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PREFACE

PURPOSE

The purpose of this document is to provide general technical information about Euronext Common File Transfer System Services. Euronext Common File Transfer System (CFTS) provides file distribution services to customers that have either an EMDDA (market data), SPA (Service Provider) or TPA (Trading Platform) agreement to get access to the core trading chain of Euronext.

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Any migration approach, implementation plan, or target date described herein remains indicative only and shall become effective solely upon receipt of all required approvals and the completion of the relevant decision-making processes.

TARGET AUDIENCE

This document should be read by Developers, Exchange Connectivity Managers, Trading Support Teams and anybody involved in the setup and the configuration of Optiq MDG solution in End User Acceptance (EUA) and Production environments

SUPPORT

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- Operational Client Services Desk: clientsupport@euronext.com
- Belgium +32 2 620 0585
- France +33 1 8514 8585
- Ireland +353 1 617 4289
- Italy +39 02 7242 6080
- Netherlands +31 20 721 9585
- Portugal +351 2 1060 8585
- UK +44 20 7660 8585

WHAT'S NEW?

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

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6.371.0	Section 9.1: ■ Add RLP and RMO files ■ Add the following files: Optiq Market Making Parameters, MM list, Monthly derivatives performance, Daily performance fixedincome Section 9.3: ■ Add RLP ~~,~~ and RMO files ■ Add the following files: Optiq Market Making Parameters, MM list, Monthly derivatives performance, Daily performance fixedincome

ASSOCIATED DOCUMENTS

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

- Euronext Cash and Derivatives Markets – Optiq Files – Interface Specification
- Euronext Cash and Derivatives Markets – Web Secured Communication Standards – Technical Specification
- MyEuronext – CFTS – Members – User Guide

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1 OVERVIEW

The Common File Transfer System (CFTS) is designed to centralize access to configuration and data files for customers via Euronext private Colocation/CMC network and the Internet. This new critical service is based on a resilient and secured infrastructure. Separate domain names will exist per environment.

MyEuronext CFTS offers online access through https, enabling online access management of MyEuronext trading member contacts to CFTS data services, browsing of data service folders and the downloading of files. MyEuronext CFTS access management includes the saving of SFTP SSH public keys generated by trading members. API access method, client ID, client secret and client secret expiry date, can be generated through MyEuronext CFTS access management option.

CFTS SFTP access method utilizes the SSH key pairs authenticate and encryption. Customers must generate their own SSH keys pairs and register their public key with Euronext to gain access to file locations. SFTP public keys are used for authentication, instead of using passwords. The public key authentication uses a pair of keys, one private and one public.

CFTS API access method authenticates users through the use of API client ID and client secret. Users will request a CFTS access token through a CFTS API by providing their client ID and secret. On receiving the CFTS API access token, users can utilize APIs, to search for folders, subfolders and files, and download files.

Customers covered by this Euronext Common File Transfer System are companies who have signed one of the following agreements:

- Euronext Market Data Distribution Agreement (EMDDA)
- Service Provider Agreement (SPA)
- Trading Platform Agreement (TPA)

In addition customers wishing to utilize the MyEuronext CFTS application, must have agreed the MyEuronext website terms and conditions.

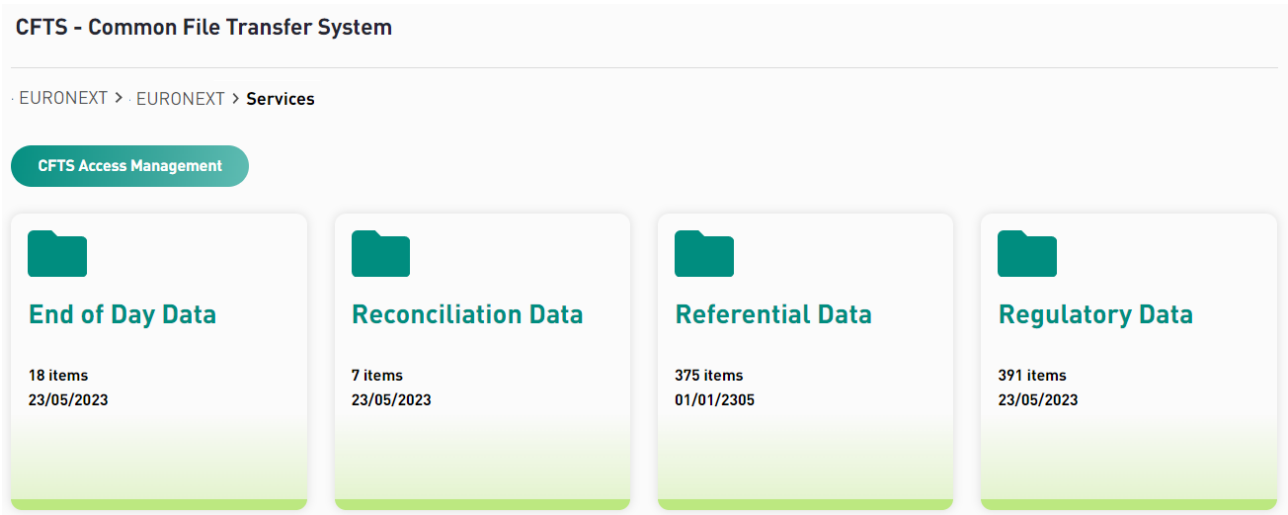
Euronext will deliver additional file distribution services and functionality through CFTS in future releases. Additional CFTS services, will offer both standard and customized private files per trading member, thereby becoming the hub for file transfer between Euronext and clients.

2 CFTS SERVICE ACCESS

CFTS Services can be accessed either through SFTP, APIs or the MyEuronext CFTS web-based application.

2.1 MYEURONEXT CFTS APPLICATION ACCESS

To gain access to the MyEuronext CFTS web-based application, trading member contacts must be registered on the MyEuronext website. The customers' Member Connectivity Administrator (MCA) must grant MyEuronext contacts a CFTS user role, assign CFTS services and access methods.



For details on MyEuronext website CFTS application please see the latest version of the MyEuronext – CFTS – Members – Users Guide, on the Euronext Connect Customer Portal.

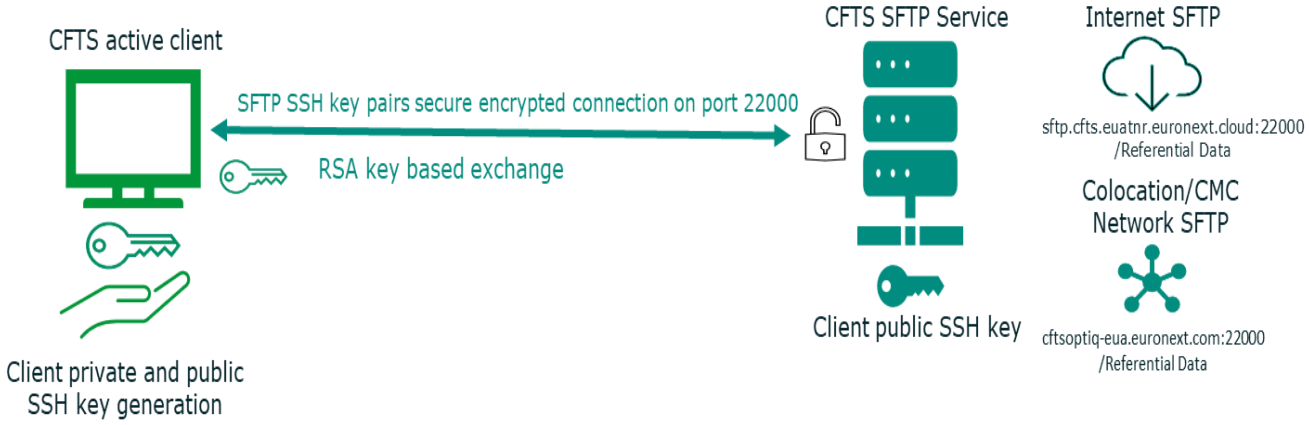
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2.2 CFTS SFTP SERVICE ACCESS

To gain access to the CFTS SFTP, members must have generated and saved their SFTP SSH public key on MyEuronext CFTS application (see MyEuronext – CFTS – Members – User Guide).

Secure Socket Shell (SSH), also called Secure Shell, creates a secure connection when you access a remote server. Secure File Transfer Protocol (SFTP) uses SSH and provides a secure way to transfer files between computers. SSH in SFTP Servers is an encrypted network protocol that uses public key cryptography to create a more secure method to authenticate a client's identity and rights to access a server.

Authorized and authenticated trading members can gain CFTS SFTP access, either through internet or Colocation/CMC networks. SFTP connections will be authenticated using SSH protocol key pairs. Trading members must generate their own public and private keys, with the public key being saved against their Euronext CFTS client user role. The member's private keys must be kept secure and stored locally on their own network. Access to the SFTP folder locations can only be secured by using a combination of the public and private keys (key pairs), and with access being granted to the SFTP access method on MyEuronext CFTS.



The following is a list of supported cryptographic algorithms for the security policy **2020-06 Restricted**, used in CFTS SFTP:

SshCiphers
aes128-ctr
aes128-gcm@openssh.com
aes192-ctr
aes256-ctr
aes256-gcm@openssh.com

SshKexs
diffie-hellman-group14-sha256
diffie-hellman-group16-sha512
diffie-hellman-group18-sha512
diffie-hellman-group-exchange-sha256
ecdh-sha2-nistp256
ecdh-sha2-nistp384
ecdh-sha2-nistp521

SshMacs
hmac-sha2-256
hmac-sha2-256-etm@openssh.com
hmac-sha2-512

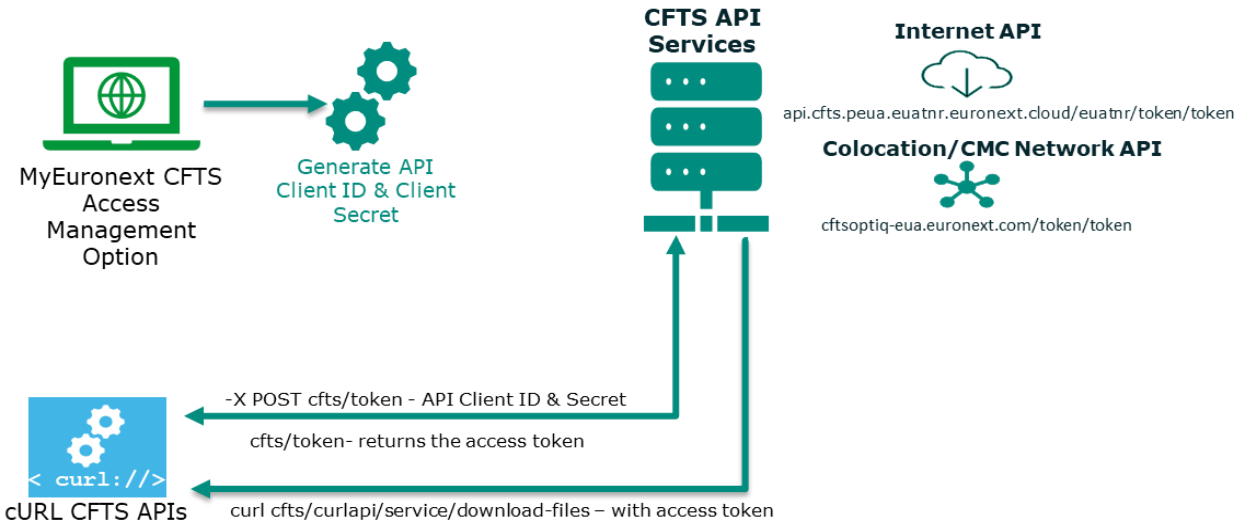
hmac-sha2-512-etm@openssh.com
umac-128-etm@openssh.com
umac-128@openssh.com

TlsCiphers
TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256
TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256
TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384
TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384
TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256
TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256
TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384
TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384

2.3 CFTS API SERVICE ACCESS

To gain API access, to the CFTS Referential Data and EOD services data, members must generate an API client ID, client secret and client secret expiry date, through MyEuronext CFTS Access Management option (see MyEuronext – CFTS – Members – User Guide). And also be granted a CFTS Client member or technical partner user role through MyEuronext Company Settings.

The CFTS API client ID and client secret, generated through MyEuronext CFTS Access Management option, must be used to request a CFTS API access token. Clients must post a request to the cfts/token API with their client ID and client secret to receive a CFTS API access token. The access token, retrieved from cfts/token, must be included in all CFTS API get requests.



Client secrets will expiry after 6 months and must be regenerated through MyEuronext CFTS Access Management option. CFTS API access tokens expiry after 1 hour, and must be newly requested, using the cfts/token API with the client ID and client secret.

CFTS provides four APIs, summarized below, see section 5.1 for the details of each API.
The CFTS APIs are currently available for Referential Data and EOD services only.

CFTS API	Description
cfts/token	Provide users with a token to enable to access to the other CFTS APIs
cfts/file-search	Enable users to get lists of service folders, subfolders and files
cfts/download-files	Enable users to retrieve a pre-signed file URL for download by file ID
cfts/download-files-names	Enable users to retrieve a pre-signed file URL for download by filename

3 PRE-REQUISITES

As a pre-requisite, customers are required to have a company agreement signed with Euronext (EDDA, SPA or TPA). And signed the MyEuronext website terms and conditions.

To access the CFTS services data through SFTP or APIs, in both Next EUA and Production, the customers' MCA must have granted their contact, the CFTS Client Member or technical partner user role, through MyEuronext Company Settings, and validate the user role. In MyEuronext CFTS, the MCA must assign the service and the access method. Access method attributes must also be generated and saved. For SFTP access the client's SSH public key must be saved. And for API access clients must generate a client ID, client secret and client secret expiry date, through MyEuronext CFTS Access Management option.

API Client secrets will expire after 6 months and must be regenerated through MyEuronext CFTS Access Management option.

Only contacts registered on MyEuronext website, granted a CFTS Client Member or technical partner user role, and assigned CFTS services, can access CFTS data services. For more information about MCAs and their registration, please check the Connect Membership Webforms User Guide.

For additional technical information SFTP SSH encryption and other technical communication standards please check the latest version of Euronext Secure Communications standards on the Euronext Connect Customer Portal.

3.1 UPDATES TO AUTHENICATION ATTRIBUTES

Changes to the SSH public keys or CFTS registered user email addresses, and the regeneration of API client secrets, should be submitted through MyEuronext CFTS web based application.

Please check that the SFTP SSH public key you are using in your script or application matches exactly the public key saved on MyEuronext CFTS. Also check that your public key does not contain any hidden control characters, carriage return or line feeds (CRLF).

API Client secrets will expire after 6 months and must be regenerated through MyEuronext CFTS Access Management option.

3.2 MYEURONEXT CFTS DISPLAY AND ACCESS ISSUES

If you encounter any display issues, please clear your web browser cache on the relevant webpage (by pressing simultaneously *Ctrl-F5*).

If you encounter any access issues, this may be due to your information security or network policy. Please make sure the security clearance step referred to in the First Connection guide is properly checked, and that the following domains are allowed:

Next EUA environment: https://api.cfts.peua.euatnr.euronext.cloud/euatnr/api

Production environment: https://api.cfts.prodnr.euronext.cloud/prodnr/api

Note: Current EUA environment is not available through MYEuronext CFTS.

