

Document title

# **OPTIQ™ MARKET DATA GATEWAY FEED CONFIGURATION**

## **EURONEXT CASH AND DERIVATIVES MARKETS**

### **VIRTUAL AND PHYSICAL EXTERNAL USER ACCEPTANCE ENVIRONMENTS**

Document type or subject

#### **FEED CONFIGURATION DOCUMENT**

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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

### REFERENCE MATERIAL

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

- [Euronext Cash and Derivatives Markets – Optiq MDG Client Specifications](#) – (section Technical Documentation, sub-section Optiq phase 1 (MDG): specifications)

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## SUPPORT

Please find below the Optiq Support Desk contact details, which has been established to ensure customer readiness by:

- sending information to customers related to Optiq
- answering customers' questions related to Optiq
- assisting customers in their testing and validation on the EUA environment
- providing follow-up on customer conformance testing
- assessing customers' state of readiness with regards to technical changes

### Optiq Support Desk

Tel: +33 1 70 48 25 55

[optiq@euronext.com](mailto:optiq@euronext.com)

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## FURTHER INFORMATION

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

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## 1. INTRODUCTION

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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 Physical-EUA (P-EUA) environment is located in Basildon and the Virtual-EUA (V-EUA) environment is located at St. Denis. 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 physical test environment (P-EUA).

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

The Optiq MDG feed configuration file will be provided on a daily basis in XML format and it is required to use the feed configuration file 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 feed configuration file.

Together with the XML Standing Data files for the different Optiq Segments, customers will be able to map which instruments are available in which channel.

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## 1.1 FILE SERVICES

The file server provides full referential data for the Euronext market, as well as feed configurations and intraday trades with their MiFID II flags.

Users of the Euronext market data feed should use the Servers to:

- Configure feed connections every day.
- Support the referential data that is disseminated on the feed.
- Complete their list of trades.

For the Virtual EUA, MDG Cash and Derivatives standing data will be made available on an FTP server at the following address:

- 156.48.92.95 (via SFTI®)
- User and password will be available in November 2016 on the welcome page of your MCA account. If you have any question related to this, please contact Customer Access Services: [cas@euronext.com](mailto:cas@euronext.com)  
Tel: +33 1 8514 8589

For the Physical EUA, details will be provided in due time.

## 1.2 ASSET CLASS, OPTIQ SEGMENTS AND PARTITIONS

Below you will find an overview of the available Optiq Segments, the number of partitions per Optiq Segment and the Asset Class(es) that are part of each Optiq Segment.

Asset Class	Currency	Country Split	Optiq Segment	Number of Partitions
Equities	All	Netherlands	Equities	4
		France		
		Belgium		
		Portugal		
		UK		
Euronext Retail Matching Facility (RMF)	All	All		
Euronext Equity Off-Exchange Trade Reports	All	All		
Société Générale Systematic Internaliser (SI)	All	All		
ETFs	All	All	ETFs	1
Fixed Income	All	All	Fixed Income	1
Warrants and Certificates	All	All	Warrants and Certificates	1
Bourse de Luxembourg	All	All	Bourse de Luxembourg	1
Equity Options	All	Netherlands	Derivatives - Options	2
		France		
		Other (Belgium and Portugal)		
Index Options	All	Netherlands		
		France		
		Other (Belgium and Portugal)		
Currency Options	All	All		
AtomX (for Flex Contracts)	All	All		
Equity and Index Futures	All	Netherlands	Derivatives - Futures	2
		France		
		Other (Belgium and Portugal)		
Currency Futures	All	All		
Commodity Derivatives	All	All	Commodity Derivatives	1
Indices	All	All	Indices	1

### 1.3 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 SFTI Network and the services that were selected in the SFTI® order form.

Depending on the Asset Class, the following Optiq MDG channel types are made available to customers:

1. Pre-trade
  - a. BBO – Best Bid and Offer
  - b. FOB+BBO – Full Order Book and Best Bid and Offer
2. Post Trade – TR+STDATA –Reference Data and Full Trade Information
3. Indices.

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

			Compressed + Conflated (C+C)			
Channel Type			100Mbps Shaped		1Gbps Shaped	Unshaped
Post Trade	Pre-Trade	Indices	Snapshot	Real-time		
TR+STDATA C+C			X	X		
	BBO C+C		X	X		
	BBO Shaped				X	
	FOB+BBO C+C		X	X		
	FOB+BBO Shaped				X	
	FOB+BBO Unshaped					X
		INDICES	X	X		



## 1.4 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 SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

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

Real-time				
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

  

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID	1(n)xxx		1(n)xxx	
Multicast Group IP	224.0.52.xxx	224.0.53.xxx	224.0.52.xxx	224.0.53.xxx
Port	1(n)xxx	1(n)xxx	1(n)xxx	1(n)xxx

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
Virtual EUA	3(n)xxx	Real-Time	224.0.52.xxx	224.0.53.xxx
	4(n)xxx	Snapshot		
Physical EUA	5(n)xxx	Real-Time		
	6(n)xxx	Snapshot		

2. OPTIQ SEGMENT - EQUITIES

2.1 ASSET CLASS EQUITIES – NETHERLANDS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Equities	All	Netherlands

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30120		31120		32120		33120	
Channel ID P- EUA	50120		51120		52120		53120	
Multicast Group IP	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120
Port V-EUA	30120	30120	31120	31120	32120	32120	33120	33120
Port P-EUA	50120	50120	51120	51120	52120	52120	53120	53120

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	30121		31121		32121		33121	
Channel ID P- EUA	50121		51121		52121		53121	
Multicast Group IP	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121
Port V-EUA	30121	30121	31121	31121	32121	32121	33121	33121
Port P-EUA	50121	50121	51121	51121	52121	52121	53121	53121

Channel Type	BBO Shaped		BBO Shaped		BBO Shaped		BBO Shaped	
Channel ID V-EUA	30122		31122		32122		33122	
Channel ID P- EUA	50122		51122		52122		53122	
Multicast Group IP	224.0.52.122	224.0.53.122	224.0.52.122	224.0.53.122	224.0.52.122	224.0.53.122	224.0.52.122	224.0.53.122
Port V-EUA	30122	30122	31122	31122	32122	32122	33122	33122
Port P-EUA	50122	50122	51122	51122	52122	52122	53122	53122

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30123		31123		32123		33123	
Channel ID P- EUA	50123		51123		52123		53123	
Multicast Group IP	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123
Port V-EUA	30123	30123	31123	31123	32123	32123	33123	33123
Port P-EUA	50123	50123	51123	51123	52123	52123	53123	53123

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30124		31124		32124		33124	
Channel ID P- EUA	50124		51124		52124		53124	
Multicast Group IP	224.0.52.124	224.0.53.124	224.0.52.124	224.0.53.124	224.0.52.124	224.0.53.124	224.0.52.124	224.0.53.124
Port V-EUA	30124	30124	31124	31124	32124	32124	33124	33124
Port P-EUA	50124	50124	51124	51124	52124	52124	53124	53124

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30125		31125		32125		33125	
Channel ID P- EUA	50125		51125		52125		53125	
Multicast Group IP	224.0.52.125	224.0.53.125	224.0.52.125	224.0.53.125	224.0.52.125	224.0.53.125	224.0.52.125	224.0.53.125
Port V-EUA	30125	30125	31125	31125	32125	32125	33125	33125
Port P-EUA	50125	50125	51125	51125	52125	52125	53125	53125

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40120		41120		42120		43120	
Channel ID P- EUA	60120		61120		62120		63120	
Multicast Group IP	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120	224.0.52.120	224.0.53.120
Port V-EUA	40120	40120	41120	41120	42120	42120	43120	43120
Port P-EUA	60120	60120	61120	61120	62120	62120	63120	63120

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	40121		41121		42121		43121	
Channel ID P- EUA	60121		61121		62121		63121	
Multicast Group IP	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121	224.0.52.121	224.0.53.121
Port V-EUA	40121	40121	41121	41121	42121	42121	43121	43121
Port P-EUA	60121	60121	61121	61121	62121	62121	63121	63121

