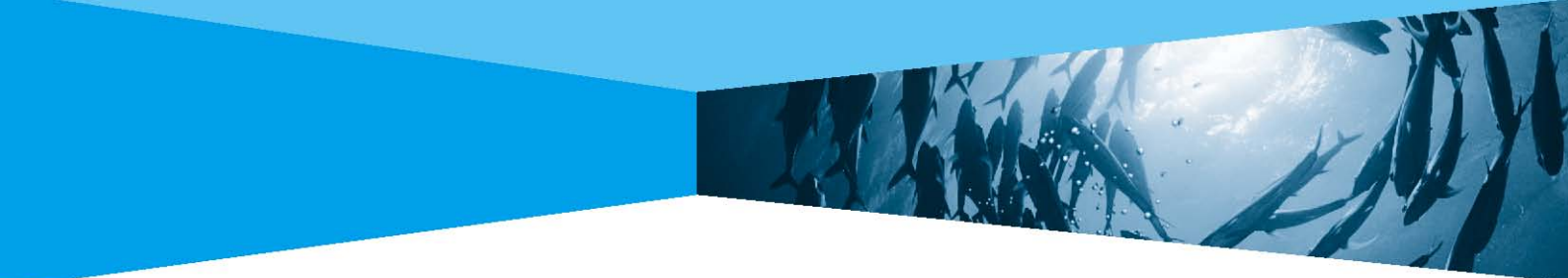
Service Name	Service/Performance Channel
UK Reference Data	S04/P04
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none">5EM Ex Marker Status5ER Equity Background Data5IP Idle Poll5IS Instrument Trading Data5MN Member Role in Instrument5MS Member in Segment5OM Period for Market Sector5SD Segment Description5SG Announcement Message5SS Sector Description5TM Tick Size Matrix for Segment / Currency5TY Trade Type for Segment5VI Settlement Venue for Instrument	



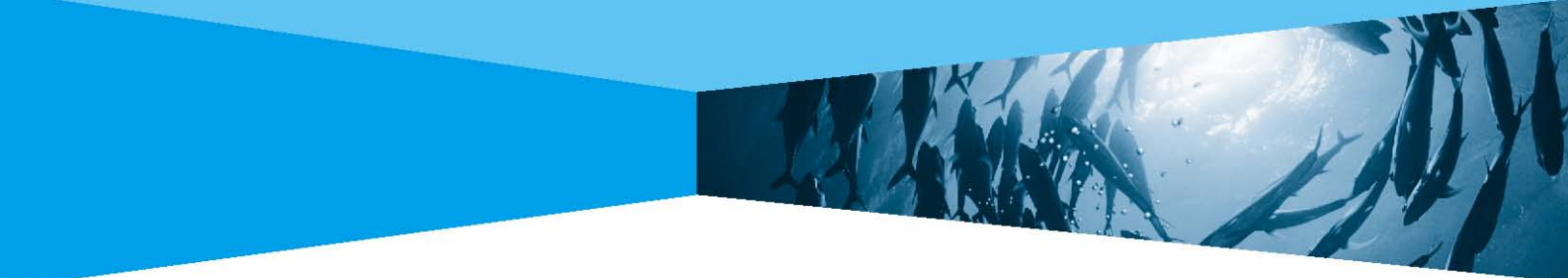
Service Name	Service/Performance Channel
International Level 1	S05/P05
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none">5DV Cumulative Number and Volume of Trades5EM Ex Marker Status5FM Value Traded5IP Idle Poll5MH Mid High/Low5OZ Trade Report5PR Opening Price5SF Best Price and Volume5SG Announcement Message5SK Closing Price5TH Trade High/Low5TW Time Weighted Average Spread5VO VWAP from Trades5VW VWAP from automatic trades5UD Uncrossing Price and volume	



