Euronext: How Clearing Works

Service Description

30 JUNE 2022 – VERSION 1.0

Number of pages: 52

The purpose of this document is to provide a description of the proposed target clearing and settlement service model envisaged by Euronext Clearing for the Euronext cash markets.

This document is based on Euronext Clearing's high-level business requirements and takes into account client feedback gathered from a number of member consultations. Following implementation and clarification on feedback from clients, the document may be updated with further information providing additional detail. In the case of any functional changes, they will be highlighted and communicated to clients in due course.

A number of functionalities described in this document are subject to regulatory approval, and confirmation of implementation will be provided in due time.

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GLOSSARY

This section provides some high-level definitions of commonly used and abbreviated terms in this document. Please note that some of the definitions and descriptions are also provided elsewhere within this document.

- **CLEARING MEMBER (CM)**: a legal person admitted as a member of Euronext Clearing. A Clearing Member is either a General Clearing Member (GCM) or an Individual Clearing Member (ICM).

- **CLIENT**: the entity linked to a Clearing Member by a contractual relationship that permits such entity to clear its transactions through Euronext Clearing.

- **CONTRACTUAL POSITIONS**: the set of obligations and rights arising from a contract entered into on a Market.

- **CSD**: "Central Securities Depository" – market infrastructure managing the dematerialised custody of securities and settlement of transactions (e.g. Euroclear France, Euroclear Nederland, Euroclear Belgium, Euronext Securities Porto or National Bank of Belgium).

- **EURONEXT FUND SERVICES MARKET:** primary market/NAV trading platform which enables investors to buy and sell funds by sending subscription/redemption orders via a Euronext member broker.

- **ICSD**: "International Central Securities Depository" (e.g. Euroclear Bank).

- **INDIVIDUAL CLEARING MEMBER**: a Clearing Member authorised to clear transactions made on its own behalf and/or on behalf of its own clients other than trading clients (i.e. on behalf of its non-trading clients).

- **GENERAL CLEARING MEMBER (GCM)**: a Clearing Member authorised to clear transactions made on its own behalf and/or on behalf of its own clients who use its clearing services. (i.e. on behalf of its non-trading clients and/or trading clients).

- **LIQUIDITY PROVIDER (LP)**: a Trading Member which has undertaken to, and been authorised by the Exchange (i.e. Euronext markets) to, enhance the market liquidity of a particular financial instrument, under the appropriate Euronext trading rules.

- **NON-TRADING CLIENT**: a legal entity which is not a participant to the Exchange, has no direct access to trading platform and uses the services of a third party (Trading Member) to issue orders to the trading platform, and which has entered into a Clearing Agreement with a General Clearing Member.

  POWER OF ATTORNEY (PoA): the legal authorisation that gives **Euronext Clearing** the power to instruct in the settlement system on behalf of Clearing Members.

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- **TRADING CLIENT (TC)**: a legal entity which is a participant of the Exchange and has direct access to the trading platform, and has entered into a clearing agreement with a General Clearing Member for the clearing of its transactions.

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DOCUMENT HISTORY

The following lists the most recent modification made to this document.

REVISION NO./ VERSION NO.	DATE	AUTHOR	CHANGE DESCRIPTION
1	30 JUNE 2022	EURONEXT	First Version

EURONEXT CLEARING

1. INTRODUCTION

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Euronext Clearing (formerly known as CC&G) is a central counterparty (CCP) that provides a broad set of clearing services for multiple markets and multiple asset classes, with settlement in multiple CSDs and ICSDs.

Euronext Clearing's value proposition is to provide best-in-class CCP services for trades on financial instruments admitted to trading on the regulated Markets and MTFs it clears.

Euronext Clearing will also offer non-guaranteed clearing services, covering the routing and the submission to settlement of securities traded on the regulated Euronext Cash Markets and MTFs.

Euronext Clearing aims to provide fully integrated and seamless processing (STP - Straight-Through Processing) from trade capture on the Euronext trading platforms up to final settlement in the designated local CSDs and ICSD.

1.1.   Main assumptions

This document, and the service model described, focuses on the target model of clearing for the legacy Euronext Cash Markets only (excluding Oslo):

- Euronext Paris;
- Euronext Growth Paris;
- Euronext Access Paris;
- Euronext Amsterdam;
- Euronext Brussels;
- Euronext Growth Brussels;
- Euronext Access Brussels;
- Euronext Dublin;
- Euronext Growth Dublin; and
- Euronext Lisbon.

For the sake of clarity, the service description reported hereinafter is related to guaranteed trades only (except for the specific section 9. Non-guaranteed activity).

Clearing services offered for non-guaranteed trades are related to trade capture, routing and submission to the settlement system only, and a description is provided in Chapter 9.

The change of set-up to make Euronext Clearing the default CCP of Euronext legacy Cash Markets is planned to take place by Q4 2023.

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Clearing services currently provided by Euronext Clearing on the Italian markets are not in the scope of this document.