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40123		41123		42123		43123	
Channel ID P- EUA	60123		61123		62123		63123	
Multicast Group IP	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123	224.0.52.123	224.0.53.123
Port V-EUA	40123	40123	41123	41123	42123	42123	43123	43123
Port P-EUA	60123	60123	61123	61123	62123	62123	63123	63123

2.2 ASSET CLASS EQUITIES – FRANCE – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Equities	All	France

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30110		31110		32110		33110	
Channel ID P- EUA	50110		51110		52110		53110	
Multicast Group IP	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110
Port V-EUA	30110	30110	31110	31110	32110	32110	33110	33110
Port P-EUA	50110	50110	51110	51110	52110	52110	53110	53110

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	30111		31111		32111		33111	
Channel ID P- EUA	50111		51111		52111		53111	
Multicast Group IP	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111
Port V-EUA	30111	30111	31111	31111	32111	32111	33111	33111
Port P-EUA	50111	50111	51111	51111	52111	52111	53111	53111

Channel Type	BBO Shaped		BBO Shaped		BBO Shaped		BBO Shaped	
Channel ID V-EUA	30112		31112		32112		33112	
Channel ID P- EUA	50112		51112		52112		53112	
Multicast Group IP	224.0.52.112	224.0.53.112	224.0.52.112	224.0.53.112	224.0.52.112	224.0.53.112	224.0.52.112	224.0.53.112
Port V-EUA	30112	30112	31112	31112	32112	32112	33112	33112
Port P-EUA	50112	50112	51112	51112	52112	52112	53112	53112

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30113		31113		32113		33113	
Channel ID P- EUA	50113		51113		52113		53113	
Multicast Group IP	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113
Port V-EUA	30113	30113	31113	31113	32113	32113	33113	33113
Port P-EUA	50113	50113	51113	51113	52113	52113	53113	53113

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30114		31114		32114		33114	
Channel ID P- EUA	50114		51114		52114		53114	
Multicast Group IP	224.0.52.114	224.0.53.114	224.0.52.114	224.0.53.114	224.0.52.114	224.0.53.114	224.0.52.114	224.0.53.114
Port V-EUA	30114	30114	31114	31114	32114	32114	33114	33114
Port P-EUA	50114	50114	51114	51114	52114	52114	53114	53114

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30115		31115		32115		33115	
Channel ID P- EUA	50115		51115		52115		53115	
Multicast Group IP	224.0.52.115	224.0.53.115	224.0.52.115	224.0.53.115	224.0.52.115	224.0.53.115	224.0.52.115	224.0.53.115
Port V-EUA	30115	30115	31115	31115	32115	32115	33115	33115
Port P-EUA	50115	50115	51115	51115	52115	52115	53115	53115

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40110		41110		42110		43110	
Channel ID P- EUA	60110		61110		62110		63110	
Multicast Group IP	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110	224.0.52.110	224.0.53.110
Port V-EUA	40110	40110	41110	41110	42110	42110	43110	43110
Port P-EUA	60110	60110	61110	61110	62110	62110	63110	63110

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	40111		41111		42111		43111	
Channel ID P- EUA	60111		61111		62111		63111	
Multicast Group IP	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111	224.0.52.111	224.0.53.111
Port V-EUA	40111	40111	41111	41111	42111	42111	43111	43111
Port P-EUA	60111	60111	61111	61111	62111	62111	63111	63111

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40113		41113		42113		43113	
Channel ID P- EUA	60113		61113		62113		63113	
Multicast Group IP	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113	224.0.52.113	224.0.53.113
Port V-EUA	40113	40113	41113	41113	42113	42113	43113	43113
Port P-EUA	60113	60113	61113	61113	62113	62113	63113	63113

2.3 ASSET CLASS EQUITIES – BELGIUM (INCLUDING PUBLIC AUCTION MARKET) – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Equities	All	Belgium - includes Public Auction Market

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30100		31100		32100		33100	
Channel ID P- EUA	50100		51100		52100		53100	
Multicast Group IP	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100
Port V-EUA	30100	30100	31100	31100	32100	32100	33100	33100
Port P-EUA	50100	50100	51100	51100	52100	52100	53100	53100

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	30101		31101		32101		33101	
Channel ID P- EUA	50101		51101		52101		53101	
Multicast Group IP	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101
Port V-EUA	30101	30101	31101	31101	32101	32101	33101	33101
Port P-EUA	50101	50101	51101	51101	52101	52101	53101	53101

Channel Type	BBO Shaped		BBO Shaped		BBO Shaped		BBO Shaped	
Channel ID V-EUA	30102		31102		32102		33102	
Channel ID P- EUA	50102		51102		52102		53102	
Multicast Group IP	224.0.52.102	224.0.53.102	224.0.52.102	224.0.53.102	224.0.52.102	224.0.53.102	224.0.52.102	224.0.53.102
Port V-EUA	30102	30102	31102	31102	32102	32102	33102	33102
Port P-EUA	50102	50102	51102	51102	52102	52102	53102	53102

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30103		31103		32103		33103	
Channel ID P- EUA	50103		51103		52103		53103	
Multicast Group IP	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103
Port V-EUA	30103	30103	31103	31103	32103	32103	33103	33103
Port P-EUA	50103	50103	51103	51103	52103	52103	53103	53103

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30104		31104		32104		33104	
Channel ID P- EUA	50104		51104		52104		53104	
Multicast Group IP	224.0.52.104	224.0.53.104	224.0.52.104	224.0.53.104	224.0.52.104	224.0.53.104	224.0.52.104	224.0.53.104
Port V-EUA	30104	30104	31104	31104	32104	32104	33104	33104
Port P-EUA	50104	50104	51104	51104	52104	52104	53104	53104

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA								
Channel ID P- EUA								
Multicast Group IP								
Port V-EUA								
Port P-EUA								

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40100		41100		42100		43100	
Channel ID P- EUA	60100		61100		62100		63100	
Multicast Group IP	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100	224.0.52.100	224.0.53.100
Port V-EUA	40100	40100	41100	41100	42100	42100	43100	43100
Port P-EUA	60100	60100	61100	61100	62100	62100	63100	63100

Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	40101		41101		42101		43101	
Channel ID P- EUA	60101		61101		62101		63101	
Multicast Group IP	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101	224.0.52.101	224.0.53.101
Port V-EUA	40101	40101	41101	41101	42101	42101	43101	43101
Port P-EUA	60101	60101	61101	61101	62101	62101	63101	63101

Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40103		41103		42103		43103	
Channel ID P- EUA	60103		61103		62103		63103	
Multicast Group IP	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103	224.0.52.103	224.0.53.103
Port V-EUA	40103	40103	41103	41103	42103	42103	43103	43103
Port P-EUA	60103	60103	61103	61103	62103	62103	63103	63103

2.4 ASSET CLASS EQUITIES – PORTUGAL – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Equities	All	Portugal

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30105		31105		32105		33105	
Channel ID P- EUA	50105		51105		52105		53105	
Multicast Group IP	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105
Port V-EUA	30105	30105	31105	31105	32105	32105	33105	33105
Port P-EUA	50105	50105	51105	51105	52105	52105	53105	53105
Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	30106		31106		32106		33106	
Channel ID P- EUA	50106		51106		52106		53106	
Multicast Group IP	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106
Port V-EUA	30106	30106	31106	31106	32106	32106	33106	33106
Port P-EUA	50106	50106	51106	51106	52106	52106	53106	53106
Channel Type	BBO Shaped		BBO Shaped		BBO Shaped		BBO Shaped	
Channel ID V-EUA	30107		31107		32107		33107	
Channel ID P- EUA	50107		51107		52107		53107	
Multicast Group IP	224.0.52.107	224.0.53.107	224.0.52.107	224.0.53.107	224.0.52.107	224.0.53.107	224.0.52.107	224.0.53.107
Port V-EUA	30107	30107	31107	31107	32107	32107	33107	33107
Port P-EUA	50107	50107	51107	51107	52107	52107	53107	53107
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30108		31108		32108		33108	
Channel ID P- EUA	50108		51108		52108		53108	
Multicast Group IP	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108
Port V-EUA	30108	30108	31108	31108	32108	32108	33108	33108
Port P-EUA	50108	50108	51108	51108	52108	52108	53108	53108
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30109		31109		32109		33109	
Channel ID P- EUA	50109		51109		52109		53109	
Multicast Group IP	224.0.52.109	224.0.53.109	224.0.52.109	224.0.53.109	224.0.52.109	224.0.53.109	224.0.52.109	224.0.53.109
Port V-EUA	30109	30109	31109	31109	32109	32109	33109	33109
Port P-EUA	50109	50109	51109	51109	52109	52109	53109	53109
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA								
Channel ID P- EUA								
Multicast Group IP								
Port V-EUA								
Port P-EUA								