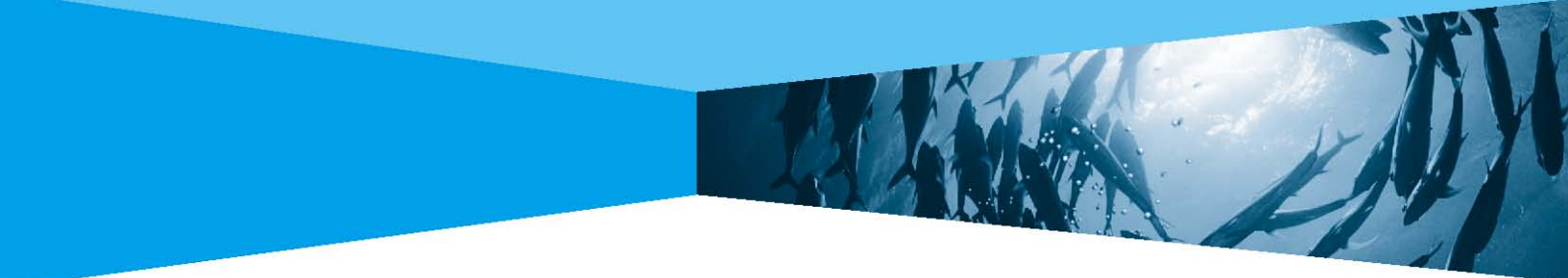
Service Name	Service/Performance Channel
International Level 2	S07/P07
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none">5CT Tradable Instrument Control5EM Ex Marker Status5IP Idle Poll5MK Market Status Information5OE Order Deletion/Expiry/Fully Matched5OL Temporary Period for tradable Instrument/Currency5OO Order Details5OV Tradable Instrument/Currency Period Change5OW Sector Period Change5QT Quote Update5SG Announcement Message5SN Quote Close5SX Uncrossing Completed5UP Uncrossing Price	



Service Name	Service/Performance Channel
International Reference Data	S08/P08
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none">5EM Ex Marker Status5ER Equity Background Data5IP Idle Poll5IS Instrument Trading Data5MN Member Role in Instrument5MS Member in Segment5OM Period for Market Sector5SD Segment Description5SG Announcement Message5SS Sector Description5TM Tick Size Matrix for Segment / Currency5TY Trade Type for Segment5VI Settlement Venue for Instrument	

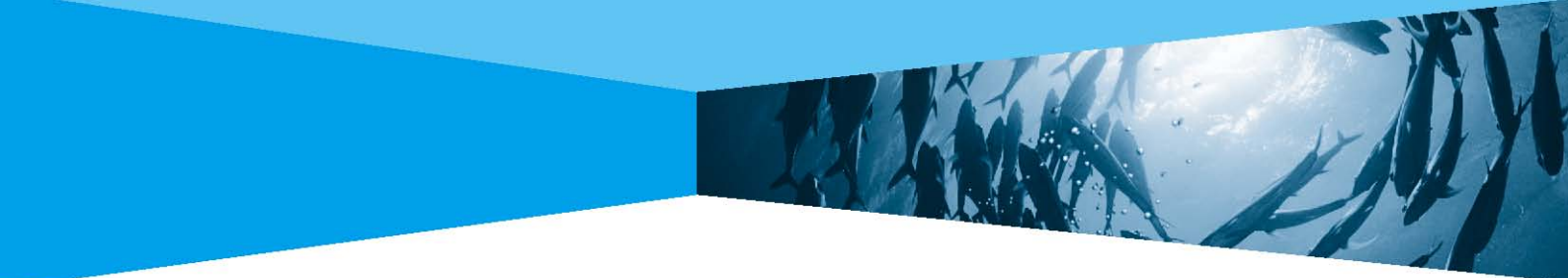


Service Name	Service/Performance Channel
European Level 1	S09/P09
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none">5EM Ex Marker Status5FM Value Traded5DV Cumulative Number and Volume of Trades5IP Idle Poll5MH Mid High/Low5OZ Trade Report5PR Opening Price5SF Best Price and Volume5SG Announcement Message5SK Closing Price5TH Trade High/Low5TW Time Weighted Average Spread5UD Uncrossing Price and volume5VO VWAP from Trades5VW VWAP from automatic trades	



