

Document title

EURONEXT OPTIQ PHASE 3: DERIVATIVES MARKETS - ORDER ENTRY GATEWAY (OEG), MATCHING ENGINE (ME) AND MARKET DATA GATEWAY (MDG) MIGRATION GUIDELINES

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PREFACE

PURPOSE

This document outlines the migration guidelines for Phase 3 of Euronext’s implementation of Optiq: Order Entry Gateway (OEG) and Matching Engine (ME) for Euronext Derivatives markets, as well as the changes required to the Market Data Gateway (MDG) on Euronext Derivatives markets.

TARGET AUDIENCE

The intended audience of this document is any client intending to connect to and trade on the Euronext Derivatives markets using Optiq.

This document is for informational purposes only, and should be consulted alongside its associated documents outlined below.

WHAT’S NEW?

The following lists only the most recent modification made to this revision/version. For the Document History table, see the Summary of Changes.

REVISION NO./ VERSION NO.	CHANGE DESCRIPTION
3.0	<p>Third release of Optiq Phase 3 migration of Euronext Derivatives markets to Optiq OEG / ME / MDG containing the following updates:</p> <ul style="list-style-type: none">• In “Associated documents” updated the documents and versions• In section 2.3 “Order OEG Logical Accesses”: updated webform links• In section 3.1.2 “SBE Template Version”: updated SBE template to reflect V204• In section 3.2.2 “Partition Changes for Phase 3 Implementation (Updated)”: updated to reflect successful change• In section 4.2.3 “Merger of Contracts with Maturities Shorter than one Month”: Updated information on timeline of testing and implementation• In section 4.3.1 “Drop Copy”: updated Drop copy section.• In section 4.4 “TESTING APPROACH AND TEST ENVIRONMENTS”: added the compression of Derivatives Markets MDG 1Gb shaped channels in Next EUA into the table• In section 4.4.2.1 “Throttling Testing of Optiq in EUA”: updated Throttling test explanation• In section 4.4.3 “Validating Conformance Tests”: updated link to conformance webform and text• Removed section on required confirmation of merger of contracts with maturities shorter than one month• In section 5 “Euronext Membership and Connectivity Approach During the Migration Period”; added Freeze in effect for membership on Derivatives on UTP• In section 9.3 “APPENDIX B: MAPPING OF CLEARING FIELDS - OEG TO LCH”: Modified use of field for client id – NestedParties repeating group replaced with Long Client ID; corrected the values in mapping of field <i>Clearing Instructions</i> for values mapped to 4008 and 4009• Removed Annex A2 – Planning of testing for merger of expiries will be communicated after go live of Optiq• Throughout the document:<ul style="list-style-type: none">○ Update of dates for implementation○ Clarifications on use of SBE templates and compatibility, AMR, and Symbol Index○ Typo corrections and format fixes

ASSOCIATED DOCUMENTS

The following lists the associated technical documents which either should be read in conjunction with this document or which provide other relevant information for customers.

The documents listed below are available for Phase 3, with the latest version applicable to Phase 3 indicated, where applicable:

- Euronext Derivatives: How the Market Works ^[v3.0]
- Euronext Markets – Optiq File Specification ^[v3.1.0]
- Euronext Derivatives Markets - TRF Conversion Parameters Files Specifications ^[v1.7]
- Euronext Markets – Optiq MDG Client Specifications ^[v3.1.0]
- Euronext Markets – OEG Client Specifications – SBE Interface ^[v2.1.0]
- Euronext Markets – OEG Client Specifications – FIX 5.0 Interface ^[v2.1.0]
- Euronext Derivatives Market – Optiq Kinematics Specifications ^[v1.1.0]
- MDG SBE Template file ^[v204]
- OEG SBE Template file ^[v204]
- Euronext Markets – Optiq SBE Template Policy for the Migration of Derivatives Markets
- Euronext Markets – Optiq & TCS Error List
- Euronext Markets – Optiq OEG Connectivity Configuration specifications ^[v2.2.1]
- Euronext Optiq Market Data Gateway External User acceptance Environment ^[v2.1]
- Euronext Optiq Market Data Gateway Production Environment ^[v2.2]
- Euronext Markets – Optiq Phase 3 Production Connectivity Telnet Tests ^[v1.0.1]
- Euronext Markets – Optiq Drop Copy service ^[v2.0.0]
- Self-Trade Prevention Functional Overview ^[v1.4]
- Optiq Euronext File Services (EFS) User Guide
- Optiq Phase 3 Tick Size Summary
- Optiq Phase 3 Derivatives Spread Classes
- Optiq Phase 3 Trading Schedule Summary

Clients are advised to also refer to the Euronext Rules and Regulations documents for more details.

For the latest version of documentation please visit <http://www.euronext.com/optiq/documentation>.

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1. INTRODUCTION

Euronext announced the launch of its new generation technology programme in May 2016, which is delivering improved customer experience through the migration from its current technology platform UTP to its new leading edge platform: Optiq®.

Optiq delivers a simplified harmonized messaging model with maximum flexibility, within a single trading platform for Cash and Derivatives, providing clients with high performance and stability. The migration is managed in phases and began in 2017 with the migration of the market data infrastructure, followed in 2018 by the migration of the Cash markets to the new order entry and matching engine modules, and will be finalized with the migration of the Derivatives markets.

The move to Optiq has allowed Euronext to deliver an enhanced multi-market trading platform, leveraging the latest technology to ensure high reliability and to significantly enhance throughput and predictable latency. This simplified and flexible system allows shorter time-to-market for the delivery of new products and the implementation of customers' requests, while creating an opportunity for customers to reduce their administrative costs.

1.1 SCOPE OF OPTIQ PHASE 3

This document outlines the changes and improvements between the current Common Customer Gateway (CCG) and UTP Matching Engines, and the new Optiq Order Entry Gateway (OEG) and Matching Engine (ME) architecture, and will accompany readers during the migration process for Phase 3 on Derivatives markets. This document also provides information on the upgrades scheduled on the existing Market Data Gateway on Euronext Derivatives markets.

SCOPE OF MARKETS AND PRODUCTS COVERED BY OPTIQ PHASE 3

Markets and Products		
Derivatives markets (OEG, ME & MDG)	Equity Derivatives	✓
	Index Derivatives	✓
	Commodities	✓
	Financial Derivatives	✓

Note: AtomX is decommissioned. Hosted commercial markets are out of scope of this migration.

SCOPE OF DERIVATIVES SERVICES COVERED BY OPTIQ PHASE 3

Services	
Drop copy	✓
Euronext File Server (EFS)	✓

2. ORDER ENTRY GATEWAY OVERVIEW

The Euronext Optiq Order Entry Gateway (OEG) provides high-speed and real-time connection to the Euronext markets. The system offers predictability, ultra-low latency, Cash & Derivatives message harmonization, high availability, a reliable network solution, and a high level of scalability.

2.1 ORDER ENTRY MESSAGES

In Optiq a number of messages used for the Euronext Cash markets are reused, and in some cases further enriched, for Euronext's Derivatives markets. Derivatives specific messages (e.g. for Market Maker Protection, Request for Cross, etc.) have been added to Optiq messages catalogue.

The technical specifications that will be published in the future for Optiq Phase 3 will be the reference for the available messages, their structure, available values and kinematics.

2.2 NEW CONNECTIVITY MODEL

2.2.1 Optiq Segments

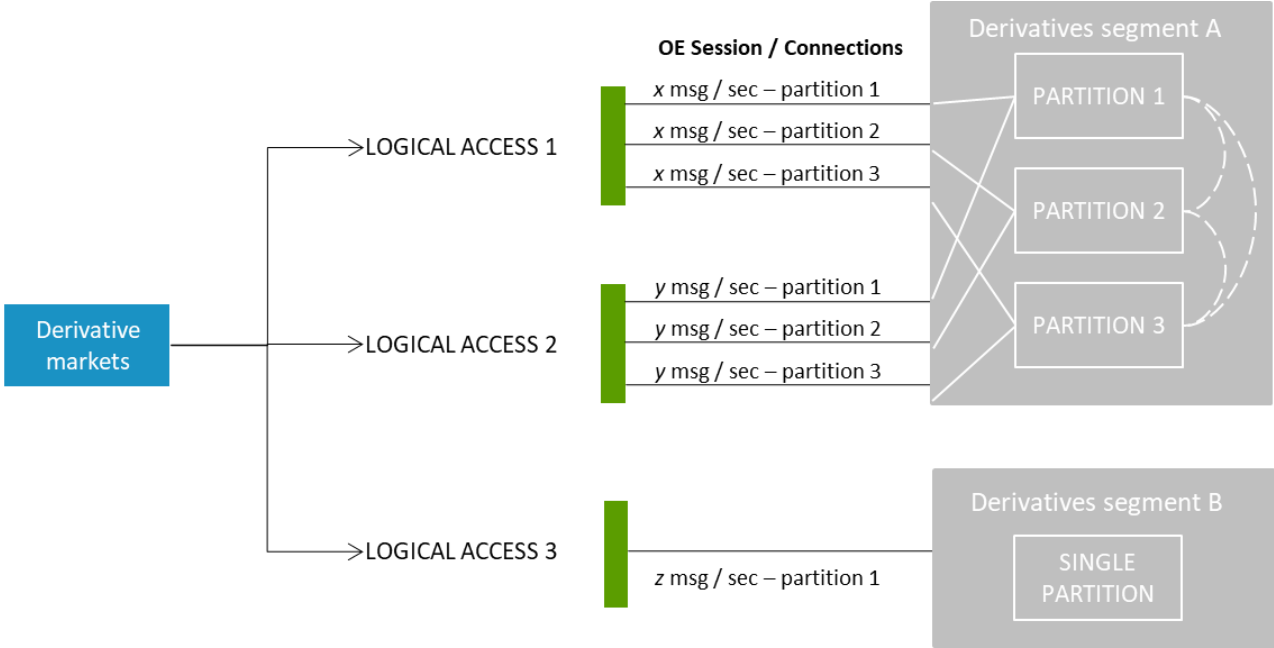
Euronext's new connectivity model improves performance and stability by offering order entry sessions through Logical Accesses, which connect to dedicated partitions in individual Optiq segments.

Under the current UTP and CCG trading infrastructure, a single order entry session setup under an Individual Trader Mnemonic (ITM) and Member Mnemonic (MNE) can technically access all Derivatives contracts.

This will change under Optiq:

- Derivatives contracts will be grouped by asset class into Optiq Segments for order entry.
 - **Optiq has four Derivatives segments: Equity Derivatives, Index Derivatives, Commodities, and Financial Derivatives.**
- Each segment may be split into Partitions in order to benefit from improved performance and stability.
- To connect to a Partition, an Order Entry Session (OE Session) is required.
- OE Sessions are aggregated in a Logical Access for each segment.
 - With a Logical Access, customers are automatically given access to all Partitions within a segment.
 - Customers can choose to send an order to a Partition using the wrong OE Session and will be routed automatically. Latency is to be expected when using this route.
- One Logical Access can only apply to one segment. Using the same connection across multiple Optiq segments will not be possible.
- All instruments of a single contract will be available for trading in a single partition

EXAMPLE: DIAGRAM OF ORDER ENTRY SESSIONS, PARTITIONS AND SEGMENTS:



Logical Access requirements are as follows:

- To send messages to an instrument hosted on any segment, the client requires a Logical Access on that specific segment. For instance, to send messages to an instrument hosted on the Equity Derivatives segment, the client requires a Logical Access on Equity Derivatives.
- The same Logical Access for a segment can be used to send orders for Central Order Book (COB), wholesales and Request for Cross (RFC).
- Logical Accesses are assigned a Functional Access Role. The list of such roles for Derivatives contains: Trading, Market Making, and RiskGuard.
 - ◆ Logical Access with role of Trading can send all private messages, except those associated to Market Maker Quotes, and RiskGuard.
 - ◆ To send Quote messages clients will require a Logical Access with role of Market Making. Such Logical Accesses can send any Trading and Market Making messages.
 - ◆ To send messages to an OEG for RiskGuard, clients will require a dedicated Logical Access setup for risk management purposes. Such Logical Accesses can send only messages associated to RiskGuard

Drop Copy is provided as a separate service, for which a dedicated Drop Copy Access is to be requested, and which has dedicated connectivity information.

Referential standing data is provided on a daily basis for each Contract via MDG messages and files (available on EFS), identifying which Optiq Segment and partition an instrument belongs to.

More details can be found in the **Euronext Cash and Derivatives Markets – Optiq File Specification** available on the Optiq page <http://www.euronext.com/optiq/> and were also provided in the **Info Flash of 18 September 2019** on the **Fee Grid for Euronext Financial Derivatives Markets Order Entry Gateway Sessions**.

2.2.2 Partitions and Instrument Mapping

Individual Optiq Segments are comprised of one or several Optiq Partitions.

An Optiq Partition is a technical subdivision of an Optiq Segment. Each Partition relies on an optimized technical environment, physically independent from one another, and connected via a routing system to other partitions within the segment.

The target number of partitions per segment are as follows:

Derivatives Optiq Segment	Number of Partitions
Equity Derivatives	3
Index Derivatives	1
Commodities	1
Financial Derivatives	1

One Logical Access will give access to all Partitions belonging to the same Optiq Segment. For example, one Equity Derivatives Logical Access will be able to connect to each of the 3 Equity Derivatives partitions, using 3 OE Sessions.

