

Document title

## **Optiq MDG External User Acceptance Connectivity**

Document type or subject

Technical Specifications - Euronext Cash and Derivatives Markets

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## PREFACE

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### DOCUMENT HISTORY

The following table provides a description of all changes to this document.

| VERSION NO. | DATE          | CHANGE DESCRIPTION                                                                                                                                                                                                                                        |
|-------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.0         | Sept 2016     | Optiq® Market Data Gateway External User Acceptance (EUA) – Virtual and Physical – Environment feed configuration details.                                                                                                                                |
| 1.1         | Nov 2016      | Optiq® Market Data Gateway External User Acceptance (EUA) – Virtual and Physical – File services access for the V-EUA                                                                                                                                     |
| 1.2         | March 2017    | Retail Matching Facility renamed into Best of Book. BBBO changed into FBMU for Equities/Funds/Fixed Income and Bourse de Luxembourg. Change of the layout of the feed configuration.                                                                      |
| 1.3         | April 2017    | Correct made to Multicast Group IP for the 1G channel - Index Options Netherlands                                                                                                                                                                         |
| 1.4         | November 2017 | New Channels added for APA SI Quotes and APA Trade Publication to Optiq Segment – 10, Trade Reporting and Publication.                                                                                                                                    |
| 1.5         | June 2018     | Removal of MDG Set Of Channels ID 12 – Trade Reporting And Publication                                                                                                                                                                                    |
| 1.6         | July 2018     | New Channels added for ETF Access to Optiq Segment – 2, Funds. Removal MDG Set Of Channels ID 10 - Societe Generale Systematic Internaliser (SI)                                                                                                          |
| 1.7         | July 2018     | New Channels added for Best of Book (RMF) Funds.                                                                                                                                                                                                          |
| 1.8         | July 2018     | MDG Set of Channels 9 and 15 renamed for Euronext Dublin Integration.                                                                                                                                                                                     |
| 1.9         | November 2018 | New Channel added for Euronext Block.                                                                                                                                                                                                                     |
| 2.0         | November 2018 | Changes made to Derivatives Feed Configuration for Optiq Step 3. MDG Set of Channels 18, 19 and 28 removed. Introduction of new Optiq Segments for Equity Derivatives, Index Derivatives and Financial Derivatives. MDG Set of Channels 20 to 26 renamed. |
| 2.1         | January 2019  | Changed the amount of Partitions for Equity Derivatives from 2 to 3 and For Index Derivatives from 2 to 1.                                                                                                                                                |
| 2.2         | October 2019  | Removal of the Derivatives 100M FBMU channel IDs.                                                                                                                                                                                                         |

| VERSION NO. | DATE           | CHANGE DESCRIPTION                                                                                                                                                                                                                                                                                                                  |
|-------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.3         | January 2020   | Addition of Optiq Segment 16 for the Irish Bonds and Funds                                                                                                                                                                                                                                                                          |
| 2.4         | February 2020  | Addition of MDG Set of Channels 10 for Equities Norway and 12 for Fixed Income Nordic ABM                                                                                                                                                                                                                                           |
| 2.5         | July 2021      | Addition of MDG Set of Channels 34 for Forex                                                                                                                                                                                                                                                                                        |
| 2.6         | September 2021 | Adding 1 Warrants partition configuration                                                                                                                                                                                                                                                                                           |
| 2.7         | September 2021 | Document version alignment to Production document version                                                                                                                                                                                                                                                                           |
| 3.0         | December 2021  | New target specifications of the new Euronext Data Centre in Aruba Bergamo ITALY                                                                                                                                                                                                                                                    |
| 5.16.0      | June 2022      | <b>**change of version numbering logic**</b><br>Addition of new cash markets EQUities and ETFs/Funds sets-of-channels for Borsa Italiana integration: "18" (Equities Italy), "45" (Italy GEM), "39" (Italy ETF plus), "19" (Italy TAH)                                                                                              |
| 5.18.0      | September 2022 | Adjustment of naming for MDG Set of Channels "19", "39" and "45"<br>Decommissioning of FBOU.100M Real Time for MDG Set of Channels "1" and "32"<br>Decommissioning of FBMU.100M Real Time for MDG Set of Channels "4"                                                                                                               |
| 5.23.0      | March 2023     | Addition of new set of channels for Borsa Italiana integration: "40" (Fixed Income Italy – MOT/ExtraMOT), "41" (Warrants and Certificates Italy (Sedex)) "42" (Fixed Income ETLX (Bond-X)), "43" (Warrants and Certificates ETLX (Cert-X)) and "44" (Equities ETLX)                                                                 |
| 5.23.1      | March 2023     | Correction of the following Partition IDs:<br>- MDG Set of Channels ID 43 – B Side IP                                                                                                                                                                                                                                               |
| 5.23.2      | April 2023     | Correction of the following Partition IDs:<br>- MDG Set of Channels ID 41 – FBMU Snapshot channel -> Missing 100M FBMU Snapshot channel<br>- MDG Set of Channels ID 42 – FBOU Snapshot Channel – Correction of 1G Feed ID<br>- MDG Set of Channels ID 43 – FBMU Snapshot channel -> Deletion of incorrect real-time 1G FBMU channel |
| 5.23.3      | May 2023       | - Correction on a typo for several IP addresses: in the last 3 digits of IP addresses it should not start with '0'. Example: '224.0.212.042' is replaced by '224.0.212.42'<br>- Mention to 'SFTI' removed as it is replaced by 'CMC' since the migration                                                                            |
| 5.23.4      | June 2023      | - MDG Set of Channels ID 44 – FBMU 1G Snapshot channel -> Correction of ID                                                                                                                                                                                                                                                          |
| 5.28.0      | July 2023      | - Addition of new MDG Set of Channels IDs: 28 (Index Futures Italy), 36 (Equity Derivatives Italy ) and 37 (Index Options Italy)<br>- Removal of section "Optiq Segment – 13. Financial Derivatives Real-Time and Snapshot Configuration" as the Optiq Segment is no longer active                                                  |

| VERSION NO.             | DATE                           | CHANGE DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.33.0                  | February 2024                  | <ul style="list-style-type: none"> <li>- Removal of Optiq Segment 15 (Forex) and the corresponding MDG Set of Channel ID 34 (Forex) which is not in use</li> <li>- Removal of 100M FBMU in Real Time for MDG Set of Channels IDs 16, 20, 21, 22, 23, 24, 25, 26, 27, 28, 36 and 37</li> </ul>                                                                                                                                                                                                                            |
| 5.353.0                 | January 2025                   | <ul style="list-style-type: none"> <li>- Addition of new MDG Set of Channels ID: 38 - Commodity Energies (Power)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                              |
| 5.355.0                 | April 2025                     | <ul style="list-style-type: none"> <li>- Removal of Optiq Segment 10 (Trade Reporting and Publication Real-Time and Snapshot Configuration) and the corresponding MDG Set of Channels IDs 29 and 30 (APA SI Quotes and APA Trade Publication) which are not used</li> </ul>                                                                                                                                                                                                                                              |
| 5.356.0                 | May 2025                       | <ul style="list-style-type: none"> <li>- Removal of [ETFP] MIC from "<a href="#">MDG Set Of Channels ID</a>" = 39</li> <li>- Addition of [ETFP] MIC to "<a href="#">MDG Set Of Channels ID</a>" = 1</li> <li>- In Optiq Segment 2, Updated title for "<a href="#">MDG Set Of Channels ID</a>" = 39 to ATFX</li> </ul>                                                                                                                                                                                                    |
| 6.361.0                 | October 2025                   | <ul style="list-style-type: none"> <li>- Addition of new "<a href="#">MDG Set of Channels ID</a>" = 46 (Equities IPO France)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                  |
| 6.367.0                 | July 2026                      | <ul style="list-style-type: none"> <li>- Addition of new Euronext ATHENS channel <a href="#">MDG Set of Channels ID 51 – Equities Greece</a></li> <li>- Addition of new Euronext ATHENS channel <a href="#">MDG Set of Channels ID 50 – Funds ETF Greece</a></li> <li>- Addition of new Euronext ATHENS channel <a href="#">MDG Set of Channels ID 53 – Index Derivatives Greece</a></li> <li>- Addition of new Euronext ATHENS channel <a href="#">MDG Set of Channels ID 52 – Equity Derivatives Greece</a></li> </ul> |
| 6.367.1                 | July 2026                      | <ul style="list-style-type: none"> <li>- Corrected typo in Section 1.1: Optiq Segments, Partitions and MDG Set of Channels</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                    |
| 6.369.0                 | August 2026                    | <ul style="list-style-type: none"> <li>- Reviewed formatting of the document</li> <li>- Removed reference to Financial Derivatives / Currency Derivatives, decommissioned</li> <li>- Removed MDG set of Channels 32 – ETF Access, decommissioned</li> </ul>                                                                                                                                                                                                                                                              |
| <a href="#">6.369.1</a> | <a href="#">September 2026</a> | <ul style="list-style-type: none"> <li>- <a href="#">added Disclaimer in the Preface to the document.</a></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                     |

## REFERENCE MATERIAL

The following document, which either should be read in conjunction with this document, or which provides other relevant information for the user:

- [Optiq MDG Client Specifications - Euronext Cash and Derivatives Markets](#)

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|-------------|------------------|
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#### FURTHER INFORMATION

- For additional information please visit: [www.euronext.com/optiq](http://www.euronext.com/optiq)

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## 1. INTRODUCTION

This document provides all multicast addresses required to access the Euronext Optiq® Market Data Gateway External User Acceptance (EUA). Only shaped data is provided in the test environment. In order to ensure a Production-like test environment, separate IP addresses and ports are used to replicate the Production 'shaped' and 'unshaped' configuration.

The Euronext Optiq® Market Data Gateway Next Release-EUA (P-EUA) and the Current Release-EUA (V-EUA) environment are located in Bergamo. The P-EUA and V-EUA Source IP Address ranges are provided in this document and for P-EUA the Source IP Address ranges are provided for the live and standby systems as part of the High Availability mechanism. EUA High Availability (HA) and failover testing will only be conducted on the Next Release test environment (P-EUA).

Customers are requested to allow the V-EUA and P-EUA Source IP Address ranges through their Firewalls.

With the XML Standing Data files for the different Optiq Segments, customers will be able to map which instruments are available in which channel. The Optiq MDG feed configuration can be found at the end of each Standing Data file available and these will be provided on a daily basis in XML format. It is required to use the feed configuration details as part of the standing data files to connect to the feed on a daily basis.

In case a new partition is added to an Optiq Segment, customers are required to adapt to this type of change using the Optiq MDG Standing Data files that include the feed configuration details.