3.3 CFTS SERVICE DOMAIN NAMES

The table below provides the domain names used to connect to MyEuronext CFTS, CFTS SFTP and CFTS API data services.

Referential Data, EOD, Regulatory and Reconciliation service data files are available to trading members via Colocation/CMC network and internet connectivity using SFTP access. The API access method can be used to retrieve Referential Data and EOD service data files through a Colocation/CMC and internet connection. All CFTS Service data files are available through the MyEuronext CFTS web-based application.

NETWORK	ENVIRONMENT	DOMAIN NAME	IP ADDRESS
Colocation/ CMC Access (SFTP and API access methods)	Next EUA	cftsoptiq-eua.euronext.com	212.107.67.18
	Next EUA Backup (in case of primary failure)	cftsoptiq-eua-backup.euronext.com	212.107.67.19
	Current EUA	cftsoptiq-veua.euronext.com	212.107.67.21
	Production	cftsoptiq-prod.euronext.com	212.107.67.2
	Production Backup (in case of primary failure)	cftsoptiq-prod-backup.euronext.com	212.107.67.3
SFTP Internet Access	Next EUA	sftp.cfts.euatnr.euronext.cloud	Cloud IP addresses are dynamic
	Current EUA	sftp.cfts.veua.euatnr.euronext.cloud	Cloud IP addresses are dynamic
	Production	sftp.cfts.prodnr.euronext.cloud	Cloud IP addresses are dynamic
API Internet Access	Next EUA	api.cfts.peua.euatnr.euronext.cloud	Cloud IP addresses are dynamic
	Production	api.cfts.prodnr.euronext.cloud	Cloud IP addresses are dynamic
Website Access	Next EUA	https://eua-connect.euronext.com/	N/A
	Production	https://connect2.euronext.com/	N/A

CFTS SFTP service is enabled through Port 22000. And will authenticate connectivity based on the registered CFTS user email address with both client private and public SSH keys. For MyEuronext CFTS web-based application access please reference the latest version of MyEuronext – CFTS – Members – User guide, on the Euronext Connect Customer Portal.

3.4 API ACCESS ISSUES

If you encounter any access issues, this may be due to your information security or network policy. Please make sure the security clearance step referred to in the First Connection guide is properly checked, and that the following domains are allowed:

Next EUA environment:

https://api.cfts.peua.euatnr.euronext.cloud/euatnr/api

https://enx-euatnr-eu-west-1-cfts-peua-storage-s3kms-output.s3.eu-west-1.amazonaws.com/output

https://cftsoptiq-eua.euronext.com/download

Production environment:

https://api.cfts.prodnr.euronext.cloud/prodnr/api

https://enx-prodnr-eu-west-1-cfts-storage-s3kms-output.s3.eu-west-1.amazonaws.com/output/

https://cftsoptiq-prod.euronext.com/download

Please read section A.2 Trouble shooting API response codes.

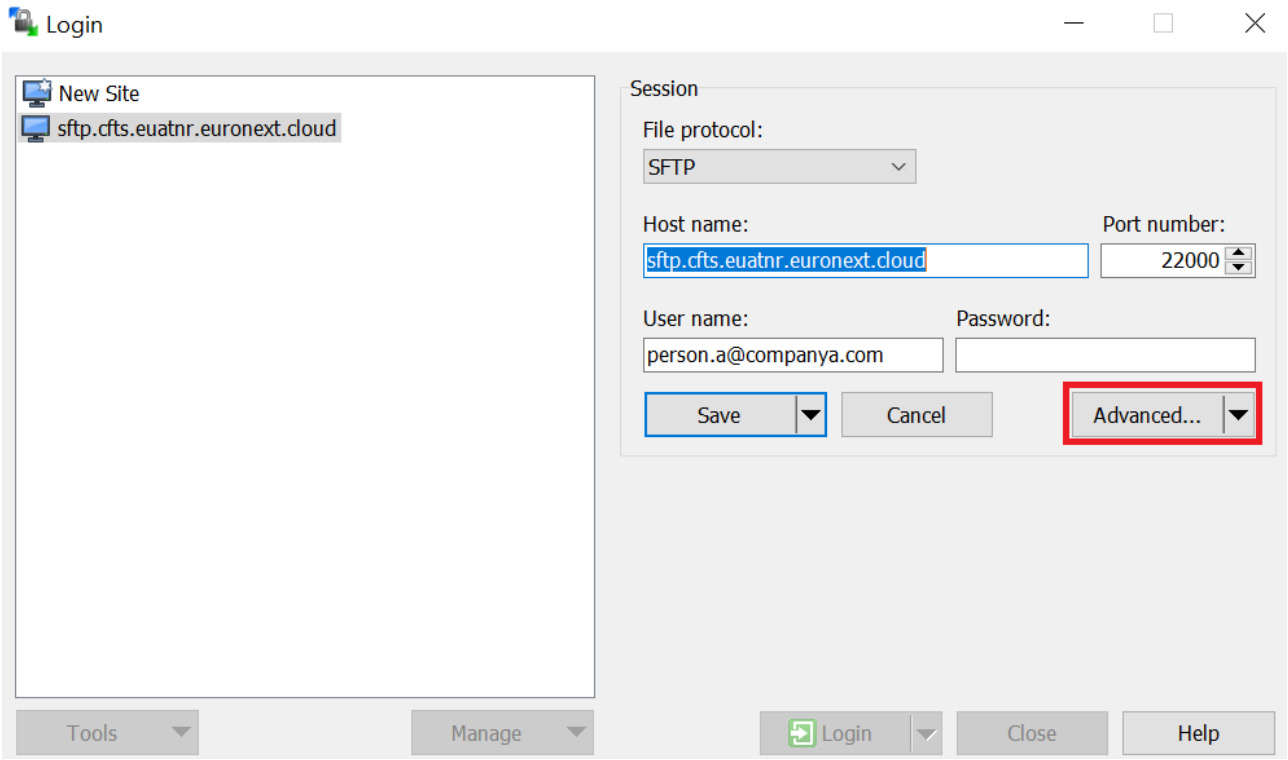
4 SFTP SSH KEY GENERATION

SFTP SSH public and private keys can be generated using a number of different proprietary applications and operating systems. For the purposes of illustration, Microsoft WinSCP, was used to provide an example of generating SSH keys.

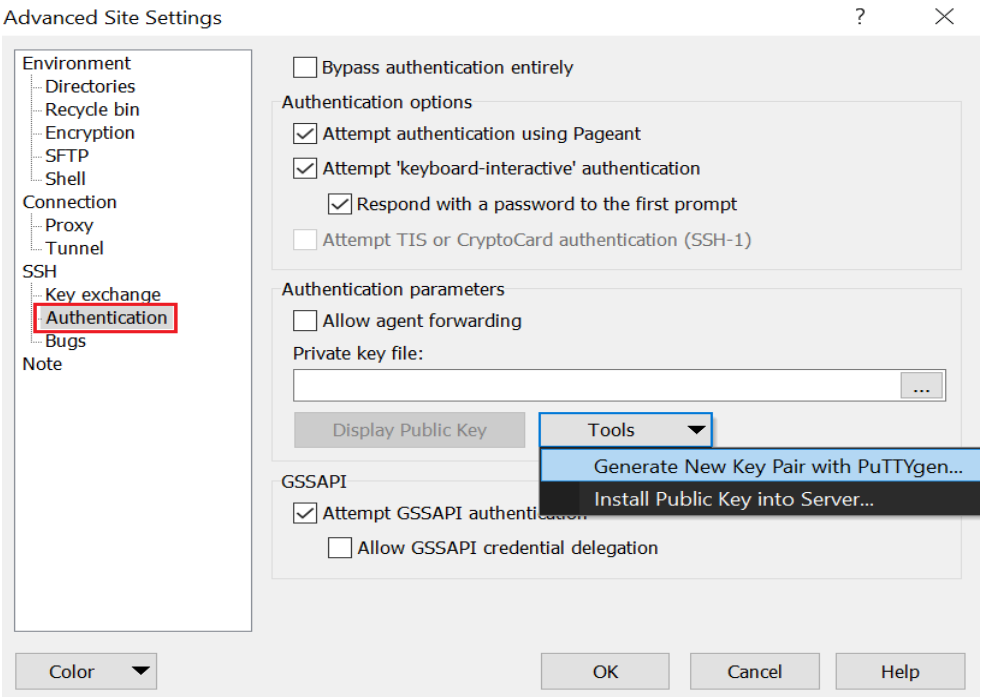
Steps to generate SSH keys

1. Open WinSCP
2. Select New Site
3. Populate the following field values and select Save

FIELD	VALUE
File protocol	SFTP
Host name	sftp.cfts.euatnr.euronext.cloud
Port number	22000
User name	CFTS user email account registered with Euronext

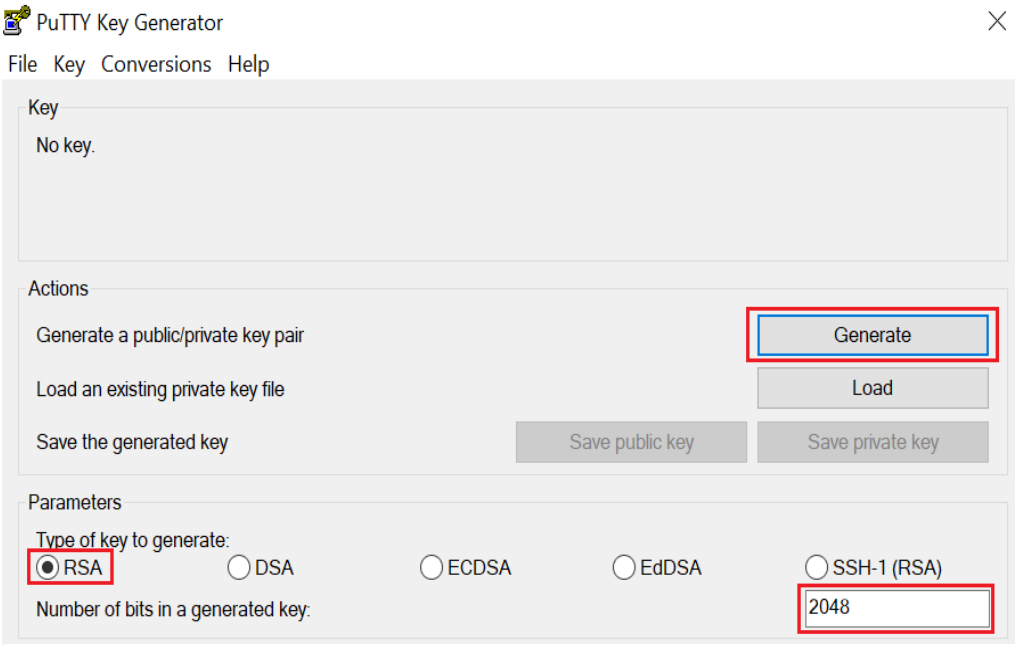


4. Select Advanced, Authentication, Tools, Generate New Key Pair with PuTTYgen.

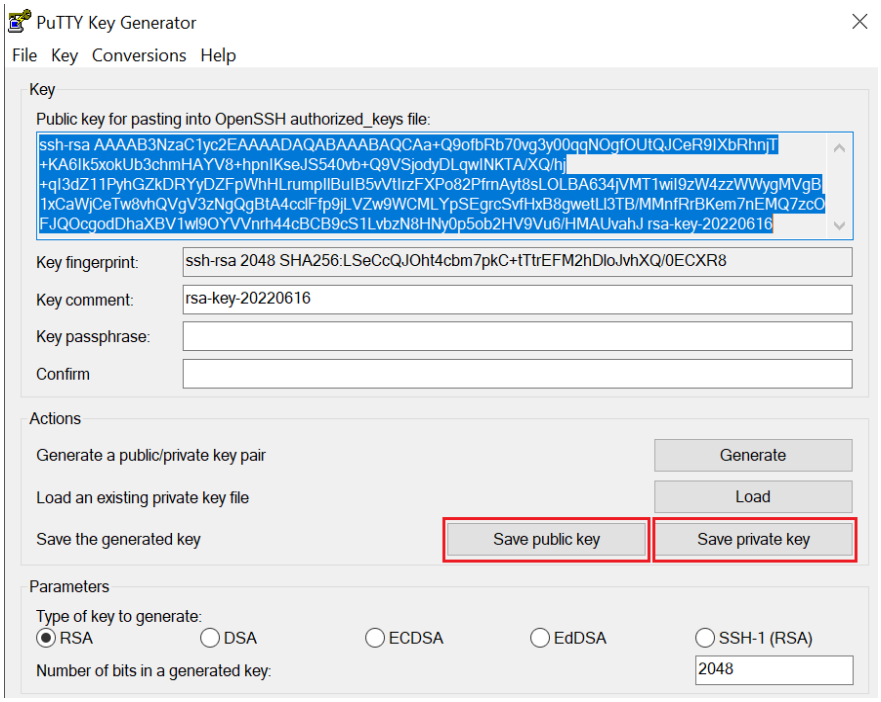


5. Select, Generate.

Ensure the type of key to generate, RSA, is selected and the default number of bits is 2048.



6. Select, Save public key.

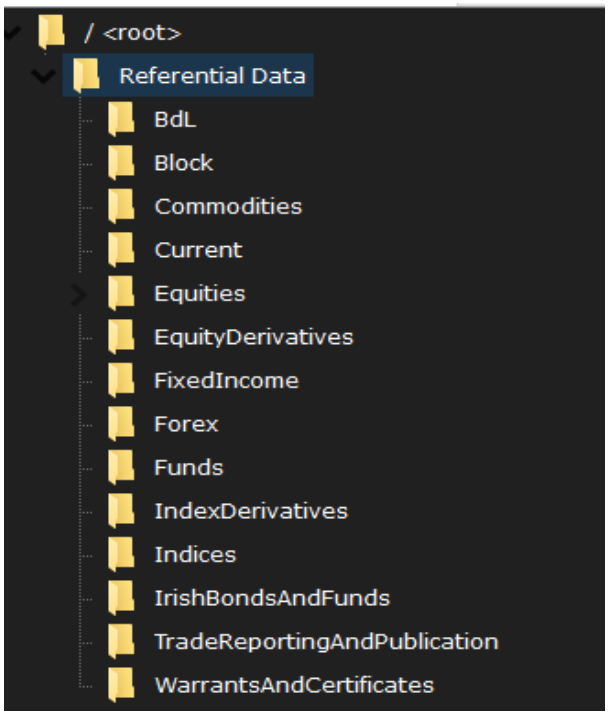


7. The SSH public key generated must be saved by the company's MCA on the My Euronext CFTS web based application against the users that want to access the CFTS services through SFTP.

