

#### Document title

# **EURONEXT NEXTHISTORY® DERIVATIVES CLIENT SPECIFICATION**

Document type or subject

**CLIENT SPECIFICATION** 

**Revision number** 

Date

Revision Number: 1.4.3

10 Oct 2025

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# **PREFACE**

### **DOCUMENT HISTORY**

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

| \/FD0\@\*   | DATE              | CHANGE DESCRIPTION  |  |
|-------------|-------------------|---|--|
| VERSION NO. | DATE              | CHANGE DESCRIPTION  |  |
| 1.0         | 01 Mar 2016       | Initial distribution  |  |
| 1.1         | 09 May 2016       | Planned for July 2016:  |  |
|             |                   | "InstrumentISIN" field added to Referential File  |  |
| 1.2         | 06 July 2016      | Inclusion of "InstrumentISIN" in Referential File postponed until further notice  |  |
| 1.3         | 28 October 2016   | Inclusion of "VolatilityForValuation" in EOD Summary Files  |  |
| 1.3.1       | 29 June 2017      | Effective 01 August 2017  |  |
|             |                   | • "InstrumentISIN" field added to Referential File (see page 11)  |  |
| 1.3.2.      | 01 March 2021     | Effective 01 March 2021   |  |
|             |                   | • Change to the "TradeValueEuro" field to align with ESMA MiFID II requirements (see pages 17/18)   |  |
| 1.3.3       | 09 September 2022 | (Effective 01 Sept 2022) – the following changes will be made   |  |
|             |                   | <ul> <li>Full Order Book (FOB) files will be added to the NextHistory offering</li> <li>OPTIQ MDG binary data (RAW) files (in PCAP format) will be added to the NextHistory offering</li> </ul>                                   |  |
| 1.4         | 26/01/2023        | (Effective 01 February 2023)  |  |
|             |                   | <ul> <li>File delivery via SFTP - except for the RAW Files - will become available (see section 3.4 – "FTP/SFTP Delivery")</li> <li>File delivery via HTTPS will become available (see section 3.6 – "HTTPS Delivery")</li> </ul> |  |
|             |                   | (Effective 18 March 2023)   |  |
|             |                   | - File delivery via <b>FTP</b> will stop for all products, except for the RAW Files (see section 3.4 – "FTP/SFTP Delivery)  |  |
| 1.4.1       | 31/03/2023        | (Effective 22 April 2023)   |  |
|             |                   | - File delivery via <b>FTP</b> will stop for all products, <b>except for the RAW Files</b> (see section 3.4 – "FTP/SFTP Delivery)   |  |
| 1.4.2       | 19/03/2024        | (Effective 25 March 2024)   |  |
|             |                   | Addition of Borsa Italiana Derivatives to the NextHistory offering  |  |
| 1.4.3       | 27/02/2025        | (Effective 01 December 2025)  |  |
|             |                   | - Addition of Nord Pool - Power Derivatives to the NextHistory offering   |  |

| VERSION<br>NO. | DATE | CHANGE DESCRIPTION   |
|----------------|------|--|
|                |      | - Six new fields will be added to the Referential File (see page 15) |
|                |      | UnderlyingSubtype  |
|                |      | UnderlyingSubProduct   |
|                |      | UnderlyingFurtherSubProduct  |
|                |      | ExpiryCycleType  |
|                |      | DeliveryStartDate  |
|                |      | DeliveryEndDate  |

# **CONTACT INFORMATION**

For technical support, please contact the **Euronext Service Operations** at <u>serviceoperations@euronext.com</u>.

# **FURTHER INFORMATION**

For additional product information, please contact us at <a href="mailto:datasolutions@euronext.com">datasolutions@euronext.com</a>.

# **CONTENTS**

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# 1. INTRODUCTION

Euronext NextHistory provides high-quality historical financial data that allows users to identify price trends and gain new insights into risk management and forecasting among other possible uses.

#### Coverage:

- Euronext and Oslo Børs markets
- Borsa Italiana markets
- Nord Pool (Power derivatives) market

**Table 1 Euronext NextHistory Derivatives Data Products** 

|                   | A<br>END OF DAY<br>PACKAGE | B<br>TRADES<br>PACKAGE<br>(INCLUDES A) | C<br>BBO<br>PACKAGE<br>(INCLUDES A<br>AND B) | D<br>FOB PACKAGE<br>(INCLUDES A<br>AND B) | E<br>RAW<br>PACKAGE |
|-------------------|----------------------------|--|--|---|---------------------|
| Referential Files | ٧                          | ٧                                      | ٧  | ٧   |                     |
| EOD Summary Files | ٧                          | ٧                                      | ٧  | ٧   |                     |
| Trade Files       |                            | ٧                                      | ٧  | ٧   |                     |
| BBO Files         |                            |  | ٧  |   |                     |
| FOB Files         |                            |  |  | ٧   |                     |
| RAW Files         |                            |  |  |   | ٧                   |

## 1.1 SOFTWARE REQUIREMENTS

Software for reading and processing data files should be purchased from a third-party supplier. Clients need to make sure that this software is capable of handling very large data files

END-OF-DAY, TRADES, BBO, FOB packages: ZIP compressed CSV files are provided.

RAW package: GZ compressed PCAP files are provided. Euronext does not provide a file decoder.

# 2. DATA OVERVIEW

Euronext NextHistory Derivatives is stored in the following files.

| FILE NAME         | CONTENTS  |
|-------------------|---|
| Referential Files | Historical referential data for contracts listed/traded on Euronext Derivatives markets. Offers one file covering all Euronext markets. Separate files for Borsa Italiana derivatives market and Nord Pool - Power derivatives market             |
| End of Day Files  | Historical end-of-day summary data for contracts listed/traded on Euronext Derivatives markets. Offers one file covering all Euronext markets. Separate files for Borsa Italiana derivatives market and Nord Pool - Power derivatives market      |
| Trade Files       | Historical trade data for contracts listed/traded on Euronext Derivatives markets. Offers one file covering all Euronext markets. Separate files for Borsa Italiana derivatives market and Nord Pool - Power derivatives market                   |
| BBO Files         | Historical best bid and offer (L1) data for contracts listed/traded on Euronext Derivatives markets. Offers one file covering all Euronext markets. Separate files for Borsa Italiana derivatives market and Nord Pool - Power derivatives market |
| FOB Files         | Incremental order updates   |
| RAW               | As detailed in the OPTIQ MDG Client Specification and OPTIQ MDG Connectivity documentation available on Euronext's website  |

#### 3. DATA FILES

#### 3.1 FILE FORMAT

### END-OF-DAY, TRADES, BBO, FOB files

- All files are in CSV format (ZIP compressed). The field delimiter is a semicolon.
- All numerical values follow standard international practice (decimal separator is a point).

# RAW files

All files are in PCAP format.

### 3.2 FILE AVAILABILITY

There is no fixed availability time for Euronext NextHistory Derivatives files. The files are made available on the ftp servers as soon as they are ready and the availability of the files varies per day.