### 1.1 OPTIQ SEGMENTS, PARTITIONS AND MDG SET OF CHANNELS

Below you will find an overview of the available Optiq Segments, the number of partitions per Optiq Segment and the MDG Set Of Channels ID and Name that are part of each Optiq Segment. The Optiq Segments listed in the below table are also available in the real-time Standing Data (1007) messages and Contract Standing Data (1013) messages and also available in Standing Data files.

| Optiq Segment | Number of Partitions | MDG Set of Channels ID | MDG Set of Channels Name                                                    |
|---------------|----------------------|------------------------|-----------------------------------------------------------------------------|
| 1. Equities   | 4                    | 6                      | Equities Netherlands                                                        |
|               |                      | 5                      | Equities France                                                             |
|               |                      | 7                      | Equities Belgium                                                            |
|               |                      | 8                      | Equities Portugal                                                           |
|               |                      | 9                      | Equities Dublin                                                             |
|               |                      | 10                     | Equities Norway                                                             |
|               |                      | 11                     | Best of Book (RMF)                                                          |
|               |                      | 18                     | Equities Italy [MTAA, MIVX, EXGM]                                           |
|               |                      | 44                     | Equities ETLX [ETLX]                                                        |
|               |                      | 45                     | Italy GEM [BGEM]                                                            |
|               |                      | 51                     | Equities Greece                                                             |
| 2. Funds      | 1                    | 1                      | Funds Netherlands, France, Belgium, Portugal, Norway, Ireland, Italy [ETFP] |
|               |                      | 39                     | Funds Italy [ATFX]                                                          |
|               |                      | 31                     | Best of Book (RMF) Funds                                                    |
|               |                      | 50                     | Funds ETF Greece                                                            |
|               |                      |                        |                                                                             |

| Optiq Segment                | Number of Partitions | MDG Set of Channels ID | MDG Set of Channels Name                |
|------------------------------|----------------------|------------------------|-----------------------------------------|
| 3. Fixed Income              | 1                    | 2                      | Fixed Income                            |
|                              |                      | 12                     | Fixed Income Nordic ABM                 |
|                              |                      | 40                     | Fixed Income Italy (MOT/ExtraMOT)       |
|                              |                      | 42                     | Fixed Income ETLX (Bond-X)              |
|                              |                      |                        |                                         |
| 4. Warrants and Certificates | 2                    | 4                      | Warrants and Certificates               |
|                              |                      | 41                     | Warrants and Certificates Italy (SEDEX) |
|                              |                      | 43                     | Warrants and Certificates ETLX (Cert-X) |
|                              |                      |                        |                                         |
| 5. Bourse de Luxembourg      | 1                    | 3                      | Bourse De Luxembourg                    |
|                              |                      |                        |                                         |
| 9. Indices                   | 1                    | 13                     | Euronext Indices                        |
|                              |                      | 14                     | Euronext iNAVs                          |
|                              |                      | 15                     | Euronext Dublin Indices                 |
|                              |                      |                        |                                         |
| 14. Euronext Block           | 1                    | 33                     | Euronext Block                          |
|                              |                      | 19                     | Italy TAH [XTAH] <sup>1</sup>           |
|                              |                      | 46                     | Equities IPO France <sup>2</sup>        |
|                              |                      |                        |                                         |
| 16. Irish Bonds & Funds      | 1                    | 35                     | Euronext Dublin Bonds and Funds         |
|                              |                      |                        |                                         |
| 8. Commodity Derivatives     | 1                    | 16                     | Commodity Derivatives                   |
|                              | 1                    | 38                     | Commodity Energies (Power)              |
|                              |                      |                        |                                         |
| 11. Index Derivatives        | 1                    | 23                     | Index Options France                    |
|                              |                      | 24                     | Index Options Netherlands               |
|                              |                      | 25                     | Index Derivatives Other                 |
|                              |                      | 26                     | Index Futures France                    |
|                              |                      | 27                     | Index Futures Netherlands               |
|                              |                      | 53                     | Index Derivatives Greece                |
|                              |                      |                        |                                         |
| 12. Equity Derivatives       | 3                    | 20                     | Equity Derivatives France               |
|                              |                      | 21                     | Equity Derivatives Netherlands          |
|                              |                      | 22                     | Equity Derivatives Other                |
|                              |                      | 52                     | Equity Derivatives Greece               |
|                              |                      |                        |                                         |

## 1.2 CHANNEL TYPES AND CHANNEL IDS

The Channel Types and Channel ID's that are available to each customer depend on the available bandwidth on customer connections to the CMC Network and the services that were selected in the connectivity order form. Depending on the Asset Class, the following Optiq MDG channel types are made available to customers:

### 1. Pre-trade

<sup>1</sup> While TAH -trading after hours- concerns equities instruments, it is hosted for technical reasons in the BLK (Blocks) Optiq segment

<sup>2</sup> While Equities IPO France concerns equities instruments, it is hosted for technical reasons in the BLK (Blocks) Optiq segment

- a. BBBO – Best Bid and Offer
  - b. FBMU – Full Book by Price (using Market Update message) (includes Best Bid and Best Offer)
  - c. FBOU – Full Book by Order (using Order Update message) (includes Best Bid and Best Offer)
2. Post Trade – REFT – Reference Data and Full Trade Information
3. Indices – REFI – Index Reference Data and Index messages
4. Irish Bonds & Funds – IBFR - Irish Bonds & Funds Reference Data
5. Euronext Blocks – EBLK – Blocks market segment data.

Please read chapter **2.1 TYPE OF MARKET DATA CHANNELS** of the Euronext Cash and Derivatives Markets. – Optiq MDG Client Specifications for more details.

### 1.3 ADDITION OF A NEW PARTITION

The Channel ID contains 5 numbers and is provided as a field in the Optiq MDG packet header.

1. The first number on the left is used to identify if the channel is a real-time channel (3 for V-EUA and 5 for P-EUA) or snapshot (4 for V-EUA and 6 for P-EUA)
2. The second number is n= the partition number -1, with n=0 for the first partition, n=1 for the second partition, etc.
3. The last three number xxx represent the last numbers on the right used for the Multicast Group IP.

Each partition as part of an Optiq Segment has a Feed A and a Feed B and uses a unique Source IP address from the ranges as specified below:

| Feed A/B                            | Feed A            | Feed B            |
|-------------------------------------|-------------------|-------------------|
| Rendez-vous Point on Colocation     | 212.107.67.242    | 212.107.67.243    |
| Rendez-vous Point on CMC            | 212.107.67.248/32 | 212.107.67.249/32 |
| Current EUA IP Address range        | 212.107.91.0/25   | 212.107.91.128/25 |
| Next EUA Primary IP Address range   | 212.107.90.0/25   | 212.107.90.128/25 |
| Next EUA Secondary IP Address range | 212.107.90.0/25   | 212.107.90.128/25 |

Customers are required to allow the whole range as specified above through their Firewalls to allow for the addition of a new partition within an Optiq Segment. In case of a new partition

1. A new Source IP will be used for the new partition, the Multicast Group IP Addresses for Feed A and B remain unchanged for the new partition
2. A new Channel ID is defined as 1(n)xxx and is equal to the ports used for the new partition.

The Multicast Group IP addresses for Real-time and Snapshot, for Feed A and B are:

| Environment | Channel ID | Real-Time/Snapshot | Multicast Group Feed A | Multicast Group Feed B |
|-------------|------------|--------------------|------------------------|------------------------|
| Current EUA | 3(n)xxx    | Real-Time          | 224.0.212.xxx          | 224.0.213.xxx          |
|             | 4(n)xxx    | Snapshot           |                        |                        |
| Next EUA    | 5(n)xxx    | Real-Time          |                        |                        |
|             | 6(n)xxx    | Snapshot           |                        |                        |

## 2. OPTIQ SEGMENT – 1. EQUITIES REAL-TIME AND SNAPSHOT CONFIGURATION

### 2.1 MDG SET OF CHANNELS ID 6 – EQUITIES NETHERLANDS

|                    |               |                      |                      |
|--------------------|---------------|----------------------|----------------------|
| Environment        | VEUA and PEUA | MDGSetOfChannels ID  | 6                    |
| Optiq Segment name | Equities      | MDGSetOfChannelsName | Equities Netherlands |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.120 | VEUA 30120       | VEUA 31120  | VEUA 32120  | VEUA 33120  |
| Multicast Group IP Feed B | 224.0.213.120 | PEUA 50120       | PEUA 51120  | PEUA 52120  | PEUA 53120  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.120 | VEUA 40120       | VEUA 41120  | VEUA 42120  | VEUA 43120  |
| Multicast Group IP Feed B | 224.0.213.120 | PEUA 60120       | PEUA 61120  | PEUA 62120  | PEUA 63120  |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.121 | VEUA 30121       | VEUA 31121  | VEUA 32121  | VEUA 33121  |
| Multicast Group IP Feed B | 224.0.213.121 | PEUA 50121       | PEUA 51121  | PEUA 52121  | PEUA 53121  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.122 | VEUA 30122       | VEUA 31122  | VEUA 32122  | VEUA 33122  |
| Multicast Group IP Feed B | 224.0.213.122 | PEUA 50122       | PEUA 51122  | PEUA 52122  | PEUA 53122  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.121 | VEUA 40121       | VEUA 41121  | VEUA 42121  | VEUA 43121  |
| Multicast Group IP Feed B | 224.0.213.121 | PEUA 60121       | PEUA 61121  | PEUA 62121  | PEUA 63121  |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.123 | VEUA 30123       | VEUA 31123  | VEUA 32123  | VEUA 33123  |
| Multicast Group IP Feed B | 224.0.213.123 | PEUA 50123       | PEUA 51123  | PEUA 52123  | PEUA 53123  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.124 | VEUA 30124       | VEUA 31124  | VEUA 32124  | VEUA 33124  |
| Multicast Group IP Feed B | 224.0.213.124 | PEUA 50124       | PEUA 51124  | PEUA 52124  | PEUA 53124  |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.125 | VEUA 30125       | VEUA 31125  | VEUA 32125  | VEUA 33125  |
| Multicast Group IP Feed B | 224.0.213.125 | PEUA 50125       | PEUA 51125  | PEUA 52125  | PEUA 53125  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.123 | VEUA 40123       | VEUA 41123  | VEUA 42123  | VEUA 43123  |
| Multicast Group IP Feed B | 224.0.213.123 | PEUA 60123       | PEUA 61123  | PEUA 62123  | PEUA 63123  |