8. Repeat the key generation for the private key. And select save private key.

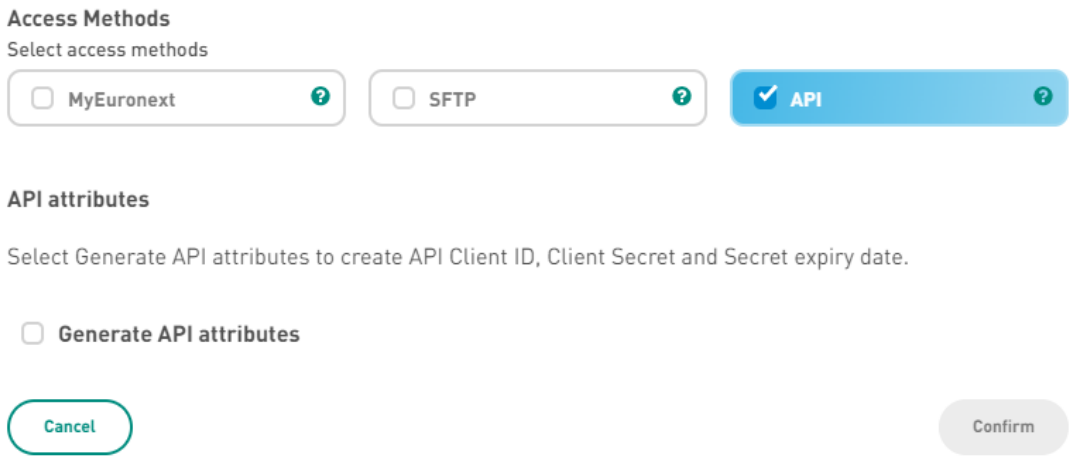
The private generated should be saved locally only.

9. Select Login to view sftp.cfts.euatnr.euronext.cloud folders and files.

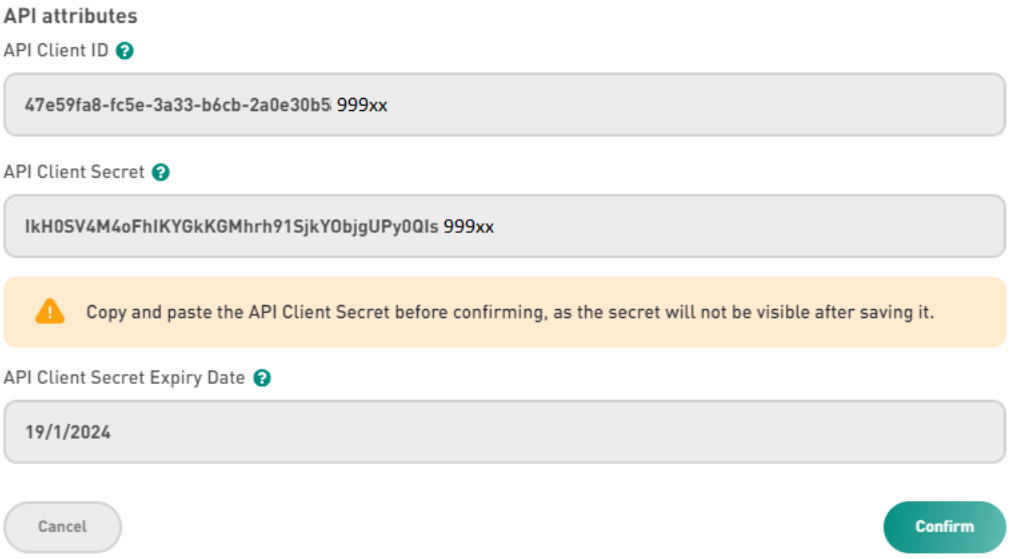


5 API CLIENT ID AND CLIENT SECRET GENERATION

Customers wishing to access CFTS services data via APIs access must generate an API client ID, client secret and client secret expiry date through MyEuronext CFTS Access Management option.
The CFTS API access is currently available for Referential Data and EOD services only.



There is a onetime option, to copy and paste, the client ID and client secret. Users must take this opportunity to securely save their CFTS API credentials locally. Client IDs and secrets can be regenerated on demand through MyEuronext CFTS Access Management option.



Client secrets will expire after 6 months and must be regenerated through MyEuronext CFTS Access Management option.

The CFTS API client ID and client secret generated through MyEuronext CFTS Access Management option can be used to request a CFTS API access token. Clients must post a request to the cfts\token API with their client ID and client secret to receive a CFTS API access token. The access token must be included in all CFTS API get requests.

CFTS API access tokens expiry after 1 hour and must be newly requested using the cfts/token API with the client ID and client secret.

5.1 USING CFTS APIs

CFTS provides a RESTful APIs to assist customers wishing to automate the retrieval CFTS Referential Data and EOD service data files, through their own applications. Noting that CFTS SFTP access can also be utilized for the same purposes.

CFTS APIs can be utilized by using cURL commands or scripts. cURL, stands for client URL (Uniform Resource Locators). cURL is a command line tool that developers use to transfer data to and from a server. At the most fundamental, cURL lets you talk to a server by specifying the location (in the form of a URL) and the data you want to send or retrieve. The recommended cURL version is 8.0.1 or later, for more information visit https://curl.se/.

To access CFTS APIs users must be granted a CFTS Client Member or technical partner user role through MyEuronext Company Settings. And on MyEuronext CFTS have a CFTS service assigned with the access method API. The API client ID and client secret must be valid and not expired. If the client secret has expired it can be regenerated using MyEuronext CFTS Access Management option. CFTS APIs are currently available for Referential Data and EOD services only.

5.1.1 Next EUA URLs and APIs

The table below provides a list of CFTS URLs and APIs that can that be used in Next EUA. For internet production URLs, replace, euatnr, with prodnr. And for CMC/Colocation replace, eua, with prod.

NETWORK	URL AND API	DESCRIPTION
Internet	https://api.cfts.peua.euatnr.euronext.cloud/euatnr/token/token	Provide users with an access token to enable to access CFTS APIs
	https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/file-search	Enable users to get lists of service folders, subfolders and files
	https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-files	Enable users to retrieve a pre-signed URL to download files by file ID. A maximum of 10 files can be retrieved in one request.
	https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-file-names	Enable users to retrieve a pre-signed URL to download files by filename. A maximum of 10 files can be retrieved in one request.
CMC/Colocation	https://cftsoptiq-eua.euronext.com/token/token	Provide users with an access token to enable to access CFTS APIs
	https://cftsoptiq-eua.euronext.com/curlapi/service/file-search	Enable users to get lists of service folders, subfolders and files
	https://cftsoptiq-eua.euronext.com/curlapi/service/download-files	Enable users to retrieve a pre-signed URL to download files by file ID. A maximum of 10 files can be retrieved in one request.
	https://cftsoptiq-eua.euronext.com/curlapi/service/download-file-names	Enable users to retrieve a pre-signed URL to download files by filename. A maximum of 10 files can be retrieved in one request.

5.1.2 Production URLs and APIs

The table below provides a list of CFTS URLs and APIs that can that be used in Production.

NETWORK	URL AND API	DESCRIPTION
Internet	https://api.cfts.prodnr.euronext.cloud/prodnr/token/token	Provide users with an access token to enable to access CFTS APIs
	https://api.cfts.prodnr.euronext.cloud/prodnr/curlapi/service/file-search	Enable users to get lists of service folders, subfolders and files
	https://api.cfts.prodnr.euronext.cloud/prodnr/curlapi/service/download-files	Enable users to retrieve a pre-signed URL to download files by file ID. A maximum of 10 files can be retrieved in one request.
	https://api.cfts.prodnr.euronext.cloud/prodnr/curlapi/service/download-file-names	Enable users to retrieve a pre-signed URL to download files by filename. A maximum of 10 files can be retrieved in one request.
CMC/Colocation	https://cftsoptiq-prod.euronext.com/token/token	Provide users with an access token to enable to access CFTS APIs
	https://cftsoptiq-prod.euronext.com/curlapi/service/file-search	Enable users to get lists of service folders, subfolders and files
	https://cftsoptiq-prod.euronext.com/curlapi/service/download-files	Enable users to retrieve a pre-signed URL to download files by file ID. A maximum of 10 files can be retrieved in one request.
	https://cftsoptiq-prod.euronext.com/curlapi/service/download-file-names	Enable users to retrieve a pre-signed URL to download files by filename. A maximum of 10 files can be retrieved in one request.

Following sections provide detailed examples of cURL commands and responses using CFTS APIs with mocked a client ID, client secret and access token values. A maximum of 10 files that can be download per get request.

For CFTS API standard response codes, see section A.2 Trouble Shooting API response codes.

5.1.3 cfts/token

This API provides users with a bearer access token, to utilize CFTS APIs for file searches and downloads, the token will expire in one hour. The CFTS API client ID and client secret generated through MyEuronext CFTS Access Management option, must be used to request a CFTS API access token. Clients must post a request to the cfts\token API with their client ID and client secret, to receive a CFTS API access token. The access token must be included in all other CFTS API get requests.

Parameter(s)	Parameter description	Mandatory	Sample values
Client ID	Uniquely identify clients requesting CTFS service access method API for Referential Data and EOD Services. MyEuronext CFTS Access Management option, service API access method, client ID, attribute. It will be combined with the client secret to authorize client's with an access token to utilize CFTS APIs.	Yes	3005f67c-ad3f-4ed4-8d20-e0110f71f999x
Client Secret	MyEuronext CFTS Access Management option, service, API access method, selection, client secret, attribute It will be combined with the client ID to authorize client's with an access token to utilize CFTS APIs.	Yes	plain text

JSON Response attribute	Type
token	String

5.1.3.1 POST Access Token cURL Command

Internet URL : api.cfts.peua.euatnr.euronext.cloud/euatnr/token/token

CMC/Colocation URL: cftsoptiq-eua.euronext.com/token/token

```
curl -X POST -H "Content-Type: application/json" -d "{\"clientId\":\"b05d0ee0-fcf7-3897-bae7-730bb67b99xx\",    \"clientSecret\":\"ge/JEOmnlxfL2JNWKhcgs6OlMmTtGdNSPusUDY99xx=\"}" https://api.cfts.peua.euatnr.euronext.cloud/euatnr/token/token
```

5.1.3.2 cfts/token Response


```
{"token":
"eyJraWQiOiI2NzA0NjU3Zi00NmVmLTQ2NTctYTgzNy01YmQ5YWI3ZDk2NGUiLCJhbGciOiJSUzI1NiJ9.eyJzdWIiOiJ0ZXN0LWNsaWVudDIiLCJhdWQiOiJ0ZXN0LWNsaWVudDIiLCJuYmYiOjE2Nzk1ODA2NzIsInNjb3BlIjpbImNmdHMiXSwiaXNzIjoiaHR0cDpcL1wvY2Z0cy5ldXJvbmV4dC5jb20iLCJleHAiOjE2Nzk1ODA5NzIsImlhdCI6MTY3OTU4MY3Mn0.CXU0MUgtGgQd0OaIZ4UhhXororuCr5NQ5gZuXudwwHFBlVqmohIbPhx_IZ_E8zjyr6mnS7b_eKNX1cxUrhZnFDPxh5CrHK2s8pY8SnFaf5oA_c0cye8UQR2B0_BfeZNn1NU4w8jx3kaP5h9pFIbLPJY1WQU72UoPw_KsizqRG4guicufVtpvxhqjlawi8cLAjVo14n9ExrwQz3dpjOQZcWqgTyUtfr6YfacUQWIwtv75ftW41sTIBw4wJ0q7m0CexCtLHT2zrWmR4kQ2kkmxTEmxWKFCL9G9M5Z03GKKaTAbC4gIWFoqdmjCzjI2t4RNGSvbg3gdLZP-xxx999"}
```


CFTS API access tokens expiry after 1 hour and must be newly requested using the cfts/token API with the client ID and client secret.

5.1.4 cfts/curlapi/service/file-search

Enable users to retrieve lists of service folders, subfolders and files using search parameters.

The folderStructure parameter, must contain a trailing folder delimiter (/), Referential%20Data/Current/ or, EOD/. Where spaces are contained within a search parameter value, replace the space with the encoded characters %20. When combining parameters in your search criteria, use ampersand (&). i.e. folderStructure=Referential%20Data&fileDate=2023-07-18.

For additional CFTS EOD Service file attributes and values, see section 8.4 EOD File Attributes.

Parameter(s)	Parameter description	Options	Mandatory	Sample values
folderStructure	Combine CFTS Service name, Service folder and subfolder name	Service name, folder and sub folder names, don't populate to list all service folders	No	Referential%20Data/Current/
firmId	Define the trading member's private Firm ID folder to list and/or download files	Trading member's Firm ID, mandatory for EOD service	Yes	00000001
fileName	Search for this filename	Populate you wish to search for an individual filename, don't populate to list all service folders	No	OptiqMDG_p-EUA_MemberMappingFile_ALL_20230322.xml
fileDate	Search for files generated on this date	File creation date (YYYY-MM-DD) Populate to list all files created on that date	No	2023-07-18
fileType	EOD service only, filter a filename list based on the file type	Active Orders, Trades, Euronext Securities Don't populate to list all files regardless of file type	No	Active%20Orders, Trades, Euronext Securities
market	EOD service only, filter a filename list based on the market	Regulated market, Warrants Don't populate to list all files regardless of market type	No	Regulated%20Market, Warrants
page	Response page number	The page number used for pagination	No	1
size	Page size	Maximum default page size	No	Default 50, maximum value is 50.

JSON Response attribute	Type
Files (array of files)	String
fileId	String
filename	String
date	String
format	String
page	String
size	String

5.1.4.1 GET cfts/curlapi/service/file-search cURL Command

Internet URL : api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/file-search

CMC/Colocation URL: cftsoptiq-eua.euronext.com/curlapi/service/file-search

```
curl -X GET "https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/file-search?firmId=00000120&foldeStructure=Referential%20Data/Equities/Current/&fileDate=2023-07-13" -H "Accept: application/json" -H "Authorization: Bearer eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJWVGJvazExaW9IY0xybGowWTFDTEk5U3JmdWZwTXRpRlc3dHB5d2xQbmRUY3QyQ2FXelNGUENDTFZWN2huZllVIiwic2NvcGUiOiJjZnRzIiwiY2xpZW50X2lkIjoiZDE3ZjY3YmItMTc5YS0zYzk5LWE2ODQtOTAxZGI0NjNmOGE1IiwiaWF0IjoxNjg5MTg2NDIzLCJleHAiOjE2ODkxOTAwMjN9.K-wCUmi-Lwpu6PAqH8QO3eVhx1y0uMJSf0yTuLU99xx"
```

Request to get a list of files from the Referential Data service, Equities, Current folder, with a file date of 13/07/2023.

5.1.4.2 cfts/curlapi/service/file-search Response


```
{"content":[{"files":[{"fileId":"tzQPFh_kHbiPQYLvNZ8_wA==","fileName":"OptiqMDG_p-EUA_TimeTableFile_Equities_20230713.xml","size":855198,"date":"2023-07-13","format":"xml"},{"fileId":"Ck3gIzQYKAXg5VilOMY1Mg==","fileName":"OptiqMDG_p-EUA_CashStandingDataFile_Equities_20230713.xml","size":18146494,"date":"2023-07-13","format":"xml"},{"fileId":"tVZXGaOK82V2tuEparAhVA==","fileName":"OptiqMDG_p-EUA_AuthorizedPriceFluctuationFile_Equities_20230713.xml","size":77940,"date":"2023-07-13","format":"xml"},]}],"pageable":{"sort":{"sorted":false,"unsorted":true,"empty":true},"pageNumber":0,"pageSize":50,"offset":0,"paged":true,"unpaged":false},"totalElements":3,"totalPages":1,"last":true,"size":3,"number":0,"sort":{"sorted":false,"unsorted":true,"empty":true},"numberOfElements":3,"first":true,"empty":false}
```


5.1.5 cfts/curlapi/service/download-file-names

Enable users to retrieve file pre-signed URLs to download files by filename(s). A maximum of ten files can be downloaded per request.