#### 3.3 FILE NAMING CONVENTION

| FILE TYPE                              | FILE NAME                      |
|--|--------------------------------|
| Referential File                       | DER_EU_ENXT_ALL_REF_yyyymmdd   |
| (Euronext markets)                     |                                |
| Referential File                       | DER_BIT_ALL_REF_yyyymmdd       |
| (Borsa Italiana markets)               |                                |
| Referential File                       | DER_EU_NP_ALL_REF_yyyymmdd     |
| (Nord Pool – Power derivatives market) |                                |
| End of Day Summary File                | DER_EU_ENXT_ALL_SUM_yyyymmdd   |
| (Euronext markets)                     |                                |
| End of Day Summary File                | /DER_BIT_ALL_SUM_yyyymmdd      |
| (Borsa Italiana markets)               |                                |
| End of Day Summary File                | DER_EU_NP_ALL_SUM_yyyymmdd     |
| (Nord Pool – Power derivatives market) |                                |
| Trade File                             | DER_EU_ENXT_ALL_TRADE_yyyymmdd |
| (Euronext markets)                     |                                |
| Trade File                             | DER_BIT_ALL_TRADE_yyyymmdd     |

| (Borsa Italiana markets)               |  |
|--|--|
| Trade File                             | DER_EU_NP_ALL_TRADE_yyyymmdd   |
| (Nord Pool – Power derivatives market) |  |
| BBO File                               | DER_EU_ENXT_ALL_BBO_yyyymmdd   |
| (Euronext markets)                     |  |
| BBO File                               | DER_BIT_ALL_BBO_yyyymmdd   |
| (Borsa Italiana markets)               |  |
| BBO File                               | DER_EU_NP_ALL_BBO_yyyymmdd   |
| (Nord Pool – Power derivatives market) |  |
| FOB File                               | <market_place>_<product_group>_<instrument2d>_yyyymmdd</instrument2d></product_group></market_place> |
| RAW                                    | mdg. <ip address="">.yyyymmdd</ip>   |

### where

- yyyymmdd refers to the creation date of the file
- <MARKET\_PLACE> refers to AMS, BRU, LIS, OSL or PAR
- <PRODUCT\_GROUP> refers to the asset class (Equity, Index or Commodities)
- <INSTRUMENT2D> refers to the last two digits of the instrument\_ids\_code (internal code)
- <IP ADDRESS> refers to the IP address of the OPTIQ MDG channel

#### 3.4 SFTP DELIVERY

The files are available via SFTP:

Host: data.prodnr.euronext.cloud

Port: 22000

Please refer to the Data Shop SFTP Guide (available here) for instructions on how to set up your sftp account.

## 3.5 SFTP FILE LOCATION

| FILE TYPE          | DIRECTORIES  |  |
|--------------------|--|--|
| Referential File   | /DER_EU_ENXT_ALL_REF   |  |
| (Euronext markets) | Most Recent File   |  |
|                    | DER_EU_ENXT_ALL_REF/CURRENT  |  |
|                    | Historical Archive   |  |
|                    | <ul> <li>DER_EU_ENXT_ALL_REF/DER_EU_ENXT_ALL_REF_yyyy/<br/>DER_EU_ENXT_ALL_REF_yyyymm</li> </ul> |  |

| Referential File               | /DER_BIT_ALL_SUM   |  |
|--------------------------------|--|--|
| (Borsa Italiana markets)       | Most Recent File   |  |
|                                | DER_BIT_ALL_REF/CURRENT  |  |
|                                | Historical Archive   |  |
|                                | DER_BIT_ALL_REF/DER_BIT_ALL_REF_yyyy/DER_BIT_ALL_REF_y   |  |
|                                | yyymm  |  |
| Referential File               | /DER_EU_NP_REF   |  |
| (Nord Pool – Power derivatives | Most Recent File   |  |
| market)                        | DER_EU_NP_REF/CURRENT  |  |
|                                | Historical Archive   |  |
|                                | DER_EU_NP_ALL_REF/DER_EU_NP_ALL_REF_yyyy/  |  |
|                                | DER_EU_NP_ALL_REF_yyyymm   |  |
| End of Day Summary File        | /DER_EU_ENXT_ALL_SUM   |  |
| (Euronext markets)             | Most Recent File   |  |
|                                | DER_EU_ENXT_ALL_SUM/CURRENT  |  |
|                                | Historical Archive   |  |
|                                | <ul> <li>DER_EU_ENXT_ALL_SUM/DER_EU_ENXT_ALL_SUM_yy</li> <li>yy/ DER_EU_ENXT_ALL_SUM_yyyymm</li> </ul> |  |
| End of Day Summary File        | /DER_BIT_ALL_SUM   |  |
| (Borsa Italiana markets)       | Most Recent File   |  |
|                                | DER_BIT_ALL_SUM/CURRENT  |  |
|                                | Historical Archive   |  |
|                                | DER_BIT_ALL_SUM/DER_BIT_ALL_SUM_yyyy/ DER_BIT  |  |
|                                | _ALL_SUM_yyyymm  |  |
| End of Day Summary File        | /DER_EU_NP_ALL_SUM   |  |
| (Nord Pool – Power derivatives | Most Recent File   |  |
| market)                        | DER_EU_NP_ALL_SUM/CURRENT  |  |
|                                | Historical Archive   |  |
|                                | DER_EU_NP_ALL_SUM/DER_EU_NP ALL_SUM_yyyy/ DER_EU_NP_ALL_SUM_yyyymm                                     |  |
| Trada Fila                     |  |  |
| Trade File                     | /DER_EU_ENXT_ALL_TRADE   |  |
| (Euronext markets)             | Most Recent File   |  |
|                                | DER_EU_ENXT_ALL_TRADE/CURRENT  |  |
|                                | Historical Archive   |  |