Within the same Optiq segment, the load balancing process may result in instruments being assigned a different Partition, and as such different routing information, from one day to another. Due to this, clients are encouraged to plan developments to leverage this dynamic structure and to download and incorporate the standing data on a daily basis to ensure correct routing of their messages. For more information please refer to the OEG Message specifications.

All contracts and instruments for Euronext markets are uniquely defined by their Symbol Index. The Symbol Index is valid for the lifetime of the instrument and is used as the Optiq system-wide identifier. Both public and private messaging systems rely on this identification, which also allows for an easier reconciliation of public and private messages.

Together with the Symbol Index Optiq uses the *Exchange Market Mechanism* (EMM) to route messages to the correct trading platform. EMM represents the platform to which the order sent by the client must be routed. Information on Symbol Index and EMM values available in each Optiq segment is provided in the Standing data files, and a Symbol Index may be assigned multiple EMMs

Please refer to the *Euronext Markets - Optiq MDG Client Specifications* document for further details on standing data files.

2.3 ORDERING OEG LOGICAL ACCESSES

Ordering (or modification) of the Optiq Logical Accesses for Derivatives Markets can be done using the following forms:

- ◆ [Logical access creation](#)
- ◆ [Logical access creation Market Making](#)
- ◆ [Logical access creation Drop Copy](#)
- ◆ [Access Modification](#)

Note: Dedicated Info Flash and Optiq Notice were published on 18 September 2019.

In addition to other characteristics, when ordering Logical Accesses for Derivatives markets clients would need to identify whether they are to be used for Market Making activity (to allow use of Quote messages) or RiskGuard API. Existing RiskGuard API clients will need to request new accesses for this, using the [same order form](#) currently in use.

External User Acceptance (EUA) environments

For the launch of Derivatives segments on Optiq in the Next EUA environment, each existing client, identified by a Member Code (or Firm ID), has been provided with a number of “default” Logical Accesses per Optiq Segment: with connections for SBE and FIX protocol, as needed. These connections are set with minimum throughput to allow clients to start their technical tests.

In addition to the default Logical Accesses, clients may request additional custom connections. This should allow clients and Euronext to perform tests in Optiq in the most realistic conditions. For more details please refer to the [Optiq Notice of 18 July 2019](#).

The requests for adjustment and/or creation of new Logical Accesses in EUA environments can be submitted via the EUA form for [ordering of new](#) and/or [modification of existing](#) Logical Access.

OEG connectivity details for EUA environment were communicated in the Optiq Notice of 18 July 2019.

Requests for Drop Copy access for EUA environments can be submitted via the [Access / Drop Copy creation form](#). For this request clients should make sure to select the environment as the same form is used for requests for the Production environment.

Production environment

Each Member Connectivity Administrator (MCA) has received an e-mail containing projected number and size of Logical Access based on their current ITM use. This should allow members to identify the number of sessions required for OEG Derivatives, as well as a suggested message per second throughput limits.

All Trading Members using the new Optiq OEG ME Derivatives trading system are required to order their Optiq Derivatives Logical Accesses for Production at the latest one week before the start of the Dress Rehearsals.

OEG connectivity details for ordered Production accesses will be made available at the latest two days before the start of the Dress Rehearsals.

Please note that **Providers (ISVs, ASPs) do not have the ability to order OE Sessions on behalf of their clients.**

For any questions, please contact your CSC relationship manager.

The Order Forms are available online on the Euronext website at the following locations:

- Optiq Order Entry
 - [Logical access \(former ITM\) creation form](#)
 - [Logical access modification form](#)
 - [Logical access deletion form](#)

- Optiq Order Entry (Market Makers)
 - [Logical access creation Market Maker form](#)

- Optiq Drop Copy
 - [Drop Copy creation Production](#)
- RiskGuard (for Derivatives)
 - [RiskGuard Logical access creation form](#)
 - [RiskGuard Logical access modification form](#)
 - [RiskGuard Logical access deletion form](#)

After receiving a request for a Logical Access, Customer Access Services will communicate login information to customer by email. Customers are required to have tested their connectivity in Production before the mandatory Dress Rehearsal.

As a reminder:

- Providers cannot order OEG Logical Accesses for Production
- Only trading members can order Production OEG Logical Accesses
- Logical Accesses can only be ordered by a nominated Member Connectivity Administrator (MCA). Any customer without an MCA account should contact the Customer Access Services (CAS) team for more information at cas@euronext.com / Tel: +33 1 85 148 589

2.4 ORDER ENTRY SBE TEMPLATES

New SBE templates were introduced for order entry for Derivatives Markets migrating to Optiq.

The SBE template to use for OEG is published with the order entry message specifications on the Euronext website.

During the conformance period, order entry and market data SBE templates for Derivatives segments are be available in their target version, i.e. with a new order entry and market data SBE templates on EFS.

Cash markets will remain with the SBE templates that are currently set up for each individual segment, as announced for individual projects and provided on EFS.

On Optiq, the SBE template will be provided for individual segments. For the migration of Derivatives markets to Optiq, the content of the SBE templates will be the same for all segments.

For details on policy for SBE versions and compatibility, as well as the last update on the published versions please refer to the: [Optiq SBE Template Policy](#) and the [Optiq Notice of 3 September 2019](#).

3. MARKET DATA GATEWAY OVERVIEW

The Euronext Optiq Market Data Gateway (MDG) provides real-time data for the Euronext markets. MDG messages provided in Optiq are already harmonized for Cash and Derivatives.

3.1 SBE TEMPLATES & CHANGES

SBE templates currently in use in Production for MDG on Derivatives markets will change with Go Live of Optiq Phase 3.

- SBE templates will be aligned with the way SBE templates are managed for the Cash markets: each segment will have its own SBE template.
- When changing to (i) Optiq market data segments, and (ii) Optiq Order Entry Gateway (OEG) & Matching Engine (ME), the SBE templates for MDG will not be backward compatible. Both changes will require a new non-backward compatible SBE template.
- After the migration to Optiq OEG and ME, the exact same versions of the SBE template will be available on each segment.

Please note: The template should be managed on the individual segment level as in the future versions of SBE Templates will differ per segment.

3.1.1 SBE Compatibility

MDG SBE compatibility for Phase 3:

- Will be maintained, when possible, compared to the current Cash MDG SBE template in Production (version 116).
- Will not be maintained compared to the current Derivatives MDG SBE template in Production (version 7).

Updates of the target SBE templates for Phase 3 were published with the rest of the technical documentation. The Phase 3 technical documentation and accompanying Optiq Notices and Release notes identify where compatibility will not be maintained.

In the MDG SBE template 7 (used for Segment Change) messages that are for use by Cash markets only, and not required for the Derivatives markets have been removed. These messages were added back, in their target format, in the MDG SBE template to be published for “go live” of Phase 3.

Date	Next EUA (p-EUA)			Production		
	Before 20 Feb '19	20 Feb '19	June '19	Before 27 Apr '19	27 Apr '19	23 Nov '19
MDG SBE Template status	V6 or earlier only. V7 cannot be used (COMPLETED)	V7 only V6 and earlier versions can no longer be used (COMPLETED)	V2XX only V7 and earlier versions can no longer be used (COMPLETED)	V6 or earlier only. V7 cannot be used (COMPLETED)	V7 only V6 and earlier versions can no longer be used (COMPLETED)	V2XX only V7 and earlier versions can no longer be used

3.1.2 SBE Template Version

On Optiq, the SBE template will be provided for individual segments. For the migration of Derivatives markets to Optiq, the content and version of the SBE templates will be the same for all segments.

	SBE template version for Phase 3	
	Order Entry	Market Data Gateway
Earliest Supported version	v203	v203
Go live version ¹	v206	v206

3.1.3 AMR and Symbol Index for Migration

Automated Market Reference (AMR)

Optiq uses Symbol Index as the unique identifier of all tradeable instruments. As such, AMR as the core Contract and tradeable instrument identifier for trading is replaced by the Symbol Index.

In parallel of Symbol Index, the **AMR code remains available in the standing data** and allows to map instrument Symbol Index used for trading to the AMR code.

The structure of AMR code will have minor adjustments to manage the management of daily and weekly contracts in a single contracts. The changes include

- an additional space for the Contract Mnemonic added at the end of the current 3 character mnemonic section, and
- addition of actual date of expiry, in place of 00 in the date section of the AMR.

For more details on this change clients are advised to review a dedicated section of the “How the Market Works”, and a future update of the MDG Client specifications that would be updated for migration of Derivatives markets to Optiq.

Example

Instrument	In UTP / MDG		In Optiq	
	AMR	Symbol Index	AMR	Symbol Index
A.F.AA8 – Dec 22	AFAA8221200000F	4221800006	AFAA8_22121600000F	4221800006
A.F.ABCD – Dec 22	N/A	N/A	AFABCD22121600000F	4325600019

Symbol Index of Existing Instruments

For migration to Optiq Symbol Index existing Derivatives contracts and instruments will be managed as following:

- **Outright** Contracts and Instrument existing prior to the migration will maintain their existing symbol index values

¹ An update of the SBE version without any functional or technical changes may be published for go live, without any impact to clients

- A substantial number **Underlying** instruments will be assigned new symbol index values as identified below. Following the migration to Optiq these symbol index values are not expected to change, unless they are subject to the corporate action, and change on the Euronext Cash markets.
 - All multi-listed Euronext Cash instruments, with the same ISIN, MIC and Currency will be assigned the same symbol index, which matches the symbol index they have on the Euronext Cash markets. Clients that require to differentiate such records used for the various markets, may combine the value of the symbol index with that of the underlying exchanges.

Example: AIR FRANCE-KLM underlying, with ISIN: FR0000031122 / MIC: XPAR / Currency EUR currently has 2 records:

 - 1) *Exchange: G / Underlying mnemonic: AFA / Symbol Index: 9999997*
 - 2) *Exchange: C / Underlying mnemonic: AF / Symbol Index: 1110208*

Following the migration to Optiq both of these records will have the symbol index of 1110208
 - Euronext Derivatives Futures contracts that serve as underlyings will be assigned their associated Contract symbol index. This will not result in any changes to the symbol index of the contract
 - Non-Euronext instruments will be assigned new symbol index values. Those that didn't have symbol index values will be newly assigned. Those that already had symbol index values will be a changed, to be in the new range under which they will be managed.
- All active and dormant **Strategies will not maintain their existing symbol index** values. On the first day of trading on Optiq they will have new symbol index values attached to them as they are created. This means that a symbol index currently in use for one type of strategy may be used in Optiq for a completely different strategy.

The values of symbol indexes will be part of the standing data files on the Go Live weekend, and communicated via Optiq messages on Monday of Go Live.

3.2 CHANNEL CHANGES

3.2.1 Market Segmentation (Completed)

The change in the segmentation of the Derivatives market was successfully completed.

3.2.2 Partition Changes for Phase 3 Implementation (Completed)

The partition change was successfully completed and is now effective in Next EUA, Current EUA and Production environments.

4. MIGRATION PLAN

4.1 OVERVIEW

The migration of Derivatives markets from the Common Customer Gateway (CCG) to the Optiq Order Entry Gateway (OEG) and the upgrade of the Market Data Gateway (MDG) are designed with customers in mind to secure a simple and effective transition to the Optiq platform.

The technical migration to Optiq in Production will be conducted in a single Go Live weekend. Prior to this Go Live date a number of preparatory events, infrastructure and high availability tests and rehearsals will be held to ensure a smooth migration.

The migration plan is the following:

	PRODUCTION MIGRATION DATES		
	Dress rehearsal	Final test in Production	Go Live
1. Change Derivatives market data segmentation Optiq segmentation was implemented prior to the OEG and ME migration, effective in MDG and EFS. A new MDG SBE template was provided for this change, without any impacts to CCG order entry or GTC/GTD orders.	Saturday 6 April 2019 (COMPLETED)	Saturday 27 April 2019 (COMPLETED)	Monday 29 April 2019 (COMPLETED)
2. Migrate the Derivatives markets to Optiq Purge orders on all UTP-D contracts at the end of the standard trading session on Friday prior to migration. A new SBE template for MDG and OEG will be provided. Open markets with all Derivatives segments on Optiq on Monday: <ul style="list-style-type: none"> Order entry is conducted through OEG, All orders placed through CCG will be rejected. 	Saturday 19 October 2019 (no purge) Saturday 9 November 2019 (no purge)	Saturday 23 November 2019	Monday 25 November 2019
3. Combining contract with shorter and longer maturities Shorter term expiries (daily, weekly) currently managed in individual contracts to be migrated into the main contracts.	N/A	N/A	Q1 2020

Software was released in the test environment in order to enable customers to validate their software prior to Go Live. Details on the test and production environments can be found in later sections.

Please note that upon the migration of Derivatives segments to Optiq, these contracts will no longer be available for trading on UTP, and once Optiq Phase 3 is in Production, customers will no longer be able to send messages to the Euronext Derivatives market through the existing CCGs as no backward compatibility will be available between CCGs and OEGs.

Phase 3 changes will not require development on the Cash markets' Optiq order entry and market data. Other projects on Cash markets may occur at the same time and may require separate development.

4.2 MIGRATION SEQUENCE

The section below identifies the individual steps for the migration of Derivatives Markets to Optiq.

