

Document title

**OSLO BØRS MIGRATION TO OPTIQ®: MIGRATION WEEK-END
GUIDELINES FOR DERIVATIVES & FIXED INCOME MARKETS ON 5
DECEMBER 2020**

Document type or subject

OSLO BØRS MIGRATION TO OPTIQ

Revision number

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Date

1 December 2020

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EXECUTIVE SUMMARY

Oslo Børs customers are invited to validate their migration over the Oslo Børs migration to Optiq® : Order Entry Gateway (OEG) and Matching Engine (ME) on Derivatives Markets and Fixed Income Segments during the migration weekend organised in the Production environment on Saturday 5 December 2020 between 11:00 and 16:00 Central European Time (CET).

This migration weekend will allow Oslo Børs customers to test the target Production implementation of Oslo Børs markets to be migrated in Optiq®. **Oslo Børs Customers will not be authorised to take part in the migration weekend unless they have (i) validated their conformance test, (ii) confirmed Telnet connectivity to Production and (iii) ordered their Order Entry (OE) Sessions for Production (for clients that are to connect to OEG).**

Markets will close on the evening of Friday 4 December 2020 and open, pending regulatory approval, on Monday 7 December 2020 with all Oslo products migrated to Derivatives (EQD, IDD) and Fixed Income Optiq segments, without taking the activity of Saturday 5 December 2020 into account. Oslo Børs customers are responsible for purging all market data and order entry data sent and received during any Saturday test. On Monday 7 December Derivatives (EQD, IDD) and Fixed Income segment will start without any Oslo orders on Oslo instruments.

PREFACE

PURPOSE

The purpose of this document is to provide Oslo Børs customers with a detailed description of the Oslo Børs migration to Optiq® migration weekend on Saturday 5 December 2020.

ASSOCIATED DOCUMENTS

This document should be read in conjunction with the following documents.

TITLE	DESCRIPTION
Oslo Børs Migration Guidelines	Guidelines for the Oslo Børs migration to Optiq®
Optiq Euronext File Services User Guide	EFS user guide
Euronext Cash Markets - Optiq OEG Connectivity Configuration specifications	Description of the Production Order entry connectivity configuration
EURONEXT OPTIQ MARKET DATA GATEWAY PRODUCTION ENVIRONMENT V2.5	Description of the Production Market data connectivity configuration
Euronext Cash and Derivatives Markets – Optiq File Specification	Description of the files for Cash and Derivatives
Euronext Cash and Derivatives Markets – Optiq MDG Client Specifications	To be used by all segments for phase 3
Euronext Cash Markets - Optiq OEG Client Specifications - SBE Interface	Optiq binary protocol specifications for phase 3
Euronext Cash Markets - Optiq OEG Client Specifications - FIX 5.0 Interface	Optiq FIX 5.0 protocol specifications for phase 3
Euronext Cash Markets - Optiq Kinematics Specifications	
Euronext Cash Markets - Optiq & TCS Error List	

DOCUMENT HISTORY

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

VERSION NO.	DATE	CHANGE DESCRIPTION
1.0	29 September 2020	First Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Cash Equities, ETFs and Structured Products Market Segments
1.1	26 October 2020	Second Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Cash Equities, ETFs and Structured Products Market Segments
1.2	9 November 2020	First Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Derivatives and Fixed income Market Segments
1.3	16 November 2020	Second Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Derivatives and Fixed income Market Segments
1.4	24 November 2020	Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Cash Equities, Funds Market Segments
1.5	1 December 2020	Migration weekend Guidelines for Oslo Børs migration to Optiq®: ORDER ENTRY GATEWAY (OEG) AND MATCHING ENGINE (ME) for Derivatives & Fixed Income Market Segments

SUPPORT

Please find below the Operational Client Support 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

■ Operational Client Support

■ Tel: +33 1 85 14 85 85

Email: clientsupport@euronext.com

Further Information :

- For the Oslo Project page please visit: <https://connect2.euronext.com/en/projects/oslo>
- For technical specifications visit: [IT Documentation](#)

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1. SCOPE OF THE TEST

1.1 TEST OVERVIEW

Oslo Børs customers are welcome to conduct the following tests:

- Secure network resources on the day of the migration weekend to validate firewall / security path
- Connect to the Production environment
- Inject orders
- Purge the book at the end of the day and restore the order book to Friday night

1.2 ACCESS TO SERVICES & APPLICATIONS

Euronext services and applications will be set up as follows for the rehearsal:

- Optiq Order Entry and Market Data for Oslo Derivatives (EQD, IDD) & Fixed Income (FXI) Segments, including Drop Copy
- Saturn OBOE for Fixed Income segment

1.3 DETAILS

Below please find details relevant to the Oslo Børs migration to Optiq® Migration weekend tests for Derivatives & Fixed Income segments on Saturday 5 December 2020 .

Before 11:00 CET

- Order entry connectivity may be available.