|                                | <ul> <li>DER_EU_ENXT_ALL_TRADE/DER_EU_ENXT_ALL_TRADE     _yyyy/DER_EU_ENXT_ALL_TRADE_yyyymm</li> </ul> |
|--------------------------------|--|
| Trade File                     | /DER_BIT_ALL_TRADE   |
| (Borsa Italiana markets)       | Most Recent File   |
|                                | DER_BIT_ALL_TRADE/CURRENT  |
|                                | Historical Archive   |
|                                | DER_BIT_ALL_TRADE/DER_BIT_ALL_TRADE_yyyy/DER_BIT_ALL_TRADE_yyyymm                                      |
| Trade File                     | /DER_EU_NP_ALL_TRADE   |
| (Nord Pool – Power derivatives | Most Recent File   |
| market)                        | DER_EU_NP_ALL_TRADE/CURRENT  |
|                                | Historical Archive   |
|                                | DER_EU_NP_ALL_TRADE/DER_EU_NP_ALL_TRADE_yyyy/DER_E U_NP_ALL_TRADE_yyyymm                               |
| BBO File                       | /DER_EU_ENXT_ALL_BBO   |
| (Euronext markets)             | Most Recent File   |
|                                | DER_EU_ENXT_ALL_BBO/CURRENT  |
|                                | Historical Archive   |
|                                | <ul> <li>DER_EU_ENXT_ALL_BBO/DER_EU_ENXT_ALL_BBO_yyy</li> <li>y/DER_EU_ENXT_ALL_BBO_yyyymm</li> </ul>  |
| BBO File                       | /DER_BIT_ALL_BBO   |
| (Borsa Italiana markets)       | Most Recent File   |
|                                | DER_BIT_ALL_BBO/CURRENT  |
|                                | Historical Archive   |
|                                | DER_BIT_ALL_BBO/DER_BIT_ALL_BBO_yyyy/DER_BIT_A<br>LL_BBO_yyyymm  |
| BBO File                       | /DER_EU_NP_ALL_BBO   |
| (Euronext markets)             | Most Recent File   |
|                                | DER_EU_NP_ALL_BBO/CURRENT  |
|                                | Historical Archive   |
|                                | <ul> <li>DER_EU_NP_ALL_BBO/DER_EU_NP_ALL_BBO_yyyy/DE<br/>R_EU_NP_ALL_BBO_yyyymm</li> </ul>             |
| FOB File                       | Most Recent File / Historical Archive  |
| (Euronext markets)             | DER_EU_ENXT_MARKET PLACE*_ASSET CLASS**_FOB  |

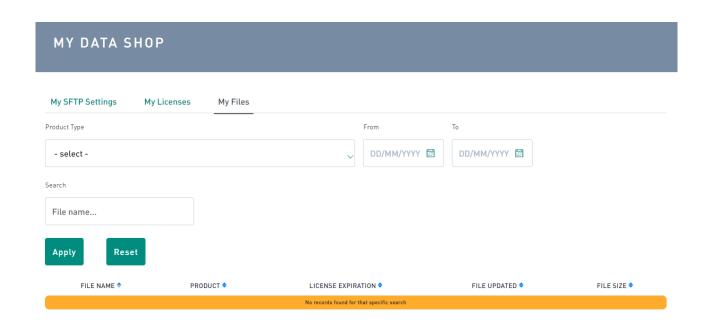
|                               | *Descible values for Mandret Disco AMC DDU LIC OCL DAD   |
|-------------------------------|--|
|                               | *Possible values for Market Place: AMS, BRU, LIS, OSL, PAR   |
|                               | **Possible values for Asset Class: EQUITY, INDEX, COMMODITY  |
| RAW – Euronext Commodities    | /DER_EU_ENXT_COM_RAW   |
|                               | Most Recent File   |
|                               | <ul> <li>/DER_EU_ENXT_COM_RAW/CURRENT</li> </ul>   |
|                               | Historical Archive   |
|                               | <ul> <li>/DER_EU_ENXT_COM_RAW/DER_EU_ENXT_COM_RAW<br/>_yyyy/DER_EU_ENXT_COM_RAW_yyyymm</li> </ul>  |
| RAW – Euronext Index Futures  | /DER_EU_ENXT_EQY-IND-FUT-FR_RAW  |
| – France                      | Most Recent File   |
|                               | <ul> <li>/DER_EU_ENXT_EQY-IND-FUT-FR_RAW/CURRENT</li> </ul>  |
|                               | Historical Archive   |
|                               | <ul> <li>/DER_EU_ENXT_EQY-IND-FUT-<br/>FR_RAW/DER_EU_ENXT_EQY-IND-FUT-<br/>FR_RAW_yyyy/DER_EU_ENXT_EQY-IND-FUT-<br/>FR_RAW_yyyymm</li> </ul> |
| RAW – Euronext Index Futures  | /DER_EU_ENXT_EQY-IND-FUT-NL_RAW  |
| <ul><li>Netherlands</li></ul> | Most Recent File   |
|                               | <ul> <li>/DER_EU_ENXT_EQY-IND-FUT-NL_RAW/CURRENT</li> </ul>  |
|                               | Historical Archive   |
|                               | <ul> <li>/DER_EU_ENXT_EQY-IND-FUT-<br/>NL_RAW/DER_EU_ENXT_EQY-IND-FUT-<br/>NL_RAW_yyyy/DER_EU_ENXT_EQY-IND-FUT-<br/>NL_RAW_yyyymm</li> </ul> |
| RAW – Euronext Index Futures  | /DER_EU_ENXT_IND-FUT-IT_RAW  |
| – Milan                       | Most Recent File   |
|                               | <ul> <li>/DER_EU_ENXT_IND-FUT-IT_RAW/CURRENT</li> </ul>  |
|                               | Historical Archive   |
|                               | <ul> <li>/DER_EU_ENXT_IND-FUT-IT_RAW/DER_EU_ENXT_IND-<br/>FUT-IT_RAW_yyyy/DER_EU_ENXT_IND-FUT-<br/>IT_RAW_yyyymm</li> </ul>                  |
| RAW – Euronext Index Futures  | /DER_EU_ENXT_EQY-IND-FUT-BE-PT_RAW   |
| – Other                       | Most Recent File   |
|                               | /DER_EU_ENXT_EQY-IND-FUT-BE-PT_RAW/CURRENT   |
|                               | Historical Archive   |
|                               | • /DER_EU_ENXT_EQY-IND-FUT-BE-   |
|                               | PT_RAW/DER_EU_ENXT_EQY-IND-FUT-BE-   |

|                              | PT_RAW_yyyy/DER_EU_ENXT_EQY-IND-FUT-BE-<br>PT_RAW_yyyymm   |
|------------------------------|--|
| RAW – Euronext Equity        | /DER_EU_ENXT_EQY-OPT-FR_RAW  |
| Derivatives - France         | Most Recent File   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT-FR_RAW/CURRENT</li> </ul>  |
|                              | Historical Archive   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT-<br/>FR_RAW/DER_EU_ENXT_EQY-OPT-<br/>FR_RAW_yyyy/DER_EU_ENXT_EQY-OPT-<br/>FR_RAW_yyyymm</li> </ul> |
| RAW – Euronext Equity        | /DER_EU_ENXT_EQY-OPT-NL_RAW  |
| Derivatives - Netherlands    | Most Recent File   |
|                              | <ul><li>/DER_EU_ENXT_EQY-OPT-NL_RAW/CURRENT</li></ul>  |
|                              | Historical Archive   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT- NL_RAW/DER_EU_ENXT_EQY-OPT- NL_RAW_yyyy/DER_EU_ENXT_EQY-OPT- NL_RAW_yyyymm</li> </ul>             |
| RAW – Euronext Equity        | /DER_EU_ENXT_EQY-OPT-IT_RAW  |
| Derivatives - Milan          | Most Recent File   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT-IT_RAW/CURRENT</li> </ul>  |
|                              | Historical Archive   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT-IT_RAW/DER_EU_ENXT_EQY-<br/>OPT-IT_RAW_yyyy/DER_EU_ENXT_EQY-OPT-<br/>IT_RAW_yyyymm</li> </ul>      |
| RAW – Euronext Equity        | /DER_EU_ENXT_EQY-OPT-BE_RAW  |
| Derivatives – Other          | Most Recent File   |
|                              | • /DER_EU_ENXT_EQY-OPT-BE_RAW/CURRENT  |
|                              | Historical Archive   |
|                              | <ul> <li>/DER_EU_ENXT_EQY-OPT-<br/>BE_RAW/DER_EU_ENXT_EQY-OPT-<br/>BE_RAW_yyyy/DER_EU_ENXT_EQY-OPT-<br/>BE_RAW_yyyymm</li> </ul> |
| RAW – Euronext Index Options | /DER_EU_ENXT_IND-OPT-FR_RAW  |
| - France                     | Most Recent File   |
|                              | • /DER_EU_ENXT_IND-OPT-FR_RAW/CURRENT  |
|                              | Historical Archive   |
|                              |  |