Parameter(s)	Parameter description	Mandatory	Sample values
firmId	User's trading firm ID with the authorization to access the data files	Yes	09999999
fileName 10 file maximum	CFTS Unique filename	Yes	OptiqMDG_p-EUA_CashTickSizeReferentialFile_ALL_20230616.xml

JSON Response attribute	Type
Downloads (array of filenames and pre-Signed URLs)	String
fileName	String

preSignedUrl	String

5.1.5.1 GET cfts/curlapi/service/download-file-names cURL Command

Internet URL : api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-file-names

CMC/Colocation URL: cftsoptiq-eua.euronext.com/curlapi/service/download-file-names

```
curl -X GET "https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-file-
names?firmId=09999999&filNames=OptiqMDG_p-EUA_CashTickSizeReferentialFile_ALL_20230616.xml" -H
"Accept: application/json" -H "Authorization: Bearer
eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJDaHk5MmhXcDJaYjNBWWdCV0QydzFjWWZYVWtKdFJreDJWUlFodklQcVFwZXExbU5xRnZ
fckQ0UUF4M1RMemE4Iiwic2NvcGUiOiJjZnRzIiwiY2xpZW50X2lkIjoiODMwMmU2ODAtZjAyYS0zNjcwLTkwMzktZmFhODExNmM
4ODQyIiwiaWF0IjoxNjg2NjYwNDE5LCJleHAiOjE2ODY2NjQwMTl9.EjX3z3uCJ9E7qcqCwfq1nQmNQQ7oa3WgEVzCDR9999x"
```

Request to retrieve a file pre-signed URL to download a file by filename. Where multiple filenames are contained within a single request, separate the filenames by a comma. E.g. fileNames?filename1,filename2.

5.1.5.2 cfts/curlapi/service/download-file-names Response

```
{"downloads":[{"fileName":"OptiqMDG_p-EUA_CashTickSizeReferentialFile_ALL_20230616.xml
","preSignedUrl":"https://enx-euatnr-eu-west-1-cfts-peua-storage-s3kms-output.s3.eu-west-
1.amazonaws.com/output/Regulatory/00000120/MMSTATS_XMIL_DAILY_00000120_20230210.csv?X-Amz-Security-
Token=IQoJb3JpZ2luX2VjEKT%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaCWV1LXdlc3QtMSJHMEUCIGP9GOqPDRdzohUoUj4PWl
zh4txgNjaBifqLUgPZWUsLAiEA6zFYoRlMaqn5BQRCWiFW7Hm%2Bi3LDYmsCRBbzeF1amYoqjAQI7f%2F%2F%2F%2F%2F%2F%2F%
2F%2F%2FARAEGgwzNTcyMzQzNzQ1NjkiDDIJ%2BS5gprSAbNQH8yrgAyqx7lRwWM2kBz0zqnBEqC7rCFhGls84D2fFkGeIioZTz7
nltgb5RbaMx36%2BpHDMUD4%2BYkc4LVIIfhPPHuaB6v%2BApSN3JGWZSyKOK%2FCLEGrK%2Fq3EFijVkddC1KV5p0UfssnbfJq%
2Fizq7ET86xlZvp%2BEf2xlR8hXHccg34dvDfc65uXIB1fguVtr9uSfqrGvu89rH91pUVeiUhwHMVfEJ5ZtVI6A2XNhJxl7y9P0E
22Jthzj4CxeM6g3Fqc191KBwp%2BepMYtz0FS1qgSn41Ff1n%2BUI2Fr9ZDHkYn3pfzJJAoBB%2B3enmC2mi1HeFGhQZy3poaq5w
jc%2Bf%2BxE9u136sYEKNQDYfP0Wq0zF7x5iVIqxpaNA%2Bh3REUuenHlAui%2BFCvmDZQHWZErFJ1BlIY2ApvZ%2BcSB%2FPH8q
XlMG7qQZKgxeEO%2FjezyR7hXtqlVZf3Cu5cigHu0%2BFD2jTMO4JBrXQ63OHLQSnOCCMfVH6yi9yDPqnBrpn7X3gx5dzdcxdPmN
SGkg0Mzxx2AJQykYlpI6MZcQlhSzEcmqikzI%2BaLDNW1QXI0LTNVAbJC2B2WMHVYGYumG8gw%2B7ojctZztjYnPqcCiBdDDX3h2
y78a3fd9F24S0lSuIBAbyXj86UN5J9XbWkrTDKsqGkBjqlAQALR4dS501FN5fIshxlPoIWEc4B8KAAqinKt5ipp4zwmV2WBZkya%
2ByuRxDTt3Vi3FVrzo5siyLZsv0Mt6b1nWtwMKdwPbe15NZEfNttJMPhizPT5np4rDTMRH3pbAfnp7ELbvrdCUxdNpL60bYdRfs8
U1i76D8m%2BbG3%2BrJPugfWxnpbSFiuDesuF2l1PRMBI4cJi1SxSe0bAnsA0CzG6ypXAcQ9Ng%3D%3D&X-Amz-
Algorithm=AWS4-HMAC-SHA256&X-Amz-Date=20230613T130700Z&X-Amz-SignedHeaders=host&X-Amz-
Expires=3599&X-Amz-Credential=ASIAVGLGT66U3MYOLUN2%2F20230613%2Feu-west-1%2Fs3%2Faws4_request&X-Amz-
```

CMC/Colocation file preSigned URLs will begin with cftsoptiq-eua.euronext.com/download (see section 3.4)

The pre-signed URL can be used to download and save the file.

5.1.5.3 Sample Curl command – File save

```
curl -s --proxy "http://your_proxy" -i -o a_filename.csv "https://a_cfts_file_presigned URL"
```

Where your network does not contain a proxy server the proxy parameter can be removed.

5.1.6 cfts/curlapi/service/download-files

Enable users to retrieve file pre-signed URL to download files by file ID(s).

A maximum of ten files can be downloaded per request.

Parameter(s)	Parameter description	Mandatory	Sample values
firmId	User's trading firm ID with the authorization to access the data files	Yes	09999999
fileId(s) 10 file IDs maximum	CFTS unique file identifier	Yes	vzNB45miFYMIkAi_pYEKWA==

JSON Response attribute	Type
downloads (array of fileIds and preSignedUrls)	String
fileId	String
preSignedUrl	String

5.1.6.1 GET cfts/curlapi/service/download-files cURL Command

Internet URL : api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-files

CMC/Colocation URL: cftsoptiq-eua.euronext.com/curlapi/service/download-files

```
curl -X GET "https://api.cfts.peua.euatnr.euronext.cloud/euatnr/curlapi/service/download-
files?firmId=09999999&fileIds=EA3sWUgaSc9V_5qCTq3aBw==" -H "Accept: application/json" -H
"Authorization: Bearer
eyJhbGciOiJIUzI1NiJ9.eyJzdWIiOiJDaHk5MmhXcDJaYjNBWWdCV0QydzFjWWZYVWtKdFJreDJWUlFodklQcVFwZXExbU5xRnZ
fckQ0UUF4M1RMemE4Iiwic2NvcGUiOiJjZnRzIiwiY2xpZW50X2lkIjoiODMwMmU2ODAtZjAyYS0zNjcwLTkwMzktZmFhODExNmM
4ODQyIiwiaWF0IjoxNjg2NjYwNDE5LCJleHAiOjE2ODY2NjQwMTl9.EjX3z3uCJ9E7qcqCwfq1nQmNQQ7oa3WgEVzCDR9999x"
```

Request to retrieve a pre-signed URL to download a file by file identifier.

Where multiple file identifiers are contained within a single request, separate the file IDs by a comma. E.g. fileIds=fileId1,fileId2,fileId3.

5.1.6.2 cfts/curlapi/service/download-files Response


```
{"downloads":[{"fileId":"EA3sWUgaSc9V_5qCTq3aBw==","preSignedUrl":"https://enx-euantnr-eu-west-1-
cfts-euntnr-storage-s3kms-output.s3.eu-west-
1.amazonaws.com/output/EOD/09999999/FTRRM_09999999_20230327.zip?X-Amz-Security-
Token=IQoJb3JpZ2luX2VjEKT%2F%2F%2F%2F%2F%2F%2F%2F%2F%2FwEaCWV1LXdlc3QtMSJHMEUCID59mWTSXilchwK2k63vIW
nc0EDQ5QmuD9Kaf7SZi1qbAiEAlqIqDyjGduoyfZUYVz9mKDm3wK4MslJ1no41QLycqqQqjAQI7f%2F%2F%2F%2F%2F%2F%2F%2F
%2F%2FARAEGgwzNTcyMzQzNzQ1NjkiDEJRy7ySGkCEBYgdeSrgA5OSaWIidE4int7o6H0OinR%2FeE7vP5XtUcUacpymRjIPVMVu
yF7eLqldDIAmlUb8ikNoX5d62Us2nuizs1pDlnqO5hpKIFgQv4Usszy4COGBn09pYhgzAIethSFarSTB3jymNCbZnmy9vYlPqEeo
gfoEWZhhamjQ%2BiyiRMFxDcGXd%2FkdiTNZJGCcerjFh1oTrwlNWf5yfF8kUsx6p3ojyviAwiVVGsGJ2Js4cHYaLZUrVs3QeugQ
J4cm0cxTSx1S%2Floub0SFvkpJelV2b8r4YjqlWg%2Ft1kDdUcLZR08e%2BDU2r0CJr4TxBTF3qPgB%2BUWFY8UAXSyjBrZ9T2Vs
ZFhz1OqIy%2Ft8I%2Bb%2BE0PpaLiO0VzTDXDkNwiHctO9mWPGd93BkurcjCmGasera2S8yXTFFS%2BLeWDn8fvshg7LBO1l1I8B
qExs8OurHjaLTZSy9X1vSu02SdnnrpJKoU3XIRWTvj9p9Plja3uNrO6xvTMFQsKca8EAMcqbzkuPRkLRXWwD0UGlFflcASjg6Jjf
eKLvbxn%2Bwv%2Bvr3gJxTi2eZZhCzBYfijVznuIOLXDCAviBPWSqc4oZosV9guRMCHfgu0%2FTRh8yGu7b8c9wOT35O49QXl5NL
eshBTq19zgeByuXEZcLTCOtKGkBjqlAWNjwrFiuBWy%2Fdj8k6ENisi%2FhkKXhh0GoYXrhhSR9Mn3BQYTea5TilG2ijVAgsZYTN
reP%2BFyW28Y20HHoHXC1g9EHphmzsiByizw9DPkfgW%2FwjaHmjuN9sYuWeHSLTHpTf3NCVVfXYlICSHujymY3AZgKZ4gqxC2uf
9d%2B55ZHyHCJ6jYd3j22P0sbLkdi5g5mCvX2dJfnzH%2BRVqBwFOJaRm%2F%2BbErvQ%3D%3D&X-Amz-Algorithm=AWS4-
HMAC-SHA256&X-Amz-Date=20230613T125837Z&X-Amz-SignedHeaders=host&X-Amz-Expires=3599&X-Amz-
Credential=ASIAVGLGT66U4UCFF2XU%2F20230613%2Feu-west-1%2Fs3%2Faws4_request&X-Amz-
Signature=e57b839e677ae02cf9da54987005c41b89efa30c846b8cfb1c9b42e12949999x"}]}
```


CMC/Colocation file preSigned URLs will begin with cftsoptiq-eua.euronext.com/download (see section 3.4)

The pre-signed URL can be used to download and save the file.

5.1.6.3 Sample Curl command – File save

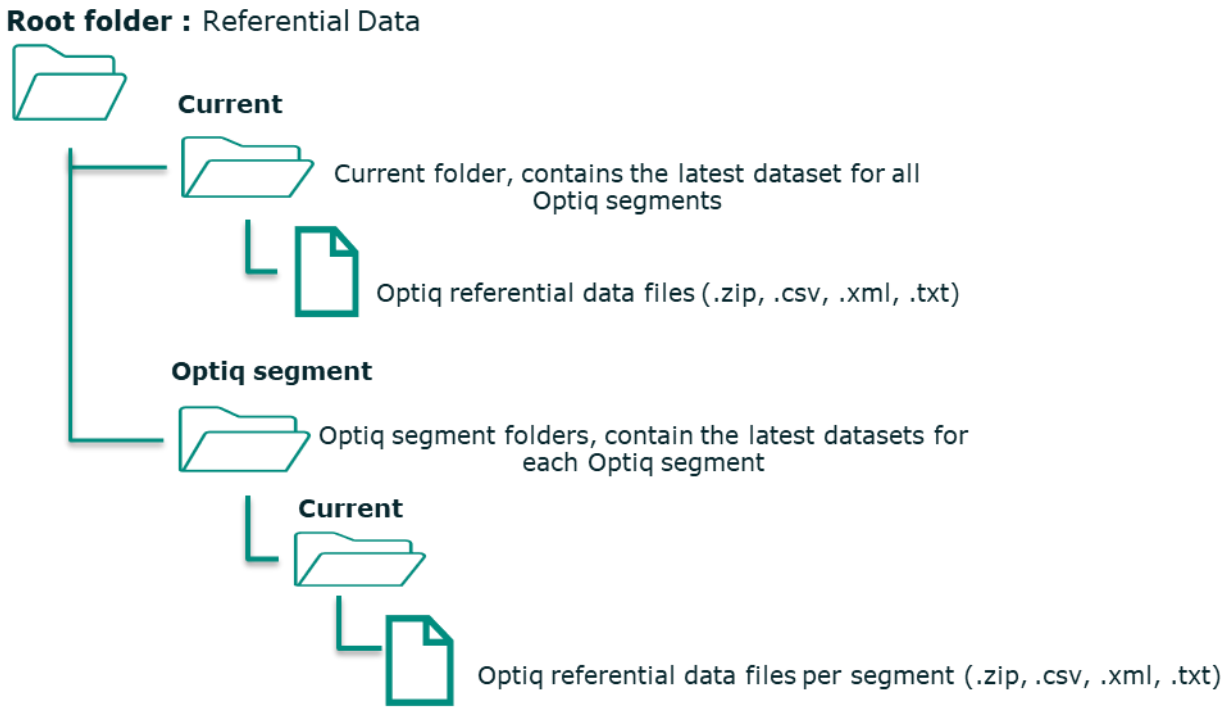
```
curl -s --proxy "http://your_proxy" -i -o a_filename.csv "https://a_cfts_file_presigned URL"
```

Where your network does not contain a proxy server the proxy parameter can be removed.

6 CFTS REFERENTIAL DATA SERVICE SUMMARY

Euronext CFTS Referential data service provides key Optiq data referential data files.
Optiq referential data files will be available for download before the start of each trading day. And will provide an online archive of referential data files for the last five trading days.

The Current folders contain the latest files Optiq referential data files for an environment and per Optiq segment.



6.1 REFERENTIAL DATA FILES PER ENVIRONMENT

Separate domain names will exist per environment.

The Current environment folder contains the latest files Optiq referential data files for all Optiq segments.

REFERENTIAL DATA FILES PER ENVIRONMENT	DESCRIPTION
CashTickSizeReferentialFile_All	The Tick size file contains different tables defining the variable tick sizes used for trading activity
MembershipMappingFile_All	Firm ID, Firm name, Instrument group code, LEI code for all members
RepoSettlementPriceFile_All	Repo Settlement Price File is used to communicate the previous day settlement price for each repo instruments
Euronext RLP Universe	Euronext RLP (Retail Liquidity Provider) Universe file
MBR_FAMINSTR	Instrument families categorization
LP_OBLIGATIONS	Liquidity Providers Obligations file
Closing Price Recovery	Provides the Closing Price. Available only under exceptional circumstances.