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40105		41105		42105		43105	
Channel ID P- EUA	60105		61105		62105		63105	
Multicast Group IP	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105	224.0.52.105	224.0.53.105
Port V-EUA	40105	40105	41105	41105	42105	42105	43105	43105
Port P-EUA	60105	60105	61105	61105	62105	62105	63105	63105
Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	40106		41106		42106		43106	
Channel ID P- EUA	60106		61106		62106		63106	
Multicast Group IP	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106	224.0.52.106	224.0.53.106
Port V-EUA	40106	40106	41106	41106	42106	42106	43106	43106
Port P-EUA	60106	60106	61106	61106	62106	62106	63106	63106
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40108		41108		42108		43108	
Channel ID P- EUA	60108		61108		62108		63108	
Multicast Group IP	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108	224.0.52.108	224.0.53.108
Port V-EUA	40108	40108	41108	41108	42108	42108	43108	43108
Port P-EUA	60108	60108	61108	61108	62108	62108	63108	63108

2.5 ASSET CLASS EQUITIES – UK – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Equities	All	UK

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30165		31165		32165		33165	
Channel ID P- EUA	50165		51165		52165		53165	
Multicast Group IP	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165
Port V-EUA	30165	30165	31165	31165	32165	32165	33165	33165
Port P-EUA	50165	50165	51165	51165	52165	52165	53165	53165
Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	30166		31166		32166		33166	
Channel ID P- EUA	50166		51166		52166		53166	
Multicast Group IP	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166
Port V-EUA	30166	30166	31166	31166	32166	32166	33166	33166
Port P-EUA	50166	50166	51166	51166	52166	52166	53166	53166
Channel Type	BBO Shaped		BBO Shaped		BBO Shaped		BBO Shaped	
Channel ID V-EUA	30167		31167		32167		33167	
Channel ID P- EUA	50167		51167		52167		53167	
Multicast Group IP	224.0.52.167	224.0.53.167	224.0.52.167	224.0.53.167	224.0.52.167	224.0.53.167	224.0.52.167	224.0.53.167
Port V-EUA	30167	30167	31167	31167	32167	32167	33167	33167
Port P-EUA	50167	50167	51167	51167	52167	52167	53167	53167
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30168		31168		32168		33168	
Channel ID P- EUA	50168		51168		52168		53168	
Multicast Group IP	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168
Port V-EUA	30168	30168	31168	31168	32168	32168	33168	33168
Port P-EUA	50168	50168	51168	51168	52168	52168	53168	53168
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30169		31169		32169		33169	
Channel ID P- EUA	50169		51169		52169		53169	
Multicast Group IP	224.0.52.169	224.0.53.169	224.0.52.169	224.0.53.169	224.0.52.169	224.0.53.169	224.0.52.169	224.0.53.169
Port V-EUA	30169	30169	31169	31169	32169	32169	33169	33169
Port P-EUA	50169	50169	51169	51169	52169	52169	53169	53169
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA								
Channel ID P- EUA								
Multicast Group IP								
Port V-EUA								
Port P-EUA								

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40165		41165		42165		43165	
Channel ID P- EUA	60165		61165		62165		63165	
Multicast Group IP	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165	224.0.52.165	224.0.53.165
Port V-EUA	40165	40165	41165	41165	42165	42165	43165	43165
Port P-EUA	60165	60165	61165	61165	62165	62165	63165	63165
Channel Type	BBO C+C		BBO C+C		BBO C+C		BBO C+C	
Channel ID V-EUA	40166		41166		42166		43166	
Channel ID P- EUA	60166		61166		62166		63166	
Multicast Group IP	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166	224.0.52.166	224.0.53.166
Port V-EUA	40166	40166	41166	41166	42166	42166	43166	43166
Port P-EUA	60166	60166	61166	61166	62166	62166	63166	63166
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40168		41168		42168		43168	
Channel ID P- EUA	60168		61168		62168		63168	
Multicast Group IP	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168	224.0.52.168	224.0.53.168
Port V-EUA	40168	40168	41168	41168	42168	42168	43168	43168
Port P-EUA	60168	60168	61168	61168	62168	62168	63168	63168

2.6 ASSET CLASS RETAIL MATCHING FACILITY – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Euronext Retail Matching Facility	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30138		31138		32138		33138	
Channel ID P- EUA	50138		51138		52138		53138	
Multicast Group IP	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138
Port V-EUA	30138	30138	31138	31138	32138	32138	33138	33138
Port P-EUA	50138	50138	51138	51138	52138	52138	53138	53138
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30139		31139		32139		33139	
Channel ID P- EUA	50139		51139		52139		53139	
Multicast Group IP	224.0.52.139	224.0.53.139	224.0.52.139	224.0.53.139	224.0.52.139	224.0.53.139	224.0.52.139	224.0.53.139
Port V-EUA	30139	30139	31139	31139	32139	32139	33139	33139
Port P-EUA	50139	50139	51139	51139	52139	52139	53139	53139
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA								
Channel ID P- EUA								
Multicast Group IP								
Port V-EUA								
Port P-EUA								

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40138		41138		42138		43138	
Channel ID P- EUA	60138		61138		62138		63138	
Multicast Group IP	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138	224.0.52.138	224.0.53.138
Port V-EUA	40138	40138	41138	41138	42138	42138	43138	43138
Port P-EUA	60138	60138	61138	61138	62138	62138	63138	63138

2.7 ASSET CLASS EQUITY OFF EXCHANGE TRADE REPORTS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Euronext Equity Off-Exchange Trade Reports	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30147		31147		32147		33147	
Channel ID P- EUA	50147		51147		52147		53147	
Multicast Group IP	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147
Port V-EUA	30147	30147	31147	31147	32147	32147	33147	33147
Port P-EUA	50147	50147	51147	51147	52147	52147	53147	53147

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40147		41147		42147		43147	
Channel ID P- EUA	60147		61147		62147		63147	
Multicast Group IP	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147	224.0.52.147	224.0.53.147
Port V-EUA	40147	40147	41147	41147	42147	42147	43147	43147
Port P-EUA	60147	60147	61147	61147	62147	62147	63147	63147



2.8 ASSET CLASS SOCIETE GENERAL SYSTEMATIC INTERNALISER – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Equities	4

Asset class	Currency	Country
Societe Generale Retail Systematic Internaliser	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30148		31148		32148		33148	
Channel ID P- EUA	50148		51148		52148		53148	
Multicast Group IP	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148
Port V-EUA	30148	30148	31148	31148	32148	32148	33148	33148
Port P-EUA	50148	50148	51148	51148	52148	52148	53148	53148
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30149		31149		32149		33149	
Channel ID P- EUA	50149		51149		52149		53149	
Multicast Group IP	224.0.52.149	224.0.53.149	224.0.52.149	224.0.53.149	224.0.52.149	224.0.53.149	224.0.52.149	224.0.53.149
Port V-EUA	30149	30149	31149	31149	32149	32149	33149	33149
Port P-EUA	50149	50149	51149	51149	52149	52149	53149	53149
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA								
Channel ID P- EUA								
Multicast Group IP								
Port V-EUA								
Port P-EUA								