|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-FR_RAW/DER_EU_ENXT_IND-<br/>OPT-FR_RAW_yyyy/DER_EU_ENXT_IND-OPT-<br/>FR_RAW_yyyymm</li> </ul> |  |
|-------------------------------|---|--|
| RAW – Euronext Index Options  | /DER_EU_ENXT_IND-OPT-NL_RAW   |  |
| <ul><li>Netherlands</li></ul> | Most Recent File  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-NL_RAW/CURRENT</li> </ul>   |  |
|                               | Historical Archive  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-NL_RAW/DER_EU_ENXT_IND-<br/>OPT-NL_RAW_yyyy/DER_EU_ENXT_IND-OPT-<br/>NL_RAW_yyyymm</li> </ul> |  |
| RAW – Euronext Index Options  | /DER_EU_ENXT_IND-OPT-IT_RAW   |  |
| – Milan                       | Most Recent File  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-IT_RAW/CURRENT</li> </ul>   |  |
|                               | Historical Archive  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-IT_RAW/DER_EU_ENXT_IND-<br/>OPT-IT_RAW_yyyy/DER_EU_ENXT_IND-OPT-<br/>IT_RAW_yyyymm</li> </ul> |  |
| RAW – Euronext Index Options  | /DER_EU_ENXT_IND-OPT-BE_RAW   |  |
| – Other                       | Most Recent File  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-BE_RAW/CURRENT</li> </ul>   |  |
|                               | Historical Archive  |  |
|                               | <ul> <li>/DER_EU_ENXT_IND-OPT-BE_RAW/DER_EU_ENXT_IND-<br/>OPT-BE_RAW_yyyy/DER_EU_ENXT_IND-OPT-<br/>BE_RAW_yyyymm</li> </ul> |  |
| RAW – Nord Pool Power         | /DER_EU_NP_COM_RAW  |  |
| Derivatives                   | Most Recent File  |  |
|                               | • /DER_EU_NP_COM_RAW/CURRENT  |  |
|                               | Historical Archive  |  |
|                               | <ul> <li>/DER_EU_NP_COM_RAW/DER_EU_NP_COM_RAW_yyy<br/>y/DER_EU_NP_COM_RAW_yyyymm</li> </ul>                                 |  |
|                               |   |  |

# 3.6 HTTPS DELIVERY

The files are also available on <a href="https://live.euronext.com/en/user/datashop/files">https://live.euronext.com/en/user/datashop/files</a> using the client's credentials.



#### 3.7 FILE LAYOUTS

Each NextHistory Derivatives file has the following structure:

- The header record (one per trading day)
  - Record Type ='H';
- The Descriptor Record (one per trading day)
  - Record Type ='D';
- The body record (x per trading day, x > 0)
  - o Record Type can take the following values:
    - RO = Referential Outright Data
    - RS = Referential Strategy Data
    - E = EOD Summary Data
    - T = Trade data
    - B = BBO Data;
- The footer record (one per trading day)
  - Record Type ='F'.

All body records have a variable length and each field is separated by a semicolon.

#### **Header & Footer Records**

Each of the NextHistory Derivatives files uses the same structure for the Header record and the same structure for the Footer record.

The structure of the Header record is the following:

#### **Header Record**

| FIELD NAME         | FIELD TYPE   | DESCRIPTION  |
|--------------------|--------------|--|
| RecordType         | Alphanumeric | 'H' = Header   |
| FileIdentifier     | Alphanumeric | File name (please refer to each file description)  |
| GenerationDateTime | Alphanumeric | Date and START time of file generation trigger according to the System Clock [YYYY-MM-DD hh:mm:ss] |

The structure of Footer record is the following:

### **Footer Record**

| FIELD NAME         | FIELD TYPE   | DESCRIPTION  |
|--------------------|--------------|--|
| RecordType         | Alphanumeric | 'F' = Footer   |
| Footer             | Alphanumeric | File name (please refer to each file description)                          |
| CompletionDateTime | Alphanumeric | Date and END time of file generation trigger according to the System Clock |

### **Referential File**

There is one descriptor a day in Referential Data file (located after the header record).

Each Referential Data Body record is split up in three consecutive parts :

- First part of Referential Data Record contains contract level information. This data is available for both outright and strategy instruments.
- o Second part of Referential Data Record contains instrument level information.
- Third part of Referential Data Record contains only strategy information (i.e. the definition of the strategy).

Referential Data body records are structured as followed:

| FIELD NAME     | FIELD TYPE   | DESCRIPTION  |
|----------------|--------------|--|
| RecordType     | Alphanumeric | Identifier indicating the type of record.                            |
|                |              | • RO= Referential Outright Data Record                               |
|                |              | • RS= Referential Strategy Data Record                               |
| Market Place   | Alphanumeric | Market Place:  |
|                |              | • AMS = Amsterdam  |
|                |              | • BRU = Brussels   |
|                |              | • LIS = Lisbon   |
|                |              | • OSL = Oslo (as of 7 Dec 2020)                                      |
|                |              | • PAR = Paris  |
|                |              | <ul> <li>MIL=Milan (as of 25 March<br/>2024)</li> </ul>              |
| Asset Class    | Alphanumeric | Asset Class  |
|                |              | • DRV = Derivatives  |
| Asset Group    | Alphanumeric | Asset Group  |
|                |              | • CUR = Currency   |
|                |              | • EQU = Equity   |
|                |              | • IND = Index  |
|                |              | • COM = Commodity  |
| ExchangeName   | Alphanumeric | Long Name of the exchange.   |
| Market Id Code | Alphanumeric | MIC – Place of Trading (Market Place). Empty if not available.       |
| ExchangeCode   | Alphanumeric | A code typically indicating the exchange on which a contract trades. |
|                |              | • A: Amsterdam - Equity Products                                     |
|                |              | B: Brussels - Equity Products  |
|                |              | • F: Brussels - Index Products                                       |
|                |              | • J: Paris - Index Products  |
|                |              | K: Amsterdam - Index Products  |