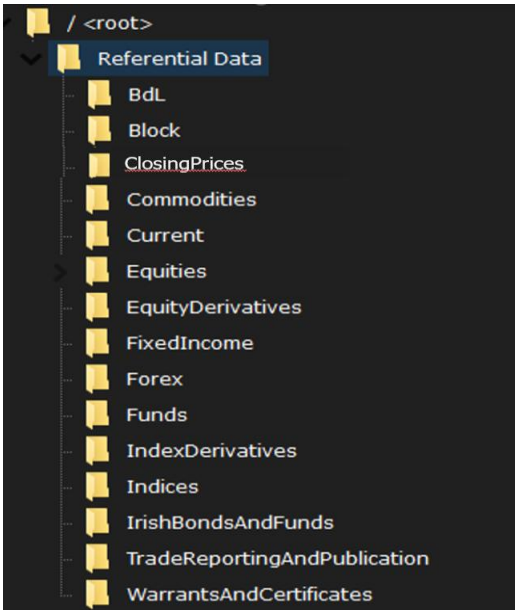
6.2 REFERENTIAL DATA FILES PER OPTIQ SEGMENT

Files available per Optiq segment folder are as follows and will be provided in XML format:

REFERENTIAL DATA FILES PER OPTIQ SEGMENT	DESCRIPTION
CashStandingData File	The Cash Standing Data file provides Referential Data for cash markets
CashTickSizeReferential File	The Tick size file contains different tables defining the variable tick sizes used for trading activity
DerivativesStandingData File	The Derivatives Standing Data files provides Referential Data for derivatives markets, containing Contract Standing Data, Outright Standing Data and Strategies Standing Data
DerivativesTickSize File	The Tick size file contains different tables defining the variable tick sizes used for trading activity
OpenInterest File	Open Interest file provide open interest information provided by Euronext Clearing on derivatives instruments
ReferenceSpreads File	Reference Spreads File provide data to calculate Dynamic Collar Reference Price when Reference Price Origin is set to 'Mid-BBO or Fair Value' and data to calculate Dynamic Collars
PrevDayCapAndVolTrade File	Previous Day Capital and Volume Traded file provides: Previous Volume Traded and Previous Day Capital Traded information
TimetableFile File	The Timetable file indicates the scheduled trading patterns, on a given day, associated to a Symbol Index linked by the Pattern ID
RepoSettlementPrice File	Repo Settlement Price File is used to communicate the previous day settlement price for each repo instruments
TRF Conversion Parameters File	The Total Return Futures (TRF) file provides contract Referential Data: Contract code, Maturity, Number of days to expiry, Daily Settlement Price. Pricing of Funding leg and Dividend leg: Daily accrued funding, daily accrued dividend, Accumulated funding, Accumulated dividend
SBETemplates (for MDG and OEG)	Simple Binary Encoding (SBE) is the open-source binary protocol used as the solution for market data and order entry messaging in Optiq. SBE was designed within the FIX Protocol Limited organization, with a focus on low band width utilization and the goal of producing a binary encoding solution for low-latency financial trading. Templates define structure and content messages.
Authorized Price Fluctuation File	The Authorized Price Fluctuation file details the Authorized Price Fluctuation (APF) tables, on a given day. The APF tables are used in the context of Static, Dynamic and Order Price Control Collars. Using the instrument price as a key, the APF table allows to deduce the corresponding Allowed Price Fluctuation.
Exchange Rates File	The Exchange Rates File (in XML) provides on a daily basis, currency exchange rates for various currency pairs against euro, sourced from a data provider. The file contains the closing exchange rates from the previous trading day, which are intended to be used for the current trading day. Those exchange rates might be used on the Optiq platform for different purposes (e.g. Order Amount Limit conversion in euro as part of the Riskguard OAL command).

6.3 REFERENTIAL DATA SERVICE DIRECTORY

The referential data service directory can be found under the folder /Referential Data, on the CFTS SFTP domain.



6.4 REFERENTIAL DATA SERVICE FILE LIST

The table below lists the files that will be made available through CFTS SFTP Referential Data Service for download.

Output folder path	File naming convention
BdL/Current/	OptiqOEG_<ENV>_SBETemplate_BdL_<yyyyMMdd>.xml
BdL/Current/	OptiqMDG_<ENV>_SBETemplate_BdL_<yyyyMMdd>.xml
BdL/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_BdL_<yyyyMMdd>.xml
BdL/Current/	OptiqMDG_<ENV>_CashStandingDataFile_BdL_<yyyyMMdd>.xml
BdL/Current/	OptiqMDG_<ENV>_TimeTableFile_BdL_<yyyyMMdd>.xml
BdL/Current/	OptiqMDG_<ENV>_PrevDayCapAndVolTradFile_BdL_<yyyyMMdd>.xml
Block/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_Block_<yyyyMMdd>.xml
Block/Current/	OptiqMDG_<ENV>_CashStandingDataFile_Block_<yyyyMMdd>.xml
Block/Current/	OptiqMDG_<ENV>_TimeTableFile_Block_<yyyyMMdd>.xml
Block/Current/	ExchangeRates_<yyyyMMdd>_Block.xml
Commodities/Current/	OptiqOEG_<ENV>_SBETemplate_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_SBETemplate_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_OpenInterestFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_OpenInterestFile_CommodityDerivatives_Power_<yyyyMMdd>.xml

Output folder path	File naming convention
Commodities/Current/	OptiqMDG_<ENV>_OpenInterestFile_Commodity_Other_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_ReferenceSpreadsFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_CashTickSizeReferentialFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_TimeTableFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_DerivativesStandingDataFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	OptiqMDG_<ENV>_DerivativesTickSizeFile_Commodities_<yyyyMMdd>.xml
Commodities/Current/	**NIM1_**<ENV>_<yyyyMMdd>_<version>.csv (InstrumentMappingFile)
Current/	OptiqMDG_<ENV>_RepoSettlementPriceFile_ALL_<yyyyMMdd>.xml
Current/	OptiqMDG_<ENV>_MemberMappingFile_ALL_<yyyyMMdd>.xml
Current/	IDSCash_<ENV>_MBR_FAMINSTR_<yyyyMMdd>.txt
Current/	IDSCash_<ENV>_Euronext-RLPUniverse_<yyyyMMdd>.csv
Current/	OptiqMDG_<ENV>_CashTickSizeReferentialFile_ALL_<yyyyMMdd>.xml
Current/	IDSCash_<ENV>_LP_OBLIGATIONS_<CountryCode XX>_<yyyyMMdd>_<versionNo>.csv.gz
Equities/Current/	OptiqOEG_<ENV>_SBETemplate_Equities_<yyyyMMdd>.xml
Equities/Current/	OptiqMDG_<ENV>_SBETemplate_Equities_<yyyyMMdd>.xml
Equities/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_Equities_<yyyyMMdd>.xml
Equities/Current/	OptiqMDG_<ENV>_PrevDayCapAndVolTradFile_Equities_<yyyyMMdd>.xml
Equities/Current/	OptiqMDG_<ENV>_TimeTableFile_Equities_<yyyyMMdd>.xml
Equities/Current/	OptiqMDG_<ENV>_CashStandingDataFile_Equities_<yyyyMMdd>.xml
Equities/Current/	ExchangeRates_<yyyyMMdd>_Equities.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_DerivativesStandingDataFile_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqOEG_<ENV>_SBETemplate_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_SBETemplate_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_OpenInterestFile_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_TimeTableFile_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_ReferenceSpreadsFile_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_CashTickSizeReferentialFile_EquityDerivatives_<yyyyMMdd>.xml
EquityDerivatives/Current/	OptiqMDG_<ENV>_DerivativesTickSizeFile_EquityDerivatives_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqOEG_<ENV>_SBETemplate_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqMDG_<ENV>_SBETemplate_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqMDG_<ENV>_PrevDayCapAndVolTradFile_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqMDG_<ENV>_TimeTableFile_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	OptiqMDG_<ENV>_CashStandingDataFile_FixedIncome_<yyyyMMdd>.xml
FixedIncome/Current/	ExchangeRates_<yyyyMMdd>_Fixed_Income.xml
Forex/Current/	OptiqMDG_<ENV>_SBETemplate_Forex_<yyyyMMdd>.xml
Forex/Current/	OptiqMDG_<ENV>_CashStandingDataFile_Forex_<yyyyMMdd>.xml
Funds/Current/	OptiqMDG_<ENV>_SBETemplate_Funds_<yyyyMMdd>.xml
Funds/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_Funds_<yyyyMMdd>.xml
Funds/Current/	OptiqMDG_<ENV>_PrevDayCapAndVolTradFile_Funds_<yyyyMMdd>.xml
Funds/Current/	OptiqMDG_<ENV>_TimeTableFile_Funds_<yyyyMMdd>.xml
Funds/Current/	OptiqMDG_<ENV>_CashStandingDataFile_Funds_<yyyyMMdd>.xml
Funds/Current/	OptiqOEG_<ENV>_SBETemplate_Funds_<yyyyMMdd>.xml

Output folder path	File naming convention
Funds/Current/	ExchangeRates_<yyyyMMdd>_Funds.xml
IndexDerivatives/Current/	UTPDerivatives_<ENV>_TotalReturnFuturesConversionParameters_IndexDerivatives_SOD_<yyyyMMdd>.xml
IndexDerivatives/Current/	UTPDerivatives_<ENV>_TotalReturnFuturesConversionParameters_IndexDerivatives_SOD_<yyyyMMdd>.csv
IndexDerivatives/Current/	UTPDerivatives_<ENV>_TotalReturnFuturesConversionParameters_IndexDerivatives_EOD_<yyyyMMdd>.xml
IndexDerivatives/Current/	UTPDerivatives_<ENV>_TotalReturnFuturesConversionParameters_IndexDerivatives_EOD_<yyyyMMdd>.csv
IndexDerivatives/Current/	OptiqMDG_<ENV>_SBETemplate_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_OpenInterestFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_DerivativesTickSizeFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_CashTickSizeReferentialFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_TimeTableFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_DerivativesStandingDataFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqOEG_<ENV>_SBETemplate_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	OptiqMDG_<ENV>_ReferenceSpreadsFile_IndexDerivatives_<yyyyMMdd>.xml
IndexDerivatives/Current/	*DeliverableBonds_<YYYYMMDD>.csv*
Indices/Current/	OptiqMDG_<ENV>_SBETemplate_Indices_<yyyyMMdd>.xml
Indices/Current/	OptiqMDG_<ENV>_CashStandingDataFile_Indices_<yyyyMMdd>.xml
IrishBondsAndFunds/Current/	OptiqMDG_<ENV>_SBETemplate_IrishBondsAndFunds_<yyyyMMdd>.xml
TradeReportingAndPublication/Current/	OptiqMDG_<ENV>_SBETemplate_TradeReportingAndPublication_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqMDG_<ENV>_TimeTableFile_WarrantsAndCertificates_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqMDG_<ENV>_SBETemplate_WarrantsAndCertificates_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile_WarrantsAndCertificates_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqMDG_<ENV>_PrevDayCapAndVolTradFile_WarrantsAndCertificates_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqMDG_<ENV>_CashStandingDataFile_WarrantsAndCertificates_<yyyyMMdd>.xml
WarrantsAndCertificates/Current/	OptiqOEG_<ENV>_SBETemplate_WarrantsAndCertificates_<yyyyMMdd>.xml
Closing_Prices/Current	closing_price_recovery_<yyyyMMdd>_<hhmmdd>.csv

6.5 FILE SPECIFICATIONS

For all details of individual file specifications please reference the latest version of the Euronext Cash and Derivatives Markets – Optiq Files - Interface Specifications – External, on the Euronext Connect Customer Portal.

Also see the latest file specifications, Euronext Markets – Member Mapping File Specification, on the Euronext Connect Customer Portal.

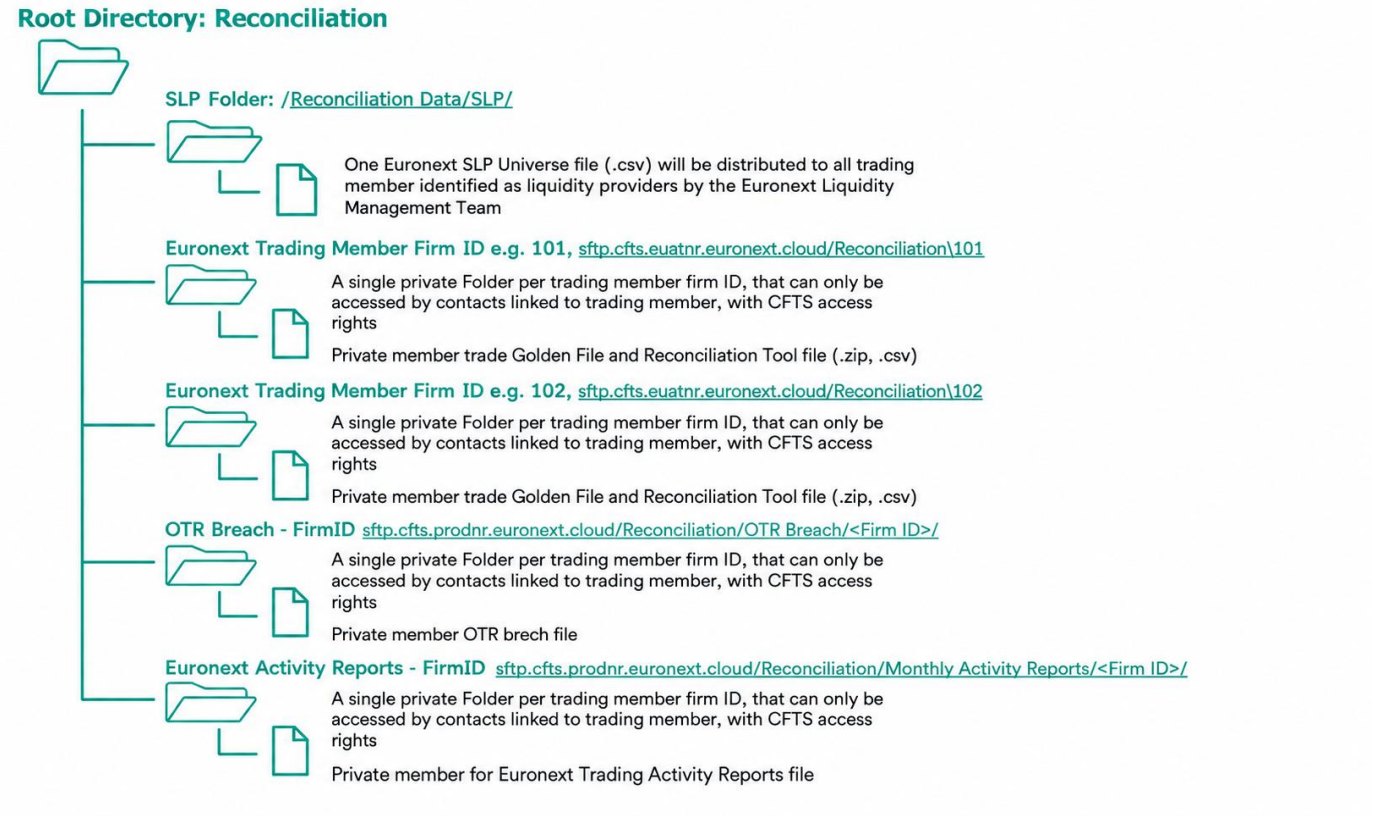
7 CFTS RECONCILIATION DATA SERVICE SUMMARY

Euronext CFTS Reconciliation Data service provides key private Optiq trading reconciliation files, per trading member firm ID, that are generated in the event of an incident on the Optiq trading platform.
Private Optiq trading reconciliation files will be available for download, in dedicated folders per trading member, in the event of an incident with the Optiq trading platform.