The migration will take place in three steps:

- 1) **Market data segmentation change (COMPLETED)**
- 2) **Optiq Order Entry Gateway (OEG) & Matching Engine (ME) implementation**
- 3) **Merger of Contracts with Maturities Shorter than one Month under one contract**

4.2.1 Market Data Segmentation Change (Completed)

The first step in the migration to Optiq was the change in the segmentation of the Derivatives market, impacting MDG, which was completed in Production on Monday 29 April 2019. The completed steps of this change are listed in the table below.

MARKET DATA SEGMENTATION CHANGE – PRODUCTION IMPLEMENTATION SCHEDULE		
Sequence	Requirement	Effective Date
Dress Rehearsal	Customers testing of connectivity to the new channel configuration and access to new folders and file names on EFS.	Saturday 6 April 2019 (COMPLETED)
Implementation of the change	Implement the segmentation change in Production, with customer testing similar to the one done during Dress Rehearsal.	Saturday 27 April 2019 (COMPLETED)
Using the new segmentation in Production	Derivatives markets started using the new market data segmentation and an updated MDG SBE template.	Monday 29 April 2019 (COMPLETED)

4.2.2 Migrating Derivatives Markets Order Entry and Matching Engine to Optiq

Dress Rehearsals:

On Saturdays **before the migration** of the Euronext's Derivatives Markets Euronext will organise two mandatory **Dress Rehearsals** in anticipation of the migration week-end. Euronext will open the Derivatives market for customers to test access to the new Optiq segments through their OE sessions and the corresponding MDG channels. This will enable customers to verify their connectivity to the Production environment, log on / log off and inject orders into the OEG in Production.

Customers will not be authorised to take part in the Dress Rehearsal week-end unless they have (i) validated their conformance test, (ii) confirmed Telnet connectivity to Production and Disaster Recovery and (iii) ordered their Logical Accesses for Production.

There will be two Dress Rehearsal week-ends for the migration of the Derivatives markets, participation in only one of these rehearsals is mandatory. Customers who have missed on both Dress Rehearsal dates will be able to test access to Production on the migration week-end. 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 mandatory Dress Rehearsals.

Migration:

Evening Session

On the **Friday before the Derivatives markets migration** to Optiq, certain contracts will close earlier than normal.

There will be no evening session, i.e. no T+1 cleared trades, on that Friday.

The contracts listed below will close earlier than normal:

	Class ID	Normal Close Time	Close on Friday before Optiq migration
AEX Index Weekly Future - Week 1	K.F.1FT	22:00 CET	18:30 CET
AEX Index Weekly Future - Week 2	K.F.2FT	22:00 CET	18:30 CET
AEX Index Weekly Future - Week 4	K.F.4FT	22:00 CET	18:30 CET
AEX Index Weekly Future - Week 5	K.F.5FT	22:00 CET	18:30 CET
FUTURE AEX INDEX	K.F.FTI	22:00 CET	18:30 CET
AEX Index - Mini Future	K.F.MFA	22:00 CET	18:30 CET
CAC 40 Index Weekly Future - Week 1	J.F.1FC	22:00 CET	18:30 CET
CAC 40 Index Weekly Future - Week 2	J.F.2FC	22:00 CET	18:30 CET
CAC 40 Index Weekly Future - Week 4	J.F.4FC	22:00 CET	18:30 CET
CAC 40 Index Weekly Future - Week 5	J.F.5FC	22:00 CET	18:30 CET
CAC 40 Index	J.F.FCE	22:00 CET	18:30 CET
CAC 40 Index - Mini Future	J.F.MFC	22:00 CET	18:30 CET
FTSE EPRA/NAREIT Eurozone Index - STND FUT	J.F.EPE	20:00 CET	18:30 CET
FTSE EPRA/NAREIT Developed Europe Index - STND FUT	J.F.EPR	20:00 CET	18:30 CET
FTSEurofirst 80	J.F.FEF	20:00 CET	18:30 CET
FTSEurofirst 100	J.F.FEO	20:00 CET	18:30 CET

Order Book Purge

On Friday before the migration, All Orders will be purged by Euronext Market Surveillance (EMS) for GTC and GTD orders on all instruments at 19:15 CET.

Customers who disconnected their systems from the order book prior to the purge are required to purge their own orders. Please note that Euronext will not be able to restore the order book in case of an incident during the migration week-end.

Members may cancel their orders directly if they wish to do so before the indicated times.

All cancelled orders will lose their existing order book priority. New orders may be submitted the following trading day. Newly submitted orders will obtain a new priority that applies to the relevant financial instrument (i.e. price/time). Members are encouraged to immediately reflect these cancellations back to their clients.

Cash instruments will continue to be traded via already established OEGs on Optiq for Cash markets. Order book purges on Derivatives will not result in any migration-related order book purge on the Cash markets.

Migration Steps and Go Live

On the **Saturday of the migration** to Optiq, **Euronext will migrate all Derivatives markets contracts onto Optiq and will open the markets to customers** who wish to test their functional and technical access to the new trading chain application.

On the **Monday of the migration, Optiq will start up in production offering all of Euronext’s Derivatives markets, and UTP-Derivatives will not be available for trading.** Orders on Derivatives markets submitted through the CCG will be rejected. The SBE templates for each market segment will be available on the EFS. For migration to Optiq OEG and MDG will be using the same version of the SBE template for all Derivatives segments.

DERIVATIVES MARKETS MIGRATION – PRODUCTION IMPLEMENTATION SCHEDULE		
Sequence	Requirement	Effective Date
Dress Rehearsal	<p>The market will open, customers will test that they have access to their Order Entry Session, log on, inject orders, receive market data messages and log off.</p> <p>The SBE templates for order entry and market data will be available during the Dress Rehearsal. Orders sent to the CCG will be rejected.</p> <p>Once the tests are complete, Euronext will shut down Optiq and customers will restore their systems to their status on Friday night at market close.</p> <p>Customers will be required to fill in a webform to confirm they participated in the Dress Rehearsal(s). A link will be provided in due course.</p>	<p>Saturday 19 October 2019</p> <p>Saturday 9 November 2019</p>
Early close & Order Book purge	Friday before the Derivatives markets migration to Optiq, certain contracts will close earlier than normal. There will be no evening session. At 19:15 CET EMS will purge all orderbooks on UTP Derivatives.	Friday 22 November 2019
Migration of Derivatives Contracts to Optiq OEG ME	<p>All Derivatives Segments are migrated to the new Optiq OE/ ME/ MDG trading chain.</p> <p>Access to Euronext Derivatives Markets through CCG is no longer possible.</p> <p>The SBE templates for order entry and market data will be updated accordingly.</p>	Saturday 23 November 2019
Verification of the successful migration to Optiq	Use of new SBE template for order entry and market data. The market will open, customers will test that they have access to their Order Entry Session, log on, inject orders, receive market data messages and log off.	Saturday 23 November 2019
Updated SBE templates on order entry and market data	New SBE templates for order entry and market data will be available for all Optiq Derivatives segments and should be used for start of trading on Optiq.	Monday 25 November 2019
Sending orders on all Derivatives market segments on Optiq	Customers send orders through the Optiq OEG. Orders sent to the CCG will be rejected.	From Monday 25 November 2019
Merger of Contracts with maturities shorter than one month	Customers to adjust their configuration for MMP & Strategies used for expiry roll for the phased merger of contracts with maturities shorter than one month	Q1 2020

4.2.3 Merger of Contracts with Maturities Shorter than one Month

As part of the migration of Derivatives markets to Optiq, technical changes will be made to allow the merger of contracts with shorter term expiries (Daily, Weekly) under the main contracts. To allow a smooth migration between (i) the contracts, (ii) the management of the position management and (iii) the roll of expiries, the merger of contracts will take place after the technical migration of Derivatives to Optiq.

The **contracts with maturities shorter than one month will continue to exist and be created on Euronext Derivatives markets after the migration to Optiq on 25 November 2019**. Maturity dates will start including days from 25 November (DDMMYY) with no impact on trade reconciliation mechanisms.

Euronext will communicate on the date at which contract maturities will start to be managed under the main (monthly) contract in due time.

The target for this change is Q1 2020 in EUA and in Production.

The existing maturities of the daily and weekly contracts that are being merged will trade until their scheduled last trading dates, and will expire in business as usual mode. Upon their expiration, and following the same expiry introduction rules, the new expiries for the same length of maturity will be introduced under the standard contract.

Trading characteristics that are the same between Contracts that are being combined are:

- Contract Type
- Exchange Code
- Lot Size
- Trading Currency
- Exercise Style
- Settlement Method
- Optiq Segment

MERGER OF CONTRACTS IMPLEMENTATION			
	Next EUA	Current EUA	Production
Scope of Contracts	The sub-set of contracts that will be merged in the Test environments. The contracts that will participate in the tests will be identified in the dedicated communication.		The full list of contracts that will be merged in Production are identified in Appendix A.
Continuation of short term expiries until merger	Up until Q1 2020	Up until Q1 2020	Up until Q1 2020
Start of Merger	Q1 2020 Testing of the Merger of contracts will be performed after go live of Optiq Phase 3. A dedicated communication will be issued on the testing approach and schedule.	Q1 2020 Testing of the Merger of contracts will be performed after go live of Optiq Phase 3. A dedicated communication will be issued on the testing approach and schedule.	Q1 2020 The exact date for the start of merger will be communicated following the completion of the migration to Optiq.

MERGER OF CONTRACTS IMPLEMENTATION			
	Next EUA	Current EUA	Production
Approach to Merger	<ul style="list-style-type: none"> • Maturities of the contracts being merged will be allowed to expire on the last trading date defined for them. • New maturities are introduced to trading on the day of their first trading day and appear in the standing data file made available for the trading on that day. The new maturities replacing merging ones within the standard, or “main”, contract will be introduced at their expected first day of trading according to the expiry cycle rules. <i>For example:</i> <i>A27 daily will expire at the end of trading day on the 27th of the month. The next daily for 27th of month will be introduced for the last date of this month in the main contract.</i> <ul style="list-style-type: none"> ▪ <i>K.O.A27 will expire at the end of 27 January 2020</i> ▪ <i>its equivalent in February will be introduced in K.O.AEX on 26 February 2020 with last trading date of 27 February 2020.</i> • Listing of new maturities under the single contract will be done into existing contracts. No new listings are planned for the merger of contract. • The main trading characteristics of a contract listed above should not change as a result of the merger. 		
Duration	The full merger is estimated to take between 4 and up to 9 weeks after the start of the merger. A detailed planned will be published in the dedicated communication.		
Required Actions	<p><u>Roll of Expiries</u>: Clients should adjust strategies for the roll between the currently separate weekly and daily contracts to be under the single “Main” contract.</p> <p><u>Market Maker Protection</u>: Following the listing of individual weekly and daily contracts in the main contract, clients should adjust their Market Maker Protection for it to apply on the corresponding “Main” contract.</p>		

4.3 MANAGING ORDER ENTRY AND MARKET DATA SERVICES AND FILES DURING THE MIGRATION

Please find below a summary of how files and services will be provided throughout the migration to Optiq Phase 3.

4.3.1 Drop Copy

Optiq Drop Copy is available via dedicated Drop Copy gateways and accesses.

After the migration clients consuming Drop Copy will receive messages via the Optiq Drop Copy, in the FIX format defined for Optiq, using these new accesses that have to be individually requested. Drop Copy provides messages across Derivatives segments. More details can be found in the *Euronext Markets – Optiq Drop Copy Service* document.

4.3.2 EOD Application Files

Euronext End of Day (EOD) interface was used as a host for the Member Infrastructure Website Audit (MIW) files that will be decommissioned with the migration of Derivatives markets to Optiq.

Information previously available through these files will be provided through the Optiq Drop Copy.

4.3.3 Saturn

SLC & Commodity Position Reporting services: There is no change to this service with the migration of Derivatives markets to Optiq.

Euronext Regulatory Reporting Solution - Reporting for non-MIFID Euronext Members:

Trading Venue Transaction Identification Code (TVTIC)²

Where feasible, Optiq Euronext uses a concatenation of the value of the fields for Execution ID and the ISIN code to generate TVTIC. No padding is applied. Members are required to conduct their own concatenation of the values communicated in the execution and fill messages with the appropriate ISIN code for purposes of compliance with rules set out by MIFID II³.

Clients already using the service will need to adjust the fields used for submission of trades to Saturn to be in line with the order entry protocol in Optiq.

The field for trade execution ID in UTP-D is *TradeID* (tag 1003). With migration to Optiq clients must use the fields for execution ID identified below per protocol:

- SBE: *Execution ID*
-

² Structure of TVTIC differs between Outrights and Strategies for the Derivatives markets, and is in progress of alignment with the Cash markets. For details about these case, please review the dedicated section “Determine the TVTIC” of the Optiq MDG Client specifications document.

³ RTS 6 - Commission Delegated Regulation (EU) 2017/589 of 19 July 2016 supplementing Directive 2014/65/EU of the European Parliament and of the Council with regard to regulatory technical standards specifying the organisational requirements of investment firms engaged in algorithmic trading & RTS 22 - Commission Delegated Regulation (EU) 2017/590 of 28 July 2016 supplementing Regulation (EU) No 600/2014

- FIX: ExecID (tag 17)

The execution ID used by Optiq is unique for the MIC and date.

ISIN Code is the field retrieved from standing data for the associated instrument.

Strategy Trades

Following migration to Optiq trades reported in Saturn on strategies will follow the same checks as done on trades on the Outrights. I.e. in case a trade reported in Saturn doesn't match the trade in Optiq – this report will be rejected by Saturn.