## 2.2 MDG SET OF CHANNELS ID 5 – EQUITIES FRANCE

|                    |                 |                      |                 |
|--------------------|-----------------|----------------------|-----------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 5               |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities France |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.110 | VEUA 30110       | VEUA 31110  | VEUA 32110  | VEUA 33110  |
| Multicast Group IP Feed B | 224.0.213.110 | PEUA 50110       | PEUA 51110  | PEUA 52110  | PEUA 53110  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.110 | VEUA 40110       | VEUA 41110  | VEUA 42110  | VEUA 43110  |
| Multicast Group IP Feed B | 224.0.213.110 | PEUA 60110       | PEUA 61110  | PEUA 62110  | PEUA 63110  |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.111 | VEUA 30111       | VEUA 31111  | VEUA 32111  | VEUA 33111  |
| Multicast Group IP Feed B | 224.0.213.111 | PEUA 50111       | PEUA 51111  | PEUA 52111  | PEUA 53111  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.112 | VEUA 30112       | VEUA 31112  | VEUA 32112  | VEUA 33112  |
| Multicast Group IP Feed B | 224.0.213.112 | PEUA 50112       | PEUA 51112  | PEUA 52112  | PEUA 53112  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.111 | VEUA 40111       | VEUA 41111  | VEUA 42111  | VEUA 43111  |
| Multicast Group IP Feed B | 224.0.213.111 | PEUA 60111       | PEUA 61111  | PEUA 62111  | PEUA 63111  |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.113 | VEUA 30113       | VEUA 31113  | VEUA 32113  | VEUA 33113  |
| Multicast Group IP Feed B | 224.0.213.113 | PEUA 50113       | PEUA 51113  | PEUA 52113  | PEUA 53113  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.114 | VEUA 30114       | VEUA 31114  | VEUA 32114  | VEUA 33114  |
| Multicast Group IP Feed B | 224.0.213.114 | PEUA 50114       | PEUA 51114  | PEUA 52114  | PEUA 53114  |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.115 | VEUA 30115       | VEUA 31115  | VEUA 32115  | VEUA 33115  |
| Multicast Group IP Feed B | 224.0.213.115 | PEUA 50115       | PEUA 51115  | PEUA 52115  | PEUA 53115  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.113 | VEUA 40113       | VEUA 41113  | VEUA 42113  | VEUA 43113  |
| Multicast Group IP Feed B | 224.0.213.113 | PEUA 60113       | PEUA 61113  | PEUA 62113  | PEUA 63113  |

## 2.3 MDG SET OF CHANNELS ID 7 – EQUITIES BELGIUM (INCLUDING PUBLIC AUCTION MARKET)

|                    |                 |                      |                                                    |
|--------------------|-----------------|----------------------|----------------------------------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 7                                                  |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities Belgium (Including Public Auction Market) |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.100 | VEUA 30100       | VEUA 31100  | VEUA 32100  | VEUA 33100  |
| Multicast Group IP Feed B | 224.0.213.100 | PEUA 50100       | PEUA 51100  | PEUA 52100  | PEUA 53100  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.100 | VEUA 40100       | VEUA 41100  | VEUA 42100  | VEUA 43100  |
| Multicast Group IP Feed B | 224.0.213.100 | PEUA 60100       | PEUA 61100  | PEUA 62100  | PEUA 63100  |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.101 | VEUA 30101       | VEUA 31101  | VEUA 32101  | VEUA 33101  |
| Multicast Group IP Feed B | 224.0.213.101 | PEUA 50101       | PEUA 51101  | PEUA 52101  | PEUA 53101  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.102 | VEUA 30102       | VEUA 31102  | VEUA 32102  | VEUA 33102  |
| Multicast Group IP Feed B | 224.0.213.102 | PEUA 50102       | PEUA 51102  | PEUA 52102  | PEUA 53102  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.101 | VEUA 40101       | VEUA 41101  | VEUA 42101  | VEUA 43101  |
| Multicast Group IP Feed B | 224.0.213.101 | PEUA 60101       | PEUA 61101  | PEUA 62101  | PEUA 63101  |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.103 | VEUA 30103       | VEUA 31103  | VEUA 32103  | VEUA 33103  |
| Multicast Group IP Feed B | 224.0.213.103 | PEUA 50103       | PEUA 51103  | PEUA 52103  | PEUA 53103  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.104 | VEUA 30104       | VEUA 31104  | VEUA 32104  | VEUA 33104  |
| Multicast Group IP Feed B | 224.0.213.104 | PEUA 50104       | PEUA 51104  | PEUA 52104  | PEUA 53104  |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |               |                  |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.103 | VEUA 40103       | VEUA 41103  | VEUA 42103  | VEUA 43103  |
| Multicast Group IP Feed B | 224.0.213.103 | PEUA 60103       | PEUA 61103  | PEUA 62103  | PEUA 63103  |

## 2.4 MDG SET OF CHANNELS ID 8 – EQUITIES PORTUGAL

|                    |                 |                      |                   |
|--------------------|-----------------|----------------------|-------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 8                 |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities Portugal |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.105 | VEUA 30105       | VEUA 31105  | VEUA 32105  | VEUA 33105  |
| Multicast Group IP Feed B | 224.0.213.105 | PEUA 50105       | PEUA 51105  | PEUA 52105  | PEUA 53105  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.105 | VEUA 40105       | VEUA 41105  | VEUA 42105  | VEUA 43105  |
| Multicast Group IP Feed B | 224.0.213.105 | PEUA 60105       | PEUA 61105  | PEUA 62105  | PEUA 63105  |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.106 | VEUA 30106       | VEUA 31106  | VEUA 32106  | VEUA 33106  |
| Multicast Group IP Feed B | 224.0.213.106 | PEUA 50106       | PEUA 51106  | PEUA 52106  | PEUA 53106  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.107 | VEUA 30107       | VEUA 31107  | VEUA 32107  | VEUA 33107  |
| Multicast Group IP Feed B | 224.0.213.107 | PEUA 50107       | PEUA 51107  | PEUA 52107  | PEUA 53107  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.106 | VEUA 40106       | VEUA 41106  | VEUA 42106  | VEUA 43106  |
| Multicast Group IP Feed B | 224.0.213.106 | PEUA 60106       | PEUA 61106  | PEUA 62106  | PEUA 63106  |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.108 | VEUA 30108       | VEUA 31108  | VEUA 32108  | VEUA 33108  |
| Multicast Group IP Feed B | 224.0.213.108 | PEUA 50108       | PEUA 51108  | PEUA 52108  | PEUA 53108  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.109 | VEUA 30109       | VEUA 31109  | VEUA 32109  | VEUA 33109  |
| Multicast Group IP Feed B | 224.0.213.109 | PEUA 50109       | PEUA 51109  | PEUA 52109  | PEUA 53109  |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |               |                  |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.108 | VEUA 40108       | VEUA 41108  | VEUA 42108  | VEUA 43108  |
| Multicast Group IP Feed B | 224.0.213.108 | PEUA 60108       | PEUA 61108  | PEUA 62108  | PEUA 63108  |

## 2.5 MDG SET OF CHANNELS ID 9 – EQUITIES DUBLIN

|                    |                 |                      |                 |
|--------------------|-----------------|----------------------|-----------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 9               |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities Dublin |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.165 | VEUA 30165       | VEUA 31165  | VEUA 32165  | VEUA 33165  |
| Multicast Group IP Feed B | 224.0.213.165 | PEUA 50165       | PEUA 51165  | PEUA 52165  | PEUA 53165  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.165 | VEUA 40165       | VEUA 41165  | VEUA 42165  | VEUA 43165  |
| Multicast Group IP Feed B | 224.0.213.165 | PEUA 60165       | PEUA 61165  | PEUA 62165  | PEUA 63165  |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.166 | VEUA 30166       | VEUA 31166  | VEUA 32166  | VEUA 33166  |
| Multicast Group IP Feed B | 224.0.213.166 | PEUA 50166       | PEUA 51166  | PEUA 52166  | PEUA 53166  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.167 | VEUA 30167       | VEUA 31167  | VEUA 32167  | VEUA 33167  |
| Multicast Group IP Feed B | 224.0.213.167 | PEUA 50167       | PEUA 51167  | PEUA 52167  | PEUA 53167  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.166 | VEUA 40166       | VEUA 41166  | VEUA 42166  | VEUA 43166  |
| Multicast Group IP Feed B | 224.0.213.166 | PEUA 60166       | PEUA 61166  | PEUA 62166  | PEUA 63166  |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.168 | VEUA 30168       | VEUA 31168  | VEUA 32168  | VEUA 33168  |
| Multicast Group IP Feed B | 224.0.213.168 | PEUA 50168       | PEUA 51168  | PEUA 52168  | PEUA 53168  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.169 | VEUA 30169       | VEUA 31169  | VEUA 32169  | VEUA 33169  |
| Multicast Group IP Feed B | 224.0.213.169 | PEUA 50169       | PEUA 51169  | PEUA 52169  | PEUA 53169  |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |               |                  |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.168 | VEUA 40168       | VEUA 41168  | VEUA 42168  | VEUA 43168  |
| Multicast Group IP Feed B | 224.0.213.168 | PEUA 60168       | PEUA 61168  | PEUA 62168  | PEUA 63168  |

## 2.6 MDG SET OF CHANNELS ID 10 – EQUITIES NORWAY

|                    |                 |                      |                 |
|--------------------|-----------------|----------------------|-----------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 10              |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities Norway |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.85 | VEUA 30085       | VEUA 31085  | VEUA 32085  | VEUA 33085  |
| Multicast Group IP Feed B | 224.0.213.85 | PEUA 50085       | PEUA 51085  | PEUA 52085  | PEUA 53085  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.85 | VEUA 40085       | VEUA 41085  | VEUA 42085  | VEUA 43085  |
| Multicast Group IP Feed B | 224.0.213.85 | PEUA 60085       | PEUA 61085  | PEUA 62085  | PEUA 63085  |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.86 | VEUA 30086       | VEUA 31086  | VEUA 32086  | VEUA 33086  |
| Multicast Group IP Feed B | 224.0.213.86 | PEUA 50086       | PEUA 51086  | PEUA 52086  | PEUA 53086  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.87 | VEUA 30087       | VEUA 31087  | VEUA 32087  | VEUA 33087  |
| Multicast Group IP Feed B | 224.0.213.87 | PEUA 50087       | PEUA 51087  | PEUA 52087  | PEUA 53087  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.86 | VEUA 40086       | VEUA 41086  | VEUA 42086  | VEUA 43086  |
| Multicast Group IP Feed B | 224.0.213.86 | PEUA 60086       | PEUA 61086  | PEUA 62086  | PEUA 63086  |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.88 | VEUA 30088       | VEUA 31088  | VEUA 32088  | VEUA 33088  |
| Multicast Group IP Feed B | 224.0.213.88 | PEUA 50088       | PEUA 51088  | PEUA 52088  | PEUA 53088  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.89 | VEUA 30089       | VEUA 31089  | VEUA 32089  | VEUA 33089  |
| Multicast Group IP Feed B | 224.0.213.89 | PEUA 50089       | PEUA 51089  | PEUA 52089  | PEUA 53089  |
| Channel Speed             | 10G          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |              |                  |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.88 | VEUA 40088       | VEUA 41088  | VEUA 42088  | VEUA 43088  |
| Multicast Group IP Feed B | 224.0.213.88 | PEUA 60088       | PEUA 61088  | PEUA 62088  | PEUA 63088  |