2. TRADE CAPTURE
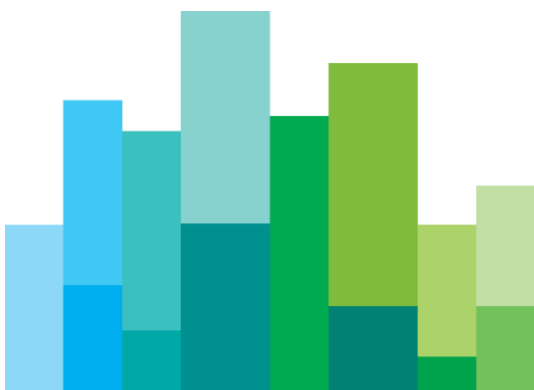
2. TRADE CAPTURE

This chapter provides an overview of how Euronext Clearing captures, processes and integrates trades executed on the Euronext Cash Markets.

There are two trading platforms on the Euronext Cash Markets hosting the various order books:

- **Optiq Cash**: Euronext trading platform hosting regulated Euronext Cash Markets and Multilateral Trading Facilities (MTFs);

- **TCS (Trade Confirmation System)**: the Euronext matching platform used for trading carried out 'off-market' between participants on Euronext listed instruments and subsequently entered onto the TCS platform. This platform also hosts the Euronext Fund Services (EFS) market.

All trades that are executed in the Euronext trading systems and that are eligible for clearing (under guaranteed or non-guaranteed clearing services) are directly routed in real time to Euronext Clearing.

The Equity Service overview is reported in figure A.1 in Appendix A.

2.1.   Connections and timing

The Euronext Clearing system has a direct connection to the Euronext trading platform, which allows the CCP to capture all the trades executed in the market on a real-time basis in normal circumstances.

The trading service on Euronext markets is open as follows (CET timings):

- Optiq platform for regulated markets, and MTFs: 09:00 to 17:30

- TCS for Euronext block trades and Euronext Fund Services: 07:00 to 19:00

- Warrants and Certificates service on Optiq platform: 08:00 to 18:30

The Euronext Clearing session for the above services starts when market trading opens and ends 30 minutes after market closing. Therefore Euronext Clearing will be open from 07:00 to 19:30.

2.2.   Trade integration and acceptance in the clearing system

All trades that are executed on the Euronext markets will be submitted in real time to Euronext Clearing. Euronext will also notify Euronext Clearing of any cancellations, in accordance with its rules.

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A technical and functional trade validation is carried out on each received trade before acceptance and registration in the clearing system.

The trade must meet the following Euronext Clearing eligibility criteria, covering the eligibility of the:

- Participants;
- Financial instrument;
- Currency;
- Markets;
- Settlement platform per currency[1]; and
- Place of settlement[2].

Trades that do not satisfy all CCP eligibility criteria cannot be accepted by the CCP and will therefore not be registered in the clearing system. A rejection message will be sent back to the trading venue of origin.

Once a trade is accepted it is novated, and the Clearing Member will receive a message confirming the registration and novation as described in Chapter 3.

In addition, an automated end-of-day reconciliation process will be run between trades sent by Euronext and trades registered in the clearing system to identify any gaps.

2.3.   Accepted currencies

Euronext Clearing accepts all currencies traded on the Euronext Cash Markets, Euronext Clearing provides guaranteed clearing services and non-guaranteed clearing service as well as final settlement for all financial instruments traded on the following denominated currencies:

EUR, USD, GBP, NOK, AUD, CHF, SEK, CAD, JPY, NZD, ZAR, CNY, PLN, DKK, HUF, CZK, HKD, SGD.

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[1] Settlement platforms admitted are T2S or Euroclear Bank. For financial instruments with trading in euro: if they are admitted to T2S/Euronext Securities Milan (ESM), the settlement platform is T2S; if they are not admitted to T2S/ESM, the settlement platform is Euroclear Bank. For all financial instruments traded in a currency different from EUR, the settlement platform is Euroclear Bank.
[2] Places of settlement allowed are: Euroclear France, Euroclear Nederland, Euroclear Belgium, Euronext Securities Porto, NBB-SSS and Euroclear Bank.

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3. TRADES MANAGEMENT

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3.1. Trade novation

At the time of the acceptance and registration of the trade, Euronext Clearing becomes the legal central counterparty to the buyer and the seller under the legal principle of 'novation'.

With the CCP interposition, trades are irrevocable and protected by settlement finality.

After novation, accepted trades are communicated in real time to Clearing Members with drop copies sent via FIX messages by the CCP, including the unique reference of the trade.

During the real-time clearing session, trades are registered on a real-time basis and allocated to the Clearing Members' relevant house and client Position Accounts.

It should be noted that CCP interposition, based on the legal principle of novation, only applies to guaranteed trades upon acceptance and registration by Euronext Clearing.

The concept of CCP interposition and novation does not apply to non-guaranteed trades.