Notes on Reporting & Implementation Dates

The changes for submission and validation are not backward or forward compatible. Before the migration clients must use the existing fields / logic for reporting, and after migration must switch to the new one. Otherwise the reported trades will be rejected.

4.3.4 Central Counterparties & Clearing

Central Counterparties will receive updated information on contracts and tradeable instruments in line with the migration to Optiq.

Clients are advised to consider the following important information related to clearing:

- After the migration of the Derivatives segments to Optiq, all trade messages will use the Trade and Order IDs and Timestamps in the format provided by Optiq, with all Timestamps provided in UTC.
- Following the migration, the order ID used in reconciliation with clearing partners needs to be adjusted. Clients are invited to review guidelines for order ID reconciliation with Central Counterparties provided in the Appendix C of this document.
- To make the migration as smooth as possible, and reduce the possibility of errors post-go live, conformance will include a set of front-to-back trading to clearing tests. A dedicated document was provided for the front-to-back testing containing:
 - the set of scenarios required to be done
 - process by which testing will be done, timelines and points of contact
- To assist clients in front-to-end setup and testing a mapping of clearing-specific fields in Optiq Order Entry and LCH Clearing messages is made available in Appendix B of this document. Clients must correctly populate the clearing fields in the order submission, to ensure correct processing and posting of trades.
- To ensure a smooth roll between the merging expiries, the merger will be done as a separate step as described in the section “Merger of Contracts with Maturities shorter than one month”.

4.3.5 Euronext File Services (EFS)

The files currently provided for Cash markets will not be affected by the migration of the Derivatives markets to Optiq.

For the files provided for the Derivatives markets, details of file and folder changes on EFS are identified in the Change Summary document published on 21 January 2019 for the Change in MDG for new Derivatives Segments, and are also provided in Appendix D at the end of this document.

For more information about new files and concepts, clients should review the *How the Market Works* document.

Information on newly added files, and modification of existing ones, that are made available on EFS is available in the *Euronext Markets - Optiq File Specifications* Document.

Find below the list of files available in the EFS at each step of the migration of the Derivatives markets to Optiq.

	OE or MDG	Current setup in Production	Production set-up After Segmentation Change	Migrating to Optiq (Target for Go live)
Open Interest File	MDG	One file per Derivatives segment (Commodities, Futures, Options)	One file per segment (Commodities, Equity Derivatives, Index Derivatives, Financial Derivatives)	No Change in location / name
PrevDayCapAndVolTradeFile	MDG	One file per Cash segment	No Change	No Change
Cash Standing Data File	OEG & MDG	One files per Cash segment	No Change	No Change
Derivatives Standing Data File	OEG & MDG	One file per Derivatives segment (Commodities, Futures, Options)	One file per Derivatives segment (Commodities, Equity Derivatives, Index Derivatives, Financial Derivatives)	No Change in location / name Updated with OEG Connectivity data
SBE Templates	OEG & MDG	For Cash: Two files are provided for each segment, one for MDG and one for OEG For Derivatives: One unique MDG template provided for all segments, in directory "Current"	One file per segment (Commodities, Equity Derivatives, Index Derivatives, Financial Derivatives)	2 SBE templates: one for OEG and one for MDG, split into segments. The templates between segments are the same Cash and APA do not change (Phase 2)
Time Table file (for Cash)	MDG	One files per Cash segment	File for Cash only	No Change
Time Table file (for Derivatives)	MDG	Not Available	Not Available	New file for Derivatives One file per segment (Commodities, Equity Derivatives, Index Derivatives, Financial Derivatives)
Cash Tick Size Referential File	MDG	For Cash: One file provided for all segments, in directory "Current"	One file for Cash and one file for Derivatives, provided for in directory "Current"	No Change in location / name

	OE or MDG	Current setup in Production	Production set-up After Segmentation Change	Migrating to Optiq (Target for Go live)
		For Derivatives: One file provided for all segments, in directory "Current"		
Repo Settlement Price File	MDG	For Cash: One files per Cash segment	No Change	No Change
Reference Spread (APF) file	MDG & OEG	Not Available	Not Available	New file for Derivatives One file per segment (Commodities, Equity Derivatives, Index Derivatives, Financial Derivatives)
Derivatives Tick Size File	MDG & OEG	Not Available	Not Available	New file for Derivatives One file for all Derivative segments, provided for in directory "Current"
TRF Conversion Parameters Files	MDG	Four files provided for segment Futures	Four files provided for segment Index Derivatives	No Change in location The name adjusted to Optiq.

4.3.6 FIXML files

Following migration of market data to Optiq MDG in Phase 1 for trading on CCG Euronext continued providing standing data in FIXML files.

Following migration for trading to Optiq, via OEGs, these files will be **decommissioned**, and clients should implement changes in their system to start using the Derivatives Standing Data files, that contain all data required for trading.

Currently the FIXML files are provided in two locations:

1. ftp.data.euronext.com
2. Standing data FTP Servers (Staging server) [156.48.93.155 (via SFTI)]

4.4 TESTING APPROACH AND TEST ENVIRONMENTS

Next EUA is the environment which will be used for end-to-end testing of Optiq and for conformance. **On the test environment, customers are expected to (i) check their connectivity to the OEG and (ii) validate their conformance tests including end-to-end tests all the way to clearing.**

Find below the timeline for Next EUA⁴ changes for Optiq:

	NEXT EUA CHANGES	
	Availability in Next EUA	Info Flash / Optiq Notice reference
File availability in Target folders on EFS for Market data segmentation change Testing access to files and change in population	6 February 2019 (COMPLETED)	Info Flash of 21 January 2019
Market data segmentation changes Testing the changes and new SBE templates.	From 20 February 2019 (COMPLETED)	Info Flash of 21 January 2019
Technical set up of Order Entry For connectivity testing and validation of OE sessions.	May 2019 (COMPLETED)	OEG Connectivity Specifications / Telnet Tests docs
Next EUA testing of Derivatives markets not supported For internal testing purposes, Next EUA's Derivatives markets will be closed.	3 June – 26 June 2019 (COMPLETED)	Optiq Notice of 7 May 2019
Conformance Scope	17 July 2019 (COMPLETED)	Info Flash of 26 June 2019
Compression of Derivatives Markets MDG 1Gb shaped channels in Next EUA.	3 October 2019 (COMPLETED)	Info Flash of 26 September Optiq Notice of 2 October
Final Scope Delivery	October 2019	Optiq Notice will be published in due course
Testing of Expiry Merger The expiry merge under one contract will apply gradually to a pre-defined set of contracts.	Q1 2020	An Optiq Notice will be published on details and schedule of testing.

4.4.1 Checking Order Entry Connectivity in Next EUA

Euronext provided Order Entry Sessions for Next EUA to clients' Member Connectivity Administrators and to all providers two weeks before availability of Next EUA. Customers who have not received their Order Entry Sessions for Next EUA are invited to contact Customer Access Services. For more details please see the "Order OEG Logical Accesses" section, and see contact details in the [Support](#) section of this document).

Drop Copy sessions have been provided.

The *Optiq OEG Connectivity Features & Configuration Specifications* document has been updated for Phase 3 with full connectivity details for Next EUA.

Clients are able to perform telnet to the Optiq Next EUA environment. Please refer to the OEG Connectivity Specification and Telnet Tests document for more details.

⁴ More information on operations in Current EUA (formerly v-EUA) will be provided in a later version of Migration guidelines

4.4.1.1 Throttling Testing of Optiq in EUA

For throttling testing dedicated time slots was announced in the Next EUA environment, every day from 17:30 to 18:30 CEST/CET (except on Wednesdays), from 7 October 2019. These tests follow the Throttling mechanism that is described in the “OEG Throttling” section of the *Optiq OEG Connectivity Features & Configuration Specifications* document.

4.4.2 Validating Conformance Tests

	Provider	Trading member in-house	Member using provider
Functional conformance test	Mandatory	Mandatory	Market makers: Mandatory* Other Members: Highly recommended
High Availability testing	Mandatory	Mandatory	Highly recommended
Performance & Capacity test	Highly recommended**	Highly recommended**	Highly recommended**
Front-to-back testing	N/A	Mandatory	Mandatory

* Trading members using provider do not have to perform functional conformance unless said member is market making

** Highly recommended. The migration from ITM to Logical Access ID brings significant changes and clients are responsible to test and understand the changes prior to go-live in Production.

The main test environment for Optiq Phase 3 is the Next EUA environment. Conformance scope of software is available since the opening of the test platform, enabling customers to validate their software and to perform their functional and front-to-back Clearing conformance testing.

Conformance testing consists of technical and functional parts:

- **Functional conformance testing** allows customers to validate the full scope of the Optiq order entry gateway (OEG), taking into account all message types offered in scope of conformance. This testing will be made available across all segments and product types.
- **Technical conformance testing** presents:
 - o Capacity & throttling; (*details of tests and time slots identified in section above*)
 - o Several different types of failures (High Availability[HA])

Dedicated time slots will be set up for Technical conformance. Please find the details in the [Optiq Notice of 7 October 2019](#). A dedicated communication will provide more details and dates for these tests.

Test scenarios and scripts are available for general and specialized (e.g. Market Making) trading functionalities.

Conformance testing is available in the **Next EUA environment** and customers need to conform **each of their solutions, for each member code, each protocol and on each authorised Derivatives segment.**

Customers are invited to book a conformance test appointment using the following [web form](#).

Please note that customers need to fill in the conformance booking form at least 48 hours prior to the desired timeslot. No conformance test will take place on Wednesday as the Next EUA platform is closed for maintenance.

Please note that:

- Customers will not be able to access the Production environment for the Dress Rehearsal or Go-live unless they have completed their **functional conformance tests** on the relevant segments;
- Customers will not be able to access the Production environment for Go-Live unless they have completed their **functional and technical conformance tests**.

All conformance information, including conformance scripts and guidelines documents have been communicated, and are made available on the IT Documentation page on the Euronext Optiq project webpage.

4.4.3 Front-to-back Clearing Testing

The migration to Optiq brings with it a large number of changes impacting the post trade systems of Clearing Members, in reconciliation with client back-offices. Clients are strongly encouraged to review the information that is included in the appendices of this document, as well as dedicated communication for the clearing impacts, and to ensure that their systems use the correct mapping of values and instructions for clearing data.

As a result, a part of the mandatory testing for Phase 3 is dedicated to **front-to-back testing**.

These tests will allow to confirm that the mapping of fields and the associated configured values from Order Entry to posting in clearing accounts is correctly populated by the clients' trading facing systems, clearing members and back-offices.

When performing the Front-to-back clearing conformance test, the **Trading member is responsible to confirm with their Clearing member that mapping is as expected.**

	Trading Member developer	Member developer + using a provider	Market Makers using a provider only	Trading Member using a provider only
Mandatory / optional	Mandatory	Mandatory	Mandatory	Mandatory

Clearing testing must be completed by each individual trading firm, identified by a Firm ID (a.k.a. Member code / TMF) to ensure their account and configuration setup is correct.

A dedicated Front to Back test script was published on [7 October 2019](#) with more details on these tests.

The main test environment for Optiq Phase 3 is the **Next EUA environment**.

Access to LCH in Euronext's test environment is in Next EUA during the Optiq programme test period.

4.4.4 High Availability Testing of Optiq in EUA

Following the delivery of the full scope of Optiq for Derivatives markets, dedicated time slots will be set up for High Availability (HA) tests in the Next EUA environment. These HA tests will follow the mechanism that is described in the "High Availability & Business Continuity: Functional Overview" section of the *Optiq OEG Connectivity Features & Configuration Specifications* document.

Dedicated communication on this will be published in due course.

4.4.5 Optional Testing of Optiq in Current EUA

Approximately two to four weeks before the migration of Derivatives segments to Optiq in Production, the Current External User Acceptance environment (v-EUA) will be upgraded to be in line with full scope of Phase 3, and will be used to practice the migration steps planned for Production. This includes the purge of the order book and the change of SBE templates for OEG and MDG.

Euronext will provide dedicated accesses to the Current EUA to members and their providers. The details of the accesses will be provided at the same time as for Next EUA.

Please note that:

- Cash segments in Next and Current EUA environments will not be impacted by the migration of the Derivatives markets to Optiq.
- The main test environment for the customers to use for Derivatives Markets migration (Phase 3) remains the Next EUA throughout the Optiq programme.

4.5 CUSTOMER READINESS CHECKLIST

The actions required of customers before Go Live are listed in the table below.