## 2.7 MDG SET OF CHANNELS ID 11 – BEST OF BOOK (RMF)

|                    |                 |                      |                    |
|--------------------|-----------------|----------------------|--------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 11                 |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Best of Book (RMF) |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.138 | VEUA 30138       | VEUA 31138  | VEUA 32138  | VEUA 33138  |
| Multicast Group IP Feed B | 224.0.213.138 | PEUA 50138       | PEUA 51138  | PEUA 52138  | PEUA 53138  |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.139 | VEUA 30139       | VEUA 31139  | VEUA 32139  | VEUA 33139  |
| Multicast Group IP Feed B | 224.0.213.139 | PEUA 50139       | PEUA 51139  | PEUA 52139  | PEUA 53139  |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.138 | VEUA 40138       | VEUA 41138  | VEUA 42138  | VEUA 43138  |
| Multicast Group IP Feed B | 224.0.213.138 | PEUA 60138       | PEUA 61138  | PEUA 62138  | PEUA 63138  |

## 2.8 MDG SET OF CHANNELS ID 18 – EQUITIES ITALY

|                    |             |                      |                |
|--------------------|-------------|----------------------|----------------|
| Environment        | V-EUA P-EUA | MDGSetOfChannels ID  | 18             |
| Optiq Segment name | Equities    | MDGSetOfChannelsName | Equities Italy |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.75 | vEUA: 30075      | vEUA: 31075 | vEUA: 32075 | vEUA: 33075 |
| Multicast Group IP Feed B | 224.0.213.75 | pEUA: 50075      | pEUA: 51075 | pEUA: 52075 | pEUA: 53075 |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.75 | vEUA: 40075      | vEUA: 41075 | vEUA: 42075 | vEUA: 43075 |
| Multicast Group IP Feed B | 224.0.213.75 | pEUA: 60075      | pEUA: 61075 | pEUA: 62075 | pEUA: 63075 |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.076 | vEUA: 30076      | vEUA: 31076 | vEUA: 32076 | vEUA: 33076 |
| Multicast Group IP Feed B | 224.0.213.076 | pEUA: 50076      | pEUA: 51076 | pEUA: 52076 | pEUA: 53076 |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.077 | vEUA: 30077      | vEUA: 31077 | vEUA: 32077 | vEUA: 33077 |
| Multicast Group IP Feed B | 224.0.213.077 | pEUA: 50077      | pEUA: 51077 | pEUA: 52077 | pEUA: 53077 |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.076 | vEUA: 40076      | vEUA: 41076 | vEUA: 42076 | vEUA: 43076 |
| Multicast Group IP Feed B | 224.0.213.076 | pEUA: 60076      | pEUA: 61076 | pEUA: 62076 | pEUA: 63076 |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.126 | vEUA: 30126      | vEUA: 31126 | vEUA: 32126 | vEUA: 33126 |
| Multicast Group IP Feed B | 224.0.213.126 | pEUA: 50126      | pEUA: 51126 | pEUA: 52126 | pEUA: 53126 |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.127 | vEUA: 30127      | vEUA: 31127 | vEUA: 32127 | vEUA: 33127 |
| Multicast Group IP Feed B | 224.0.213.127 | pEUA: 50127      | pEUA: 51127 | pEUA: 52127 | pEUA: 53127 |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.126 | vEUA: 40126      | vEUA: 41126 | vEUA: 42126 | vEUA: 43126 |
| Multicast Group IP Feed B | 224.0.213.126 | pEUA: 60126      | pEUA: 61126 | pEUA: 62126 | pEUA: 63126 |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.78 | vEUA: 30078      | vEUA: 31078 | vEUA: 32078 | vEUA: 33078 |
| Multicast Group IP Feed B | 224.0.213.78 | pEUA: 50078      | pEUA: 51078 | pEUA: 52078 | pEUA: 53078 |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.79 | vEUA: 30079      | vEUA: 31079 | vEUA: 32079 | vEUA: 33079 |
| Multicast Group IP Feed B | 224.0.213.79 | pEUA: 50079      | pEUA: 51079 | pEUA: 52079 | pEUA: 53079 |
| Channel Speed             | 10G          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.80 | vEUA: 30080      | vEUA: 31080 | vEUA: 32080 | vEUA: 33080 |
| Multicast Group IP Feed B | 224.0.213.80 | pEUA: 50080      | pEUA: 51080 | pEUA: 52080 | pEUA: 53080 |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.78 | vEUA: 40078      | vEUA: 41078 | vEUA: 42078 | vEUA: 43078 |
| Multicast Group IP Feed B | 224.0.213.78 | pEUA: 60078      | pEUA: 61078 | pEUA: 62078 | pEUA: 63078 |

## 2.9 MDG SET OF CHANNELS ID 44 – EQUITIES ETLX

|                    |                 |                      |               |
|--------------------|-----------------|----------------------|---------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 44            |
| Optiq Segment name | Equities        | MDGSetOfChannelsName | Equities ETLX |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.30 | vEUA:30030       | vEUA:31030  | vEUA:32030  | vEUA:33030  |
| Multicast Group IP Feed B | 224.0.213.30 | pEUA:50030       | pEUA:51030  | pEUA:52030  | pEUA:53030  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.30 | vEUA:40030       | vEUA:41030  | vEUA:42030  | vEUA:43030  |
| Multicast Group IP Feed B | 224.0.213.30 | pEUA:60030       | pEUA:61030  | pEUA:62030  | pEUA:63030  |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.33 | vEUA:30033       | vEUA:31033  | vEUA:32033  | vEUA:33033  |
| Multicast Group IP Feed B | 224.0.213.33 | pEUA:50033       | pEUA:51033  | pEUA:52033  | pEUA:53033  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.34 | vEUA:30034       | vEUA:31034  | vEUA:32034  | vEUA:33034  |
| Multicast Group IP Feed B | 224.0.213.34 | pEUA:50034       | pEUA:51034  | pEUA:52034  | pEUA:53034  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.33 | vEUA:40033       | vEUA:41033  | vEUA:42033  | vEUA:43033  |
| Multicast Group IP Feed B | 224.0.213.33 | pEUA:60033       | pEUA:61033  | pEUA:62033  | pEUA:63033  |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.31 | vEUA:30031       | vEUA:31031  | vEUA:32031  | vEUA:33031  |
| Multicast Group IP Feed B | 224.0.213.31 | pEUA:50031       | pEUA:51031  | pEUA:52031  | pEUA:53031  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.32 | vEUA:30032       | vEUA:31032  | vEUA:32032  | vEUA:33032  |
| Multicast Group IP Feed B | 224.0.213.32 | pEUA:50032       | pEUA:51032  | pEUA:52032  | pEUA:53032  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.31 | vEUA:40031       | vEUA:41031  | vEUA:42031  | vEUA:43031  |
| Multicast Group IP Feed B | 224.0.213.31 | pEUA:60031       | pEUA:61031  | pEUA:62031  | pEUA:63031  |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.35 | vEUA:30035       | vEUA:31035  | vEUA:32035  | vEUA:33035  |
| Multicast Group IP Feed B | 224.0.213.35 | pEUA:50035       | pEUA:51035  | pEUA:52035  | pEUA:53035  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.36 | vEUA:30036       | vEUA:31036  | vEUA:32036  | vEUA:33036  |
| Multicast Group IP Feed B | 224.0.213.36 | pEUA:50036       | pEUA:51036  | pEUA:52036  | pEUA:53036  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.35 | vEUA:40035       | vEUA:41035  | vEUA:42035  | vEUA:43035  |
| Multicast Group IP Feed B | 224.0.213.35 | pEUA:60035       | pEUA:61035  | pEUA:62035  | pEUA:63035  |

## 2.10 MDG SET OF CHANNELS ID 45 – GLOBAL EQUITY MARKET

|                    |                |                      |                      |
|--------------------|----------------|----------------------|----------------------|
| Environment        | V-EUA<br>P-EUA | MDGSetOfChannels ID  | 45                   |
| Optiq Segment name | Equities       | MDGSetOfChannelsName | Global Equity Market |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.81 | vEUA:30081       | vEUA:31081  | vEUA:32081  | vEUA:33081  |
| Multicast Group IP Feed B | 224.0.213.81 | pEUA:50081       | pEUA:51081  | pEUA:52081  | pEUA:53081  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.81 | vEUA:40081       | vEUA:41081  | vEUA:42081  | vEUA:43081  |
| Multicast Group IP Feed B | 224.0.213.81 | pEUA:60081       | pEUA:61081  | pEUA:62081  | pEUA:63081  |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.83 | vEUA:30083       | vEUA:31083  | vEUA:32083  | vEUA:33083  |
| Multicast Group IP Feed B | 224.0.213.83 | pEUA:50083       | pEUA:51083  | pEUA:52083  | pEUA:53083  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.97 | vEUA:30097       | vEUA:31097  | vEUA:32097  | vEUA:33097  |
| Multicast Group IP Feed B | 224.0.213.97 | pEUA:50097       | pEUA:51097  | pEUA:52097  | pEUA:53097  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.83 | vEUA:40083       | vEUA:41083  | vEUA:42083  | vEUA:43083  |
| Multicast Group IP Feed B | 224.0.213.83 | pEUA:60083       | pEUA:61083  | pEUA:62083  | pEUA:63083  |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.82 | vEUA:30082       | vEUA:31082  | vEUA:32082  | vEUA:33082  |
| Multicast Group IP Feed B | 224.0.213.82 | pEUA:50082       | pEUA:51082  | pEUA:52082  | pEUA:53082  |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.96 | vEUA:30096       | vEUA:31096  | vEUA:32096  | vEUA:33096  |
| Multicast Group IP Feed B | 224.0.213.96 | pEUA:50096       | pEUA:51096  | pEUA:52096  | pEUA:53096  |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.82 | vEUA:40082       | vEUA:41082  | vEUA:42082  | vEUA:43082  |
| Multicast Group IP Feed B | 224.0.213.82 | pEUA:60082       | pEUA:61082  | pEUA:62082  | pEUA:63082  |

| Channel Type  | FBOU | Channel ID /Port |             |             |             |
|---------------|------|------------------|-------------|-------------|-------------|
| Real-time     |      |                  |             |             |             |
| Channel Speed | 100M | Partition 1      | Partition 2 | Partition 3 | Partition 4 |

|                           |              |             |             |             |             |
|---------------------------|--------------|-------------|-------------|-------------|-------------|
| Multicast Group IP Feed A | 224.0.212.84 | vEUA:30084  | vEUA:31084  | vEUA:32084  | vEUA:33084  |
| Multicast Group IP Feed B | 224.0.213.84 | pEUA:50084  | pEUA:51084  | pEUA:52084  | pEUA:53084  |
| Channel Speed             | 1G           | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.98 | vEUA:30098  | vEUA:31098  | vEUA:32098  | vEUA:33098  |
| Multicast Group IP Feed B | 224.0.213.98 | pEUA:50098  | pEUA:51098  | pEUA:52098  | pEUA:53098  |
| Snapshot                  |              |             |             |             |             |
| Channel Speed             | 100M         | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.84 | vEUA:40084  | vEUA:41084  | vEUA:42084  | vEUA:43084  |
| Multicast Group IP Feed B | 224.0.213.84 | pEUA:60084  | pEUA:61084  | pEUA:62084  | pEUA:63084  |