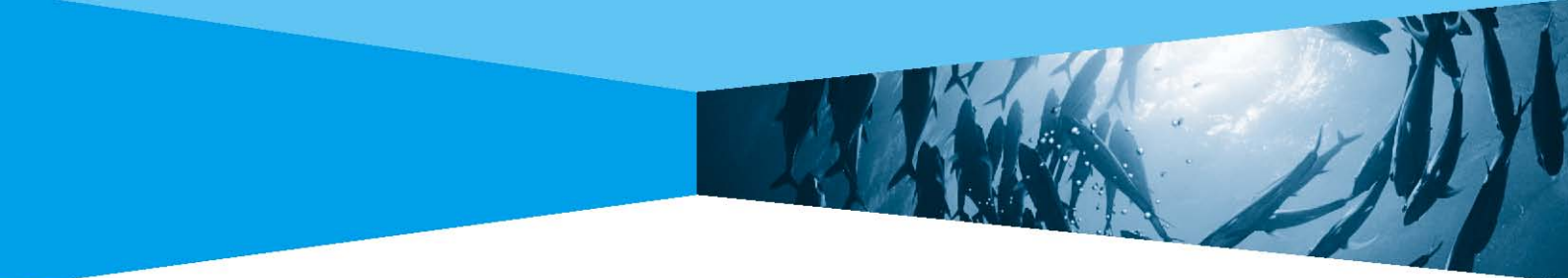
Service Name	Service/Performance Channel
European Level 2 Service	S11/P11
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5CT Tradable Instrument Control 5EM Ex-Marker Status 5IP Idle Poll 5MK Market Status Information 5OE Order Deletion/Expiry/Fully Matched 5OL Temporary Period for tradable Instrument/Currency 5OO Order Details 5OV Tradable Instrument/Currency Period Change 5OW Sector Period Change 5QT Quote Update 5SG Announcement Message 5SN Quote Close 5SX Uncrossing Completed 5UP Uncrossing Price</p>	

Service Name	Service/Performance Channel
European Service Reference Data	S12/P12
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5EM Ex Marker Status 5ER Equity Background Data 5IP Idle Poll 5IS Instrument Trading Data 5MN Member Role in Instrument 5MS Member in Segment 5OM Period for Market Sector 5SD Segment Description 5SG Announcement Message 5SS Sector Description 5TM Tick Size Matrix for Segment / Currency 5TY Trade Type for Segment 5VI Settlement Venue for Instrument</p>	



Service Name	Service/Performance Channel
Covered Warrants Level 1	S13/P13
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5DV Cumulative Number and Volume of Trades 5EM Ex Marker Status 5IP Idle Poll 5PR Opening Price 5SF Best Price and Volume 5SG Announcement Message 5SK Closing Price 5UD Uncrossing Price and volume</p>	

Service Name	Service/Performance Channel
Covered Warrants Level 2	S15/P15
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5CT Tradable Instrument Control 5EM Ex-Marker Status 5IP Idle Poll 5MK Market Status Information 5OE Order Deletion/Expiry/Fully Matched 5OL Temporary Period for tradable Instrument/Currency 5OO Order Details 5OV Tradable Instrument/Currency Period Change 5OW Sector Period Change 5QT Quote Update 5SG Announcement Message 5SN Quote Close 5SX Uncrossing Completed 5UP Uncrossing Price</p>	



Service Name	Service/Performance Channel
Market Status Indicators (Exchange)	S16/P16
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none"> 5CT Tradable Instrument Control 5IP Idle Poll 5MK Market Status Information 5OL Temporary Period for tradable Instrument/Currency 5OV Tradable Instrument/Currency Period Change 5OW Sector Period Change 5SX Uncrossing Completed 	

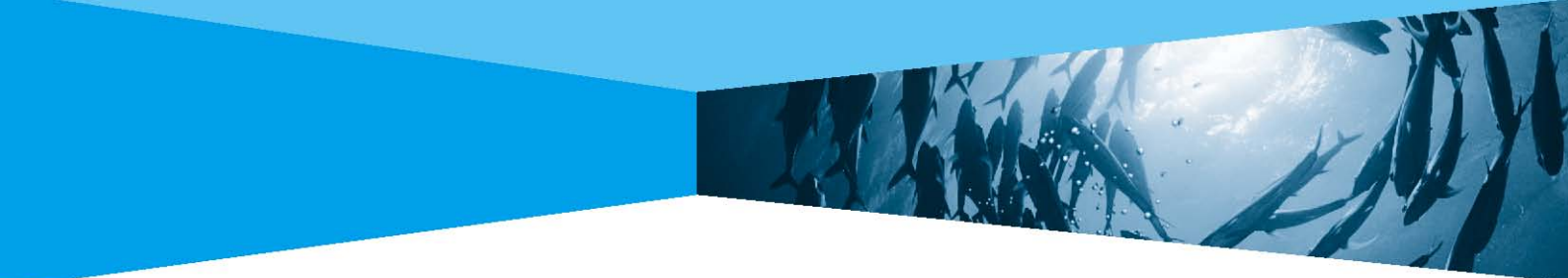
Service Name	Service/Performance Channel
Market Reference Data	S17/P17
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <ul style="list-style-type: none"> 5HM Period Handling for Market Mechanism Type 5HV Period Handling for Validity Type 5IP Idle Poll 5MR Member Details 5MT Market Description 5PE Period Extensions 5PU Period Rules 5PM Period Rules for Market Mechanism & Validity Type 5SV Settlement Venue 	