	CUSTOMER READINESS CHECKLIST			
	Availability in EUA	Availability in Production	Deadline	Relevant documentation
Adapt to market data segmentation change <i>Trading Member developers and Providers, including Data Vendors</i> Includes updates to the MDG SBE template. Testing in Next EUA. [Mandatory]	20 February 2019 (COMPLETED)	29 April 2019 (COMPLETED)	N/A	InfoFlash
Sign the TPAA <i>Trading Members</i> Required of Trading Members to use Optiq in Production [Mandatory for Clients that have not yet signed the TPAA]	N/A	N/A	11 October 2019	TPAA provided by Euronext Membership
Develop and test <i>Trading Member developers and Providers</i> For order entry and market data software in Next EUA [Mandatory]	26 June 2019	N/A	First Dress Rehearsal	Optiq documentation

CUSTOMER READINESS CHECKLIST				
	Availability in EUA	Availability in Production	Deadline	Relevant documentation
Manage new SBE templates for Phase 3 <i>Trading Member developers and Providers</i> New SBE order entry and change in SBE for market data per segment [Mandatory]	26 June 2019	Q4 2019		Optiq documentation
Validate Functional conformance test <i>Trading Member developers and Providers</i> Functional conformance [Mandatory]	26 June 2019	N/A	7 November	Conformance guidelines Conformance scripts
Validate Front-to-back conformance test [Mandatory]	From 7 October 2019	N/A	8 November	Optiq Notice
Validate Throttling tests [Highly recommended]	From 7 October 2019	N/A	8 November	Optiq Notice
Validate High Availability conformance tests [Highly recommended]	From 21 October 2019	N/A	15 November	Optiq Notice will be published in due course
Configure network <i>Trading Members, ASPs and ESPs</i> Update connectivity and perform telnet tests [Mandatory]	22 May 2019	22 May 2019	19 October First Dress Rehearsal	OEG Connectivity Specifications Telnet Tests guidelines
Order OE sessions <i>Trading Members</i> Will be provided for Next EUA; to be ordered for Production; required for dress rehearsal [Mandatory]	July 2019	Order forms must be submitted at the latest one week before Dress Rehearsal	19 October First Dress Rehearsal	Logical Access order form for EUA Production
Participate in a Dress Rehearsal <i>Trading Members via in-house and/or Provider solutions</i> Validate technical and functional access to Production [Mandatory]	N/A	Saturday 19 October 2019 Saturday 9 November 2019	N/A	Detailed dress rehearsal guidelines published on 15 October
Test final set-up on the Go Live week-end <i>Trading Members via in-house and/or Provider solutions</i> Validate technical and functional access before the market segment migrates to Optiq [Highly recommended]	N/A	23 November 2019	N/A	Further information will be provided

CUSTOMER READINESS CHECKLIST				
	Availability in EUA	Availability in Production	Deadline	Relevant documentation
<p>Management of the merger of contract expiries <i>Trading Members and Providers</i> Validate the merge of expiries under one contract in Next EUA before it is implemented in Production.</p>	Q1 2020	Q1 2020	Q1 2020	<p>Further information will be provided in a dedicated communication.</p>

4.6 PRODUCTION ENVIRONMENT

The Production environment will be upgraded to Optiq Phase 3 which will replace UTP on Derivatives Markets.

On the Production environment, customers are expected to (i) test order entry connectivity to Production, (ii) order new order entry sessions to access Production, and (iii) validate their access and software in a mandatory Dress Rehearsal.

4.6.1 Testing Order Entry Connectivity to Production and the Disaster Recovery Environments

The Production and Disaster Recovery environments will be opened ahead of migration of Derivatives markets to Optiq in Production for Telnet connectivity testing. Please refer to Euronext Markets – Optiq OEG Connectivity Specifications and the Telnet testing guidelines for more information.

Technical connectivity testing does not require any specific connectivity setup (i.e. Logical Access information) as it covers generic telnet testing.

Telnet connectivity tests are available for Logical and Drop Copy access in the Production and Disaster Recovery environments. Customers are required to perform Telnet commands in order for Euronext to receive network validation of the connectivity.

The due dates and timeframes for OEG and Drop copy connectivity testing in Production and DR is mentioned inside the *Euronext Markets – Optiq Phase 3 Production Connectivity Telnet Tests* document.

4.6.2 Dress Rehearsals

The mandatory Dress Rehearsals will take place before Go Live, allowing customers to test the target Production implementation of OEG and MDG for Derivatives markets in advance. **Customers will not be authorised to take part in the Dress Rehearsal week-end unless they have (i) validated their conformance test, (ii) confirmed Telnet connectivity to Production and (iii) ordered their OE Sessions for Production.**

The scope of the tests are the following:

- Optiq Order Entry and Market Data Phase 3 for Derivatives markets
- The schedule and scope of Dress Rehearsals will be communicated at a later date in a dedicated document

Tests which are out of scope are the following:

- LCH tests
- Functional high availability
- Cash markets
- Saturn
- Drop Copy

Customers will be expected to conduct the following tests:

- Secure network resources to validate firewall / security path

- Connect to the Production environment
- Process standing data (files or messages)
- Inject orders
- Observe market data
- Purge the book at the end of the day and restore order book to Friday night
- Validate participation at the end of the day via a webform

The roll-back to CCG / UTP after each dress rehearsal should be managed by the participants of each test to ensure a smooth start-up on the next trading day. **All clients are required to participate in at least one Saturday dress rehearsal prior to Go Live.** Participation in the migration week-end is highly recommended.

On the Saturday before go-live, clients will be invited to connect to the Optiq OEG, as well as to the MDG multicast channels that will be implemented in Production on the next trading day.

Once the Go-Live is confirmed, clients will keep the configuration in place and will **not** perform a roll-back in order to begin trading using Optiq OEG and MDG on the following Monday. Clients will need to ensure that they have purged their systems of the orders placed during the Saturday tests.

A detailed description of the dress rehearsals, go-live organization, disaster recovery testing and test scenarios will be provided in due course.

5. EURONEXT MEMBERSHIP AND CONNECTIVITY APPROACH DURING THE MIGRATION PERIOD

Please note that the following processes are in place during the Optiq Phase 3 migration period.

Customers are required to sign the Trading Platform Access Agreement (TPAA) prior to trading on Euronext Markets on Optiq.

- Customers who signed the TPAA for the Cash markets will not be required to sign a new agreement for the Derivatives markets.
- Customers who have not yet signed the TPAA must sign it to be able to trade on the Euronext Derivatives Markets on Optiq.

Customers will be able to order ITMs on UTP-D during the Optiq testing phase and up to 2 weeks before the migration.

Any applications for membership received within 8 weeks before migration in Production, will be able to start trading only with go live of Optiq, and will be required to complete their conformance tests with Optiq. Given the fact that Next EUA will be the testing environment for Optiq, customers need to be aware that testing on UTP-D for new membership will have to be conducted in Current EUA. From 8 weeks before Go Live, it is recommended that customers develop their systems to match Optiq rather than UTP-Derivatives.

The following table lists the dates for membership and Optiq connectivity milestones that clients need to take into consideration:

	Membership and Connectivity to Euronext markets		
	Next EUA availability	Current EUA availability	Production availability
New Cash markets membership New legal entity or member code, including new clearing member	At all times	At all times	At all times
New Derivatives markets membership for use on UTP-D New legal entity or member code, including new clearing member, and setup of Market Maker authorization for ITMs	Until 3 June 2019	Until 27 September 2019	Freeze in Effect
New Derivatives markets membership for use on Optiq New legal entity or member code, including new clearing member	From 26 June 2019	In Q4 2019	From 25 November 2019
Sign the TPAA (if not yet signed) <i>Trading Members</i> Required of Trading Members to use Optiq in Production	N/A	N/A	15 May 2019
New UTP ITMs on Derivatives markets	N/A	Available until end of Q3 2019	Available up until 2 weeks before migration to Optiq
New Optiq Logical Access on Derivatives markets , including setup of Market Maker authorization and RiskGuard accesses	From 26 June 2019	In Q4 2019	2 days before the Dress Rehearsal
New Optiq Logical Access on Cash markets	At all times	At all times	At all times

6. COMMUNICATION PLAN

A strong focus on communication will continue throughout the Optiq migration, in order to ensure that all clients have access to clear and useful information for the duration of the programme. The following list of communication methods will be used to convey key details and clients should be sure to subscribe to any relevant distribution lists.

A dedicated Optiq contact registration form is available on the Optiq website, allowing customers to register as key entry points for all information relating to the Optiq Programme. The objectives of this form are:

- To provide to the Optiq teams the necessary information related to customers organisation and development for Optiq Phase 3 Derivatives migration,
- Make sure that all relevant IT and business contacts receive the dedicated Optiq Derivatives communications

The form is available [here](#) and we invite all customers to complete registration.

- **Optiq Website:** a dedicated section of the Euronext website has been created for Optiq, and includes key information on the migration, as well as an exhaustive repertoire of all Optiq communications and documentation published. <https://www.euronext.com/optiq>
- **Info Flashes:** These communications will announce key milestones of the project, and details that all clients should be aware of, such as: documentation publication, the opening of each platform, and confirmed Production implementation dates.
- **Optiq Newsletters:** the newsletters are particularly useful as they provide a single point of reference for key programme milestones, further details on Optiq planning, platform & connectivity, as well as high-level functionality overviews. All clients are encouraged to subscribe to and read each monthly newsletter.
- **Optiq Notices:** The Optiq support desk will provide programme updates via 'Optiq Notices' to inform the market of milestones, EUA environment details, Optiq specifications, issue reminders of deadlines, changes and testing, as well as other important programme updates.
- **Technical & Functional Documentation:** new and updated documentation will be published throughout the course of the migration, and will provide clients with the required information to develop and implement Optiq Phase 3.
- **Bilateral Meetings:** Optiq Client Readiness team representatives will meet with clients during the steps of migration, to hold dep-dive sessions, provide regular updates on the program, as well as cover topics like impact assessment, readiness updates, connectivity on-boarding and escalations.
- **Regional Info Sessions & Workshops:** Information sessions & workshops will be organized in the various Euronext locations and will provide an opportunity to learn about the latest updates on the Optiq migration programme and to catch up with fellow market participants. The sessions are open to all members and technology providers.
- **Monthly Readiness Calls:** Answering market participants' questions in monthly calls. Participants wishing to participate in the monthly calls should register using the designated web form, here: <https://connect2.euronext.com/en/form/optiq-survey>

Note: to subscribe to any of the communications please contact optiq@euronext.com

7. DOCUMENTATION

This section outlines various documents that will be made available to clients and the means to retrieve them from a Euronext website. These documents are published to allow clients to do the necessary development and setup for migration of Derivatives markets to Optiq.

The documents listed below are available for Phase 3, with the latest version applicable to Phase 3 indicated, where applicable:

- Euronext Derivatives: How the Market Works ^[v3.0]
- Euronext Markets – Optiq File Specification ^[v3.1.0]
- Euronext Derivatives Markets - TRF Conversion Parameters Files Specifications ^[v1.7]
- Euronext Markets – Optiq MDG Client Specifications ^[v3.1.0]
- Euronext Markets – OEG Client Specifications – SBE Interface ^[v2.1.0]
- Euronext Markets – OEG Client Specifications – FIX 5.0 Interface ^[v2.1.0]
- Euronext Derivatives Market – Optiq Kinematics Specifications ^[v1.1.0]
- MDG SBE Template file ^[v204]
- OEG SBE Template file ^[v204]
- Euronext Markets – Optiq SBE Template Policy for the Migration of Derivatives Markets
- Euronext Markets – Optiq & TCS Error List
- Euronext Markets – Optiq OEG Connectivity Configuration specifications ^[v2.2.1]
- Euronext Optiq Market Data Gateway External User acceptance Environment ^[v2.1]
- Euronext Optiq Market Data Gateway Production Environment ^[v2.2]
- Euronext Markets – Optiq Phase 3 Production Connectivity Telnet Tests ^[v1.0.1]
- Euronext Markets – Optiq Drop Copy service ^[v2.0.0]
- Self-Trade Prevention Functional Overview ^[v1.4]
- Optiq Euronext File Services (EFS) User Guide
- Optiq Phase 3 Tick Size Summary
- Optiq Phase 3 Derivatives Spread Classes
- Optiq Phase 3 Trading Schedule Summary

Clients are advised to also refer to the Euronext Rules and Regulations documents for further details. For the latest version of documentation please visit <http://www.euronext.com/optiq/documentation>.

8. SUPPORT

A Support Desk dedicated to the Optiq programme was launched in June 2016. The Support desk is and will be available to customers for the duration of the Optiq implementation programme. It has been set up to answer customers' queries related to the Optiq programme, to send information to customers related to Optiq, to assist customers in their testing and validation on the EUA environment, and to provide follow-up on client conformance testing.

The Optiq Support Desk has been set up to ensure customer readiness and will be the primary point of contact for clients throughout the migration. The scope of the Support Desk will include:

- Answering customer queries about the Optiq programme, such as technical and functional questions, clarifications on the specifications and documentation, questions relative to the migration and associated dates, and questions regarding connectivity.
- Sending information about Optiq to customers, such as the monthly newsletters, regular technical notes, programme Info Flashes and updates to the dedicated Optiq web page.
- Assisting customers in their testing and validation on EUA environment by generating test orders, trades and market data, matching client orders upon request, and facilitating testing on the platform by creating Production-like conditions.
- Coordination and follow-up on customer conformance testing by ensuring that clients have made the required developments for the new Optiq platform and providing support during the conformance testing periods.

In addition, the Membership team is available to answer customers' queries related to the TPAA.

Finally, the Customer Access Services team is available to manage queries related to their access to Optiq in Next EUA, Current EUA and Production.