## 2.11 MDG SET OF CHANNELS ID 51 – EQUITIES GREECE

|                    |               |                      |                 |
|--------------------|---------------|----------------------|-----------------|
| Environment        | VEUA and PEUA | MDGSetOfChannels ID  | 51              |
| Optiq Segment name | Equities      | MDGSetOfChannelsName | Equities Greece |

| Channel Type              | REFT        | Channel ID /Port |             |             |             |
|---------------------------|-------------|------------------|-------------|-------------|-------------|
| Real-time                 |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.1 | VEUA 30001       | VEUA 31001  | VEUA 32001  | VEUA 33001  |
| Multicast Group IP Feed B | 224.0.213.1 | PEUA 50001       | PEUA 51001  | PEUA 52001  | PEUA 53001  |
| Snapshot                  |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.1 | VEUA 40001       | VEUA 41001  | VEUA 42001  | VEUA 43001  |
| Multicast Group IP Feed B | 224.0.213.1 | PEUA 60001       | PEUA 61001  | PEUA 62001  | PEUA 63001  |

| Channel Type              | FBMU        | Channel ID /Port |             |             |             |
|---------------------------|-------------|------------------|-------------|-------------|-------------|
| Real-time                 |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.2 | VEUA 30002       | VEUA 31002  | VEUA 32002  | VEUA 33002  |
| Multicast Group IP Feed B | 224.0.213.2 | PEUA 50002       | PEUA 51002  | PEUA 52002  | PEUA 53002  |
| Channel Speed             | 10G         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.3 | VEUA 30003       | VEUA 31003  | VEUA 32003  | VEUA 33003  |
| Multicast Group IP Feed B | 224.0.213.3 | PEUA 50003       | PEUA 51003  | PEUA 52003  | PEUA 53003  |
| Snapshot                  |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.2 | VEUA 40002       | VEUA 41002  | VEUA 42002  | VEUA 43002  |
| Multicast Group IP Feed B | 224.0.213.2 | PEUA 60002       | PEUA 61002  | PEUA 62002  | PEUA 63002  |

| Channel Type              | FBOU        | Channel ID /Port |             |             |             |
|---------------------------|-------------|------------------|-------------|-------------|-------------|
| Real-time                 |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.4 | VEUA 30004       | VEUA 31004  | VEUA 32004  | VEUA 33004  |
| Multicast Group IP Feed B | 224.0.213.4 | PEUA 50004       | PEUA 51004  | PEUA 52004  | PEUA 53004  |
| Channel Speed             | 10G         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.5 | VEUA 30005       | VEUA 31005  | VEUA 32005  | VEUA 33005  |
| Multicast Group IP Feed B | 224.0.213.5 | PEUA 50005       | PEUA 51005  | PEUA 52005  | PEUA 53005  |
| Snapshot                  |             |                  |             |             |             |
| Channel Speed             | 100M        | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.4 | VEUA 40004       | VEUA 41004  | VEUA 42004  | VEUA 43004  |
| Multicast Group IP Feed B | 224.0.213.4 | PEUA 60004       | PEUA 61004  | PEUA 62004  | PEUA 63004  |

### 3. OPTIQ SEGMENT – 2. FUNDS REAL-TIME AND SNAPSHOT CONFIGURATION

#### 3.1 MDG SET OF CHANNELS ID 1 – FUNDS

|                    |                 |                      |       |
|--------------------|-----------------|----------------------|-------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 1     |
| Optiq Segment name | Funds           | MDGSetOfChannelsName | Funds |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.130 | VEUA 30130       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.130 | PEUA 50130       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.130 | VEUA 40130       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.130 | PEUA 60130       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.131 | VEUA 30131       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.131 | PEUA 50131       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.132 | VEUA 30132       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.132 | PEUA 50132       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.131 | VEUA 40131       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.131 | PEUA 60131       |             |             |             |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.134 | VEUA 30134       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.134 | PEUA 50134       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.135 | VEUA 30135       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.135 | PEUA 50135       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.133 | VEUA 40133       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.133 | PEUA 60133       |             |             |             |

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3.2

### 3.3 MDG SET OF CHANNELS ID 39 – FUNDS ITALY (ATFX)

In the tables below, in the “Channel ID/Port number” cells, the first number corresponds to the vEUA port number, the second corresponds to the pEUA port number

|                    |                |                      |                 |
|--------------------|----------------|----------------------|-----------------|
| Environment        | V-EUA<br>P-EUA | MDGSetOfChannels ID  | 39              |
| Optiq Segment name | Funds          | MDGSetOfChannelsName | Funds ETF Italy |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.50 | 30050            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.50 | 50050            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.50 | 40050            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.50 | 60050            |             |             |             |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.51 | 30051            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.51 | 50051            |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.52 | 30052            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.52 | 50052            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.51 | 40051            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.51 | 60051            |             |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.53 | 30053            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.53 | 50053            |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.54 | 30054            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.54 | 50054            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.53 | 40053            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.53 | 60053            |             |             |             |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.56 | 30056            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.56 | 50056            |             |             |             |
| Channel Speed             | 10G          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |

|                           |              |             |             |             |             |  |
|---------------------------|--------------|-------------|-------------|-------------|-------------|--|
| Multicast Group IP Feed A | 224.0.212.57 | 30057       |             |             |             |  |
| Multicast Group IP Feed B | 224.0.213.57 | 50057       |             |             |             |  |
| Snapshot                  |              |             |             |             |             |  |
| Channel Speed             | 100M         | Partition 1 | Partition 2 | Partition 3 | Partition 4 |  |
| Multicast Group IP Feed A | 224.0.212.55 | 40055       |             |             |             |  |
| Multicast Group IP Feed B | 224.0.213.55 | 60055       |             |             |             |  |

### 3.4 MDG SET OF CHANNELS ID 31 – BEST OF BOOK (RMF)

|                    |                 |                      |                          |
|--------------------|-----------------|----------------------|--------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 31                       |
| Optiq Segment name | Funds           | MDGSetOfChannelsName | Best of Book (RMF) Funds |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.136 | VEUA 30136       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.136 | PEUA 50136       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.137 | VEUA 30137       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.137 | PEUA 50137       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.136 | VEUA 40136       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.136 | PEUA 60136       |             |             |             |

### 3.5 MDG SET OF CHANNELS ID 50 – FUNDS GREECE

|                    |                 |                      |              |
|--------------------|-----------------|----------------------|--------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 50           |
| Optiq Segment name | Funds           | MDGSetOfChannelsName | Funds Greece |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.099 | VEUA 30099       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.099 | PEUA 50099       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.099 | VEUA 40099       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.099 | PEUA 60099       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.116 | VEUA 30116       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.116 | PEUA 50116       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.117 | VEUA 30117       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.117 | PEUA 50117       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.116 | VEUA 40116       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.116 | PEUA 60116       |             |             |             |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.118 | VEUA 30118       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.118 | PEUA 50118       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.119 | VEUA 30119       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.119 | PEUA 50119       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.118 | VEUA 40118       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.118 | PEUA 60118       |             |             |             |

## 4. OPTIQ SEGMENT – 3. FIXED INCOME REAL-TIME AND SNAPSHOT CONFIGURATION

### 4.1 MDG SET OF CHANNELS ID 2 – FIXED INCOME

|                    |                 |                      |              |
|--------------------|-----------------|----------------------|--------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 2            |
| Optiq Segment name | Fixed Income    | MDGSetOfChannelsName | Fixed Income |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.150 | VEUA 30150       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.150 | PEUA 50150       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.150 | VEUA 40150       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.150 | PEUA 60150       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.151 | VEUA 30151       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.151 | PEUA 50151       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.152 | VEUA 30152       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.152 | PEUA 50152       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.151 | VEUA 40151       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.151 | PEUA 60151       |             |             |             |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.153 | VEUA 30153       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.153 | PEUA 50153       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.154 | VEUA 30154       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.154 | PEUA 50154       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |               |                  |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.153 | VEUA 40153       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.153 | PEUA 60153       |             |             |             |

## 4.2 MDG SET OF CHANNELS ID 12 – FIXED INCOME NORDIC ABM

|                    |                 |                      |                         |
|--------------------|-----------------|----------------------|-------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 12                      |
| Optiq Segment name | Fixed Income    | MDGSetOfChannelsName | Fixed Income Nordic ABM |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.149 | VEUA 30149       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.149 | PEUA 50149       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.149 | VEUA 40149       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.149 | PEUA 60149       |             |             |             |

## 4.3 MDG SET OF CHANNELS ID 40 – FIXED INCOME Italy (MOT/ExtraMOT)

|                    |                 |                      |                                   |
|--------------------|-----------------|----------------------|-----------------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 40                                |
| Optiq Segment name | Fixed Income    | MDGSetOfChannelsName | Fixed Income Italy (MOT/ExtraMOT) |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.40 | VEUA 30040       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.40 | PEUA 50040       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.40 | VEUA 40040       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.40 | PEUA 60040       |             |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.43 | VEUA 30043       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.43 | PEUA 50043       |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.44 | VEUA 30044       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.44 | PEUA 50044       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.43 | VEUA 40043       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.43 | PEUA 60043       |             |             |             |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.45 | VEUA 30045       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.45 | PEUA 50045       |             |             |             |

|                           |              |             |             |             |             |
|---------------------------|--------------|-------------|-------------|-------------|-------------|
| Channel Speed             | 1G           | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.46 | VEUA 30046  |             |             |             |
| Multicast Group IP Feed B | 224.0.213.46 | PEUA 50046  |             |             |             |
| Snapshot                  |              |             |             |             |             |
| Channel Speed             | 100M         | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.45 | VEUA 40045  |             |             |             |
| Multicast Group IP Feed B | 224.0.213.45 | PEUA 60045  |             |             |             |

|                           |              |                  |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.41 | VEUA 30041       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.41 | PEUA 50041       |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.42 | VEUA 30042       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.42 | PEUA 50042       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.41 | VEUA 40041       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.41 | PEUA 60041       |             |             |             |