Between 11:00 and 15:00 CET, customers are required to:

- Connect to the Production environment:
 - Test and validate the Optiq Order Entry logical connectivity on Derivatives & Fixed Income market segments.
 - Log on through their OEG connections for Derivatives & Fixed Income:
 - OEG connectivity for: Derivatives & Fixed Income segments.
 - Perform Market Data checks on MDG (Oslo Børs Fixed Income channel – Nordic ABM).
 - Check the market data broadcast via multicast by connecting their application/feed handler to Real time and Snapshot.
 - Retrieve required files from Euronext Files Services (EFS).
- Inject orders
 - For example:
 - Any Oslo product on Derivatives and Fixed Income segments order through OEG.
 - Customers can verify the publication of market data through the expected MDG channels.
 - On member request, Euronext can generate some activities for some dedicated Oslo products: such as Order creation, Trade creation or instrument suspension. Feel free to make dedicated request to:

Operational Client Services
clientsupport@euronext.com

Tel: +33 1 85 14 85 85

- Purge the book at the end of the day and restore the order book to Friday night
 - This applies to orders sent through OEG for any Derivatives & Fixed Income products and any internal data stored on the client side.

14.30 CET The Go / No Go for the migration will be communicated.

Between 15:00 and 16.00 CET, Euronext may conduct further internal tests. Customers are invited to ignore any data received after the migration weekend tests.

1.4 OUT OF SCOPE

The following services / markets are out of scope for this rehearsal:

- Tests with CCP LCH SA
- Other Saturn services except OBOE
- Cash Markets except Fixed Income

2. CUSTOMER SUPPORT

Customer support is provided as follows:

- On Saturday 5 December 2020 , support will be provided by Euronext Market Services (EMS) from 11:00 to 16:00 CET.
- In the case of any issues and questions related to the tests, customers may contact the Operational Client Services Desk ahead of the tests and during the Migration weekend by email at clientsupport@euronext.com and by phone at +33 1 8514 8585.
- Real-time events will be posted on the Market Status website during the Migration weekend validation at: www.euronext.com/market-status

3. MAIN PRINCIPLES OF THE TEST

Customers will be notified to connect to the platform via the [Market Status webpage](#).

Upon confirmation of start of test customers should be able to connect to the Euronext OEGs and MDGs for the market segments below:

- Derivatives Equity Derivatives (EQD)
- Derivatives Index Derivatives (IDD)
- Cash Fixed Income (FXI)

The sequence for market opening is the following:

- Euronext will start a pre-opening trading session
- As soon as Euronext considers that Derivatives & Fixed Income markets are ready to be fully operational, a continuous trading session will be set up on Optiq. Customers are invited to make sure that their internal systems and access means are correctly synchronised with Euronext Optiq.

Euronext would like to make this test as realistic as possible in order to draw the most relevant and useful conclusions, and therefore encourages customers to participate actively by sending orders.

3.1 TRADING DATES DETAILS

The trading date used for the purposes of the test will be Saturday 5 December 2020 .

- For Oslo instruments: No orders will be present in the order book

Euronext invites customers to enter orders as they would do in the Production environment.

MDG Standing data files will be available on Saturday 5 December 2020 with the business date of Monday 7 December 2020. Please make sure you do not have any security in place that would prevent to process them. As always Index Standing Data files may be delivered later than the other Optiq standing data files.

3.2 PRE-REQUISITES FOR TAKING PART IN THE MIGRATION WEEKEND

Following are mandatory for any customer expecting to take part in the Migration weekend week-end:

- 1) To have validated their conformance test,**
- 2) To have confirmed Telnet connectivity to Production and**
- 3) To have ordered their OE Sessions for Production (only relevant for clients to connect to OEG).**

Customers must have a Euronext File Services (EFS) account to access the Pre-Production Optiq Euronext File Services. Customers can request their account by contacting Customer Access Services (CAS):

- Phone: +33 1 85 148 589
- Email: cas@euronext.com

For Saturn users:

it is necessary to request an environment switch EUA to PROD of the current Admin access, in order to set the API access (Creation, IP, certificate) on Prod environment before the Dress Rehearsal.

The Switch web form is available at the following link <https://connect2.euronext.com/fr/form/saturn-environment-switch>

Please note that the EUA standard users (RSA token) in EUA will be automatically switched in PROD for the DR.