	Snapshot							
Partition Number	Partition 1		Partition 2		Partition 3		Partition 4	
Feed A/B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B	Feed A	Feed B
Channel Type	FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40148		41148		42148		43148	
Channel ID P- EUA	60148		61148		62148		63148	
Multicast Group IP	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148	224.0.52.148	224.0.53.148
Port V-EUA	40148	40148	41148	41148	42148	42148	43148	43148
Port P-EUA	60148	60148	61148	61148	62148	62148	63148	63148

3. OPTIQ SEGMENT – ETF’S

3.1 ASSET CLASS ETF’S – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	ETF's	1

Asset class	Currency	Country
ETF's	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30130	
Channel ID P- EUA	50130	
Multicast Group IP	224.0.52.130	224.0.53.130
Port V-EUA	30130	30130
Port P-EUA	50130	50130

Channel Type	BBO C+C	
Channel ID V-EUA	30131	
Channel ID P- EUA	50131	
Multicast Group IP	224.0.52.131	224.0.53.131
Port V-EUA	30131	30131
Port P-EUA	50131	50131

Channel Type	BBO Shaped	
Channel ID V-EUA	30132	
Channel ID P- EUA	50132	
Multicast Group IP	224.0.52.132	224.0.53.132
Port V-EUA	30132	30132
Port P-EUA	50132	50132

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	30133	
Channel ID P- EUA	50133	
Multicast Group IP	224.0.52.133	224.0.53.133
Port V-EUA	30133	30133
Port P-EUA	50133	50133

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30134	
Channel ID P- EUA	50134	
Multicast Group IP	224.0.52.134	224.0.53.134
Port V-EUA	30134	30134
Port P-EUA	50134	50134

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30135	
Channel ID P- EUA	50135	
Multicast Group IP	224.0.52.135	224.0.53.135
Port V-EUA	30135	30135
Port P-EUA	50135	50135

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40130	
Channel ID P- EUA	60130	
Multicast Group IP	224.0.52.130	224.0.53.130
Port V-EUA	40130	40130
Port P-EUA	60130	60130

Channel Type	BBO C+C	
Channel ID V-EUA	40131	
Channel ID P- EUA	60131	
Multicast Group IP	224.0.52.131	224.0.53.131
Port V-EUA	40131	40131
Port P-EUA	60131	60131

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	40133	
Channel ID P- EUA	60133	
Multicast Group IP	224.0.52.133	224.0.53.133
Port V-EUA	40133	40133
Port P-EUA	60133	60133

4. OPTIQ SEGMENT – FIXED INCOME

4.1 ASSET CLASS FIXED INCOME – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Fixed Income	1

Asset class	Currency	Country
Fixed Income	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30150	
Channel ID P- EUA	50150	
Multicast Group IP	224.0.52.150	224.0.53.150
Port V-EUA	30150	30150
Port P-EUA	50150	50150

Channel Type	BBO C+C	
Channel ID V-EUA	30151	
Channel ID P- EUA	50151	
Multicast Group IP	224.0.52.151	224.0.53.151
Port V-EUA	30151	30151
Port P-EUA	50151	50151

Channel Type	BBO Shaped	
Channel ID V-EUA	30152	
Channel ID P- EUA	50152	
Multicast Group IP	224.0.52.152	224.0.53.152
Port V-EUA	30152	30152
Port P-EUA	50152	50152

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	30153	
Channel ID P- EUA	50153	
Multicast Group IP	224.0.52.153	224.0.53.153
Port V-EUA	30153	30153
Port P-EUA	50153	50153

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30154	
Channel ID P- EUA	50154	
Multicast Group IP	224.0.52.154	224.0.53.154
Port V-EUA	30154	30154
Port P-EUA	50154	50154

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA		
Channel ID P- EUA		
Multicast Group IP		
Port V-EUA		
Port P-EUA		

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40150	
Channel ID P- EUA	60150	
Multicast Group IP	224.0.52.150	224.0.53.150
Port V-EUA	40150	40150
Port P-EUA	60150	60150

Channel Type	BBO C+C	
Channel ID V-EUA	40151	
Channel ID P- EUA	60151	
Multicast Group IP	224.0.52.151	224.0.53.151
Port V-EUA	40151	40151
Port P-EUA	60151	60151

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	40153	
Channel ID P- EUA	60153	
Multicast Group IP	224.0.52.153	224.0.53.153
Port V-EUA	40153	40153
Port P-EUA	60153	60153

5. OPTIQ SEGMENT – WARRANTS & CERTIFICATES

5.1 ASSET CLASS WARRANTS & CERTIFICATES – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Warrants & Certificates	1

Asset class	Currency	Country
Warrants & Certificates	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30155	
Channel ID P- EUA	50155	
Multicast Group IP	224.0.52.155	224.0.53.155
Port V-EUA	30155	30155
Port P-EUA	50155	50155

Channel Type	BBO C+C	
Channel ID V-EUA	30156	
Channel ID P- EUA	50156	
Multicast Group IP	224.0.52.156	224.0.53.156
Port V-EUA	30156	30156
Port P-EUA	50156	50156
Channel Type	BBO Shaped	
Channel ID V-EUA	30157	
Channel ID P- EUA	50157	
Multicast Group IP	224.0.52.157	224.0.53.157
Port V-EUA	30157	30157
Port P-EUA	50157	50157

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	30158	
Channel ID P- EUA	50158	
Multicast Group IP	224.0.52.158	224.0.53.158
Port V-EUA	30158	30158
Port P-EUA	50158	50158
Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30159	
Channel ID P- EUA	50159	
Multicast Group IP	224.0.52.159	224.0.53.159
Port V-EUA	30159	30159
Port P-EUA	50159	50159
Channel Type	FOB+BBO Shaped	
Channel ID V-EUA		
Channel ID P- EUA		
Multicast Group IP		
Port V-EUA		
Port P-EUA		

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40155	
Channel ID P- EUA	60155	
Multicast Group IP	224.0.52.155	224.0.53.155
Port V-EUA	40155	40155
Port P-EUA	60155	60155

Channel Type	BBO C+C	
Channel ID V-EUA	40156	
Channel ID P- EUA	60156	
Multicast Group IP	224.0.52.156	224.0.53.156
Port V-EUA	40156	40156
Port P-EUA	60156	60156

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	40158	
Channel ID P- EUA	60158	
Multicast Group IP	224.0.52.158	224.0.53.158
Port V-EUA	40158	40158
Port P-EUA	60158	60158

6. OPTIQ SEGMENT – BOURSE DE LUXEMBOURG

6.1 ASSET CLASS BOURSE DE LUXEMBOURG – REAL-TIME AND SNAPSHOT CONFIGURATION

Please note that the Bourse de Luxembourg Index messages are included in the TR+STDATA C+C real-time and snapshot channels.

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	BdL	1

Asset class	Currency	Country
Bourse de Luxembourg	All	Luxembourg

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30170	
Channel ID P- EUA	50170	
Multicast Group IP	224.0.52.170	224.0.53.170
Port V-EUA	30170	30170
Port P-EUA	50170	50170

Channel Type	BBO C+C	
Channel ID V-EUA	30171	
Channel ID P- EUA	50171	
Multicast Group IP	224.0.52.171	224.0.53.171
Port V-EUA	30171	30171
Port P-EUA	50171	50171

Channel Type	BBO Shaped	
Channel ID V-EUA	30172	
Channel ID P- EUA	50172	
Multicast Group IP	224.0.52.172	224.0.53.172
Port V-EUA	30172	30172
Port P-EUA	50172	50172

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	30173	
Channel ID P- EUA	50173	
Multicast Group IP	224.0.52.173	224.0.53.173
Port V-EUA	30173	30173
Port P-EUA	50173	50173

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30174	
Channel ID P- EUA	50174	
Multicast Group IP	224.0.52.174	224.0.53.174
Port V-EUA	30174	30174
Port P-EUA	50174	50174

Channel Type	FOB+BBO Shaped	
Channel ID V-EUA		
Channel ID P- EUA		
Multicast Group IP		
Port V-EUA		
Port P-EUA		

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40170	
Channel ID P- EUA	60170	
Multicast Group IP	224.0.52.170	224.0.53.170
Port V-EUA	40170	40170
Port P-EUA	60170	60170