#### 4.4 MDG SET OF CHANNELS ID 42 – FIXED INCOME ETLX (Bond-X)

|                    |                 |                      |                           |
|--------------------|-----------------|----------------------|---------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 42                        |
| Optiq Segment name | Fixed Income    | MDGSetOfChannelsName | Fixed Income ETLX(Bond-X) |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.60 | VEUA 30060       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.60 | PEUA 50060       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.60 | VEUA 40060       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.60 | PEUA 60060       |             |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.61 | VEUA 30061       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.61 | PEUA 50061       |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.62 | VEUA 30062       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.62 | PEUA 50062       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.61 | VEUA 40061       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.61 | PEUA 60061       |             |             |             |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.63 | VEUA 30063       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.63 | PEUA 50063       |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.64 | VEUA 30064       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.64 | PEUA 50064       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.63 | VEUA 40063       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.63 | PEUA 60063       |             |             |             |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.58 | VEUA 30058       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.58 | PEUA 50058       |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.59 | VEUA 30059       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.59 | PEUA 50059       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.58 | VEUA 40058       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.58 | PEUA 60058       |             |             |             |

## 5. OPTIQ SEGMENT – 4. WARRANTS & CERTIFICATES REAL-TIME AND SNAPSHOT CONFIGURATION

### 5.1 MDG SET OF CHANNELS ID 4 – WARRANTS & CERTIFICATES

|                    |                         |                      |                         |
|--------------------|-------------------------|----------------------|-------------------------|
| Environment        | V-EUA and P-EUA         | MDGSetOfChannels ID  | 4                       |
| Optiq Segment name | Warrants & Certificates | MDGSetOfChannelsName | Warrants & Certificates |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.155 | VEUA 30155       | VEUA 31155  |             |             |
| Multicast Group IP Feed B | 224.0.213.155 | PEUA 50155       | PEUA 51155  |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.155 | VEUA 40155       | VEUA 41155  |             |             |
| Multicast Group IP Feed B | 224.0.213.155 | PEUA 60155       | PEUA 61155  |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.156 | VEUA 30156       | VEUA 31156  |             |             |
| Multicast Group IP Feed B | 224.0.213.156 | PEUA 50156       | PEUA 51156  |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.157 | VEUA 30157       | VEUA 31157  |             |             |
| Multicast Group IP Feed B | 224.0.213.157 | PEUA 50157       | PEUA 51157  |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.156 | VEUA 40156       | VEUA 41156  |             |             |
| Multicast Group IP Feed B | 224.0.213.156 | PEUA 60156       | PEUA 61156  |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.159 | VEUA 30159       | VEUA 31159  |             |             |
| Multicast Group IP Feed B | 224.0.213.159 | PEUA 50159       | PEUA 51159  |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.158 | VEUA 40158       | VEUA 41158  |             |             |
| Multicast Group IP Feed B | 224.0.213.158 | PEUA 60158       | PEUA 61158  |             |             |

## 5.2 MDG SET OF CHANNELS ID 41 – WARRANTS & CERTIFICATES Italy (SEDEX)

|                    |                         |                      |                                       |
|--------------------|-------------------------|----------------------|---------------------------------------|
| Environment        | V-EUA and P-EUA         | MDGSetOfChannels ID  | 41                                    |
| Optiq Segment name | Warrants & Certificates | MDGSetOfChannelsName | Warrants & Certificates Italy (SEDEX) |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.65 | VEUA 30065       | VEUA 31065  |             |             |
| Multicast Group IP Feed B | 224.0.213.65 | PEUA 50065       | PEUA 51065  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.65 | VEUA 40065       | VEUA 41065  |             |             |
| Multicast Group IP Feed B | 224.0.213.65 | PEUA 60065       | PEUA 61065  |             |             |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.66 | VEUA 30066       | VEUA 31066  |             |             |
| Multicast Group IP Feed B | 224.0.213.66 | PEUA 50066       | PEUA 51066  |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.67 | VEUA 30067       | VEUA 31067  |             |             |
| Multicast Group IP Feed B | 224.0.213.67 | PEUA 50067       | PEUA 51067  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.66 | VEUA 40066       | VEUA 41066  |             |             |
| Multicast Group IP Feed B | 224.0.213.66 | PEUA 60066       | PEUA 61066  |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.69 | VEUA 30069       | VEUA 31069  |             |             |
| Multicast Group IP Feed B | 224.0.213.69 | PEUA 50069       | PEUA 51069  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.68 | VEUA 40068       | VEUA 41068  |             |             |
| Multicast Group IP Feed B | 224.0.213.68 | PEUA 60068       | PEUA 61068  |             |             |

### 5.3 MDG SET OF CHANNELS ID 43 – WARRANTS & CERTIFICATES ETLX (Cert-X)

|                    |                         |                      |                                       |
|--------------------|-------------------------|----------------------|---------------------------------------|
| Environment        | V-EUA and P-EUA         | MDGSetOfChannels ID  | 43                                    |
| Optiq Segment name | Warrants & Certificates | MDGSetOfChannelsName | Warrants & Certificates ETLX (Cert-X) |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.20 | VEUA 30020       | VEUA 31020  |             |             |
| Multicast Group IP Feed B | 224.0.213.20 | PEUA 50020       | PEUA 51020  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.20 | VEUA 40020       | VEUA 41020  |             |             |
| Multicast Group IP Feed B | 224.0.213.20 | PEUA 60020       | PEUA 61020  |             |             |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.21 | VEUA 30021       | VEUA 31021  |             |             |
| Multicast Group IP Feed B | 224.0.213.21 | PEUA 50021       | PEUA 51021  |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.22 | VEUA 30022       | VEUA 31157  |             |             |
| Multicast Group IP Feed B | 224.0.213.22 | PEUA 50022       | PEUA 51022  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.21 | VEUA 40021       | VEUA 41021  |             |             |
| Multicast Group IP Feed B | 224.0.213.21 | PEUA 60021       | PEUA 61021  |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.24 | VEUA 30024       | VEUA 31024  |             |             |
| Multicast Group IP Feed B | 224.0.213.24 | PEUA 50024       | PEUA 51024  |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.23 | VEUA 40023       | VEUA 41023  |             |             |
| Multicast Group IP Feed B | 224.0.213.23 | PEUA 60023       | PEUA 61023  |             |             |

## 6. OPTIQ SEGMENT – 5. BOURSE DE LUXEMBOURG REAL-TIME AND SNAPSHOT CONFIGURATION

### 6.1 MDG SET OF CHANNELS ID 3 – BOURSE DE LUXEMBOURG

Please note that the Bourse de Luxembourg Index messages are included in the Referential Data and Full Trade Information (REFT) real-time and snapshot channels.

|                    |                      |                      |                      |
|--------------------|----------------------|----------------------|----------------------|
| Environment        | V-EUA and P-EUA      | MDGSetOfChannels ID  | 3                    |
| Optiq Segment name | Bourse de Luxembourg | MDGSetOfChannelsName | Bourse de Luxembourg |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.170 | VEUA 30170       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.170 | PEUA 50170       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.170 | VEUA 40170       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.170 | PEUA 60170       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.171 | VEUA 30171       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.171 | PEUA 50171       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.172 | VEUA 30172       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.172 | PEUA 50172       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.171 | VEUA 40171       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.171 | PEUA 60171       |             |             |             |

| Channel Type              | FBOU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.173 | VEUA 30173       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.173 | PEUA 50173       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.174 | VEUA 30174       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.174 | PEUA 50174       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
|                           |               |                  |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.173 | VEUA 40173       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.173 | PEUA 60173       |             |             |             |

## 7. OPTIQ SEGMENT – 9. INDICES REAL-TIME AND SNAPSHOT CONFIGURATION

### 7.1 MDG SET OF CHANNELS ID 13 – EURONEXT INDICES

|                    |                 |                      |                  |
|--------------------|-----------------|----------------------|------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 13               |
| Optiq Segment name | Indices         | MDGSetOfChannelsName | Euronext Indices |

| Channel Type              | REFI          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.250 | VEUA 30250       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.250 | PEUA 50250       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.250 | VEUA 40250       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.250 | PEUA 60250       |             |             |             |

### 7.2 MDG SET OF CHANNELS ID 14 – EURONEXT INAV'S

|                    |                 |                      |                 |
|--------------------|-----------------|----------------------|-----------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 14              |
| Optiq Segment name | Indices         | MDGSetOfChannelsName | Euronext iNAV's |

| Channel Type              | REFI          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.251 | VEUA 30251       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.251 | PEUA 50251       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.251 | VEUA 40251       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.251 | PEUA 60251       |             |             |             |

### 7.3 MDG SET OF CHANNELS ID 15 – EURONEXT DUBLIN INDICES

|                    |                 |                      |                         |
|--------------------|-----------------|----------------------|-------------------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 15                      |
| Optiq Segment name | Indices         | MDGSetOfChannelsName | Euronext Dublin Indices |

| Channel Type              | REFI          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.252 | VEUA 30252       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.252 | PEUA 50252       |             |             |             |

| Snapshot                  |               |             |             |             |             |
|---------------------------|---------------|-------------|-------------|-------------|-------------|
| Channel Speed             | 100M          | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.252 | VEUA 40252  |             |             |             |
| Multicast Group IP Feed B | 224.0.213.252 | PEUA 60252  |             |             |             |

## 8. OPTIQ SEGMENT – 14. EURONEXT BLOCK

### 8.1 MDG SET OF CHANNELS ID 33 – EURONEXT BLOCK

|                    |                 |                      |                |
|--------------------|-----------------|----------------------|----------------|
| Environment        | V-EUA and P-EUA | MDGSetOfChannels ID  | 33             |
| Optiq Segment name | Euronext Block  | MDGSetOfChannelsName | Euronext Block |

| Channel Type              | EBLK         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.99 | VEUA 30099       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.99 | PEUA 50099       |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.99 | VEUA 40099       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.99 | PEUA 60099       |             |             |             |