Service Name	Service/Performance Channel
RNS News	S18/P18
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5IP	Idle Poll
5NC	News Control
5NT	News Text
5SB	News Service Trailer
5SH	News Service Header

Service Name	Service/Performance Channel
DOL (Full)	S19/P19
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5IP	Idle Poll
5SL	DOL Quotation

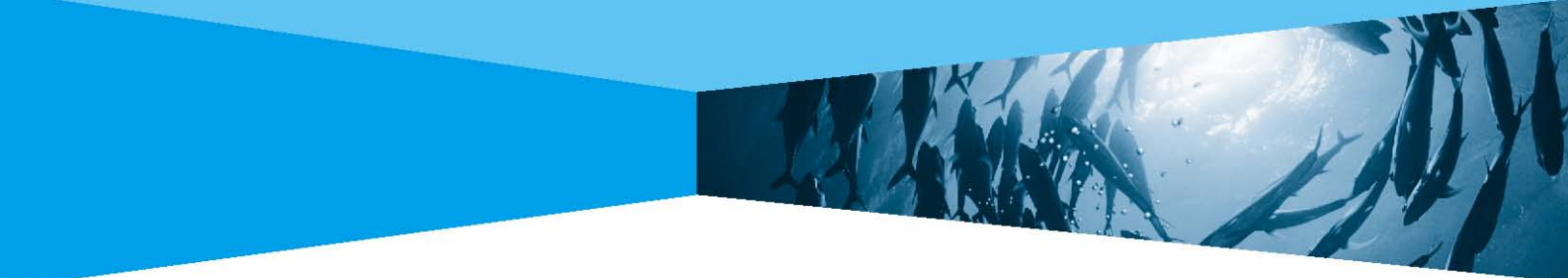
Service Name	Service/Performance Channel
DOL (Changes)	S20/P20
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5IP	Idle Poll
5SL	DOL Quotation



Service Name	Service Channel
UK and International Off Book Trade Report Data	S21
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5IP	Idle Poll
5OZ	Trade Report

Service Name	Service Channel
European Off Book Trade Data	S22
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5IP	Idle Poll
5OZ	Trade Report

Service Name	Service Channel
UK and International Off Book Reference Data	S23
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5ER	Equity Background Data
5EM	Ex Marker Status
5IP	Idle Poll
5IS	Instrument Trading Data
5OM	Period for Market Sector
5SD	Segment Description
5SG	Announcement Message
5SS	Sector Description
5SV	Settlement Venue
5TY	Trade Type for Segment
5VI	Settlement Venue for Tradable Instrument



Service Name	Service Channel
European Off Book Reference Data	S24
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5ER Equity Background Data 5EM Ex Marker Status 5IP Idle Poll 5IS Instrument Trading Data 5OM Period for Market Sector 5SD Segment Description 5SG Announcement Message 5SS Sector Description 5SV Settlement Venue 5TY Trade Type for Segment 5VI Settlement Venue for Tradable Instrument</p>	

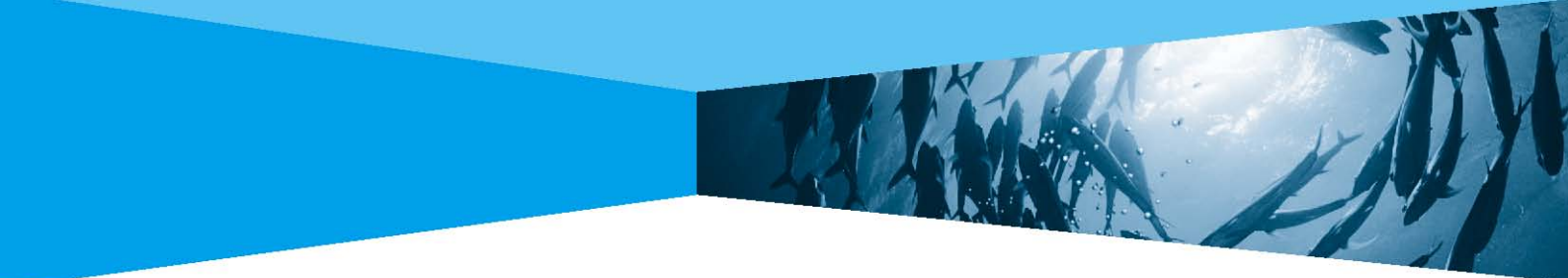
Service Name	Service Channel
MTA and Expandi Level 1 (A1)	D01
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5DV Cumulative Number and Volume of Trades 5EM Ex Marker Status 5IP Idle Poll 5OZ Trade Report 5SF Best Price and Volume 5SK Closing Price 5UD Uncrossing Price and volume 5VW VWAP from Automatic Trades</p>	