Find below the contact details of Euronext's support teams:

Team	Contact details
<p>Optiq Support Desk Members' first point of contact for Optiq Phase 3 Technical & functional assistance with the development and testing on Optiq. Assistance with the use of the EUA environment, conformances, timeline and customer readiness checklist.</p>	<ul style="list-style-type: none"> ■ Tel: +33 1 70 48 25 55 ■ Email: optiq@euronext.com
<p>Operational Client Services Contact the Operational Client Services Desk for all operational queries and support requests:</p>	<ul style="list-style-type: none"> ■ Tel: +33 1 85 14 85 85 ■ Email: clientsupport@euronext.com
<p>Membership Support to new and existing members with the onboarding process for becoming a trading member, including contracts (TPAA).</p>	<ul style="list-style-type: none"> ■ Tel: +31 207 214 264 ■ Email: EuronextMembership@euronext.com
<p>Customer Access Services Support to market participants' access and connections to Euronext markets, including ITMs on UTP, Logical Accesses on Optiq (i.e. access and log-in credentials to Optiq OEG).</p>	<ul style="list-style-type: none"> ■ Tel: +33 1 85 14 85 89 ■ Email: CAS@euronext.com

9. APPENDIX

9.1 APPENDIX A: CONTRACTS FOR MERGER IN PRODUCTION

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
A	O	EUE	EUE-St Opt	EUE	Main	N/A
A	O	5EU	EUE - Weekly	EUE	Merging into Main	A.O.EUE
A	O	4EU	EUE - Weekly	EUE	Merging into Main	A.O.EUE
A	O	2EU	EUE - Weekly	EUE	Merging into Main	A.O.EUE
A	O	1EU	EUE - Weekly	EUE	Merging into Main	A.O.EUE
A	O	HEI	HEINEKEN	HEI	Main	N/A
A	O	5HE	Heineken NV - Weekly	HEI	Merging into Main	A.O.HEI
A	O	4HE	Heineken NV - Weekly	HEI	Merging into Main	A.O.HEI
A	O	2HE	Heineken NV - Weekly	HEI	Merging into Main	A.O.HEI
A	O	1HE	Heineken NV - Weekly	HEI	Merging into Main	A.O.HEI
A	O	IME	IME-St Opt	IME	Main	N/A
A	O	5IC	IME - Weekly	IME	Merging into Main	A.O.IME
A	O	4IC	IME - Weekly	IME	Merging into Main	A.O.IME
A	O	2IC	IME - Weekly	IME	Merging into Main	A.O.IME
A	O	1IC	IME - Weekly	IME	Merging into Main	A.O.IME
A	O	ING	ING	ING	Main	N/A
A	O	5IN	ING Groep Weekly Opt	ING	Merging into Main	A.O.ING
A	O	4IN	ING Groep Weekly Opt	ING	Merging into Main	A.O.ING
A	O	2IN	ING Groep Weekly Opt	ING	Merging into Main	A.O.ING
A	O	1IN	ING Groep Weekly Opt	ING	Merging into Main	A.O.ING
A	O	IEM	IEM-St Opt	IEM	Main	N/A
A	O	5IG	IEM - Weekly	IEM	Merging into Main	A.O.IEM
A	O	4IG	IEM - Weekly	IEM	Merging into Main	A.O.IEM
A	O	2IG	IEM - Weekly	IEM	Merging into Main	A.O.IEM
A	O	1IG	IEM - Weekly	IEM	Merging into Main	A.O.IEM
A	O	UN	UNILEVER	UN	Main	N/A
A	O	5UN	Unilever NV - Weekly	UN	Merging into Main	A.O.UN
A	O	4UN	Unilever NV - Weekly	UN	Merging into Main	A.O.UN
A	O	2UN	Unilever NV - Weekly	UN	Merging into Main	A.O.UN
A	O	1UN	Unilever NV - Weekly	UN	Merging into Main	A.O.UN
A	O	TTM	Tom Tom Individual E	TTM	Main	N/A
A	O	5TT	TomTom Weekly	TTM	Merging into Main	A.O.TTM
A	O	4TT	TomTom Weekly	TTM	Merging into Main	A.O.TTM
A	O	2TT	TomTom Weekly	TTM	Merging into Main	A.O.TTM
A	O	1TT	TomTom Weekly	TTM	Merging into Main	A.O.TTM
A	O	IJP	IJP-St Opt	IJP	Main	N/A
A	O	5IJ	IJP - Weekly	IJP	Merging into Main	A.O.IJP
A	O	4IJ	IJP - Weekly	IJP	Merging into Main	A.O.IJP
A	O	2IJ	IJP - Weekly	IJP	Merging into Main	A.O.IJP
A	O	1IJ	IJP - Weekly	IJP	Merging into Main	A.O.IJP
A	O	IWR	IWR-St Opt	IWR	Main	N/A
A	O	5IW	IWR - Weekly	IWR	Merging into Main	A.O.IWR
A	O	4IW	IWR - Weekly	IWR	Merging into Main	A.O.IWR
A	O	2IW	IWR - Weekly	IWR	Merging into Main	A.O.IWR
A	O	1IW	IWR - Weekly	IWR	Merging into Main	A.O.IWR
A	O	ISS	ISS-St Opt	ISS	Main	N/A
A	O	5IS	ISS - Weekly	ISS	Merging into Main	A.O.ISS
A	O	4IS	ISS - Weekly	ISS	Merging into Main	A.O.ISS

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
A	O	2IS	ISS - Weekly	ISS	Merging into Main	A.O.ISS
A	O	1IS	ISS - Weekly	ISS	Merging into Main	A.O.ISS
A	O	ISF	ISF-St Opt	ISF	Main	N/A
A	O	5IZ	ISF - Weekly	ISF	Merging into Main	A.O.ISF
A	O	4IZ	ISF - Weekly	ISF	Merging into Main	A.O.ISF
A	O	2IZ	ISF - Weekly	ISF	Merging into Main	A.O.ISF
A	O	1IZ	ISF - Weekly	ISF	Merging into Main	A.O.ISF
A	O	MT	Arcelor Mittal	MT	Main	N/A
A	O	5MT	ArcelorMittal Weekly	MT	Merging into Main	A.O.MT
A	O	4MT	ArcelorMittal Weekly	MT	Merging into Main	A.O.MT
A	O	2MT	ArcelorMittal Weekly	MT	Merging into Main	A.O.MT
A	O	1MT	ArcelorMittal Weekly	MT	Merging into Main	A.O.MT
A	O	PHI	Philips NV Koninklij	PHI	Main	N/A
A	O	5PH	Philips NV Koninklij	PHI	Merging into Main	A.O.PHI
A	O	4PH	Philips NV Koninklij	PHI	Merging into Main	A.O.PHI
A	O	2PH	Philips NV Koninklij	PHI	Merging into Main	A.O.PHI
A	O	1PH	Philips NV Koninklij	PHI	Merging into Main	A.O.PHI
A	O	RD	Royal Dutch Shell 'A	RD	Main	N/A
A	O	5RD	Royal Dutch Weekly O	RD	Merging into Main	A.O.RD
A	O	4RD	Royal Dutch Weekly O	RD	Merging into Main	A.O.RD
A	O	2RD	Royal Dutch Weekly O	RD	Merging into Main	A.O.RD
A	O	1RD	Royal Dutch Weekly O	RD	Merging into Main	A.O.RD
A	O	SBM	SBM Offshore NV	SBM	Main	N/A
A	O	5SB	SBM Offshore NV - We	SBM	Merging into Main	A.O.SBM
A	O	4SB	SBM Offshore NV - We	SBM	Merging into Main	A.O.SBM
A	O	2SB	SBM Offshore NV - We	SBM	Merging into Main	A.O.SBM
A	O	1SB	SBM Offshore NV - We	SBM	Merging into Main	A.O.SBM
A	O	AFA	Air France-KLM	AFA	Main	N/A
A	O	1AF	AirFrance-KLM-Weekly	AFA	Merging into Main	A.O.AFA
A	O	2AF	AirFrance-KLM-Weekly	AFA	Merging into Main	A.O.AFA
A	O	4AF	AirFrance-KLM-Weekly	AFA	Merging into Main	A.O.AFA
A	O	5AF	AirFrance-KLM-Weekly	AFA	Merging into Main	A.O.AFA
A	O	AGN	AEGON	AGN	Main	N/A
A	O	5AG	AEGON Weekly Option	AGN	Merging into Main	A.O.AGN
A	O	4AG	AEGON Weekly Option	AGN	Merging into Main	A.O.AGN
A	O	2AG	AEGON Weekly Option	AGN	Merging into Main	A.O.AGN
A	O	1AG	AEGON Weekly Option	AGN	Merging into Main	A.O.AGN
A	O	AH	Ahold Delhaize, Kon	AH	Main	N/A
A	O	5AH	Ahold Delhaize, Kon	AH	Merging into Main	A.O.AH
A	O	4AH	Ahold Delhaize, Kon	AH	Merging into Main	A.O.AH
A	O	2AH	Ahold Delhaize, Kon	AH	Merging into Main	A.O.AH
A	O	1AH	Ahold Delhaize, Kon	AH	Merging into Main	A.O.AH
A	O	AKZ	AKZO NOBEL	AKZ	Main	N/A
A	O	5AK	Akzo Nobel NV - Week	AKZ	Merging into Main	A.O.AKZ
A	O	4AK	Akzo Nobel NV - Week	AKZ	Merging into Main	A.O.AKZ
A	O	2AK	Akzo Nobel NV - Week	AKZ	Merging into Main	A.O.AKZ
A	O	1AK	Akzo Nobel NV - Week	AKZ	Merging into Main	A.O.AKZ
A	O	ASL	ASML Holding NV	ASL	Main	N/A
A	O	5AS	ASML Holding NV - We	ASL	Merging into Main	A.O.ASL
A	O	4AS	ASML Holding NV - We	ASL	Merging into Main	A.O.ASL
A	O	2AS	ASML Holding NV - We	ASL	Merging into Main	A.O.ASL
A	O	1AS	ASML Holding NV - We	ASL	Merging into Main	A.O.ASL
A	O	DSM	Koninklijke DSM N.V	DSM	Main	N/A
A	O	5DS	DSM NV, Koninklijke	DSM	Merging into Main	A.O.DSM

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
A	O	4DS	DSM NV, Koninklijke	DSM	Merging into Main	A.O.DSM
A	O	2DS	DSM NV, Koninklijke	DSM	Merging into Main	A.O.DSM
A	O	1DS	DSM NV, Koninklijke	DSM	Merging into Main	A.O.DSM
A	O	ABN	ABN AMRO-St Opt	ABN	Main	N/A
A	O	5AB	ABN AMRO - Weekly	ABN	Merging into Main	A.O.ABN
A	O	4AB	ABN AMRO - Weekly	ABN	Merging into Main	A.O.ABN
A	O	2AB	ABN AMRO - Weekly	ABN	Merging into Main	A.O.ABN
A	O	1AB	ABN AMRO - Weekly	ABN	Merging into Main	A.O.ABN
K	F	FTI	FUTURE AEX INDEX	AEX	Main	N/A
K	F	5FT	AEX Index Weekly Fut	AEX	Merging into Main	K.F.FTI
K	F	4FT	AEX Index Weekly Fut	AEX	Merging into Main	K.F.FTI
K	F	2FT	AEX Index Weekly Fut	AEX	Merging into Main	K.F.FTI
K	F	1FT	AEX Index Weekly Fut	AEX	Merging into Main	K.F.FTI
K	O	AEX	AEX-INDEX	AEX	Main	N/A
K	O	AX5	AEX Weekly - 5th Fri	AEX	Merging into Main	K.O.AEX
K	O	AX4	AEX Weekly - 4th Fri	AEX	Merging into Main	K.O.AEX
K	O	AX2	AEX Weekly - 2nd Fri	AEX	Merging into Main	K.O.AEX
K	O	AX1	AEX Weekly - 1st Fri	AEX	Merging into Main	K.O.AEX
K	O	A9	AEX Daily Option - 9	AEX	Merging into Main	K.O.AEX
K	O	A8	AEX Daily Option - 8	AEX	Merging into Main	K.O.AEX
K	O	A7	AEX Daily Option - 7	AEX	Merging into Main	K.O.AEX
K	O	A6	AEX Daily Option - 6	AEX	Merging into Main	K.O.AEX
K	O	A5	AEX Daily Option - 5	AEX	Merging into Main	K.O.AEX
K	O	A4	AEX Daily Option - 4	AEX	Merging into Main	K.O.AEX
K	O	A31	AEX Daily Option - 3	AEX	Merging into Main	K.O.AEX
K	O	A30	AEX Daily Option - 3	AEX	Merging into Main	K.O.AEX
K	O	A3	AEX Daily Option - 3	AEX	Merging into Main	K.O.AEX
K	O	A29	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A28	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A27	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A26	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A25	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A24	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A23	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A22	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A21	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A20	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A2	AEX Daily Option - 2	AEX	Merging into Main	K.O.AEX
K	O	A19	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A18	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A17	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A16	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A15	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A14	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A13	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A12	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A11	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A10	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
K	O	A1	AEX Daily Option - 1	AEX	Merging into Main	K.O.AEX
B	O	GLS	Galapagos NV Stnd Op	GAH	Main	N/A
B	O	1GS	Galapagos-Weekly	GAH	Merging into Main	B.O.GLS
B	O	2GS	Galapagos-Weekly	GAH	Merging into Main	B.O.GLS
B	O	4GS	Galapagos-Weekly	GAH	Merging into Main	B.O.GLS
B	O	5GS	Galapagos-Weekly	GAH	Merging into Main	B.O.GLS