| FIELD NAME               | FIELD TYPE   | DESCRIPTION  |
|--------------------------|--------------|--|
|                          |              | M: Lisbon - Index Products   |
|                          |              | • N: Oslo Index Derivatives (as of 7 Dec 2020)   |
|                          |              | • O: Oslo Equity Derivatives (as of 7 Dec 2020)  |
|                          |              | P: Paris - Equity Products   |
|                          |              | • R: Amsterdam - Commodity Products  |
|                          |              | • S: Lisbon - Equity Products  |
|                          |              | • Y: Paris - Commodity Products  |
|                          |              | <ul> <li>Z: Amsterdam - Currency<br/>Products</li> </ul>                                   |
|                          |              | • E: Milan Equity Producs (as of 25 March 2024)  |
|                          |              | • I: Milan Index Products (as of 25 March 2024)  |
|                          |              | <ul> <li>V: Euronext Amsterdam –</li> <li>Other Commodities (as of end of 2025)</li> </ul> |
| InstrumentType           | Alphanumeric | Instrument Type as defined by the exchange.  |
|                          |              | F - Future   |
|                          |              | O - Option   |
| InstrumentTrading Symbol | Alphanumeric | Official Exchange Trading Symbol of Instrument.  |
| InstrumentName           | Alphanumeric | Full name of Instrument / Class.   |
| ExerciseType             | Alphanumeric | Exercise type of instrument. For Options only.   |
|                          |              | • E - European style   |
|                          |              | • A - American style   |
|                          |              | Blank, if not applicable.  |
| ContractCurrency         | Alphanumeric | Trading currency of the contract (ISO Currency Code)                                       |
| SettlementMethod         | Alphanumeric | Settlement Method:   |
|                          |              | • C – Cash settlement  |
|                          |              |  |

| FIELD NAME               | FIELD TYPE             | DESCRIPTION   |
|--------------------------|------------------------|---|
|                          |                        | P – Physical settlement   |
| Notional Tick Value      | Decimal/Floating Point | The tick value per point of the instrument  |
|                          |                        | Contract level value  |
| UnderlyingISIN           | Alphanumeric           | ISIN code of underlying instrument, where applicable.                                 |
| Underlying Exchange Code | Alphanumeric           | A code typically indicating the exchange on which a contract trades.                  |
|                          |                        | A: Amsterdam - Equity     Products  |
|                          |                        | B: Brussels - Equity     Products   |
|                          |                        | F: Brussels - Index Products  |
|                          |                        | J: Paris - Index Products   |
|                          |                        | K: Amsterdam - Index     Products   |
|                          |                        | M: Lisbon - Index Products  |
|                          |                        | <ul> <li>N: Oslo Index Derivatives (as<br/>of 7 Dec 2020)</li> </ul>                  |
|                          |                        | • O: Oslo Equity Derivatives (as of 7 Dec 2020)                                       |
|                          |                        | P: Paris - Equity Products  |
|                          |                        | R: Amsterdam - Commodity     Products   |
|                          |                        | S: Lisbon - Equity Products   |
|                          |                        | <ul> <li>Y: Paris - Commodity</li> <li>Products</li> </ul>                            |
|                          |                        | • Z: Amsterdam - Currency Products  |
|                          |                        | • E: Milan Equity Products (as of 25 March 2024)                                      |
|                          |                        | I: Milan Index Products (as of 25 March 2024)   |
|                          |                        | <ul> <li>V: Euronext Amsterdam –     Other Commodities (as of end of 2025)</li> </ul> |

| FIELD NAME                           | FIELD TYPE             | DESCRIPTION   |
|--------------------------------------|------------------------|---|
| Underlying Instrument Type           | Alphanumeric           | Instrument Type of the underlying as defined by the exchange e.g.   |
|                                      |                        | • F = Future  |
|                                      |                        | • S = Stock   |
|                                      |                        | • I = Index   |
|                                      |                        | <ul><li>U = Pseudo Underlyings –<br/>pricing purposes only</li></ul>  |
|                                      |                        | • X = Exchange Rate   |
| Underlying Instrument Trading Symbol | Alphanumeric           | Official Exchange Trading Symbol of the underlying instrument   |
| InstrumentID                         | Alphanumeric           | A unique identifier for the derivative instrument   |
| InstrumentISIN                       | Alphanumeric           | ISIN code of the derivative   |
| (included on 01 August 2017)         |                        | instrument. The ISIN code will be available for outright contracts only.  |
| BDM Instrument Code                  | Numeric/Integer        | BDM Internal Instrument Code (BDM is Euronext's database)   |
| ExpiryDate                           | Numeric/Integer        | Expiry date of instrument. (yyyymmdd)   |
| ExercisePrice                        | Numeric/Integer        | For Options only.   |
|                                      |                        | The exercise (strike) price of the Option instrument in integer tick representation.  |
|                                      |                        | Shows '0' for Futures and Strategies  |
| ActualExercisePrice                  | Decimal/Floating Point | For Options only.   |
|                                      |                        | The actual exercise (strike) price of instrument. (calculated using the ExercisePriceDecimalLocator and ExercisePriceDenominator) |
|                                      |                        | Shows '0' for Futures and Strategies  |
| ExercisePriceDecimal Locator (L)     | Numeric/Integer        | For Options only (used in calculating the actual exercise price).   |
| ExercisePrice Denominator (D)        | Numeric/Integer        | For Options only (used in calculating the actual exercise price).   |
| OptionCategory                       | Alphanumeric           | Refers to the option category for options :   |

| FIELD NAME         | FIELD TYPE             | DESCRIPTION   |
|--------------------|------------------------|---|
|                    |                        | • C – Call  |
|                    |                        | • P – Put   |
|                    |                        | Refers to the type of instrument for futures and strategies   |
|                    |                        | • F – Future  |
|                    |                        | S - Strategy  |
| LotSize            | Numeric/Integer        | Trading lot   |
| IntradayCreation   | Alphanumeric           | Intraday Creation : "Y" Not Intraday Creation : Empty   |
| StrategyMarketCode | Alphanumeric           | Indicates the type of strategy listed (e.g. Calendar Spread). Please check list of strategies available on Euronext's website.                  |
| StrategyLegsNumber | Numeric/Integer        | Number of legs of that make up the strategy   |
| Leg1InstrumentID   | Alphanumeric           | A unique identifier for the outright leg instrument. Corresponds to the Exchange Instrument ID for the future/option/underlying leg instrument. |
| Leg1Side           | Alphanumeric           | Buy (+) or Sell (-)   |
| Leg1Ratio          | Numeric/Integer        | Ratio of this leg compared to other legs of strategy  |
| Leg1Price          | Decimal/Floating Point | Price at which the underlying contingent leg for Delta Neutral and Conversion Reversal strategies must trade                                    |
| Leg1Number         | Numeric/Integer        | Leg Number 1  |
|                    |                        |   |
| Leg50InstrumentID  | Alphanumeric           | A unique identifier for the outright leg instrument. Corresponds to the Exchange Instrument ID for the future/option/underlying leg instrument. |
| Leg50Side          | Alphanumeric           | Buy (+) or Sell (-)   |
| Leg50Ratio         | Numeric/Integer        | Ratio of this leg compared to other legs of strategy  |