### 8.2 MDG SET OF CHANNELS ID 19 – TRADING AFTER HOURS ITALY

In the tables below, in the “Channel ID/Port number” cells, the first number corresponds to the vEUA port number, the second corresponds to the pEUA port number

|                    |                |                      |                           |
|--------------------|----------------|----------------------|---------------------------|
| Environment        | V-EUA<br>P-EUA | MDGSetOfChannels ID  | 19                        |
| Optiq Segment name | Block          | MDGSetOfChannelsName | Trading After Hours Italy |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.70 | 30070            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.70 | 50070            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.70 | 40070            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.70 | 60070            |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.128 | 30128            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.128 | 50128            |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.129 | 30129            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.129 | 50129            |             |             |             |

| Snapshot                  |               |             |             |             |             |
|---------------------------|---------------|-------------|-------------|-------------|-------------|
| Channel Speed             | 100M          | Partition 1 | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.128 | 40128       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.128 | 60128       |             |             |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.71 | 30071            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.71 | 50071            |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.72 | 30072            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.72 | 50072            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.71 | 40071            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.71 | 60071            |             |             |             |

| Channel Type              | FBOU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.73 | 30073            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.73 | 50073            |             |             |             |
| Channel Speed             | 1G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.74 | 30074            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.74 | 50074            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.73 | 40073            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.73 | 60073            |             |             |             |

8.3 MDG SET OF CHANNELS ID 46 – EQUITIES IPO FRANCE

|                    |                |                      |                     |
|--------------------|----------------|----------------------|---------------------|
| Environment        | V-EUA<br>P-EUA | MDGSetOfChannels ID  | 46                  |
| Optiq Segment name | Block          | MDGSetOfChannelsName | Equities IPO France |

| Channel Type              | EBLK         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.19 | 30019            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.19 | 50019            |             |             |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.19 | 40019            |             |             |             |
| Multicast Group IP Feed B | 224.0.213.19 | 60019            |             |             |             |

## 9. OPTIQ SEGMENT – 16. IRISH BONDS & FUNDS

### 9.1 MDG SET OF CHANNELS ID 35 – EURONEXT DUBLIN BONDS AND FUNDS

|                    |                     |                      |                                 |
|--------------------|---------------------|----------------------|---------------------------------|
| Environment        | V-EUA<br>P-EUA      | MDGSetOfChannels ID  | 35                              |
| Optiq Segment name | Irish Bonds & Funds | MDGSetOfChannelsName | Euronext Dublin Bonds and Funds |

| Channel Type              | IBFR          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.226 | VEUA 30226       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.226 | PEUA 50226       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.226 | VEUA 40226       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.226 | PEUA 60226       |             |             |             |

## 10. OPTIQ SEGMENT – 8. COMMODITY DERIVATIVES REAL-TIME AND SNAPSHOT CONFIGURATION

### 10.1 MDG SET OF CHANNELS ID 16 – COMMODITY DERIVATIVES

|                    |                       |                      |                       |
|--------------------|-----------------------|----------------------|-----------------------|
| Environment        | V-EUA and P-EUA       | MDGSetOfChannels ID  | 16                    |
| Optiq Segment name | Commodity Derivatives | MDGSetOfChannelsName | Commodity Derivatives |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.245 | VEUA 30245       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.245 | PEUA 50245       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.245 | VEUA 40245       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.245 | PEUA 60245       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.246 | VEUA 30246       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.246 | PEUA 50246       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.247 | VEUA 30247       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.247 | PEUA 50247       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.246 | VEUA 40246       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.246 | PEUA 60246       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.249 | VEUA 30249       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.249 | PEUA 50249       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.248 | VEUA 40248       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.248 | PEUA 60248       |             |             |             |

## 10.2 MDG SET OF CHANNELS ID 38 – COMMODITY ENERGIES (POWER)

|                    |                       |                      |                            |
|--------------------|-----------------------|----------------------|----------------------------|
| Environment        | V-EUA and P-EUA       | MDGSetOfChannels ID  | 38                         |
| Optiq Segment name | Commodity Derivatives | MDGSetOfChannelsName | Commodity Energies (Power) |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.211 | VEUA 30211       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.211 | PEUA 50211       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.211 | VEUA 40211       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.211 | PEUA 60211       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.212 | VEUA 30212       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.212 | PEUA 50212       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.212 | VEUA 40212       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.212 | PEUA 60212       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.214 | VEUA 30214       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.214 | PEUA 50214       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.214 | VEUA 40214       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.214 | PEUA 60214       |             |             |             |

## 11. OPTIQ SEGMENT – 11. INDEX DERIVATIVES REAL-TIME AND SNAPSHOT CONFIGURATION

### 11.1 MDG SET OF CHANNELS ID 23 – INDEX OPTIONS FRANCE

|                    |                   |                      |                      |
|--------------------|-------------------|----------------------|----------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 23                   |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Options France |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.220 | VEUA 30220       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.220 | PEUA 50220       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.220 | VEUA 40220       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.220 | PEUA 60220       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.221 | VEUA 30221       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.221 | PEUA 50221       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.222 | VEUA 30222       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.222 | PEUA 50222       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.221 | VEUA 40221       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.221 | PEUA 60221       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.224 | VEUA 30224       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.224 | PEUA 50224       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.225 | VEUA 30225       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.225 | PEUA 50225       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.223 | VEUA 40223       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.223 | PEUA 60223       |             |             |             |

## 11.2 MDG SET OF CHANNELS ID 24 – INDEX OPTIONS NETHERLANDS

|                    |                   |                      |                           |
|--------------------|-------------------|----------------------|---------------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 24                        |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Options Netherlands |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.230 | VEUA 30230       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.230 | PEUA 50230       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.230 | VEUA 40230       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.230 | PEUA 60230       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.231 | VEUA 30231       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.231 | PEUA 50231       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.232 | VEUA 30232       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.232 | PEUA 50232       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.231 | VEUA 40231       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.231 | PEUA 60231       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.234 | VEUA 30234       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.234 | PEUA 50234       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.235 | VEUA 30235       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.235 | PEUA 50235       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.233 | VEUA 40233       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.233 | PEUA 60233       |             |             |             |

### 11.3 MDG SET OF CHANNELS ID 25 – INDEX DERIVATIVES OTHER (BELGIUM AND PORTUGAL)

|                    |                   |                      |                         |
|--------------------|-------------------|----------------------|-------------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 25                      |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Derivatives Other |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.240 | VEUA 30240       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.240 | PEUA 50240       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.240 | VEUA 40240       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.240 | PEUA 60240       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.241 | VEUA 30241       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.241 | PEUA 50241       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.242 | VEUA 30242       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.242 | PEUA 50242       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.241 | VEUA 40241       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.241 | PEUA 60241       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.244 | VEUA 30244       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.244 | PEUA 50244       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.243 | VEUA 40243       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.243 | PEUA 60243       |             |             |             |

## 11.4 MDG SET OF CHANNELS ID 26 – INDEX FUTURES FRANCE

|                    |                   |                      |                      |
|--------------------|-------------------|----------------------|----------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 26                   |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Futures France |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.190 | VEUA 30190       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.190 | PEUA 50190       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.190 | VEUA 40190       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.190 | PEUA 60190       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.191 | VEUA 30191       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.191 | PEUA 50191       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.192 | VEUA 30192       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.192 | PEUA 50192       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.191 | VEUA 40191       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.191 | PEUA 60191       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.194 | VEUA 30194       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.194 | PEUA 50194       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.195 | VEUA 30195       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.195 | PEUA 50195       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.193 | VEUA 40193       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.193 | PEUA 60193       |             |             |             |

## 11.5 MDG SET OF CHANNELS ID 27 – INDEX FUTURES NETHERLANDS

|                    |                   |                      |                           |
|--------------------|-------------------|----------------------|---------------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 27                        |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Futures Netherlands |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.200 | VEUA 30200       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.200 | PEUA 50200       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.200 | VEUA 40200       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.200 | PEUA 60200       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.201 | VEUA 30201       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.201 | PEUA 50201       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.202 | VEUA 30202       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.202 | PEUA 50202       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.201 | VEUA 40201       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.201 | PEUA 60201       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.204 | VEUA 30204       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.204 | PEUA 50204       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.205 | VEUA 30205       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.205 | PEUA 50205       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.203 | VEUA 40203       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.203 | PEUA 60203       |             |             |             |

## 11.6 MDG SET OF CHANNELS ID 28 – INDEX FUTURES ITALY

|                    |                   |                      |                     |
|--------------------|-------------------|----------------------|---------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 28                  |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Futures Italy |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.196 | VEUA 30196       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.196 | PEUA 50196       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.196 | VEUA 40196       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.196 | PEUA 60196       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.197 | VEUA 30197       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.197 | PEUA 50197       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.198 | VEUA 30198       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.198 | PEUA 50198       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.197 | VEUA 40197       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.197 | PEUA 60197       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.199 | VEUA 30199       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.199 | PEUA 50199       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.229 | VEUA 30229       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.229 | PEUA 50229       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.254 | VEUA 40254       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.254 | PEUA 60254       |             |             |             |

## 11.7 MDG SET OF CHANNELS ID 37 – INDEX OPTIONS ITALY

|                    |                   |                      |                     |
|--------------------|-------------------|----------------------|---------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 37                  |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Options Italy |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.215 | VEUA 30215       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.215 | PEUA 50215       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.215 | VEUA 40215       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.215 | PEUA 60215       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.216 | VEUA 30216       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.216 | PEUA 50216       |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.217 | VEUA 30217       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.217 | PEUA 50217       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.216 | VEUA 40216       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.216 | PEUA 60216       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.219 | VEUA 30219       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.219 | PEUA 50219       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.228 | VEUA 30228       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.228 | PEUA 50228       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.218 | VEUA 40218       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.218 | PEUA 60218       |             |             |             |

## 11.8 MDG SET OF CHANNELS ID 53 – INDEX DERIVATIVES GREECE

|                    |                   |                      |                  |
|--------------------|-------------------|----------------------|------------------|
| Environment        | V-EUA and P-EUA   | MDGSetOfChannels ID  | 53               |
| Optiq Segment name | Index Derivatives | MDGSetOfChannelsName | Index Derivs GRE |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.144 | VEUA 30144       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.144 | PEUA 50144       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.144 | VEUA 40144       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.144 | PEUA 60144       |             |             |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.145 | VEUA 30145       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.145 | PEUA 50145       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.146 | VEUA 30146       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.146 | PEUA 50146       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.145 | VEUA 40145       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.145 | PEUA 60145       |             |             |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.147 | VEUA 30147       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.147 | PEUA 50147       |             |             |             |
| Channel Speed             | 10G           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.148 | VEUA 30148       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.148 | PEUA 50148       |             |             |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.147 | VEUA 40147       |             |             |             |
| Multicast Group IP Feed B | 224.0.213.147 | PEUA 60147       |             |             |             |