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
B	O	KBC	KBC Groep NV	KBC	Main	N/A
B	O	5KB	KBC Groep - Weekly	KBC	Merging into Main	B.O.KBC
B	O	4KB	KBC Groep - Weekly	KBC	Merging into Main	B.O.KBC
B	O	2KB	KBC Groep - Weekly	KBC	Merging into Main	B.O.KBC
B	O	1KB	KBC Groep - Weekly	KBC	Merging into Main	B.O.KBC
B	O	INT	Anheuser- Busch InBe	INT	Main	N/A
B	O	5IT	AB InBev - Weekly	INT	Merging into Main	B.O.INT
B	O	4IT	AB InBev - Weekly	INT	Merging into Main	B.O.INT
B	O	2IT	AB InBev - Weekly	INT	Merging into Main	B.O.INT
B	O	1IT	AB InBev - Weekly	INT	Merging into Main	B.O.INT
B	O	UCB	UCB	UCB	Main	N/A
B	O	5UC	UCB - Weekly	UCB	Merging into Main	B.O.UCB
B	O	4UC	UCB - Weekly	UCB	Merging into Main	B.O.UCB
B	O	2UC	UCB - Weekly	UCB	Merging into Main	B.O.UCB
B	O	1UC	UCB - Weekly	UCB	Merging into Main	B.O.UCB
J	O	PXA	CAC 40 Index Option*	PX1	Main	N/A
J	O	5PX	CAC 40 - Weekly	PX1	Merging into Main	J.O.PXA
J	O	4PX	CAC 40 - Weekly	PX1	Merging into Main	J.O.PXA
J	O	2PX	CAC 40 - Weekly	PX1	Merging into Main	J.O.PXA
J	O	1PX	CAC 40 - Weekly	PX1	Merging into Main	J.O.PXA
J	F	FCE	CAC 40 Index	PX1	Main	N/A
J	F	5FC	CAC 40 Index Weekly	PX1	Merging into Main	J.F.FCE
J	F	4FC	CAC 40 Index Weekly	PX1	Merging into Main	J.F.FCE
J	F	2FC	CAC 40 Index Weekly	PX1	Merging into Main	J.F.FCE
J	F	1FC	CAC 40 Index Weekly	PX1	Merging into Main	J.F.FCE
P	O	BN1	BNP Paribas (100)	BNP	Main	N/A
P	O	5BN	BNP Paribas - Weekly	BNP	Merging into Main	P.O.BN1
P	O	4BN	BNP Paribas - Weekly	BNP	Merging into Main	P.O.BN1
P	O	2BN	BNP Paribas - Weekly	BNP	Merging into Main	P.O.BN1
P	O	1BN	BNP Paribas - Weekly	BNP	Merging into Main	P.O.BN1
P	O	CA1	Carrefour SA (100)	CA	Main	N/A
P	O	5CA	Carrefour-Weekly	CA	Merging into Main	P.O.CA1
P	O	4CA	Carrefour-Weekly	CA	Merging into Main	P.O.CA1
P	O	2CA	Carrefour-Weekly	CA	Merging into Main	P.O.CA1
P	O	1CA	Carrefour-Weekly	CA	Merging into Main	P.O.CA1
P	O	CP1	Cap Gemini (100)	CAP	Main	N/A
P	O	5CP	Cap Gemini-Weekly	CAP	Merging into Main	P.O.CP1
P	O	4CP	Cap Gemini-Weekly	CAP	Merging into Main	P.O.CP1
P	O	2CP	Cap Gemini-Weekly	CAP	Merging into Main	P.O.CP1
P	O	1CP	Cap Gemini-Weekly	CAP	Merging into Main	P.O.CP1
P	O	CS1	Axa (100)	CS	Main	N/A
P	O	5CS	Axa - Weekly	CS	Merging into Main	P.O.CS1
P	O	4CS	Axa - Weekly	CS	Merging into Main	P.O.CS1
P	O	2CS	Axa - Weekly	CS	Merging into Main	P.O.CS1
P	O	1CS	Axa - Weekly	CS	Merging into Main	P.O.CS1
P	O	DA1	Danone (100)	BN	Main	N/A
P	O	5DA	Danone-Weekly	BN	Merging into Main	P.O.DA1
P	O	4DA	Danone-Weekly	BN	Merging into Main	P.O.DA1
P	O	2DA	Danone-Weekly	BN	Merging into Main	P.O.DA1
P	O	1DA	Danone-Weekly	BN	Merging into Main	P.O.DA1
P	O	DG1	Vinci (100)	DG	Main	N/A
P	O	5DG	Vinci-Weekly	DG	Merging into Main	P.O.DG1
P	O	4DG	Vinci-Weekly	DG	Merging into Main	P.O.DG1
P	O	2DG	Vinci-Weekly	DG	Merging into Main	P.O.DG1

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
P	O	1DG	Vinci-Weekly	DG	Merging into Main	P.O.DG1
P	O	EA1	Airbus Group (100)	EAD	Main	N/A
P	O	5EA	Airbus Group-Weekly	EAD	Merging into Main	P.O.EA1
P	O	4EA	Airbus Group-Weekly	EAD	Merging into Main	P.O.EA1
P	O	2EA	Airbus Group-Weekly	EAD	Merging into Main	P.O.EA1
P	O	1EA	Airbus Group-Weekly	EAD	Merging into Main	P.O.EA1
P	O	EX1	Vivendi SA (100)	EX	Main	N/A
P	O	5EX	Vivendi-Weekly	EX	Merging into Main	P.O.EX1
P	O	4EX	Vivendi-Weekly	EX	Merging into Main	P.O.EX1
P	O	2EX	Vivendi-Weekly	EX	Merging into Main	P.O.EX1
P	O	1EX	Vivendi-Weekly	EX	Merging into Main	P.O.EX1
P	O	FT1	Orange SA (100)	FTE	Main	N/A
P	O	5FO	Orange - Weekly	FTE	Merging into Main	P.O.FT1
P	O	4FO	Orange - Weekly	FTE	Merging into Main	P.O.FT1
P	O	2FO	Orange - Weekly	FTE	Merging into Main	P.O.FT1
P	O	1FO	Orange - Weekly	FTE	Merging into Main	P.O.FT1
P	O	GA1	ENGIE (100)	GAZ	Main	N/A
P	O	5GA	ENGIE - Weekly	GAZ	Merging into Main	P.O.GA1
P	O	4GA	ENGIE - Weekly	GAZ	Merging into Main	P.O.GA1
P	O	2GA	ENGIE - Weekly	GAZ	Merging into Main	P.O.GA1
P	O	1GA	ENGIE - Weekly	GAZ	Merging into Main	P.O.GA1
P	O	GL1	Societe Generale (10)	GLE	Main	N/A
P	O	5GL	Soc Generale-Weekly	GLE	Merging into Main	P.O.GL1
P	O	4GL	Soc Generale-Weekly	GLE	Merging into Main	P.O.GL1
P	O	2GL	Soc Generale-Weekly	GLE	Merging into Main	P.O.GL1
P	O	1GL	Soc Generale-Weekly	GLE	Merging into Main	P.O.GL1
P	O	MC1	LVMH (100)	MC	Main	N/A
P	O	5MC	LVMH-Weekly	MC	Merging into Main	P.O.MC1
P	O	4MC	LVMH-Weekly	MC	Merging into Main	P.O.MC1
P	O	2MC	LVMH-Weekly	MC	Merging into Main	P.O.MC1
P	O	1MC	LVMH-Weekly	MC	Merging into Main	P.O.MC1
P	O	OR1	L'Oreal (100)	OR	Main	N/A
P	O	5OR	L'Oreal-Weekly	OR	Merging into Main	P.O.OR1
P	O	4OR	L'Oreal-Weekly	OR	Merging into Main	P.O.OR1
P	O	2OR	L'Oreal-Weekly	OR	Merging into Main	P.O.OR1
P	O	1OR	L'Oreal-Weekly	OR	Merging into Main	P.O.OR1
P	O	SA1	Sanofi	SAN	Main	N/A
P	O	5SA	Sanofi-Weekly	SAN	Merging into Main	P.O.SA1
P	O	4SA	Sanofi-Weekly	SAN	Merging into Main	P.O.SA1
P	O	2SA	Sanofi-Weekly	SAN	Merging into Main	P.O.SA1
P	O	1SA	Sanofi-Weekly	SAN	Merging into Main	P.O.SA1
P	O	SG1	Saint Gobain (100)	SGO	Main	N/A
P	O	5SG	Saint Gobain-Weekly	SGO	Merging into Main	P.O.SG1
P	O	4SG	Saint Gobain-Weekly	SGO	Merging into Main	P.O.SG1
P	O	2SG	Saint Gobain-Weekly	SGO	Merging into Main	P.O.SG1
P	O	1SG	Saint Gobain-Weekly	SGO	Merging into Main	P.O.SG1
P	O	SU1	Schneider Electric (SU	Main	N/A
P	O	5SU	Schneider EI-Weekly	SU	Merging into Main	P.O.SU1
P	O	4SU	Schneider EI-Weekly	SU	Merging into Main	P.O.SU1
P	O	2SU	Schneider EI-Weekly	SU	Merging into Main	P.O.SU1
P	O	1SU	Schneider EI-Weekly	SU	Merging into Main	P.O.SU1
P	O	TO1	Total (100)	FP	Main	N/A
P	O	5TO	Total - Weekly	FP	Merging into Main	P.O.TO1
P	O	4TO	Total - Weekly	FP	Merging into Main	P.O.TO1

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Exch.	Type	Code	Name	UL. Code	Main / Merge	Merging Into
P	O	2TO	Total - Weekly	FP	Merging into Main	P.O.TO1
P	O	1TO	Total - Weekly	FP	Merging into Main	P.O.TO1
P	O	UG1	Peugeot SA (100)	UG	Main	N/A
P	O	5UG	Peugeot - Weekly	UG	Merging into Main	P.O.UG1
P	O	4UG	Peugeot - Weekly	UG	Merging into Main	P.O.UG1
P	O	2UG	Peugeot - Weekly	UG	Merging into Main	P.O.UG1
P	O	1UG	Peugeot - Weekly	UG	Merging into Main	P.O.UG1

9.2 APPENDIX B: MAPPING OF CLEARING FIELDS - OEG TO LCH

Pre-trade provision of Clearing information may be specified on an optional basis with the order entry messages. It is the responsibility of the Member to ensure this information is in line with their post trade arrangements. The data provided via order entry for the clearing fields is not subject to functional validation, and in majority of cases is forwarded to the clearing partner as provided.

The data that may be submitted is as follows:

- (a) Code of Trading Member (beneficiary of a give-up)
- (b) Position Account number;
- (c) Posting indicator (opening or closing the position)
- (d) Clearing operation mode (not specified, manual mode (a.k.a pre-posting or pre-give up), or automatic give up / posting)
- (e) And other information like the Member’s internal order number or Client identification.

Mapping below provides a sub-set of fields used by Optiq in order entry, and by the Clearing partners, for the exchange of data used for clearing in the Trade Execution messages.

Please note: Mapping for the field “Firm ID” is pending validation with the Clearing partner, and will be provided in the future version of this document.

Optiq Order Entry				Notes	LCH Trade leg	
SBE	FIX				5011 message	
Fields	Field or Combination of fields				Fields	Description
	FIX Field Name	Tag	Possible Values			
Clearing Firm ID	NestedPartyID	524	TEST2	In CCG for Derivatives the equivalent of this field was PartyID (tag: 448)	Give-Up Destination Member Code	External id of the member who is the destination of the give-up / Member code of the beneficiary
	NestedPartyIDSource	525	D = Proprietary / Custom Code	In CCG for Derivatives the equivalent of this field was PartyIDSource (tag: 447)	N/A	N/A
	NestedPartyRole	538	4 = Clearing Firm	In CCG for Derivatives the equivalent of this field was PartyRole (tag: 452) and was represented by value 14 = Give-up Clearing Firm (firm to which trade is given up)		
	NestedPartyRoleQualifier	2384	3 = General clearing member OR	New optional field / value in Optiq		

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Optiq Order Entry				Notes	LCH Trade leg	
SBE	FIX				5011 message	
Fields	Field or Combination of fields				Fields	Description
	FIX Field Name	Tag	Possible Values			
			4 = Individual clearing member			
Account Number	Account	1		The same field was used in CCG for Derivatives.	Position Account External ID	Position account external id of a pre-posting - filled by the executing member from the trading station (needed if automatic function used has to be an existing LCH SA position account)
Long Client ID	LongClientID	21804		In CCG for Derivatives the equivalent of this field was SecondaryClOrdID (tag: 526)	Posting Order Number	Posting order number for a pre-posting
Free Text	Text	58		In CCG for Derivatives the equivalent of this field was ClientInfo (tag: 5789)	Memo / Mailing Comment	Free form text . This field is just conveyed by the clearing system. No processing is involved. (Can be used for internal reference or client references.)
Clearing Instruction	ClearingInstruction	577	Permitted Values: 0 = Process normally 8 = Manual mode 9 = Automatic posting mode 10 = Automatic give-up mode	The same field was used in CCG for Derivatives. The mapping of the values used are provided in a dedicated table below	Type of Clearing Information	This field indicates if the trade leg contains a pre-posting or a pre-give-up Permitted values: " " = None 0 = Pre-posting or Pre-give-up 1 = Automatic posting 2 = Automatic give-up
Order ID	OrderID	37	Numerical order identifier assigned by the matching engine, unique per instrument and EMM.	The same field was used in CCG for Derivatives.	Trade leg Order Number	Free Text
Open Close	PostingAction	7443	0 means Open 1 means Close	The same field was used in CCG for Derivatives. Values however were modified from charters of O and C, to their numerical equivalents of 0 and 1	O/C INDICATOR	Posting indicator; this field indicates if the posting is closing position or opening position Permitted values: C Posting in closing O Posting in opening

The previously used values in CCG for Clearing Instructions for UTP-d that map to these are as follows:

UTP / CCG Values (Legacy)		Optiq OEG Values Step 2		LCH 5011 values	
0	Undefined / Process normally	0	Process normally	“ “	None
8	Manual	8	Manual mode	0	Pre-posting or Pre-give-up
9	Automatic	9	Automatic posting mode	1	Automatic posting
4010	Give-up to single firm	10	Automatic give-up mode	2	Automatic give-up
4008	Automatic and account authorization	8	Covered by value “8” as above	Mapping as above for equivalent Optiq value	
4009	Manual and account authorization	9	Covered by value “9” as above	Mapping as above for equivalent Optiq value	

Account Type field

In Optiq order entry messages the AccountCode is replaced with a combination of fields *Account Type / Account Code (6399)* and *LP Role / LP Role (20021)*.