Within this section, the following additional files are also uploaded in their respective dedicated folders: OTR Breach files, House Orders Below 40k files, and Monthly Activity Reports.

Trading members identified by Euronext as liquidity providers will have access to a Supplementary Liquidity Providers (SLP) folder, to download the Euronext SLP Universe file.

Connectivity to the Reconciliation Data Service can be made through the internet only (see section 3.1).



7.1 RECONCILATION DATA FILES PER ENVIRONMENT

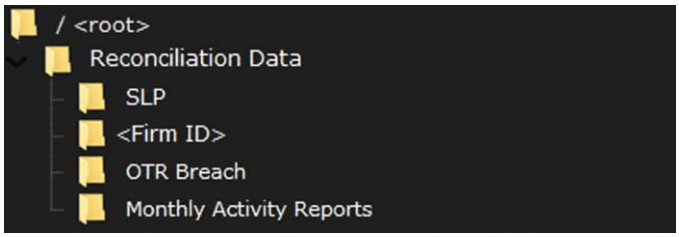
Separate domain names will exist per environment.

The files available per environment, in a private folder, per trading member firm ID, are as follows:

RECONCILIATION DATA FILES PER ENVIRONMENT	DESCRIPTION
GF (Golden File) trade reconciliation	The file will contain all the trades that occurred in a day for a single member by Optiq segment. There will be one file per day, per member and per segment. Files are only generated in the event of Optiq trading platform incident.
RF (Reconciliation File) trade reconciliation tool	The file will contain all trades reported by the Reconciliation Tool in a single alert per trading member by Optiq segment. Multiple files maybe generated per day.
SLP\Euronext SLP Universe	This file lists all Euronext Supplementary Liquidity Providers (SLP) instruments by instrument code, Mnemonic and basket.
OTR Breach	Daily report notifying the Member of detected Order-to-Trade Ratio (OTR) breach alerts on Euronext Equities markets. The report is generated exclusively when a breach is detected
House Orders Below 40k File	Daily report notifying the Member of orders submitted under the "House" account type with a nominal value below €40,000. The report is generated exclusively when a breach is detected
Monthly Activity Reports	Monthly report providing Member activity statistics (SID Cards and Ranking Reports) per market place, product group, instrument and account type, including Rank and Market Share over the last 25 months.

7.2 RECONCILIATION DATA SERVICE DIRECTORY

The reconciliation data service directory can be found under the folder /Reconciliation Data, on the internet CFTS SFTP domain.



7.3 RECONCILIATION DATA SERVICE FILE LIST

The table below lists the files that will be made available through CFTS SFTP Reconciliation Data Service for download.

OUTPUT SUB-FOLDER PATH	FILE NAMING CONVENTIONS
/<Firm ID>/	GF_<yyyy-MM-dd>-<Firm ID>.zip to be renamed to GF_<yyyy-MM-dd>_<Firm ID>.zip with effective date January 25th 2027
/<Firm ID>/	RF_<yyyyMMdd>_<hhmmss>_<Firm ID>_<Optiq segment shortname>.ZIP
/SLP/	EURONEXT_SLPUNIVERSE-<yyyyMMdd >.csv
/OTR Breach/	<yyyyMMdd>_Equities_OTR_<MemberName>_<FirmID>.xlsx <yyyymmdd>_Bonds_HouseOrdersBelow40k_<MemberName>_<FirmID>.xlsx <yyyymmdd>_Bonds_LPOrdersBelow40k_<MemberName>_<FirmID>.xlsx

/ Monthly Activity Reports /	SID_Card_Cash_<MemberName>_<FirmID>_<yyyymm>.xlsx Ranking_Report_Cash_<MemberName>_<FirmID>_Total_<yyyymm>.xlsx SID_Card_Derivatives_<MemberName>_<FirmID>_<yyyymm>.xlsx Ranking_Report_Derivatives_<MemberName>_<FirmID>_A_<yyyymm>.xlsx Ranking_Report_Derivatives_<MemberName>_<FirmID>_E_<yyyymm>.xlsx

7.4 FILE SPECIFICATIONS

Individual Reconciliation Data Service file specifications are detailed the sections below.

7.4.1 Golden File (GF) Specification

The Euronext Golden File lists all clients trades that were effectively sent by Euronext to Central Counterparty Clearing Houses at the time of its generation. It provides a complete overview of compensated operations at a given moment. This file is only created in the exceptional case where the functioning of the transaction integration chain at Euronext is altered.

Its format consists of a flat csv file, delimited by a semi-colon. For a given client, there will be as many files as Optiq segments. All trading member's csv files will be zipped into a single file for download. The file will be available through CFTS Reconciliation Data Service using SFTP with SSH key authentication, , and on MyEuronext CFTS.

The first line of the file contains the field names delimited by a semi-colon.

The second line of the file contains a header and detail dividing line with dashes.

- File Availability: Internal Euronext trading reconciliation incident.
- Scope of contents: All trades per member.
- Intraday updates: This file will be generated upon an internal Euronext trade reconciliation incident being raised.

File name will follow this template:

GF_<yyyy-MM-dd>_<Firm ID>.zip

Where <ENV> can take the following values: Production, Current EUA (vEUA), Next EUA (p-EUA).

Field	Short Description	Format	Len	Values	Presence
TRADE_DATE	Trade execution date (YYYYMMDD)	Date	12	20221017	Mandatory
TRADE_TIME	Trade execution date and time in microseconds	Unsigned integer 64	12	2022-10-17T08:07:46.707265Z	Mandatory
EXEC_ID	Trade execution identifier	Unsigned integer 32	10	12289	Mandatory
MNEMONIC	Instrument mnemonic code	String	5	ENX	Mandatory
ISIN	ISIN Code	String	30	NL0006294274	Mandatory
SYMBOL_INDEX	Exchange identification code of the instrument/contract.	Integer	10	1143559	Mandatory
SEGMENT	Optiq Segment short name. An Optiq segment is a universe of instruments sharing common trading properties.	String	3	EQU	Mandatory
AXX_TYPE	Account Type	String	8	CLIENT	Mandatory

Field	Short Description	Format	Len	Values	Presence
CCP	Central counterparty clearing houses (CCPs) short name	String	11	Euronext Clearing	Mandatory
*ORDER_ID	Numerical order identifier assigned by the Post Trade Box (where cleared operations are stored)	Numeric	8	4353	Mandatory
CLIENT_ORDER_ID	Client Order Id	Numeric	8	-1,16E+10	Mandatory
SIDE	Buy / Sell	String	1	B or S	Mandatory
PRICE	Price with decimal	Float	10	75.0	Mandatory
QTY	Quantity with decimal	Float	10	350	Mandatory
VALUE	PRICE multiplied by QTY	Float	10	236250.00	Mandatory
CURRENCY	Currency acronym	String	3	EUR	Mandatory
LAST_MARKET	Market identifier code	String	4	XPAR	Mandatory
TVTIC	Trading Venue Transaction Identification Code	String	52	513BMG455841020	Mandatory

* This identifier is not the Optiq Order_ID, however there is a formula to deduce this one from that Order_ID provided in the Golden File.

7.4.2 Reconciliation File (RF) Specification

The Euronext Reconciliation Tool File lists all trades that were booked into Optiq but not sent by Euronext to Central Clearing Counterparty Houses at the time of its generation. It provides a full overview of all operations still pending (not fully integrated) within Optiq and not yet cleared. This file is only created in the exceptional case where the functioning of the transaction integration chain at Euronext is compromised.

Its format consists of a is flat csv file, delimited by a semi-colon. It provides a list of trades per member by Optiq segment. All trading member's csv files will be zipped into a single file for download. The file will be available through CFTS Reconciliation Data Service using SFTP with SSH key authentication, and on MyEuronext CFTS.

The first line of the file contains the field names delimited by a semi-colon.

- File Availability: Internal Euronext trading reconciliation incident.
- Scope of contents: Trades booked by clients but not cleared per member.
- Intraday updates: This file will be generated upon an internal Euronext trade reconciliation incident being raised.

File name will follow this template:

RF_<yyyyMMdd>_<hhmmss>_<Firm ID>_<Optiq segment shortname>.ZIP

Where <ENV> can take the following values: Production, Current EUA (vEUA), Next EUA (p-EUA).

Field	Short Description	Format	Len	Values	Presence
TRADE_DATE	Trade execution date (YYYYMMDD)	Date	12	20221017	Mandatory
TRADE_TIME	Trade execution date and time in microseconds	Unsigned integer 64	12	2022-10-17T08:07:46.707265Z	Mandatory
EXEC_ID	Trade execution identifier	Unsigned integer 32	10	12289	Mandatory
MNEMONIC	Instrument mnemonic code	String	5	ENX	Mandatory
ISIN	ISIN Code	String	30	NL0006294274	Mandatory

Field	Short Description	Format	Len	Values	Presence
SYMBOL_INDEX	Exchange identification code of the instrument/contract.	Integer	10	1143559	Mandatory
SEGMENT	Optiq Segment short name. An Optiq segment is a universe of instruments sharing common trading properties.	String	3	EQU	Mandatory
AXX_TYPE	Account Type	String	8	CLIENT	Mandatory
CCP	Central counterparty clearing houses (CCPs) short name	String	11	Euronext Clearing	Mandatory
*ORDER_ID	Numerical order identifier assigned by the Post Trade Box (where cleared operations are stored)	Numeric	8	4353	Mandatory
CLIENT_ORDER_ID	Client Order Id	Numeric	8	-1,16E+10	Mandatory
SIDE	Indicates the side of the order. Buy, Sell, Cross	String	1	Sell	Mandatory
PRICE	Price with decimal	Float	10	75.0	Mandatory
QTY	Quantity with decimal	Float	10	350	Mandatory
VALUE	PRICE multiplied by QTY	Float	10	236250.00	Mandatory
CURRENCY	ISO Currency Code	String	3	EUR	Mandatory
LAST_MARKET	Market identifier code	String	4	XPAR	Mandatory
TVTIC	Trading Venue Transaction Identification Code	String	52	513BMG455841020	Mandatory
LOGICAL_ACCESS_ID	Trading member's logical access identifier	Unsigned integer 32	10	9999999	Mandatory

7.4.3 EURONEXT SLP Universe FILE

The Euronext SLP (Supplementary Liquidity Providers) File, is flat csv file, delimited by a semi-colon. It provides a list of instruments codes with their associated index. The file will be available through CFTS Reconciliation Data Service using SFTP with SSH key authentication, and on MyEuronext CFTS.

The first line of the files contains the internal filename and application reference, date and time the file was created.

The second line of the file contains the field names delimited by a semi-colon.

The last line of the file contains the internal filename and application reference, date and time the file was created, and the number of data rows contained within the file.

- File Availability: Available 24/7.
- Scope of contents: All SLP instruments.
- Intraday updates: This file will be updated overnight.

File name will follow this template:
EURONEXT_SLPUNIVERSE-<yyyyMMdd >.csv

Field	Short Description	Format	Len	Values	Presence
InstrumentCode	Instrument code	String	12	FR0000130809	Mandatory

Field	Short Description	Format	Len	Values	Presence
TradingCode	Trading instrument code	String	12	FR0000130809	Mandatory
Mnemonic	Instrument mnemonic code	String	5	GLE	Mandatory
Name	Instrument name	String	30	SOCIETE GENERALE	Mandatory
Basket	Basket identifier	String	1	A	Mandatory

7.4.4 EURONEXT OTR Breach FILE

Daily report informing the Member that its activity on Euronext Equities markets has generated Order-to-Trade Ratio (OTR) breach alerts.

The purpose of this report is to notify the Member of detected breaches and recommend that it reviews and adjusts its trading behaviour and/or algorithms as soon as possible in order to avoid future charges related to OTR breaches.

This file is generated exclusively when breach activity has been detected.

7.4.5 EURONEXT HOUSE ORDERS BELOW 40K FILE

Daily report informing the Member that orders submitted to Euronext markets under the "House" account type have been identified with a nominal value below €40,000.

The purpose of this report is to notify the Member of such activity and recommend that it reviews and adjusts its trading behaviour and/or algorithms, where appropriate, in order to avoid potential future charges.

This file is generated exclusively when breach activity has been detected.

7.4.6 EURONEXT MONTHLY MEMBER ACTIVITY REPORT FILE

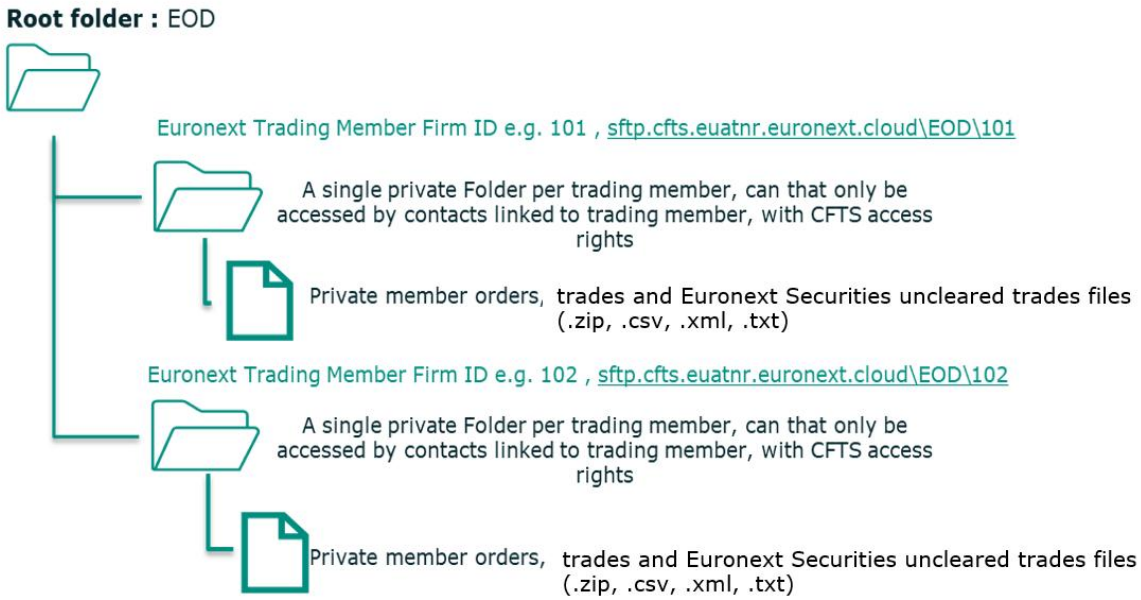
SID Cards: Monthly and YTD Member activity per market place/product group/instrument/account type with Rank and Market Share

Member Ranking Reports: Monthly member activity over last 25 months per market place/product group with Rank and Market Share

8 CFTS EOD DATA SERVICE SUMMARY

Euronext CFTS EOD (End Of Day) Data service allows trading member firms to retrieve and download files, containing order and trade information belonging to its member firm code. Files are distributed by CFTS into private data folders per trading member firm ID. EOD files will be available for downloading on a daily basis.