Channel Type	BBO C+C	
Channel ID V-EUA	40171	
Channel ID P- EUA	60171	
Multicast Group IP	224.0.52.171	224.0.53.171
Port V-EUA	40171	40171
Port P-EUA	60171	60171

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	40173	
Channel ID P- EUA	60173	
Multicast Group IP	224.0.52.173	224.0.53.173
Port V-EUA	40173	40173
Port P-EUA	60173	60173

7. OPTIQ SEGMENT – DERIVATIVES – OPTIONS

7.1 ASSET CLASS EQUITY OPTIONS – NETHERLANDS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Equity Options	All	Netherlands

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30180		31180	
Channel ID P- EUA	50180		51180	
Multicast Group IP	224.0.52.180	224.0.53.180	224.0.52.180	224.0.53.180
Port V-EUA	30180	30180	31180	31180
Port P-EUA	50180	50180	51180	51180

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30181		31181	
Channel ID P- EUA	50181		51181	
Multicast Group IP	224.0.52.181	224.0.53.181	224.0.52.181	224.0.53.181
Port V-EUA	30181	30181	31181	31181
Port P-EUA	50181	50181	51181	51181

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30182		31182	
Channel ID P- EUA	50182		51182	
Multicast Group IP	224.0.52.182	224.0.53.182	224.0.52.182	224.0.53.182
Port V-EUA	30182	30182	31182	31182
Port P-EUA	50182	50182	51182	51182

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30183		31183	
Channel ID P- EUA	50183		51183	
Multicast Group IP	224.0.52.183	224.0.53.183	224.0.52.183	224.0.53.183
Port V-EUA	30183	30183	31183	31183
Port P-EUA	50183	50183	51183	51183

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30184		31184	
Channel ID P- EUA	50184		51184	
Multicast Group IP	224.0.52.184	224.0.53.184	224.0.52.184	224.0.53.184
Port V-EUA	30184	30184	31184	31184
Port P-EUA	50184	50184	51184	51184

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40180		41180	
Channel ID P- EUA	60180		61180	
Multicast Group IP	224.0.52.180	224.0.53.180	224.0.52.180	224.0.53.180
Port V-EUA	40180	40180	41180	41180
Port P-EUA	60180	60180	61180	61180

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40181		41181	
Channel ID P- EUA	60181		61181	
Multicast Group IP	224.0.52.181	224.0.53.181	224.0.52.181	224.0.53.181
Port V-EUA	40181	40181	41181	41181
Port P-EUA	60181	60181	61181	61181

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40183		41183	
Channel ID P- EUA	60183		61183	
Multicast Group IP	224.0.52.183	224.0.53.183	224.0.52.183	224.0.53.183
Port V-EUA	40183	40183	41183	41183
Port P-EUA	60183	60183	61183	61183

7.2 ASSET CLASS EQUITY OPTIONS – FRANCE – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Equity Options	All	France

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30175		31175	
Channel ID P- EUA	50175		51175	
Multicast Group IP	224.0.52.175	224.0.53.175	224.0.52.175	224.0.53.175
Port V-EUA	30175	30175	31175	31175
Port P-EUA	50175	50175	51175	51175

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30176		31176	
Channel ID P- EUA	50176		51176	
Multicast Group IP	224.0.52.176	224.0.53.176	224.0.52.176	224.0.53.176
Port V-EUA	30176	30176	31176	31176
Port P-EUA	50176	50176	51176	51176

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30177		31177	
Channel ID P- EUA	50177		51177	
Multicast Group IP	224.0.52.177	224.0.53.177	224.0.52.177	224.0.53.177
Port V-EUA	30177	30177	31177	31177
Port P-EUA	50177	50177	51177	51177

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30178		31178	
Channel ID P- EUA	50178		51178	
Multicast Group IP	224.0.52.178	224.0.53.178	224.0.52.178	224.0.53.178
Port V-EUA	30178	30178	31178	31178
Port P-EUA	50178	50178	51178	51178

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30179		31179	
Channel ID P- EUA	50179		51179	
Multicast Group IP	224.0.52.179	224.0.53.179	224.0.52.179	224.0.53.179
Port V-EUA	30179	30179	31179	31179
Port P-EUA	50179	50179	51179	51179

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40175		41175	
Channel ID P- EUA	60175		61175	
Multicast Group IP	224.0.52.175	224.0.53.175	224.0.52.175	224.0.53.175
Port V-EUA	40175	40175	41175	41175
Port P-EUA	60175	60175	61175	61175

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40176		41176	
Channel ID P- EUA	60176		61176	
Multicast Group IP	224.0.52.176	224.0.53.176	224.0.52.176	224.0.53.176
Port V-EUA	40176	40176	41176	41176
Port P-EUA	60176	60176	61176	61176

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40178		41178	
Channel ID P- EUA	60178		61178	
Multicast Group IP	224.0.52.178	224.0.53.178	224.0.52.178	224.0.53.178
Port V-EUA	40178	40178	41178	41178
Port P-EUA	60178	60178	61178	61178

7.3 ASSET CLASS EQUITY OPTIONS – OTHER (BELGIUM AND PORTUGAL) – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Equity Options	All	Other (Belgium and Portugal)

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30185		31185	
Channel ID P- EUA	50185		51185	
Multicast Group IP	224.0.52.185	224.0.53.185	224.0.52.185	224.0.53.185
Port V-EUA	30185	30185	31185	31185
Port P-EUA	50185	50185	51185	51185

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30186		31186	
Channel ID P- EUA	50186		51186	
Multicast Group IP	224.0.52.186	224.0.53.186	224.0.52.186	224.0.53.186
Port V-EUA	30186	30186	31186	31186
Port P-EUA	50186	50186	51186	51186

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30187		31187	
Channel ID P- EUA	50187		51187	
Multicast Group IP	224.0.52.187	224.0.53.187	224.0.52.187	224.0.53.187
Port V-EUA	30187	30187	31187	31187
Port P-EUA	50187	50187	51187	51187

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30188		31188	
Channel ID P- EUA	50188		51188	
Multicast Group IP	224.0.52.188	224.0.53.188	224.0.52.188	224.0.53.188
Port V-EUA	30188	30188	31188	31188
Port P-EUA	50188	50188	51188	51188

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30189		31189	
Channel ID P- EUA	50189		51189	
Multicast Group IP	224.0.52.189	224.0.53.189	224.0.52.189	224.0.53.189
Port V-EUA	30189	30189	31189	31189
Port P-EUA	50189	50189	51189	51189

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40185		41185	
Channel ID P- EUA	60185		61185	
Multicast Group IP	224.0.52.185	224.0.53.185	224.0.52.185	224.0.53.185
Port V-EUA	40185	40185	41185	41185
Port P-EUA	60185	60185	61185	61185

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40186		41186	
Channel ID P- EUA	60186		61186	
Multicast Group IP	224.0.52.186	224.0.53.186	224.0.52.186	224.0.53.186
Port V-EUA	40186	40186	41186	41186
Port P-EUA	60186	60186	61186	61186

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40188		41188	
Channel ID P- EUA	60188		61188	
Multicast Group IP	224.0.52.188	224.0.53.188	224.0.52.188	224.0.53.188
Port V-EUA	40188	40188	41188	41188
Port P-EUA	60188	60188	61188	61188



7.4 ASSET CLASS INDEX OPTIONS –NETHERLANDS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Index Options	All	Netherlands

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30230		31230	
Channel ID P- EUA	50230		51230	
Multicast Group IP	224.0.52.230	224.0.53.230	224.0.52.230	224.0.53.230
Port V-EUA	30230	30230	31230	31230
Port P-EUA	50230	50230	51230	51230

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30231		31231	
Channel ID P- EUA	50231		51231	
Multicast Group IP	224.0.52.231	224.0.53.231	224.0.52.231	224.0.53.231
Port V-EUA	30231	30231	31231	31231
Port P-EUA	50231	50231	51231	51231

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30232		31232	
Channel ID P- EUA	50232		51232	
Multicast Group IP	224.0.52.232	224.0.53.232	224.0.52.232	224.0.53.232
Port V-EUA	30232	30232	31232	31232
Port P-EUA	50232	50232	51232	51232