Service Name	Service Channel
MTA and Expandi Level 2 (A5)	D03

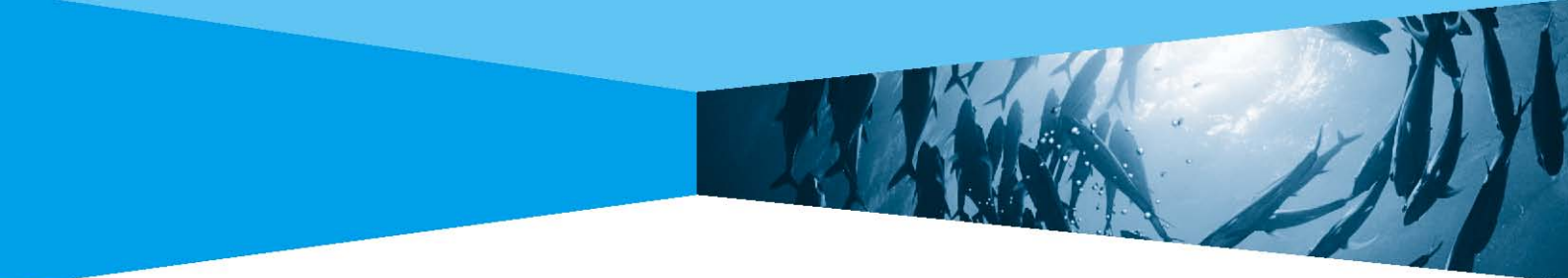
MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:

- 5CT** Tradable Instrument Control
- 5EM** Ex-Marker Status
- 5IP** Idle Poll
- 5MN** Member Role in Instrument
- 5MK** Market Status Information
- 5OE** Order Deletion/Expiry/Fully Matched
- 5OL** Temporary Period for tradable Instrument/Currency
- 5OM** Period for Market Sector
- 5OO** Order Details
- 5OV** Tradable Instrument/Currency Period Change
- 5OW** Sector Period Change
- 5SX** Uncrossing Completed
- 5UP** Uncrossing Price



Service Name	Service Channel
Italian Equity Reference Data	D04
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5EM	Ex Marker Status
5ER	Equity Background Data
5IP	Idle Poll
5IS	Instrument Trading Data
5MN	Member Role in Instrument
5MS	Member in Segment
5OM	Period for Market Sector
5SD	Segment Description
5SS	Sector Description
5TM	Tick Size Matrix for Segment / Currency
5TY	Trade Type for Segment
5VI	Settlement Venue for Tradable Instrument

Service Name	Service Channel
Market Status Indicators (Borsa)	D05
<i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i>	
5CT	Tradable Instrument Control
5IP	Idle Poll
5MK	Market Status Information
5MN	Member Role in Instrument
5OL	Temporary Period for tradable Instrument/Currency
5OM	Period for Market Sector
5OV	Tradable Instrument/Currency Period Change
5OW	Sector Period Change
5SX	Uncrossing Completed



Service Name	Service Channel
Market Reference Data	D06
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5HM Period Handling for Market Mechanism Type 5HV Period Handling for Validity Type 5IP Idle Poll 5MR Member Details 5MT Market Description 5PE Period Extensions 5PU Period Rules 5PM Period Rules for Market Mechanism & Validity Type 5SV Settlement Venue</p>	

Service Name	Service Channel
FTSE Indices UK	F01
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5IP Idle Poll 5ON Index Status 5OU Index Status</p>	

Service Name	Service Channel
FTSE Indices International	F02
<p><i>MESSAGE TYPES THAT MAY BE BROADCAST OVER THIS CHANNEL:</i></p> <p>5IP Idle Poll 5ON Index Status 5OU Index Status</p>	