Connectivity to the EOD Data Service can be made through the internet only (see section 3.1).



8.1 EOD DATA FILES PER ENVIRONMENT

Separate domain names will exist per environment.

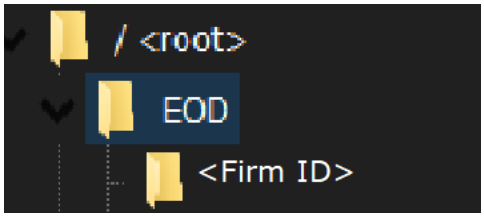
The files available per environment, in a private folder, per trading member firm ID, are as follows:

EOD DATA FILES PER ENVIRONMENT	**DESCRIPTION**
FTRRM_<Firm ID>_<yyyyMMdd>.zip	Contains all trades, per trading member firm ID, executed during the last trading day in the Optiq Matching Engine in Optiq Cash segments. The files 'FTRRM*.txt' are always generated, even if empty, ensuring every firm has a file each day regardless of the trading activity. Note: In case of Takeover Bid / IPO / Direct Distribution, the trades are excluded from End-Of-Day trade files
TradesFile_<FirmId>_<YYYYMMDD>.xml	Contains all trades, per trading member firm ID, executed during the last trading day in the Optiq Matching Engine in Optiq Cash segments. File planned for replacement of the FTRRM legacy file. TradesFile will be made available from January 25th 2027 onwards.

FORDCXML_<Firm ID>_<yyyyMMdd>.zip	Contains all orders, per trading member firm ID, remaining in the book for the next Trading Day for the Equities, Funds and Fixed Income Optiq segments. The files 'FORDCXML*.txt' are always generated, even if empty, ensuring every firm has a file each day regardless of the trading activity.
FORDCWXML_<Firm ID>_<yyyyMMdd>.zip	Contains all orders, per trading member firm ID, remaining in the book for the next Trading Day for the Warrants & Certificates Optiq segment.
LCH_<Environment>_WCUTL_<Firm ID>_<yyyyMMdd>_<version no>.zip	Contains all uncleared Warrants & Certificates trade Legs generated by Euronext Securities and sent to the settlement platforms, per trading member firm ID.
LCH_<Environment>_WCNET_<Firm ID>_<yyyyMMdd>_<version no>.zip	Contains all uncleared net instructions generated by Euronext Securities due to daily netting (record 00280) and regularizations (record 00281)
LCH_<Environment>_WCOBF_<Firm ID>_<yyyyMMdd>_<hhmmss>.zip	The aim of this file is to give each Trading Member Firm the detail of its Settlement Outbound, MT5xx messages sent by Euronext Securities which related to both records 00280 and 00281 of the NET file, per trading member firm ID.

8.2 EOD DATA SERVICE DIRECTORY

The EOD data service directory can be found under the folder /EOD, on the internet CFTS SFTP domain.



8.3 EOD DATA SERVICE FILE LIST

The table below lists the files that will be made available through CFTS SFTP EOD Data Service for download.

OUTPUT SUB-FOLDER PATH	FILE NAMING CONVENTIONS
/<Firm ID>/	FTRRM_<Firm ID>_<Date YYYYMMDD>.zip
/<Firm ID>/	FORDCXML_<Firm ID>_<Date YYYYMMDD>.zip
/<Firm ID>/	FORDCWXML_<Firm ID>_<Date YYYYMMDD>.zip
/<Firm ID>/	LCH_<LCH SA Environment>_WCUTL_<Firm ID>_<Date YYYYMMDD>_<version no>.zip
/<Firm ID>/	LCH_<LCH SA Environment>_WCNET_<Firm ID>_<Date YYYYMMDD>_<version no>.zip
/<Firm ID>/	LCH_<LCH SA Environment>_WCOBF_<Firm ID>_<yyyyMMdd>_<hhmmss>.zip

8.4 EOD FILE ATTRIBUTES

The EOD file attributes, market and file type, can be used in conjunction with the cfts/file-search API, to filter file search responses based on the attribute value(s).

File	Description	Market	File Type	Format	Internal ZIP Format
FTRRM	Trades (RM) in legacy format (Equities, Funds, Fixed Income, Warrants & Certificates, Block)	Regulated Market	Trades	zip	TXT
FORDCXML	Active Orders (RM) in XML Optiq format (Equities, Funds, Fixed Income)	Regulated Market	Active Orders	zip	XML
FORDCWXML	Active Orders (Warrant) in XML Optiq format	Warrants	Active Orders	zip	XML
LCH_EP_WCUTL	New Uncleared Trades captured by Euronext Securities (Gross)	Warrants	LCH	zip	CSV
LCH_EP_WCNET	New Uncleared Net Instructions generated by Euronext securities due to daily netting and regularizations	Warrants	LCH	zip	CSV
LCH_EP_WCOBF	All MT5xx messages sent by Euronext Securities which related to both records 00280 and 00281 of the NET file	Warrants	LCH	zip	TXT

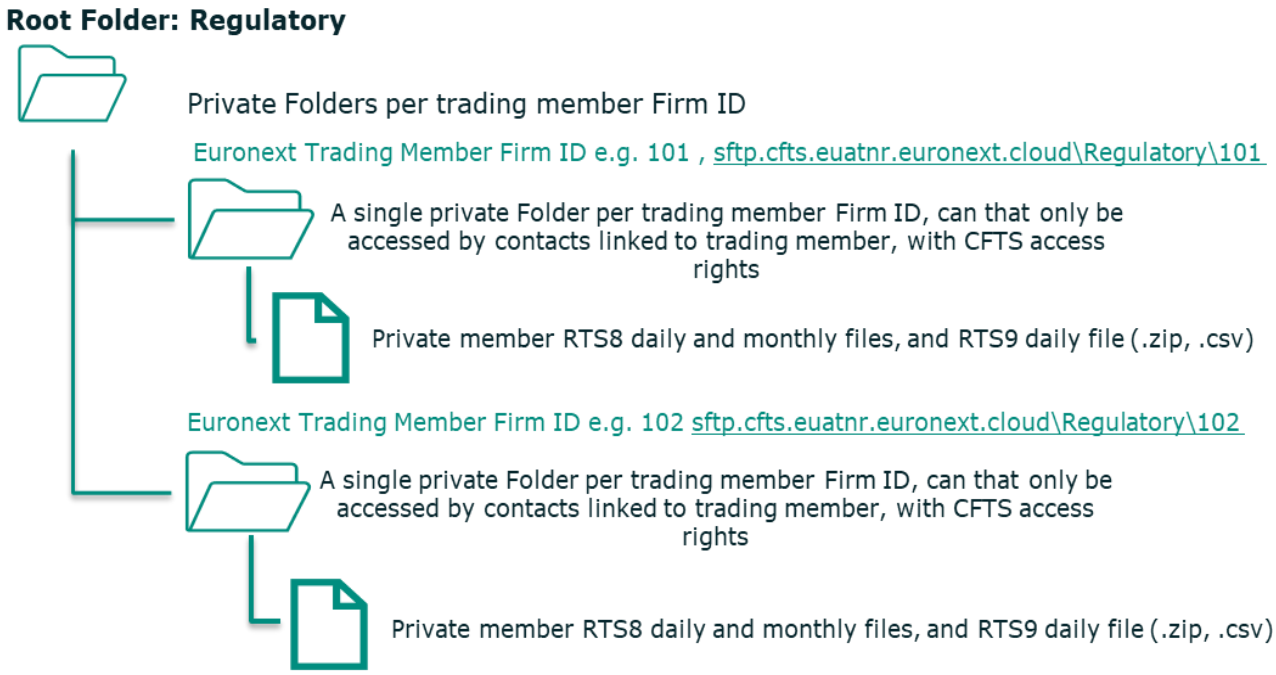
8.5 FILE SPECIFICATIONS

For all details of individual file specifications please reference the latest version of the Euronext Cash Markets - End Of Day Files - Interface Specification - External on the Euronext Connect Customer Portal.

9 CFTS REGULATORY DATA SERVICE SUMMARY

Euronext CFTS Regulatory Data service allows trading member firms to retrieve and download files, containing, daily and monthly RTS8 Market Making Performance Report, daily RTS9 Order to Trade (OTR) Ratio reports and REMIT Transaction reporting, all belonging to its member firm code. The reports are distributed by CFTS into private data folders per trading member firm ID. Regulatory report files will be available for downloading on a daily basis.

Connectivity to the Regulatory Data Service can be made through the internet only (see section 3.1).



Exceptions:
The files *Optiq_Market_Making_Parameters_[YYYYMMDD].xlsx* and *mm_list_<YYYYMMDD>.xlsx* are accessible via different paths as follows:

- Today's file: **output/Regulatory/Public**
- Previous 5-days files: **output/Regulatory/Public/Archive**

9.1 REGULATORY DATA FILES PER ENVIRONMENT

Separate domain names will exist per environment.

The files available per environment, in a private folder, per trading member firm ID, are as follows:

REGULATORY DATA FILES PER ENVIRONMENT	**DESCRIPTION**
MMSTATS_<MIC Code>_DAILY_<Firm ID>_<yyyyMMdd>.csv	The Cash market RTS8 detailed daily performance report are produced per operating MIC (XMIL for Borsa Italiana markets) and member, and recorded in separated files, each with fixed-length format.
MMSTATS_<MIC Code>_MONTHLY_<Firm ID>_<yyyyMMdd>.csv	The Cash market RTS8 detailed monthly performance report are produced per operating MIC (XMIL for Borsa Italiana markets) and member, and recorded in separated files, each with fixed-length format.

MMSTATS_<MIC Code>_<Market Type>_DAILY_<Firm ID>_<yyyyMMdd>.csv	The Derivatives market RTS8 files, will be distinguished from the cash files by having the Market Type value 'D' in the filename. RTS8 detailed daily performance report are produced per operating MIC (XMIL for Borsa Italiana markets) and member, and recorded in separated files, each with fixed-length format.
MMSTATS_<MIC Code>_<Market Type>_MONTHLY_<Firm ID>_<yyyyMMdd>.csv	The Derivatives market RTS8 files, will be distinguished from the cash files by having the Market Type value 'D' in the filename. RTS8 detailed monthly performance report are produced per operating MIC (XMIL for Borsa Italiana markets) and member, and recorded in separated files, each with fixed-length format.
OTRSTATS_<MIC Code>_DAILY_<Firm ID>_<yyyyMMdd>.csv	The Cash market RTS9 detailed daily report per member and market, containing a line each time a member triggers an 'OTR breach' or an 'OTR warning' on an instrument.
OTRSTATS_<MIC Code>_<Market Type>_DAILY_<Firm ID>_<yyyyMMdd>.csv	The Derivatives market RTS9 files, will be distinguished from the cash files by having the Market Type value 'D' in the filename. RTS9 detailed daily report per member and market, containing a line each time a member triggers an 'OTR breach' or an 'OTR warning' on an instrument.
<yyyyMMdd>_REMITTable1_V3_<RRMCODE>_<sequenceNumber>.xml	The REMIT Transaction Reporting File for the Nordic Power Futures market. File produced per member ID and per trading day. REMIT contains instruments, orders and trades.
Receipt_<yyyyMMdd>_REMITTable1_V3_<RRMCODE>_<sequenceNumber>.xml	The REMIT Transaction Reporting Feedback File for the Nordic Power Futures market. It refers to the content of the REMIT Transacting Reporting file sent to ACER.
MarketShare_<membercode>_<MM>_<yyyyMMdd>.xlsx	~~The Market share Report file generated by Global Analytics Dataiku application (non ITMS generated).~~ An excel file providing a table with the member volumes/market shares calculated per MICs and split by Continuous, Auctions and totals. ~~Note: This file is made available by GA Dataiku application for clients asking it and only made available in CFTS folder by ITMS (for details on file ask GA team)~~
Daily_performance_membercode_YYYYMMDD.xlsx	Daily_performance_membercode_YYYYMMDD.xlsx is the Member Liquidity Report, for monitoring of the performance of the Marker Maker for the provided liquidity in the derivatives markets. ~~Note: This file is made available by GA Dataiku application for clients asking it and only made available in CFTS folder by ITMS (for details on file ask GA team~~
SLP_report_<YYYYMMDD>_<membercode>.xlsx SLP_report_<YYYYMMDD>_<membercode>.pdf	~~The SLP Stats Daily Report files generated by Global Analytics Dataiku application (non ITMS generated).~~ An excel file providing the monitoring performance for the liquidity providers clients, plus a PDF document only with very limited information from the full report. ~~Note: This files are made available by GA Dataiku application for clients asking it and only made available in CFTS folder by ITMS (for details on file ask GA team).~~
RLP Equity report [YYYYMMDD] [membercode].xlsx RLP Equity Milan report [YYYYMMDD] [membercode].xlsx	~~The RLP Equity report files are generated by Global Analytics Dataiku application (non ITMS generated).~~ The file is made available to members via CFTS on a daily basis for monitoring purposes. ~~Note: This files are made available by GA Dataiku application for clients asking it and only made available in CFTS folder by ITMS (for details on file ask GA team).~~

RMO_Eq_daily_[CLIENT_NAME]_[YYYYMMDD]_[membercode]_[ID_SHORT_CODE].csv RMO_Eq_daily_[CLIENT_NAME]_[YYYYMMDD]_[membercode]_[ID_SHORT_CODE].pdf RMO_Eq_monthly_[CLIENT_NAME]_[YYYYMM]_[membercode]_[ID_SHORT_CODE].csv RMO_Eq_monthly_[CLIENT_NAME]_[YYYYMM]_[membercode]_[ID_SHORT_CODE].pdf RMO_Eq_quarterly_[CLIENT_NAME]_[YYYYQQ]_[membercode]_[ID_SHORT_CODE].csv RMO_Eq_quarterly_[CLIENT_NAME]_[YYYYQQ]_[membercode]_[ID_SHORT_CODE].pdf RMO_Eq_yearly_[CLIENT_NAME]_[YYYY]_[membercode]_[ID_SHORT_CODE].csv ~~1.~~ RMO_Eq_yearly_[CLIENT_NAME]_[YYYY]_[membercode]_[ID_SHORT_CODE].pdf	~~The RMO files are generated by Global Analytics Dataiku application (non ITMS generated).~~ The files are made available to members via CFTS in multiple frequencies (daily, monthly, quarterly, yearly) based on client subscription. Clients receive reports in csv and/or pdf formats (at their discretion) and can choose to receive separate or consolidated reports per account.
Optiq_Market_Making_Parameters_[YYYYMMDD].xlsx	The file is made available to members via CFTS on an as-needed basis (when updates are available).
mm_list_[YYYYMMDD].xlsx	The file contains the list of Derivatives Market Makers (MM) and is made available to members via CFTS on a daily basis.
Monthly_derivative_performance_[YYYYMMDD]_[membercode].[format]	The file contains monthly performance data for Derivatives Market Makers (MM) and is made available to members via CFTS on a monthly basis.
Daily_performance_fixedIncome_[YYYYMMDD]_[membercode].[format]	The file contains daily performance data for Fixed Income Derivatives Market Makers (MM) and is made available to members via CFTS on a daily basis.