| FIELD NAME  | FIELD TYPE             | DESCRIPTION   |
|---|------------------------|---|
| Leg50Price  | Decimal/Floating Point | Price at which the Underlying<br>contingent leg for Delta Neutral and<br>Conversion Reversal strategies must<br>trade |
| Leg50Number   | Numeric/Integer        | Leg Number 50   |
| UnderlyingSubtype   | Alphanumeric           | 1: Dividend   |
|   |                        | 2: ETF  |
|   |                        | 3: Share  |
|   |                        | 4: Dividend Index   |
|   |                        | 5: Equity Index   |
|   |                        | 6: TRF Index  |
|   |                        | 12: AGRI - Agricultural   |
|   |                        | 20: NRGY – Energy   |
|   |                        | 26: BNDB – Bonds Basket   |
| UnderlyingSubProduct  | Alphanumeric           |   |
| (This field is only populated in<br>the files for Nord Pool Power<br>Derivatives) |                        | ELEC: Electricity   |
| UnderlyingFurtherSubProduct   | Alphanumeric           |   |
| (This field is only populated in<br>the files for Nord Pool Power<br>Derivatives) |                        | BSLD: Base Load   |
| ExpiryCycleType   | Alphanumeric           | 1: Daily  |
|   |                        | 2: Weekly   |
|   |                        | 3: Monthly  |
|   |                        | 4: Quarterly  |
|   |                        | 5: Half-Yearly  |
|   |                        | 6: Yearly   |
| DeliveryStartDate   | Numeric/Integer        | Dolivany atom data  |
| (This field is only populated in<br>the files for Nord Pool Power<br>Derivatives) |                        | Delivery start date dd.mm.yyyy  |
| DeliveryEndDate   | Numeric/Integer        | Delivery end date   |
|   |                        | dd.mm.yyyy  |

| FIELD NAME                       | FIELD TYPE | DESCRIPTION |
|----------------------------------|------------|-------------|
| (This field is only populated in |            |             |
| the files for Nord Pool Power    |            |             |
| Derivatives)                     |            |             |
|                                  |            |             |

# **End of Day Summary File**

There is one descriptor a day in EOD Summary file (located after the header record).

Each EOD file detail is structured as followed:

| FIELD NAME   | FIELD TYPE   | DESCRIPTION  |
|--------------|--------------|--|
| RecordType   | Alphanumeric | Identifier indicating the type of record.  • E = End Of Day Record   |
| Market Place | Alphanumeric | <ul> <li>Market Place:</li> <li>AMS = Amsterdam</li> <li>BRU = Brussels</li> <li>LIS = Lisbon</li> <li>OSL = Oslo (as of 7 Dec 2020)</li> <li>PAR = Paris</li> <li>MIL= Milan (as of 25 March 2024)</li> </ul> |
| Asset Class  | Alphanumeric | Asset Class  • DRV = Derivatives   |
| Asset Group  | Alphanumeric | Asset Group  CUR = Currency  EQU = Equity  IND = Index  COM = Commodity  |
| ExchangeCode | Alphanumeric | A code typically indicating the exchange on which a contract trades.  • A: Amsterdam - Equity Products  • B: Brussels - Equity Products  • F: Brussels - Index Products  |

| FIELD NAME               | FIELD TYPE             | DESCRIPTION  |
|--------------------------|------------------------|--|
|                          |                        | J: Paris - Index Products  |
|                          |                        | <ul> <li>K: Amsterdam - Index</li> <li>Products</li> </ul>                           |
|                          |                        | M: Lisbon - Index Products   |
|                          |                        | <ul> <li>N: Oslo Index Derivatives (as<br/>of 7 Dec 2020)</li> </ul>                 |
|                          |                        | • O: Oslo Equity Derivatives (as of 7 Dec 2020)                                      |
|                          |                        | P: Paris - Equity Products   |
|                          |                        | • R: Amsterdam - Commodity Products  |
|                          |                        | • S: Lisbon - Equity Products  |
|                          |                        | • Y: Paris - Commodity Products  |
|                          |                        | • Z: Amsterdam - Currency Products   |
|                          |                        | • E: Milan Equity Producs (as of 25 March 2024)                                      |
|                          |                        | • I: Milan Index Products (as of 25 March 2024)                                      |
| InstrumentType           | Alphanumeric           | Instrument Type as defined by the exchange:  |
|                          |                        | • F – Future   |
|                          |                        | • O – Option   |
| InstrumentTrading Symbol | Alphanumeric           | Official Exchange Trading Symbol of instrument.                                      |
| InstrumentID             | Alphanumeric           | A unique identifier for the derivative instrument.                                   |
| ExpiryDate               | Alphanumeric           | Expiry date of instrument. (yyyymmdd)  |
| ExercisePrice            | Numeric/Integer        | For Options only.  |
|                          |                        | The exercise (strike) price of the Option instrument in integer tick representation. |
|                          |                        | Shows '0' for Futures and Strategies   |
| ActualExercisePrice      | Decimal/Floating Point | For Options only.  |