## 12. OPTIQ SEGMENT – 12. EQUITY DERIVATIVES REAL-TIME AND SNAPSHOT CONFIGURATION

### 12.1 MDG SET OF CHANNELS ID 20 – EQUITY DERIVATIVES FRANCE

|                    |                    |                      |                           |
|--------------------|--------------------|----------------------|---------------------------|
| Environment        | V-EUA and P-EUA    | MDGSetOfChannels ID  | 20                        |
| Optiq Segment name | Equity Derivatives | MDGSetOfChannelsName | Equity Derivatives France |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.175 | VEUA 30175       | VEUA 31175  | VEUA 32175  |             |
| Multicast Group IP Feed B | 224.0.213.175 | PEUA 50175       | PEUA 51175  | PEUA 52175  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.175 | VEUA 40175       | VEUA 41175  | VEUA 42175  |             |
| Multicast Group IP Feed B | 224.0.213.175 | PEUA 60175       | PEUA 61175  | PEUA 62175  |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.176 | VEUA 30176       | VEUA 31176  | VEUA 32176  |             |
| Multicast Group IP Feed B | 224.0.213.176 | PEUA 50176       | PEUA 51176  | PEUA 52176  |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.177 | VEUA 30177       | VEUA 31177  | VEUA 32177  |             |
| Multicast Group IP Feed B | 224.0.213.177 | PEUA 50177       | PEUA 51177  | PEUA 52177  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.176 | VEUA 40176       | VEUA 41176  | VEUA 42176  |             |
| Multicast Group IP Feed B | 224.0.213.176 | PEUA 60176       | PEUA 61176  | PEUA 62176  |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.179 | VEUA 30179       | VEUA 31179  | VEUA 32179  |             |
| Multicast Group IP Feed B | 224.0.213.179 | PEUA 50179       | PEUA 51179  | PEUA 52179  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.178 | VEUA 40178       | VEUA 41178  | VEUA 42178  |             |
| Multicast Group IP Feed B | 224.0.213.178 | PEUA 60178       | PEUA 61178  | PEUA 62178  |             |

## 12.2 MDG SET OF CHANNELS ID 21 – EQUITY DERIVATIVES NETHERLANDS

|                    |                    |                      |                                |
|--------------------|--------------------|----------------------|--------------------------------|
| Environment        | V-EUA and P-EUA    | MDGSetOfChannels ID  | 21                             |
| Optiq Segment name | Equity Derivatives | MDGSetOfChannelsName | Equity Derivatives Netherlands |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.180 | VEUA 30180       | VEUA 31180  | VEUA 32180  |             |
| Multicast Group IP Feed B | 224.0.213.180 | PEUA 50180       | PEUA 51180  | PEUA 52180  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.180 | VEUA 40180       | VEUA 41180  | VEUA 42180  |             |
| Multicast Group IP Feed B | 224.0.213.180 | PEUA 60180       | PEUA 61180  | PEUA 62180  |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.181 | VEUA 30181       | VEUA 31181  | VEUA 32181  |             |
| Multicast Group IP Feed B | 224.0.213.181 | PEUA 50181       | PEUA 51181  | PEUA 52181  |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.182 | VEUA 30182       | VEUA 31182  | VEUA 32182  |             |
| Multicast Group IP Feed B | 224.0.213.182 | PEUA 50182       | PEUA 51182  | PEUA 52182  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.181 | VEUA 40181       | VEUA 41181  | VEUA 42181  |             |
| Multicast Group IP Feed B | 224.0.213.181 | PEUA 60181       | PEUA 61181  | PEUA 62181  |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.184 | VEUA 30184       | VEUA 31184  | VEUA 32184  |             |
| Multicast Group IP Feed B | 224.0.213.184 | PEUA 50184       | PEUA 51184  | PEUA 52184  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 10M           | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.183 | VEUA 40183       | VEUA 41183  | VEUA 42183  |             |
| Multicast Group IP Feed B | 224.0.213.183 | PEUA 60183       | PEUA 61183  | PEUA 62183  |             |

### 12.3 MDG SET OF CHANNELS ID 22 – EQUITY DERIVATIVES OTHER (BELGIUM AND PORTUGAL)

|                    |                    |                      |                          |
|--------------------|--------------------|----------------------|--------------------------|
| Environment        | V-EUA and P-EUA    | MDGSetOfChannels ID  | 22                       |
| Optiq Segment name | Equity Derivatives | MDGSetOfChannelsName | Equity Derivatives Other |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.185 | VEUA 30185       | VEUA 31185  | VEUA 32185  |             |
| Multicast Group IP Feed B | 224.0.213.185 | PEUA 50185       | PEUA 51185  | PEUA 52185  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.185 | VEUA 40185       | VEUA 41185  | VEUA 42185  |             |
| Multicast Group IP Feed B | 224.0.213.185 | PEUA 60185       | PEUA 61185  | PEUA 62185  |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.186 | VEUA 30186       | VEUA 31186  | VEUA 32186  |             |
| Multicast Group IP Feed B | 224.0.213.186 | PEUA 50186       | PEUA 51186  | PEUA 52186  |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.187 | VEUA 30187       | VEUA 31187  | VEUA 32187  |             |
| Multicast Group IP Feed B | 224.0.213.187 | PEUA 50187       | PEUA 51187  | PEUA 52187  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.186 | VEUA 40186       | VEUA 41186  | VEUA 42186  |             |
| Multicast Group IP Feed B | 224.0.213.186 | PEUA 60186       | PEUA 61186  | PEUA 62186  |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.189 | VEUA 30189       | VEUA 31189  | VEUA 32189  |             |
| Multicast Group IP Feed B | 224.0.213.189 | PEUA 50189       | PEUA 51189  | PEUA 52189  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.188 | VEUA 40188       | VEUA 41188  | VEUA 42188  |             |
| Multicast Group IP Feed B | 224.0.213.188 | PEUA 60188       | PEUA 61188  | PEUA 62188  |             |

## 12.4 MDG SET OF CHANNELS ID 36 – EQUITY DERIVATIVES ITALY

|                    |                    |                      |                          |
|--------------------|--------------------|----------------------|--------------------------|
| Environment        | V-EUA and P-EUA    | MDGSetOfChannels ID  | 36                       |
| Optiq Segment name | Equity Derivatives | MDGSetOfChannelsName | Equity Derivatives Italy |

| Channel Type              | REFT          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.210 | VEUA 30210       | VEUA 31210  | VEUA 32210  |             |
| Multicast Group IP Feed B | 224.0.213.210 | PEUA 50210       | PEUA 51210  | PEUA 52210  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.210 | VEUA 40210       | VEUA 41210  | VEUA 42210  |             |
| Multicast Group IP Feed B | 224.0.213.210 | PEUA 60210       | PEUA 61210  | PEUA 62210  |             |

| Channel Type              | BBBO          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.206 | VEUA 30206       | VEUA 31206  | VEUA 32206  |             |
| Multicast Group IP Feed B | 224.0.213.206 | PEUA 50206       | PEUA 51206  | PEUA 52206  |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.207 | VEUA 30207       | VEUA 31207  | VEUA 32207  |             |
| Multicast Group IP Feed B | 224.0.213.207 | PEUA 50207       | PEUA 51207  | PEUA 52207  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.206 | VEUA 40206       | VEUA 41206  | VEUA 42206  |             |
| Multicast Group IP Feed B | 224.0.213.206 | PEUA 60206       | PEUA 61206  | PEUA 62206  |             |

| Channel Type              | FBMU          | Channel ID /Port |             |             |             |
|---------------------------|---------------|------------------|-------------|-------------|-------------|
| Real-time                 |               |                  |             |             |             |
| Channel Speed             | 1G            | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.209 | VEUA 30209       | VEUA 31209  | VEUA 32209  |             |
| Multicast Group IP Feed B | 224.0.213.209 | PEUA 50209       | PEUA 51209  | PEUA 52209  |             |
| Snapshot                  |               |                  |             |             |             |
| Channel Speed             | 100M          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.208 | VEUA 40208       | VEUA 41183  | VEUA 42208  |             |
| Multicast Group IP Feed B | 224.0.213.208 | PEUA 60208       | PEUA 61208  | PEUA 62208  |             |

## 12.5 MDG SET OF CHANNELS ID 52 – EQUITY DERIVATIVES GREECE

|                    |                    |                      |                           |
|--------------------|--------------------|----------------------|---------------------------|
| Environment        | V-EUA and P-EUA    | MDGSetOfChannels ID  | 52                        |
| Optiq Segment name | Equity Derivatives | MDGSetOfChannelsName | Equity Derivatives Greece |

| Channel Type              | REFT         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.28 | VEUA 30028       | VEUA 31028  | VEUA 32028  |             |
| Multicast Group IP Feed B | 224.0.213.28 | PEUA 50028       | PEUA 51028  | PEUA 52028  |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.28 | VEUA 40028       | VEUA 41028  | VEUA 42028  |             |
| Multicast Group IP Feed B | 224.0.213.28 | PEUA 60028       | PEUA 61028  | PEUA 62028  |             |

| Channel Type              | BBBO         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.29 | VEUA 30029       | VEUA 31029  | VEUA 32029  |             |
| Multicast Group IP Feed B | 224.0.213.29 | PEUA 50029       | PEUA 51029  | PEUA 52029  |             |
| Channel Speed             | 10G          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.37 | VEUA 30037       | VEUA 31037  | VEUA 32037  |             |
| Multicast Group IP Feed B | 224.0.213.37 | PEUA 50037       | PEUA 51037  | PEUA 52037  |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.29 | VEUA 40029       | VEUA 41029  | VEUA 42029  |             |
| Multicast Group IP Feed B | 224.0.213.29 | PEUA 60029       | PEUA 61029  | PEUA 62029  |             |

| Channel Type              | FBMU         | Channel ID /Port |             |             |             |
|---------------------------|--------------|------------------|-------------|-------------|-------------|
| Real-time                 |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.38 | VEUA 30038       | VEUA 31038  | VEUA 32038  |             |
| Multicast Group IP Feed B | 224.0.213.38 | PEUA 50038       | PEUA 51038  | PEUA 52038  |             |
| Channel Speed             | 10G          | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.39 | VEUA 30039       | VEUA 31039  | VEUA 32039  |             |
| Multicast Group IP Feed B | 224.0.213.39 | PEUA 50039       | PEUA 51039  | PEUA 52039  |             |
| Snapshot                  |              |                  |             |             |             |
| Channel Speed             | 100M         | Partition 1      | Partition 2 | Partition 3 | Partition 4 |
| Multicast Group IP Feed A | 224.0.212.38 | VEUA 40038       | VEUA 41038  | VEUA 42038  |             |
| Multicast Group IP Feed B | 224.0.213.38 | PEUA 60038       | PEUA 61038  | PEUA 62038  |             |