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30233		31233	
Channel ID P- EUA	50233		51233	
Multicast Group IP	224.0.52.233	224.0.53.233	224.0.52.233	224.0.53.233
Port V-EUA	30233	30233	31233	31233
Port P-EUA	50233	50233	51233	51233

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30234		31234	
Channel ID P- EUA	50234		51234	
Multicast Group IP	224.0.52.234	224.0.53.234	224.0.52.234	224.0.53.234
Port V-EUA	30234	30234	31234	31234
Port P-EUA	50234	50234	51234	51234

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30235		31235	
Channel ID P- EUA	50235		51235	
Multicast Group IP	224.0.52.235	224.0.53.235	224.0.52.235	224.0.53.235
Port V-EUA	30235	30235	31235	31235
Port P-EUA	50235	50235	51235	51235

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40230		41230	
Channel ID P- EUA	60230		61230	
Multicast Group IP	224.0.52.230	224.0.53.230	224.0.52.230	224.0.53.230
Port V-EUA	40230	40230	41230	41230
Port P-EUA	60230	60230	61230	61230

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40231		41231	
Channel ID P- EUA	60231		61231	
Multicast Group IP	224.0.52.231	224.0.53.231	224.0.52.231	224.0.53.231
Port V-EUA	40231	40231	41231	41231
Port P-EUA	60231	60231	61231	61231

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40233		41233	
Channel ID P- EUA	60233		61233	
Multicast Group IP	224.0.52.233	224.0.53.233	224.0.52.233	224.0.53.233
Port V-EUA	40233	40233	41233	41233
Port P-EUA	60233	60233	61233	61233

7.5 ASSET CLASS INDEX OPTIONS –FRANCE – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Index Options	All	France

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30220		31220	
Channel ID P- EUA	50220		51220	
Multicast Group IP	224.0.52.220	224.0.53.220	224.0.52.220	224.0.53.220
Port V-EUA	30220	30220	31220	31220
Port P-EUA	50220	50220	51220	51220

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30221		31221	
Channel ID P- EUA	50221		51221	
Multicast Group IP	224.0.52.221	224.0.53.221	224.0.52.221	224.0.53.221
Port V-EUA	30221	30221	31221	31221
Port P-EUA	50221	50221	51221	51221

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30222		31222	
Channel ID P- EUA	50222		51222	
Multicast Group IP	224.0.52.222	224.0.53.222	224.0.52.222	224.0.53.222
Port V-EUA	30222	30222	31222	31222
Port P-EUA	50222	50222	51222	51222

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30223		31223	
Channel ID P- EUA	50223		51223	
Multicast Group IP	224.0.52.223	224.0.53.223	224.0.52.223	224.0.53.223
Port V-EUA	30223	30223	31223	31223
Port P-EUA	50223	50223	51223	51223

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30224		31224	
Channel ID P- EUA	50224		51224	
Multicast Group IP	224.0.52.224	224.0.53.224	224.0.52.224	224.0.53.224
Port V-EUA	30224	30224	31224	31224
Port P-EUA	50224	50224	51224	51224

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30225		31225	
Channel ID P- EUA	50225		51225	
Multicast Group IP	224.0.52.225	224.0.53.225	224.0.52.225	224.0.53.225
Port V-EUA	30225	30225	31225	31225
Port P-EUA	50225	50225	51225	51225

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40220		41220	
Channel ID P- EUA	60220		61220	
Multicast Group IP	224.0.52.220	224.0.53.220	224.0.52.220	224.0.53.220
Port V-EUA	40220	40220	41220	41220
Port P-EUA	60220	60220	61220	61220

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40221		41221	
Channel ID P- EUA	60221		61221	
Multicast Group IP	224.0.52.221	224.0.53.221	224.0.52.221	224.0.53.221
Port V-EUA	40221	40221	41221	41221
Port P-EUA	60221	60221	61221	61221

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40223		41223	
Channel ID P- EUA	60223		61223	
Multicast Group IP	224.0.52.223	224.0.53.223	224.0.52.223	224.0.53.223
Port V-EUA	40223	40223	41223	41223
Port P-EUA	60223	60223	61223	61223

7.6 ASSET CLASS INDEX OPTIONS –OTHER (BELGIUM AND PORTUGAL) – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Index Options	All	Other (Belgium and Portugal)

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30240		31240	
Channel ID P- EUA	50240		51240	
Multicast Group IP	224.0.52.240	224.0.53.240	224.0.52.240	224.0.53.240
Port V-EUA	30240	30240	31240	31240
Port P-EUA	50240	50240	51240	51240

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30241		31241	
Channel ID P- EUA	50241		51241	
Multicast Group IP	224.0.52.241	224.0.53.241	224.0.52.241	224.0.53.241
Port V-EUA	30241	30241	31241	31241
Port P-EUA	50241	50241	51241	51241

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30242		31242	
Channel ID P- EUA	50242		51242	
Multicast Group IP	224.0.52.242	224.0.53.242	224.0.52.242	224.0.53.242
Port V-EUA	30242	30242	31242	31242
Port P-EUA	50242	50242	51242	51242

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30243		31243	
Channel ID P- EUA	50243		51243	
Multicast Group IP	224.0.52.243	224.0.53.243	224.0.52.243	224.0.53.243
Port V-EUA	30243	30243	31243	31243
Port P-EUA	50243	50243	51243	51243

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30244		31244	
Channel ID P- EUA	50244		51244	
Multicast Group IP	224.0.52.244	224.0.53.244	224.0.52.244	224.0.53.244
Port V-EUA	30244	30244	31244	31244
Port P-EUA	50244	50244	51244	51244

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40240		41240	
Channel ID P- EUA	60240		61240	
Multicast Group IP	224.0.52.240	224.0.53.240	224.0.52.240	224.0.53.240
Port V-EUA	40240	40240	41240	41240
Port P-EUA	60240	60240	61240	61240

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40241		41241	
Channel ID P- EUA	60241		61241	
Multicast Group IP	224.0.52.241	224.0.53.241	224.0.52.241	224.0.53.241
Port V-EUA	40241	40241	41241	41241
Port P-EUA	60241	60241	61241	61241

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40243		41243	
Channel ID P- EUA	60243		61243	
Multicast Group IP	224.0.52.243	224.0.53.243	224.0.52.243	224.0.53.243
Port V-EUA	40243	40243	41243	41243
Port P-EUA	60243	60243	61243	61243

7.7 ASSET CLASS CURRENCY OPTIONS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Currency Options	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30215		31215	
Channel ID P- EUA	50215		51215	
Multicast Group IP	224.0.52.215	224.0.53.215	224.0.52.215	224.0.53.215
Port V-EUA	30215	30215	31215	31215
Port P-EUA	50215	50215	51215	51215

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30216		31216	
Channel ID P- EUA	50216		51216	
Multicast Group IP	224.0.52.216	224.0.53.216	224.0.52.216	224.0.53.216
Port V-EUA	30216	30216	31216	31216
Port P-EUA	50216	50216	51216	51216

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30217		31217	
Channel ID P- EUA	50217		51217	
Multicast Group IP	224.0.52.217	224.0.53.217	224.0.52.217	224.0.53.217
Port V-EUA	30217	30217	31217	31217
Port P-EUA	50217	50217	51217	51217

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30218		31218	
Channel ID P- EUA	50218		51218	
Multicast Group IP	224.0.52.218	224.0.53.218	224.0.52.218	224.0.53.218
Port V-EUA	30218	30218	31218	31218
Port P-EUA	50218	50218	51218	51218

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30219		31219	
Channel ID P- EUA	50219		51219	
Multicast Group IP	224.0.52.219	224.0.53.219	224.0.52.219	224.0.53.219
Port V-EUA	30219	30219	31219	31219
Port P-EUA	50219	50219	51219	51219

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40215		41215	
Channel ID P- EUA	60215		61215	
Multicast Group IP	224.0.52.215	224.0.53.215	224.0.52.215	224.0.53.215
Port V-EUA	40215	40215	41215	41215
Port P-EUA	60215	60215	61215	61215