4. MIGRATION WEEKEND TEST SCHEDULE

Note: All timings are approximate and are stated in CET

Timeline	Action	Cash (FXI)	Derivatives
11:00	<ul style="list-style-type: none"> Beginning of the test Participants are invited to check the status and timeline on the Market Status web page 	✓	✓
11:15	<ul style="list-style-type: none"> Referential Files are made available: Standing Data File will be provided on the Euronext File Server (except for Index). Market Data: Optiq MDG Technical “Start Of Day” messages should be broadcasted over MDG Production multicast channels 	✓	✓
11:30	<ul style="list-style-type: none"> Euronext Optiq MDG real-time Standing Data messages will be provided over MDG Production multicast channels. Index Referential Files are made available: index Standing Data File will be provided on the Euronext File Server 	✓ ✓	✓
11:45	<ul style="list-style-type: none"> Euronext Optiq MDG real-time MarketUpdate, MarketStatusChange, MarketUpdate, TechnicalNotification, Price Update, OrderUpdate, Timetable messages will be provided over MDG Production multicast channels 	✓	✓
12:00	<ul style="list-style-type: none"> Pre-Opening (call) Session for the Oslo markets. Euronext will generate some orders on : FixedIncome: (ISIN: NO0010670995 SymbolIndex: 2316925) Equity Derivatives: TEL OOTEL 20121810000C (SymbolIndex: 4043500033) Index Derivatives: OBF NFOBF 21012100000F (SymbolIndex: 4050300021) 	✓	✓
12:30	<ul style="list-style-type: none"> Opening (continuous) Session for the Oslo markets. Euronext will generate some trades on FixedIncome: (ISIN: NO0010670995 SymbolIndex: 2316925) Equity Derivatives: TEL OOTEL 20121810000C (SymbolIndex: 4043500033) Index Derivatives: OBF NFOBF 21012100000F (SymbolIndex: 4050300021) Euronext will generate index price variation on OBXP (ISIN: NO0007035376 SymbolIndex: 3546) OBX (ISIN: NO0000000021 SymbolIndex: 3547) 	✓	✓
14:30	<ul style="list-style-type: none"> Go / No Go confirmation can be expected around 14:30 	✓	✓
15:00	<ul style="list-style-type: none"> End of customer tests 	✓	✓

Timeline	Action	Cash (FXI)	Derivatives
	<ul style="list-style-type: none"> Customers can disconnect from Euronext central systems A Market Status message is sent confirming the end of the Migration weekend 	<p>✓</p> <p>✓</p>	
15:00 16:00	<ul style="list-style-type: none"> Euronext may conduct internal tests such as HA test on Equity Derivatives (Partition ID: 121) & Fixed Income (Partition ID: 30) segments broadcast of TechnicalNotification, MarketUpdate, PriceUpdate 	<p>✓</p>	<p>✓</p>

4.1 IMPORTANT REMINDERS

During the test, Euronext will not be able to broadcast the real-time Standing data messages over Optiq Market Data twice. Customers who have missed the broadcast of the referential data are requested to use the Optiq Standing Data files made available on the [EFS](#).

Euronext will not consider any requests or potential customer issues encountered on the day of the Production migration if the customer has not taken part in the prior rehearsal tests or EUA validation.

4.2 ROLL-BACK FOR CUSTOMERS' INTERNAL SYSTEMS

Upon completion of the migration weekend, customers must restore/rollback the order book data in their internal Production systems to the state of Friday 4 December 2020 evening after the end of the trading session.

On Friday 4 December 2020, Oslo Børs Derivatives & Fixed Income Markets will close as per the usual time. For Fixed Income, Client will be asked to purge their open orders before 16:15 CET and after 16:15 CET Oslo Børs surveillance will purge the remaining orders. For Derivatives, Client will be asked to purge their open orders before 17:00 CET and after 17:00 CET Oslo Børs surveillance will purge the remaining orders.

Pending Go/No-Go confirmation and regulatory approval, on Monday 7 December 2020, Oslo Børs Derivatives & Fixed Income markets will open onto Optiq, without taking the activity of Saturday 5 December 2020 into account.

Customers are requested to ensure their readiness for the next trading day's activities following any Saturday test.

Customers are responsible for purging all market data and order entry data sent and received during any Saturday test.

In the unlikely event of a No-go decision, customers are expected to roll back their systems to the COB state from Friday 4 December 2020 for the Oslo Børs instruments.

4.3 CONTACTS

On Saturday 5 December 2020, Euronext Market Services (EMS) will be available for the Pre-Production support. Questions about the rehearsal (e.g. tests, timelines), associated MDG and EFS changes, can be directed to:

Operational Client Services
clientsupport@euronext.com
Tel: +33 1 85 14 85 85

ANNEX 1: ORDER ENTRY AND DROP-COPY GATEWAY

2.7.2 Segment & Partition IP Information

Production environment

Optiq Segment Name	Partition ID	IP of Individual Partition
Fixed Income (Bonds)	30	212.197.194.17
Commodities	80	212.197.194.29
Equity Derivatives	120	212.197.194.35
	121	212.197.194.37
	122	212.197.194.33
Index Derivatives	110	212.197.194.31

2.9.1 IP Addresses for Drop Copy per Environment

For the Derivatives Markets

Production environment

Drop Copy ID	IP Address
980	212.197.194.83
981	212.197.194.84
982	212.197.194.87
983	212.197.194.88