| The actual exercise (strike) price of instrument. (calculated using the ExercisePriceDenimallocator and ExercisePriceDenominator)  Shows '0' for Futures and Strategies  Refers to the option category for options:  C - Call P - Put Refers to the type of instrument for futures and strategies  F - Future S - Strategy  Open Decimal/Floating Point Openimal/Floating Point Decimal/Floating Point Lowest book trade price for the current day.  Low Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of tardes reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between - 100 and 100) | FIELD NAME         | FIELD TYPE             | DESCRIPTION   |
|--|--------------------|------------------------|---|
| OptionCategory  Alphanumeric  Refers to the option category for options:   |                    |                        | instrument. (calculated using the ExercisePriceDecimalLocator and |
| options:  • C – Call • P – Put Refers to the type of instrument for futures and strategies • F – Future • S – Strategy  Open  Decimal/Floating Point  High  Decimal/Floating Point  Low trade price for the current day.  Low  Decimal/Floating Point  Lowest book trade price for the current day.  Low  Decimal/Floating Point  Lowest book trade price for the current day.  Close  Decimal/Floating Point  Close price for the instrument.  Settlement  Decimal/Floating Point  Settlement price for the instrument.  Settlement  Decimal/Floating Point  Settlement price for the instrument.  COB Volume  Numeric/Integer  Total daily volume of trades executed through Central Order Book.  Off-COB Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Numeric/Integer  Open Interest for the instrument.  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -  |                    |                        | Shows '0' for Futures and Strategies                              |
| P – Put Refers to the type of instrument for futures and strategies F – Future S - Strategy  Open Decimal/Floating Point Opening book trade price for the current day.  High Decimal/Floating Point Lowest book trade price for the current day.  Low Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Open Interest Open Interest Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd) End of Day Delta End of Day Delta (varies between -   | OptionCategory     | Alphanumeric           |   |
| Refers to the type of instrument for futures and strategies  F – Future S - Strategy  Open Decimal/Floating Point Opening book trade price for the current day.  High Decimal/Floating Point Lowest book trade price for the current day.  Low Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Numeric/Integer Open Interest for the instrument.  Den Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd) End of Day Delta Numeric/Integer End of Day Delta (varies between -   |                    |                        | • C – Call  |
| futures and strategies  F - Future  S - Strategy  Open  Decimal/Floating Point  High Decimal/Floating Point  Low Decimal/Floating Point  Lowest book trade price for the current day.  Trade Count  Numeric/Integer  Number of executed trades for the current day.  Close  Decimal/Floating Point  Close price for the instrument.  Settlement  Decimal/Floating Point  Settlement price for the instrument.  COB Volume  Numeric/Integer  Total daily volume of trades executed through Central Order Book.  Off-COB Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Numeric/Integer  Open Interest for the instrument.  Deen Interest Date  Alphanumeric  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   |                    |                        | • P – Put   |
| Open  Decimal/Floating Point Opening book trade price for the current day.  High  Decimal/Floating Point Highest book trade price for the current day.  Low Decimal/Floating Point Lowest book trade price for the current day.  Low Opening Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of all trades, both through ATOMX.  Total Volume Numeric/Integer Open Interest Open Interest Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -   |                    |                        |   |
| Open Decimal/Floating Point Current day.  High Decimal/Floating Point Highest book trade price for the current day.  Low Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Open Interest Open Interest Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -   |                    |                        | • F – Future  |
| High  Decimal/Floating Point Highest book trade price for the current day.  Low  Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Numeric/Integer Open Interest for the instrument.  Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -   |                    |                        | • S - Strategy  |
| Low Decimal/Floating Point Lowest book trade price for the current day.  Trade Count Numeric/Integer Number of executed trades for the current day.  Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Numeric/Integer Open Interest for the instrument.  Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -  | Open               | Decimal/Floating Point |   |
| Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Numeric/Integer Open Interest for the instrument.  Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -   | High               | Decimal/Floating Point |   |
| Close Decimal/Floating Point Close price for the instrument.  Settlement Decimal/Floating Point Settlement price for the instrument.  COB Volume Numeric/Integer Total daily volume of trades executed through Central Order Book.  Off-COB Volume Numeric/Integer Total daily volume of trades reported through ATOMX.  Total Volume Numeric/Integer Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest Numeric/Integer Open Interest for the instrument.  Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -   | Low                | Decimal/Floating Point | ·   |
| Settlement  Decimal/Floating Point  Settlement price for the instrument.  COB Volume  Numeric/Integer  Total daily volume of trades executed through Central Order Book.  Off-COB Volume  Numeric/Integer  Total daily volume of trades reported through ATOMX.  Total Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Numeric/Integer  Open Interest for the instrument.  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   | Trade Count        | Numeric/Integer        |   |
| COB Volume  Numeric/Integer  Total daily volume of trades executed through Central Order Book.  Off-COB Volume  Numeric/Integer  Total daily volume of trades reported through ATOMX.  Total Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Numeric/Integer  Open Interest for the instrument.  Open Interest Date  Alphanumeric  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   | Close              | Decimal/Floating Point | Close price for the instrument.                                   |
| executed through Central Order Book.  Off-COB Volume  Numeric/Integer  Total daily volume of trades reported through ATOMX.  Total Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Open Interest for the instrument.  Open Interest Date  Alphanumeric  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -  | Settlement         | Decimal/Floating Point | Settlement price for the instrument.                              |
| reported through ATOMX.  Total Volume  Numeric/Integer  Total daily volume of all trades, both through Central Order Book and Bclear.  Open Interest  Numeric/Integer  Open Interest for the instrument.  Open Interest Date  Alphanumeric  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   | COB Volume         | Numeric/Integer        | executed through Central Order                                    |
| both through Central Order Book and Bclear.  Open Interest Open Interest Date Alphanumeric Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta Numeric/Integer End of Day Delta (varies between -  | Off-COB Volume     | Numeric/Integer        | ·   |
| Open Interest Date  Alphanumeric  Date to which the Open Interest applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   | Total Volume       | Numeric/Integer        | both through Central Order Book                                   |
| applies. (yyyymmdd)  End of Day Delta  Numeric/Integer  End of Day Delta (varies between -   | Open Interest      | Numeric/Integer        | Open Interest for the instrument.                                 |
|  | Open Interest Date | Alphanumeric           |   |
|  | End of Day Delta   | Numeric/Integer        | ·   |

| FIELD NAME             | FIELD TYPE             | DESCRIPTION  |
|------------------------|------------------------|--|
| Volatility             | Numeric/Integer        | Volatility (in percentage points e.g. 44 = 44%)        |
| VolatilityForValuation | Decimal/Floating Point | Volatility (in percentage points, with three decimals) |

# **Trade File**

There is one descriptor a day in Trade file (located after the header record).

Each Trade file body record is structured as followed:

| FIELD NAME           | FIELD TYPE   | DESCRIPTION   |
|----------------------|--------------|---|
| Record Type          | Alphanumeric | Identifier indicating the type of record.  • T = Trade Data Record.   |
| Market Place         | Alphanumeric | <ul> <li>Market Place:</li> <li>AMS = Amsterdam</li> <li>BRU = Brussels</li> <li>LIS = Lisbon</li> <li>OSL = Oslo (as of 7 Dec 2020)</li> <li>PAR = Paris</li> <li>MIL=Milan (as of 25 March 2024)</li> </ul> |
| Asset Class          | Alphanumeric | <ul><li>Asset Class</li><li>DRV = Derivatives</li></ul>   |
| Asset Group          | Alphanumeric | Asset Group  CUR = Currency  EQU = Equity  IND = Index  COM = Commodity   |
| Instrument Id        | Alphanumeric | The unique identifier for the derivative instrument.  |
| Code Inst BDM        | Alphanumeric | BDM Internal Instrument Code (BDM is Euronext's database)   |
| Trading Event Number | Alphanumeric | Trading Event Number Reinitialized every day  |

| FIELD NAME            | FIELD TYPE   | DESCRIPTION   |
|-----------------------|--------------|---|
| Matched Trade Id      | Alphanumeric | Trade Identification Code   |
|                       |              | Never reinitialized   |
| Trade For Clearing Id | Alphanumeric | Trade For Clearing Identifier.  |
|                       |              | The last character of this identifier allows to determine the execution venue:                          |
|                       |              | • '0': OnExchange trade (Normal Trade)  |
|                       |              | • '9': OnExchangeOffBook Trade (Wholesale Trade)  |
|                       |              | • '8': OffBook Trade (ATOMX Trade)  |
| Cross Trade Type      | Alphanumeric | Normal Market:  |
|                       |              | Blank for Trades (different members)  |
|                       |              | • 'T' for Member Cross (different traders from the same member)   |
|                       |              | • 'S' for Trader Cross (same trader)  |
|                       |              | • Specific values for Ex-pits:  |
|                       |              | Blank for Prof Trades   |
|                       |              | • '2' for Basis Trade and Asset Allocation  |
|                       |              | <ul> <li>'S' for Block Trade, Against<br/>Actual, Guaranteed Cross and<br/>Exchange For Swap</li> </ul> |
| Wholesale Trade Type  | Alphanumeric | Blank = Normal Trade  |
|                       |              | Wholesale trade type  |
|                       |              | • '1' = Block Trade   |
|                       |              | • '2' = Basis Trade   |
|                       |              | • '3' = Against Actual  |
|                       |              | • '4' = Asset Allocation  |
|                       |              | • '5' = Professional  |
|                       |              | • '6' = Guaranteed Cross  |