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40216		41216	
Channel ID P- EUA	60216		61216	
Multicast Group IP	224.0.52.216	224.0.53.216	224.0.52.216	224.0.53.216
Port V-EUA	40216	40216	41216	41216
Port P-EUA	60216	60216	61216	61216

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40218		41218	
Channel ID P- EUA	60218		61218	
Multicast Group IP	224.0.52.218	224.0.53.218	224.0.52.218	224.0.53.218
Port V-EUA	40218	40218	41218	41218
Port P-EUA	60218	60218	61218	61218

7.8 ASSET CLASS ATOMX – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Options	2

Asset class	Currency	Country
Atomx (Flex)	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30199	
Channel ID P- EUA	50199	
Multicast Group IP	224.0.52.199	224.0.53.199
Port V-EUA	30199	30199
Port P-EUA	50199	50199

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40199	
Channel ID P- EUA	60199	
Multicast Group IP	224.0.52.199	224.0.53.199
Port V-EUA	40199	40199
Port P-EUA	60199	60199

8. OPTIQ SEGMENT – DERIVATIVES – FUTURES

8.1 ASSET CLASS EQUITY & INDEX FUTURES – NETHERLANDS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Futures	2

Asset class	Currency	Country
Equity and Index Futures	All	Netherlands

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30200		31200	
Channel ID P- EUA	50200		51200	
Multicast Group IP	224.0.52.200	224.0.53.200	224.0.52.200	224.0.53.200
Port V-EUA	30200	30200	31200	31200
Port P-EUA	50200	50200	51200	51200

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30201		31201	
Channel ID P- EUA	50201		51201	
Multicast Group IP	224.0.52.201	224.0.53.201	224.0.52.201	224.0.53.201
Port V-EUA	30201	30201	31201	31201
Port P-EUA	50201	50201	51201	51201

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30202		31202	
Channel ID P- EUA	50202		51202	
Multicast Group IP	224.0.52.202	224.0.53.202	224.0.52.202	224.0.53.202
Port V-EUA	30202	30202	31202	31202
Port P-EUA	50202	50202	51202	51202

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30203		31203	
Channel ID P- EUA	50203		51203	
Multicast Group IP	224.0.52.203	224.0.53.203	224.0.52.203	224.0.53.203
Port V-EUA	30203	30203	31203	31203
Port P-EUA	50203	50203	51203	51203

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30204		31204	
Channel ID P- EUA	50204		51204	
Multicast Group IP	224.0.52.204	224.0.53.204	224.0.52.204	224.0.53.204
Port V-EUA	30204	30204	31204	31204
Port P-EUA	50204	50204	51204	51204

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30205		31205	
Channel ID P- EUA	50205		51205	
Multicast Group IP	224.0.52.205	224.0.53.205	224.0.52.205	224.0.53.205
Port V-EUA	30205	30205	31205	31205
Port P-EUA	50205	50205	51205	51205

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40200		41200	
Channel ID P- EUA	60200		61200	
Multicast Group IP	224.0.52.200	224.0.53.200	224.0.52.200	224.0.53.200
Port V-EUA	40200	40200	41200	41200
Port P-EUA	60200	60200	61200	61200

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40201		41201	
Channel ID P- EUA	60201		61201	
Multicast Group IP	224.0.52.201	224.0.53.201	224.0.52.201	224.0.53.201
Port V-EUA	40201	40201	41201	41201
Port P-EUA	60201	60201	61201	61201

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40203		41203	
Channel ID P- EUA	60203		61203	
Multicast Group IP	224.0.52.203	224.0.53.203	224.0.52.203	224.0.53.203
Port V-EUA	40203	40203	41203	41203
Port P-EUA	60203	60203	61203	61203

8.2 ASSET CLASS EQUITY & INDEX FUTURES – FRANCE – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Futures	2

Asset class	Currency	Country
Equity and Index Futures	All	France

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30190		31190	
Channel ID P- EUA	50190		51190	
Multicast Group IP	224.0.52.190	224.0.53.190	224.0.52.190	224.0.53.190
Port V-EUA	30190	30190	31190	31190
Port P-EUA	50190	50190	51190	51190

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30191		31191	
Channel ID P- EUA	50191		51191	
Multicast Group IP	224.0.52.191	224.0.53.191	224.0.52.191	224.0.53.191
Port V-EUA	30191	30191	31191	31191
Port P-EUA	50191	50191	51191	51191

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30192		31192	
Channel ID P- EUA	50192		51192	
Multicast Group IP	224.0.52.192	224.0.53.192	224.0.52.192	224.0.53.192
Port V-EUA	30192	30192	31192	31192
Port P-EUA	50192	50192	51192	51192

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30193		31193	
Channel ID P- EUA	50193		51193	
Multicast Group IP	224.0.52.193	224.0.53.193	224.0.52.193	224.0.53.193
Port V-EUA	30193	30193	31193	31193
Port P-EUA	50193	50193	51193	51193

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30194		31194	
Channel ID P- EUA	50194		51194	
Multicast Group IP	224.0.52.194	224.0.53.194	224.0.52.194	224.0.53.194
Port V-EUA	30194	30194	31194	31194
Port P-EUA	50194	50194	51194	51194

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30195		31195	
Channel ID P- EUA	50195		51195	
Multicast Group IP	224.0.52.195	224.0.53.195	224.0.52.195	224.0.53.195
Port V-EUA	30195	30195	31195	31195
Port P-EUA	50195	50195	51195	51195

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40190		41190	
Channel ID P- EUA	60190		61190	
Multicast Group IP	224.0.52.190	224.0.53.190	224.0.52.190	224.0.53.190
Port V-EUA	40190	40190	41190	41190
Port P-EUA	60190	60190	61190	61190

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40191		41191	
Channel ID P- EUA	60191		61191	
Multicast Group IP	224.0.52.191	224.0.53.191	224.0.52.191	224.0.53.191
Port V-EUA	40191	40191	41191	41191
Port P-EUA	60191	60191	61191	61191

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40193		41193	
Channel ID P- EUA	60193		61193	
Multicast Group IP	224.0.52.193	224.0.53.193	224.0.52.193	224.0.53.193
Port V-EUA	40193	40193	41193	41193
Port P-EUA	60193	60193	61193	61193

8.3 ASSET CLASS EQUITY & INDEX FUTURES – OTHER (BELGIUM AND PORTUGAL) – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Futures	2

Asset class	Currency	Country
Equity and Index Futures	All	Other (Belgium and Portugal)

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-Io	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30210		31210	
Channel ID P- EUA	50210		51210	
Multicast Group IP	224.0.52.210	224.0.53.210	224.0.52.210	224.0.53.210
Port V-EUA	30210	30210	31210	31210
Port P-EUA	50210	50210	51210	51210

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30211		31211	
Channel ID P- EUA	50211		51211	
Multicast Group IP	224.0.52.211	224.0.53.211	224.0.52.211	224.0.53.211
Port V-EUA	30211	30211	31211	31211
Port P-EUA	50211	50211	51211	51211

Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30212		31212	
Channel ID P- EUA	50212		51212	
Multicast Group IP	224.0.52.212	224.0.53.212	224.0.52.212	224.0.53.212
Port V-EUA	30212	30212	31212	31212
Port P-EUA	50212	50212	51212	51212

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30213		31213	
Channel ID P- EUA	50213		51213	
Multicast Group IP	224.0.52.213	224.0.53.213	224.0.52.213	224.0.53.213
Port V-EUA	30213	30213	31213	31213
Port P-EUA	50213	50213	51213	51213

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30214		31214	
Channel ID P- EUA	50214		51214	
Multicast Group IP	224.0.52.214	224.0.53.214	224.0.52.214	224.0.53.214
Port V-EUA	30214	30214	31214	31214
Port P-EUA	50214	50214	51214	51214

Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40210		41210	
Channel ID P- EUA	60210		61210	
Multicast Group IP	224.0.52.210	224.0.53.210	224.0.52.210	224.0.53.210
Port V-EUA	40210	40210	41210	41210
Port P-EUA	60210	60210	61210	61210