9.2 REGULATORY DATA SERVICE DIRECTORY

The Regulatory data service directory can be found under the folder /Regulatory, on the internet CFTS SFTP domain.



9.3 REGULATORY DATA SERVICE FILE LIST

The table below lists the files that will be made available through CFTS SFTP Regulatory Data Service for download.

OUTPUT SUB-FOLDER PATH	FILE NAMING CONVENTIONS
/<Firm ID>/	MMSTATS_<MIC Code>_DAILY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	MMSTATS_<MIC Code>_MONTHLY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	MMSTATS_<MIC Code>_<Market Type>_DAILY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	MMSTATS_<MIC Code>_<Market Type>_MONTHLY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	OTRSTATS_<MIC Code>_DAILY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	OTRSTATS_<MIC Code>_<Market Type>_DAILY_<Firm ID>_<yyyyMMdd>.csv
/<Firm ID>/	<yyyyMMdd>_REMITTable1_V3_<RRMCODE>_<sequenceNumber>.xml
/<Firm ID>/	Receipt_<yyyyMMdd>_REMITTable1_V3_<RRMCODE>_<sequenceNumber>.xml
/<Firm ID>/	MarketShare_<membercode>_<MM>_<yyyyMMdd>.xlsx
/<Firm ID>/	Daily_performance_membercode_YYYYMMDD.xlsx
/<Firm ID>/	▪ RLP_Equity_report_[YYYYMMDD]_[membercode].xlsx ▪ RLP_Equity_Milan_report_[YYYYMMDD]_[membercode].xlsx
/<Firm ID>/	▪ RMO_Eq_daily_[CLIENT_NAME]_[YYYYMMDD]_[membercode]_[ID_SHORT_CODE].csv ▪ RMO_Eq_daily_[CLIENT_NAME]_[YYYYMMDD]_[membercode]_[ID_SHORT_CODE].pdf ▪ RMO_Eq_monthly_[CLIENT_NAME]_[YYYYMM]_[membercode]_[ID_SHORT_CODE].csv ▪ RMO_Eq_monthly_[CLIENT_NAME]_[YYYYMM]_[membercode]_[ID_SHORT_CODE].pdf ▪ RMO_Eq_quarterly_[CLIENT_NAME]_[YYYYQQ]_[membercode]_[ID_SHORT_CODE].csv ▪ RMO_Eq_quarterly_[CLIENT_NAME]_[YYYYQQ]_[membercode]_[ID_SHORT_CODE].pdf ▪ RMO_Eq_yearly_[CLIENT_NAME]_[YYYY]_[membercode]_[ID_SHORT_CODE].csv ▪ RMO_Eq_yearly_[CLIENT_NAME]_[YYYY]_[membercode]_[ID_SHORT_CODE].pdf
/public/current output/Regulatory/public	Optiq_Market_Making_Parameters_[YYYYMMDD].xlsx
public/current output/Regulatory/public	mm_list_[YYYYMMDD].xlsx
/<Firm ID>/	Monthly_derivative_performance_[YYYYMMDD]_[membercode].[format]
/<Firm ID>/	Daily_performance_fixedIncome_[YYYYMMDD]_[membercode].[format]

9.4 FILE SPECIFICATIONS

For all details of individual file specifications please reference the latest version of the Euronext Cash Markets – Regulatory Reporting RTS8 File - Interface Specification - External and Euronext Cash Markets – Regulatory Reporting RTS9 File – Interface Specification – External, on the Euronext Connect Customer Portal.

APPENDIX

A.1 REFERENTIAL DATA SERVICE OPTIQ SEGMENT FOLDER LIST

The below table represents the list of available CFTS Optiq segment folders available at the time of publication.

OPTIQ SEGMENT
BDL (Bourse de Luxembourg)
Commodities (Commodity Derivatives)
Equities
Equity Derivatives
Block (Euronext Block)
Fixed Income
Forex
Funds
Index Derivatives
Indices
Irish Bonds & Funds
Trade Reporting and Publication
Warrants and Certificates

A.2 TROUBLE SHOOTING API RESPONSE CODES

The following table shows the possible return codes from API requests.
For all 400s response codes, please check that;

- your MCA, has granted the API user the CFTS Client Member user role, and the role is approved.
- your user has been assigned the CFTS Referential Data or EOD Service with the access method API.
- the MyEuronext CFTS client ID and client secret match the ones you are using.
- the client secret has not expired.
- the CFTS access token provided through cfts/token has not expired, it expires after 1 hour, you can request a new token, using cfts/token.
- please check the syntax and values used in your command or script.
- where errors persist, use curl -v (verbose) to log command responses.
- Use, curl -I, to include headers in output, if needed for support purposes .

Where the content of the response is empty (content []), please check that the firmId, folderStructure, and any additional parameter values are valid.

Return values	**Description**
200 OK	The **GET** request was successful
201 Created	The **POST** request was successful and the resource is returned as JSON.
204 No Content	The **POST** request was successful and nothing is returned in the body.
400 Bad Request	Bad request status code indicates that the server was unable to process the request due to invalid information sent by the client. The request needs corrected. Please check that the request syntax and values are correct. Check the client ID, client secret and access token are valid. And that the client secret or access token have not expired. On MyEuronext CFTS Access management option, check to user still has the Referential Data or EOD service selected with the access method API, and the client secret expiry date. Generate a new client ID and secret if necessary. If the firmId parameter does not have the correct format, the response will be returned, {"code":"VALIDATION_FAILED","message":"Validation failed for object='fileSearchRequest'. Error count: 1","fieldErrors":[{"code":"REGEX_PATTERN_VALIDATION_FAILED","message":"Field firmId can't have only space and max length is 8 characters.","property":"firmId","rejectedValue":123456789"}]}
401 Unauthorized	The user is not authenticated, a valid user token is necessary. The API access token may have expired, regenerate an access token using cfts/token. Check the client ID, client secret and access token are valid. And that the client secret or access token have not expired. On MyEuronext CFTS Access management option, check to user still has the Referential Data or EOD service selected with the access method API, and the client secret expiry date. Generate a new client ID and secret if necessary. A request to download files contains more then 10 files, VALIDATION FAILED, size must be between 0 and 10, reduce the number of files in the request to 10.
403 Forbidden	Forbidden response status code indicates that the server understands the request but refuses to authorize it. e.g., the user is not allowed to download a file. Maybe to due an invalid client ID or client secret, or expired access token. Regenerate your access using cfts/token with your client ID and client secret. Also check MyEuronext CFTS Access Management option, that the user has a CFTS Client member user role, the CFTS service assigned and the access method API selected. Where a user does not have the authorization to firm or service the following response will be returned, {"httpStatus":"FORBIDDEN","code":403,"message":"Denied user

Return values	**Description**
	access.","path":"/curlapi/service/<cfts api name>"} Check MyEuronext CFTS Access Management for the user assigned CFTS services.
404 Not Found	A resource could not be accessed, e.g., a file could not be found.
405 Method Not Allowed	The request is not supported.
422 Unprocessable	The server understands the content type and syntax of the request entity, but still server is unable to process the request for some reason. Please check that the request syntax and values are correct.
500 Server Error	The 500 Internal server error status code indicates that the processing of the request on the Euronext CFTS server failed unexpectedly. If you are able to replicate this error consistently, please report it to Euronext.
curl(3)	URL_MALFORMAT The URL was not properly formatted. Check the syntax of the command, ensure quotes " ", correctly shape the header parameters
curl(6)	Couldn't resolve host. The given remote host was not resolved. Check the URL name and syntax; **Internet** : api.cfts.peua.euatnr.euronext.cloud/euatnr/token/token, **CMC/Colocation**: cftsoptiq-eua.euronext.com/token/token Check that access to internal domains are not blocked on your network. If the URLs are correct and the error persists, use, curl -v, and report ,the issue with a copy of the verbose log to Euronext, provide the environment, CFTS user contact name and email address.
curl(28)	Operation timeout. The specified time-out period was reached according to the conditions. Failed to connect to url port 80 after 87280 ms: Couldn't connect to server. Check that access to internal domains are not blocked on your network. If the error persists, use, curl -v, and report the issue with a copy of the verbose log to Euronext, provide the environment, CFTS user contact name and email address.
curl(23)	curl: (23) Failed writing received data to disk/application. if you are trying to save a file and getting this response, use curl –-proxy option. curl -s --proxy "http://<your local proxy>" -i -o <a_filename>.<ext> "http://<file preSigned URL>"

A.3 DOCUMENT HISTORY TABLE

REVISION NO	DATE	AUTHOR	CHANGE DESCRIPTION
5.17.0	1 Aug 2022	IT Market Services – COL - WMA	Creation of the document.
5.18.0	15 Sep 2022	IT Market Services – COL	Update to CFTS SPTF Domain names, diagrams and SSH Key generation screen shots. Distribution of file, SBETemplate_ALL, no longer valid. Include CFTS Referential data sub-folder and filenames combined table provided. Financial Derivatives Optiq segment discontinued.
5.19.0	07 Oct 2022	IT Market Services – COL	Included Reconciliation and Corporate Action ETFs services
5.20.0	28 Oct 2022	IT Market Services – COL	Included CFTS EOD (End Of Day) Data service, section 7
‘5.20.1	6 Dec 2022	IT Market Services – COL	Correction to CFTS internet SFTP domain, sftp.cfts.prodnr.euronext.cloud. Populated production domain name IP addresses
5.21.0	16 Dec 2022	IT Market Services – COL	The following changes have been made to this version of the document: ■ In CFTS Service Domain names: IP Address and Domain Name updated
5.21.1	16 Dec 2022	IT Market Services – COL	Section 5.4 Correction to AuthorizedPriceFluctuationFile filename prefix changed to OptiqMDG_<ENV>_AuthorizedPriceFluctuationFile
5.21.2	13 Jan 2023	IT Market Services - COL	Inclusion of MyEuronext CFTS web based application access and section 8 Regulatory Data Service
5.23.0	7 Mar 2023	IT Market Services – COL	Inclusion of LP_OBLIGATIONS file in the Referential Data Service, Current, folder
5.25.0	9 Aug 2023	IT Market Services – COL	Inclusion of API access method, sections 2.3, 3.1, 3.2 and 5.
5.30.0	13 Nov 2023	IT Market Services - COL	Correction to typo in curl command sample, 5.1.5.1, filNames, fileNames. Addition of section 3.4 API Access Issues to include preSigned. Update to section 7.4.2 Reconciliation File specification inclusion of Logical_Access_ID field. And update to side and currency field descriptions. Correction to 6.4 Referential data service file list for BdL Section 9 Regulatory Service, Derivatives market RTS8 and RTS9 files will be made available.
5.35.0	3 Jul 2024	IT Market Services – WMA	Addition of “Current EUA” (vEUA) environment which is available through CMC/Colocation network and CFTS AWS Lambda function using SFTP access method
5.36.0	18 Sep 2024	IT Market Services – FPI	Addition of the supported cryptographic algorithms used in CFTS SFTP in section “2.2 - CFTS SFTP Service Access”.
5.38.0	25 Sep 2024	IT Market Services – FPI	Update of the supported cryptographic algorithms TransferSecurityPolicyRestricted-2020-06, used in CFTS SFTP in section “2.2 - CFTS SFTP Service Access”.
5.353.0	30 Jan 2025	IT Market Services – NTDP	The following sections were updated: ■ Section 9 CFTS Regulatory Data Service Summary: updated to add the newly available regulatory file REMIT
5.353.1	10 Feb 2025	IT Market Services – MRO	■ References to LCH SA are replaced by Euronext Securities for Settlement, Euronext Clearing as CCP; ■ Correction in 8.1, removed reference to OTC trades
5.355.0	23 Apr 2025	IT Market Services – FSI - MPE	The following changes have been made to this version of the document: in Referential Data Service Directory ▪ added ClosingPrices directory in Referential Data Service File List: ▪ added file DeliverableBonds_<YYYYMMDD>.csv ▪ added file closing_price_recovery_<yyyyMMdd>_<hhmmdd>.csv

REVISION NO	DATE	AUTHOR	CHANGE DESCRIPTION
5.358 .0	26 Sept 2025	IT Market Services	The following changes have been made to this version of the document: • Section 9 CFTS Regulatory Data Service Summary: updated to add the newly available regulatory files Market Share and Daily Performance (produced by Global Analytics Dataiku application) • In Section 6 CFTS Referential Data Service Summary: ○ updated to add the newly available InstrumentMappingFile - NIM1_<ENV>_<yyyyMMdd>_<version>.csv (ownership of the file and production by ENX Clearing application and just moved to CFTS folder by ITMS) ○ updated to add the newly available files OptiqMDG_<ENV>_OpenInterestFile_CommodityDerivatives_Power_<yyyyMMdd>.xml and OptiqMDG_<ENV>_OpenInterestFile_Commodity_Other_<yyyyMMdd>.xml (ownership of the file and production by ENX Clearing application and just moved to CFTS folder by ITMS)
5.358.1	Oct 2025	IT Market Services	The following changes have been made to this version of the document: • In Section 9 CFTS Regulatory Data Service Summary: updated to add the newly available files "SLP Stats Daily Report" files (produced by Global Analytics Dataiku application).
6.361.0	29 Oct 2025	IT Market Services - MKO	The following changes have been made to this version of the document: • In Section 8.4 EOD File Attributes: corrected filenames to LCH_EP_WCUTL, LCH_EP_WCNET, LCH_EP_WCOBF; • In Section 6 CFTS Referential Data Service Summary: ○ Updated to add the newly available Exchange Rates File
6.365.0	1 Apr 2026	IT Market Services - MRO	The following changes have been made to this version of the document: Section 8.1 CFTS EOD Data Service Summary: • FORDCXML*.txt and FTRRM*.txt are generated in any case, even if there are no orders /trades (files are empty in these cases); • FTRRM*.txt do not include trades from Takeover Bid / IPO / Direct Distribution.
6.367.0	3 Jun 2026	Euronext – O.C.S.	Section 7 – CFTS Reconciliation Data Service Summary: ■ Added files Euronext OTR Breach file, Euronext House orders below 40k file, Euronext LP orders below 40k file and Euronext Monthly Member Activity Report file.
6.369.0	9 Sept 2026	IT Market Services	Section 7 – CFTS Reconciliation Data Service Summary: ■ Removed file Euronext LP Orders Below 40k file
6.370.0	23 Sept 2026	IT Market Services	Section 7 CFTS Reconciliation Data Service Summary : *■ in Reconciliation Data Service File List, described Golden File renaming from GF_<yyyy-MM-dd>-<Firm ID>.zip to GF_<yyyy-MM-dd>_<Firm ID>.zip with effective date January 25th 2027 Section 8 CFTS EOD Data Service Summary: ■ added details on the new TradesFile planned for replacement of the FTRRM legacy file, which will be made available from January 25th 2027 onwards.

REVISION NO	DATE	AUTHOR	CHANGE DESCRIPTION
6.371.0	27 Oct 2026	IT Market Services	Section 9.1: ■ Add RLP and RMO files ■ Add the following files: Opriq Market Making Parameters, MM list, Monthly derivatives performance, Daily performance fixedincome Section 9.3: ■ Add RLP and RMO files ■ Add the following files: Opriq Market Making Parameters, MM list, Monthly derivatives performance, Daily performance fixedincome