| FIELD NAME              | FIELD TYPE             | DESCRIPTION   |
|-------------------------|------------------------|---|
|                         |                        | • '7' = Exchange For Swap   |
| Trade Price             | Decimal/Floating Point | Price of the trade. Always a positive value.  |
| Trade Volume            | Numeric/Integer        | Volume of the trade   |
| Trade Value Euro        | Decimal/Floating Point | Before 01 March 2021  = TradePrice x TradeVolume  As of March 2021  • Futures: TradeVolume x  TradePrice x LotSize x FX rate  • Options: TradeVolume x  ExercisePrice x LotSize x FX rate |
| Trade Date              | Alphanumeric           | Date when the trade occurred (yyyymmdd)   |
| Trade Time              | Alphanumeric           | Time when the trade occurred (hhmmssmmmμμμ)   |
| Session Id              | Alphanumeric           | <ul> <li>Session in which trade occurred.</li> <li>'2' = Morning/Afternoon</li> <li>'3' = Evening</li> </ul>  |
| Trading Day             | Alphanumeric           | Trading Day Date (yyyymmdd)   |
| Trade Cancellation Flag | Alphanumeric           | <ul><li>Trade Cancellation Flag</li><li>'1': Valid Trade</li><li>'2': Cancelled Trade</li></ul>   |
| Trade Cancellation Time | Alphanumeric           | Trade Cancellation Time (hh:mm:ss.mmm)  |

# **BBO File**

There is one descriptor a day in the BBO file (located after the header record).

Each BBO file detail is structured as followed:

| FIELD NAME | FIELD TYPE   | DESCRIPTION   |
|------------|--------------|---|
| RecordType | Alphanumeric | <ul> <li>Identifier indicating the type of record.</li> <li>B = Best Bid and Offer Record.</li> </ul> |

| FIELD NAME           | FIELD TYPE             | DESCRIPTION   |
|----------------------|------------------------|---|
| Market Place         | Alphanumeric           | Market Place:   |
|                      |                        | • AMS = Amsterdam   |
|                      |                        | • BRU = Brussels  |
|                      |                        | • LIS = Lisbon  |
|                      |                        | • OSL = Oslo (as of 7 Dec 2020)                           |
|                      |                        | • PAR = Paris   |
|                      |                        | MIL=Milan (as of 25 March                                 |
|                      |                        | 2024)   |
| Asset Class          | Alphanumeric           | Asset Class:  • DRV = Derivatives                         |
|                      |                        |   |
| Asset Group          | Alphanumeric           | Asset Group:  |
|                      |                        | • CUR = Currency  |
|                      |                        | • EQU = Equity  |
|                      |                        | • IND = Index   |
|                      |                        | • COM = Commodity   |
| InstrumentID         | Alphanumeric           | The unique identifier for the derivative instrument.      |
| BDM Instrument Code  | Alphanumeric           | BDM Internal Instrument Code (BDM is Euronext's database) |
| Trading Event Number | Alphanumeric           | Trading Event Number                                      |
|                      |                        | Reinitialized every day                                   |
| BBO Timestamp        | Alphanumeric           | Timestamp BBO was updated (yyyymmddHHMMSSsss date time)   |
| вво Туре             | Alphanumeric           | BBO Type  • I=Implied                                     |
|                      |                        | B=BBO   |
| Best Bid             | Decimal/Floating Point | Best Bid Price. Can be a positive or a negative value.    |

| FIELD NAME     | FIELD TYPE             | DESCRIPTION  |
|----------------|------------------------|--|
| Best Bid Qty   | Numeric/Integer        | Best Bid Volume  |
| Best Offer     | Decimal/Floating Point | Best Offer Price. Can be a positive or a negative value. |
| Best Offer Qty | Numeric/Integer        | Best Offer Volume  |

Please note that, due to the amount of data involved, the BBO file generation process pads records with spaces when they are added to the file. This way, for records type B, any spaces present after the last semi-colon delimiter should be ignored.

#### **FOB File**

There is one descriptor a day in the FOB file (located after the header record).

Each FOB file detail is structured as followed:

| FIELD NAME                | FIELD TYPE         | DESCRIPTION  |
|---------------------------|--------------------|--|
| Instrument trading symbol | Alphanumeric       | Exchange Trading Symbol of<br>Instrument. Also known as<br>Automated Market Reference<br>(AMR)             |
| Symbol index              | Numeric/Integer    | A unique system-wide identifier (in private and public messages) assigned to a trading instrument in Optiq |
| Product group             | Alphanumeric       | Underlying asset product group.  Possible values:  • Equity • Index • Commodity                            |
| Sequence date             | DD/MM/YYY          | Date of the event  |
| Sequence time UTC         | HH:MM:SS:mmmμμμnnn | Time of the event in UTC time  |

| FIELD NAME        | FIELD TYPE             | DESCRIPTION   |
|-------------------|------------------------|---|
| Sequence time CET | HH:MM:SS:mmmμμμnnn     | Time of the event in CET time   |
| Sequence number   | Alphanumeric           | Sequence number of the event  |
| EMM               | Alphanumeric           | <ul><li>Possible values:</li><li>COB (Central Order Book)</li><li>RFC (Request for Cross)</li></ul> |
| Event id          | Numeric/Integer        | Event id  |
| Order id          | Numeric/Integer        | Unique order id   |
| Order event type  | Alphanumeric           | Possible values:  |
| Order side        | Alphanumeric           | Possible values:      Buy     Sell     Cross  |
| Order price       | Decimal/Floating Point | Limit price of the order  |
| Order size        | Decimal/Floating Point | Order size  |
| Order type        | Alphanumeric           | Possible values:      Limit     Implied     Market     Post Trade Implied                           |

| FIELD NAME              | FIELD TYPE             | DESCRIPTION   |
|-------------------------|------------------------|---|
| Execution id            | Numeric/Integer        | The execution id of a trade related to the order                              |
| Trade size              | Decimal/Floating Point | The size of a trade related to the order                                      |
| Trade price             | Decimal/Floating Point | The price of a trade related to the order                                     |
| Strat link order side   | Numeric/Integer        | Order linked to strategy instrument.  Possible values:  • 1 (Buy)  • 2 (Sell) |
| Strat link symbol index | Numeric/Integer        | Symbol index of strategy instrument   |
| Strat link execution id | Numeric/Integer        | Execution id of strategy order  |

# **RAW Files**

Content as detailed in the OPTIQ MDG Client Specification and OPTIQ MDG Connectivity documentation available on Euronext's website