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40211		41211	
Channel ID P- EUA	60211		61211	
Multicast Group IP	224.0.52.211	224.0.53.211	224.0.52.211	224.0.53.211
Port V-EUA	40211	40211	41211	41211
Port P-EUA	60211	60211	61211	61211

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40213		41213	
Channel ID P- EUA	60213		61213	
Multicast Group IP	224.0.52.213	224.0.53.213	224.0.52.213	224.0.53.213
Port V-EUA	40213	40213	41213	41213
Port P-EUA	60213	60213	61213	61213



8.4 ASSET CLASS CURRENCY FUTURES – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Derivatives - Futures	2

Asset class	Currency	Country
Currency Futures	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	30140		31140	
Channel ID P- EUA	50140		51140	
Multicast Group IP	224.0.52.140	224.0.53.140	224.0.52.140	224.0.53.140
Port V-EUA	30140	30140	31140	31140
Port P-EUA	50140	50140	51140	51140

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	30141		31141	
Channel ID P- EUA	50141		51141	
Multicast Group IP	224.0.52.141	224.0.53.141	224.0.52.141	224.0.53.141
Port V-EUA	30141	30141	31141	31141
Port P-EUA	50141	50141	51141	51141
Channel Type	BBO Shaped		BBO Shaped	
Channel ID V-EUA	30142		31142	
Channel ID P- EUA	50142		51142	
Multicast Group IP	224.0.52.142	224.0.53.142	224.0.52.142	224.0.53.142
Port V-EUA	30142	30142	31142	31142
Port P-EUA	50142	50142	51142	51142

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	30143		31143	
Channel ID P- EUA	50143		51143	
Multicast Group IP	224.0.52.143	224.0.53.143	224.0.52.143	224.0.53.143
Port V-EUA	30143	30143	31143	31143
Port P-EUA	50143	50143	51143	51143
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA	30144		31144	
Channel ID P- EUA	50144		51144	
Multicast Group IP	224.0.52.144	224.0.53.144	224.0.52.144	224.0.53.144
Port V-EUA	30144	30144	31144	31144
Port P-EUA	50144	50144	51144	51144
Channel Type	FOB+BBO Shaped		FOB+BBO Shaped	
Channel ID V-EUA				
Channel ID P- EUA				
Multicast Group IP				
Port V-EUA				
Port P-EUA				

	Snapshot			
Partition Number	Partition 1		Partition 2	
Feed A/B	Feed A	Feed B	Feed A	Feed B

Channel Type	TR+STDATA C+C		TR+STDATA C+C	
Channel ID V-EUA	40140		41140	
Channel ID P- EUA	60140		61140	
Multicast Group IP	224.0.52.140	224.0.53.140	224.0.52.140	224.0.53.140
Port V-EUA	40140	40140	41140	41140
Port P-EUA	60140	60140	61140	61140

Channel Type	BBO C+C		BBO C+C	
Channel ID V-EUA	40141		41141	
Channel ID P- EUA	60141		61141	
Multicast Group IP	224.0.52.141	224.0.53.141	224.0.52.141	224.0.53.141
Port V-EUA	40141	40141	41141	41141
Port P-EUA	60141	60141	61141	61141

Channel Type	FOB+BBO C+C		FOB+BBO C+C	
Channel ID V-EUA	40143		41143	
Channel ID P- EUA	60143		61143	
Multicast Group IP	224.0.52.143	224.0.53.143	224.0.52.143	224.0.53.143
Port V-EUA	40143	40143	41143	41143
Port P-EUA	60143	60143	61143	61143

9. OPTIQ SEGMENT – COMMODITIES FUTURES AND OPTIONS

9.1 ASSET CLASS COMMODITIES FUTURE AND OPTIONS – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Commodities	1

Asset class	Currency	Country
Commodity Derivatives	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	30245	
Channel ID P- EUA	50245	
Multicast Group IP	224.0.52.245	224.0.53.245
Port V-EUA	30245	30245
Port P-EUA	50245	50245

Channel Type	BBO C+C	
Channel ID V-EUA	30246	
Channel ID P- EUA	50246	
Multicast Group IP	224.0.52.246	224.0.53.246
Port V-EUA	30246	30246
Port P-EUA	50246	50246
Channel Type	BBO Shaped	
Channel ID V-EUA	30247	
Channel ID P- EUA	50247	
Multicast Group IP	224.0.52.247	224.0.53.247
Port V-EUA	30247	30247
Port P-EUA	50247	50247

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	30248	
Channel ID P- EUA	50248	
Multicast Group IP	224.0.52.248	224.0.53.248
Port V-EUA	30248	30248
Port P-EUA	50248	50248
Channel Type	FOB+BBO Shaped	
Channel ID V-EUA	30249	
Channel ID P- EUA	50249	
Multicast Group IP	224.0.52.249	224.0.53.249
Port V-EUA	30249	30249
Port P-EUA	50249	50249
Channel Type	FOB+BBO Shaped	
Channel ID V-EUA		
Channel ID P- EUA		
Multicast Group IP		
Port V-EUA		
Port P-EUA		

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	TR+STDATA C+C	
Channel ID V-EUA	40245	
Channel ID P- EUA	60245	
Multicast Group IP	224.0.52.245	224.0.53.245
Port V-EUA	40245	40245
Port P-EUA	60245	60245

Channel Type	BBO C+C	
Channel ID V-EUA	40246	
Channel ID P- EUA	60246	
Multicast Group IP	224.0.52.246	224.0.53.246
Port V-EUA	40246	40246
Port P-EUA	60246	60246

Channel Type	FOB+BBO C+C	
Channel ID V-EUA	40248	
Channel ID P- EUA	60248	
Multicast Group IP	224.0.52.248	224.0.53.248
Port V-EUA	40248	40248
Port P-EUA	60248	60248

10. OPTIQ SEGMENT – INDICES

10.1 ASSET CLASS INDICES – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Indices and iNAVs	1

Asset class	Currency	Country
Euronext Indices	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	30250	
Channel ID P- EUA	50250	
Multicast Group IP	224.0.52.250	224.0.53.250
Port V-EUA	30250	30250
Port P-EUA	50250	50250

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	40250	
Channel ID P- EUA	60250	
Multicast Group IP	224.0.52.250	224.0.53.250
Port V-EUA	40250	40250
Port P-EUA	60250	60250

10.2 ASSET CLASS INAV’S – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Indices and iNAVs	1

Asset class	Currency	Country
Euronext iNAVs	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	30251	
Channel ID P- EUA	50251	
Multicast Group IP	224.0.52.251	224.0.53.251
Port V-EUA	30251	30251
Port P-EUA	50251	50251

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	40251	
Channel ID P- EUA	60251	
Multicast Group IP	224.0.52.251	224.0.53.251
Port V-EUA	40251	40251
Port P-EUA	60251	60251

10.3 ASSET CLASS THIRD PARTY INDICES – REAL-TIME AND SNAPSHOT CONFIGURATION

Environment	Optiq Segment name	Number of Partitions
Virtual and Physical EUA	Indices and iNAVs	1

Asset class	Currency	Country
Third Party Indices	All	All

Feed A/B	Feed A	Feed B
Rendez-vous Point SFTI WAN	156.48.121.2	156.48.121.55
Rendez-vous Point SFTI Co-lo	156.48.99.5	
V-EUA IP Address range	212.197.220.128/25	212.197.221.128/25
P-EUA Primary IP Address range	212.197.220.0/25	212.197.221.0/25
P-EUA Secondary IP Address range	212.197.220.0/25	212.197.221.0/25

	Real-time	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	30252	
Channel ID P- EUA	50252	
Multicast Group IP	224.0.52.252	224.0.53.252
Port V-EUA	30252	30252
Port P-EUA	50252	50252

	Snapshot	
Partition Number	Partition 1	
Feed A/B	Feed A	Feed B

Channel Type	INDICES	
Channel ID V-EUA	40252	
Channel ID P- EUA	60252	
Multicast Group IP	224.0.52.252	224.0.53.252
Port V-EUA	40252	40252
Port P-EUA	60252	60252