The value in the field Account Type remain similar to the ones used in UTP. However, it contains values that are used currently only on the Cash markets,.

Table below provides mapping between the fields in the two files, to obtain single result that will be used in the future in all files in Optiq and clarification of use on the Cash and Derivatives Markets:

UTP / CCG Values Legacy (Binary and FIX) AccountCode (tag 6399)	Optiq OEG				Notes
	SBE		FIX		
	Account Type	LP Role	Account Code (6399)	LP Role (20021)	
C = Client	1 = Client	Not filled in	1 = Client	Not filled in	
H = House	2 = House	Not filled in	2 = House	Not filled in	
N/A	6 = Liquidity Provider	3 = Retail Liquidity Provider	6 = Liquidity Provider	3 = Retail Liquidity Provider	Used on the Cash Markets only (Equities segment)
N/A	4 = RO	Not filled in	4 = RO	Not filled in	Used on the Cash Markets only (Equities segment)
M = Market Maker	6 = Liquidity Provider	1 = Liquidity Provider or Market Maker	6 = Liquidity Provider	1 = Liquidity Provider or Market Maker	
N/A	7 = Related Party	Not filled in	7 = Related Party	Not filled in	
N/A	8 = Structured Product Market Maker	Not filled in	8 = Structured Product Market Maker	Not filled in	Used on the Cash Markets only (Warrants & Certificates segment)
NEW	14 = Omega Client	Not filled in	14 = Omega Client	Not filled in	New values introduced for commercial packages on the Derivatives segments. Within the use for the Omega commercial package it represents a <u>clearing account</u> of Client.
NEW	15 = Ceres Client	Not filled in	15 = Ceres Client	Not filled in	New values introduced for commercial packages on the Derivatives segments.

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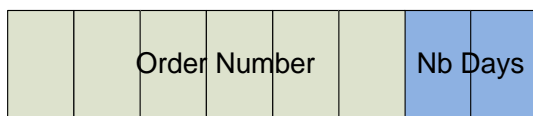
UTP / CCG Values	Optiq OEG				Notes
Legacy (Binary and FIX)	SBE		FIX		
AccountCode (tag 6399)	Account Type	LP Role	Account Code (6399)	LP Role (20021)	
					Within the use for the Ceres commercial package it represents a <u>clearing account</u> of Client.

9.3 APPENDIX C: ORDER ID CONVERSION FOR RECONCILIATION WITH CLEARING PARTNERS

For reconciliation purposes with Euronext’s clearing & settlement partners clients may obtain the Order Number and the Order Entry Date, which is forwarded to the clearing partners, from the *Order ID* (SBE) / *OrderID* tag: 37 (FIX) field, provided in the private messages via OEG, which is composed of two parts required for this, as depicted below:

Representation in SBE:

- The least-significant 2-bytes include the relative calendar days number since 1-jan-1970 at 0:00 UTC (EPOCH); (Please note, currently the clearing partners may use the date corresponding to this value in ASCII format)
- The remaining most-significant 6-bytes will include the Order Number



Representation in FIX:

FIX received encoded data, and to obtain the Order ID provided to the CCP it needs to be converted, using the steps identified below.

Please note: The value received in this field is a string of up to 20 characters long, but may be shorter.

- The value obtained from the field Order ID should be divided by 2^16 (or 65536)
 - The resulting value should be truncated to obtain just the whole part of the result, without any rounding
- The resulting value represents the Order ID that is communicated by the Exchange to the CCP

Example

- Obtain the value in field *OrderID* (tag 37):

33637557

- Divide this value by 2^16:

$33637557 / 2^{16} = 513.2683868$

- Truncate the result to the whole value without rounding:

513

513 is the expected Order ID provided to the CCP

9.4 APPENDIX D: FILES & FOLDERS FOR IMPLEMENTATION OF PHASE 3

Target Setup of Files and Folders

Folder	File Name	Notes
/ Commodities / Current	OptiqMDG_<ENVIRONMENT>_CashTickSizeReferentialFile_Commodities_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesStandingDataFile_Commodities_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesTickSizeFile_Commodities_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_OpenInterestFile_Commodities_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_SBETemplate_Commodities_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_ReferenceSpreadsFile_Commodities_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_TimeTableFile_Commodities_YYYYMMDD.xml	

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	OptiqOEG_<ENVIRONMENT>_SBETemplate_Commodities_YYYYMMDD.xml	New for P3
/ EquityDerivatives / Current	OptiqMDG_<ENVIRONMENT>_CashTickSizeReferentialFile_EquityDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesStandingDataFile_EquityDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesTickSizeFile_EquityDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_OpenInterestFile_EquityDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_SBETemplate_EquityDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_ReferenceSpreadsFile_EquityDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_TimeTableFile_EquityDerivatives_YYYYMMDD.xml	
	OptiqOEG_<ENVIRONMENT>_SBETemplate_EquityDerivatives_YYYYMMDD.xml	New for P3
/ IndexDerivatives / Current	OptiqMDG_<ENVIRONMENT>_CashTickSizeReferentialFile_IndexDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesStandingDataFile_IndexDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesTickSizeFile_IndexDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_OpenInterestFile_IndexDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_SBETemplate_IndexDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_ReferenceSpreadsFile_IndexDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_TimeTableFile_IndexDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_TotalReturnFuturesConversionParameters_IndexDerivatives_SOD_YY YYMMDD.csv	Name Update
	OptiqMDG_<ENVIRONMENT>_TotalReturnFuturesConversionParameters_IndexDerivatives_SOD_YY YYMMDD.xml	Name Update
	OptiqMDG_<ENVIRONMENT>_TotalReturnFuturesConversionParameters_IndexDerivatives_EOD_YY YYMMDD.csv	Name Update
	OptiqMDG_<ENVIRONMENT>_TotalReturnFuturesConversionParameters_IndexDerivatives_EOD_YY YYMMDD.xml	Name Update
	OptiqOEG_<ENVIRONMENT>_SBETemplate_IndexDerivatives_YYYYMMDD.xml	New for P3
/ FinancialDerivatives / Current	OptiqMDG_<ENVIRONMENT>_CashTickSizeReferentialFile_FinancialDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesStandingDataFile_FinancialDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_DerivativesTickSizeFile_FinancialDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_OpenInterestFile_FinancialDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_SBETemplate_FinancialDerivatives_YYYYMMDD.xml	
	OptiqMDG_<ENVIRONMENT>_ReferenceSpreadsFile_FinancialDerivatives_YYYYMMDD.xml	New for P3
	OptiqMDG_<ENVIRONMENT>_TimeTableFile_FinancialDerivatives_YYYYMMDD.xml	
	OptiqOEG_<ENVIRONMENT>_SBETemplate_FinancialDerivatives_YYYYMMDD.xml	New for P3

10. SUMMARY OF CHANGES

Version	Change Description
3.0	<p>Third release of Optiq Phase 3 migration of Euronext Derivatives markets to Optiq OEG / ME / MDG containing the following updates:</p> <ul style="list-style-type: none"> • In “Associated documents” updated the documents and versions • In section 2.3 “Order OEG Logical Accesses”: updated webform links • In section 3.1.2 “SBE Template Version”: updated SBE template to reflect V204 • In section 3.2.2 “Partition Changes for Phase 3 Implementation (Updated)”: updated to reflect successful change • In section 4.2.3 “Merger of Contracts with Maturities Shorter than one Month”: Updated information on timeline of testing and implementation • In section 4.3.1 “Drop Copy”: updated Drop copy section. • In section 4.4 “TESTING APPROACH AND TEST ENVIRONMENTS”: added the compression of Derivatives Markets MDG 1Gb shaped channels in Next EUA into the table • In section 4.4.2.1 “Throttling Testing of Optiq in EUA”: updated Throttling test explanation • In section 4.4.3 “Validating Conformance Tests”: updated link to conformance webform and text • Removed section on required confirmation of merger of contracts with maturities shorter than one month • In section 5 “Euronext Membership and Connectivity Approach During the Migration Period”; added Freeze in effect for membership on Derivatives on UTP • In section 9.3 “APPENDIX B: MAPPING OF CLEARING FIELDS - OEG TO LCH”: Modified use of field for client id – NestedParties repeating group replaced with Long Client ID; corrected the values in mapping of field <i>Clearing Instructions</i> for values mapped to 4008 and 4009 • Removed Annex A2 – Planning of testing for merger of expiries will be communicated after go live of Optiq • Throughout the document: <ul style="list-style-type: none"> ○ Update of dates for implementation ○ Clarifications on use of SBE templates and compatibility, AMR, and Symbol Index ○ Typo correction and format fixes
2.0	<p>Second release of Optiq Phase 3 migration of Euronext Derivatives markets to Optiq OEG / ME / MDG containing the following updates:</p> <ul style="list-style-type: none"> • In “ASSOCIATED DOCUMENTS” – note on what documents were already published. Removed “Euronext Cash Markets - Change Highlights – Optiq MDG Phase 1 to 3”. • In 2.2.2 “Partitions and Instrument Mapping” – removed “subject to final confirmation”. Corrected name of MDG specifications page. • In 3.1.1. “SBE compatibility” – changed V1## to reflect V200. Added note on Completed steps. • In 3.1.2 – Updated table to reflect SBE V2XX • In 3.1.3 “Symbol Index of Existing Instruments” – added note that active and dormant strategies will not maintain their existing symbol index values. • In 3.2.1 – Updated text to reflect completed event • In 3.2.2 – Updated the table of changes and note on the partition change target for Next EUA, Current EUA, and Production. Created table with effective dates. Added notes on EFS for Current EUA and Production • In 4.1 – Added completed notes. • In 4.2 - “Migration Sequence” – added Completed step. • In 4.2.1 “Market data segmentation change” – Updated section to reflect the completed steps. • In 4.2.2 – Added note of early market closure on Friday before migration to Optiq. Modified order purge to 19:15 CET, added table with contracts closing early. No evening session. • In 4.2.3 – Updated information about the merger of contracts implementation • In 4.3.1 “Drop Copy” – amended name of document. • In 4.3.5 – renamed Optiq file specifications reference. • In 4.3.5 “Euronext File Services (EFS)” removed a file “Derivatives Parameter file”, as it will be part of the overall Derivatives Standing data file • In 4.4 - Added note on completed steps, added note on upcoming steps. Moved certain info to the Customer Checklist table. • In 4.4.1 – Updated text and removed the table as completed step • In 4.4.2 – amended text to reflect completed steps. Changed note about Drop Copy availability for a later stage. • In 4.4.2.1 – Updated technical documentation to be provided in September • In 4.4.3 – Added table for list of conformance tests and requisites. Removed duplicate sentence. • In 4.4.4 – added note that trading members must confirm with their clearing member, also added note for starting date and LCH v-EUA connectivity. • In 4.4.6 – removed duplicate table

Euronext Optiq Phase 3: Derivatives Markets - Order Entry Gateway (OEG), Matching Engine (ME) and Market Data Gateway (MDG) Migration Guidelines

Version	Change Description
	<ul style="list-style-type: none"> • In 4.4.7 – Updated six to two to four weeks • In 4.5 – Added note on completed step, updated content, moved content from section 4.4. • In 4.6.1 – updated document title and note for telnet • In 5 – Updated text and dates inside table • In 7 – Updated list of document • In 8 – Updated support details • In Appendix B “MAPPING OF CLEARING FIELDS - OEG TO LCH” – corrected SBE name of the field from Posting Action to Open Close • In Appendix D “FILES & FOLDERS FOR IMPLEMENTATION OF PHASE 3” – updated to contain the Target Setup of Files and Folders for Phase 3
1.0	First release for Optiq Phase 3 – migration of Euronext Derivatives markets to Optiq OEG / ME / MDG

REVISION NO./ VERSION NO.	DATE	AUTHOR	CHANGE DESCRIPTION
3.0	10 October 2019	Euronext	Third release of Optiq Phase 3 migration of Euronext Derivatives markets to Optiq OEG / ME / MDG.
2.0	26 June 2019	Euronext	Second release for Optiq Phase 3 – migration of Euronext Derivatives markets to Optiq OEG / ME / MDG
1.0	28 February 2019	Euronext	First release for Optiq Phase 3 – migration of Euronext Derivatives markets to Optiq OEG / ME / MDG