3.2. Trade allocation

Trade allocation is the process of assigning trades accepted by Euronext Clearing to the corresponding Clearing Member's Position Accounts, previously configured by the CCP in the clearing system, upon the request of the Clearing Member. Upon novation, trade legs are allocated to the relevant position accounts.

On the Euronext Cash Markets, trade allocation to the relevant Position Account is performed under the following posting priority rules: automatic posting (as priority 1) and systematic posting (as priority 2).

Trade posting instruction is automatically processed by the Euronext Clearing system in the destination position account on the basis of the value entered by the Trading Participant in the relevant clearing data fields at order entry level.

The allocation of the trade is made based on the value entered by the Trading Participant in the relevant clearing data fields at order entry level (automatic posting).

If the trade message does not provide the relevant clearing data required for automatic posting, the trade posting is performed according to the systematic posting rules previously defined/configured by Euronext Clearing in the clearing system, according to the Clearing Member's requirements established during the onboarding

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process. By default, if a trade cannot be posted according to the pre-defined systematic posting rules, a contingency systematic posting rule will apply in order to post any unallocated trade to a contingency Position Account. In this case, the Clearing Member will be notified of the allocation of the trade in the contingency account and of the possibility available to correct this posting and to transfer it to another Position Account.

The trade posting correction functionality will be available to Clearing Members on trade date.

3.3. Reporting for members at trade capture level

Euronext Clearing will provide real-time reporting to Clearing Members on accepted and novated trades under CCP guarantee in addition to end-of-day file reporting and 'on request' reporting throughout the day via a web-based User Interface (GUI) available to members.

In addition to the web-based interface (GUI), an API suite will be offered with a warehouse database containing all the information necessary to allow Clearing Members to build their own reports with the required periodicity and data, retrievable at any time.

Details on reporting for members are provided in Chapter 8 of this document.

3.4. Trade cancellation

Trade cancellation is permitted according to the trading rules of Euronext markets, and pursuant to the market's formal request from the Trading Venue to Euronext Clearing.

Euronext Clearing manages the trade cancellations received by the market in real time and informs its Clearing Members accordingly, through real-time and end-of-day reporting.

A trade cancellation request received on T0, based on a trade cancellation instruction sent by the market, is processed automatically by the CCP clearing system.

A trade cancellation request received on T+1 or later is managed on an exceptional and best-efforts basis through a 'reverse trade' booking.

If the cancellation occurs after the sending of the net balances (as of T0 end of day), a settlement instruction correspondent to the reverse trade (with the same ISD as the original trade) is sent to the settlement platform.

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4. ACCOUNT MANAGEMENT

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Euronext Clearing offers Clearing Members a flexible account structure in respect of EMIR requirements on account segregation mechanisms.

For each Clearing Member the CCP opens at least:

- One House Account structure for the Clearing Member positions; and
- One Client Account structure for the Clearing Member's clients' positions.

Multiple options are available to Clearing Members to manage their client activity, with a choice of account structures providing varying degrees of segregation of positions, margins and collateral.

4.1. Account structure

The account structure approach that will be taken by Euronext Clearing is based on the following four account types:

- Position Accounts: accounts where trades are registered (in gross, see details in part 4.5);
- Margin Accounts: accounts where open positions are netted to calculate financial liabilities (for all types of margins and add-ons);
- Collateral Accounts: accounts used to reflect the collateral posted by Clearing Members to cover their liabilities (Initial Margin and Default Fund contribution); and
- Delivery Accounts: accounts where open positions are netted to calculate settlement balances pointing to the required settlement location.

Euronext Clearing will allow Clearing Members to easily open or close as many House or Client Position Accounts as they require. Euronext Clearing will open in its clearing system, for each Clearing Member, at minimum:

- at least one House Position Account and at least one Client Position Account;
- at least one House Margin Account and at least one Client Margin Account;
- at least one House Collateral Account and at least one Client Collateral Account.

The rules related to the Delivery Account are detailed hereafter in section 4.5.

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4.2.   Client segregation

Euronext Clearing will offer segregation between House and Client positions, margins and covering assets. Clearing Members will be able to choose from the following Client Account structures:

- **ISA – Individual Segregated Account Structure**

The Individual Segregated Account Structure (ISA) includes the positions, margins and collateral of a single individual client.

- **GOSA – Gross Omnibus Segregated Account Structure**

The GOSA structure is available to manage several clients' positions and related margins. The required margin will be the result of the gross sum of the margins calculated for each client's Positions Account separately in a segregated Margin Account. The required margin must be covered by assets deposited in the GOSA's omnibus Collateral Account.

- **NOSA – Net Omnibus Segregated Account Structure**

The NOSA structure allows several clients' positions to be managed in the same client omnibus margin account. The required margin is calculated on the total net position allowing offsets between all the clients' positions registered in the client omnibus margin account. The required margin must be covered by assets deposited in the NOSA's omnibus collateral account.
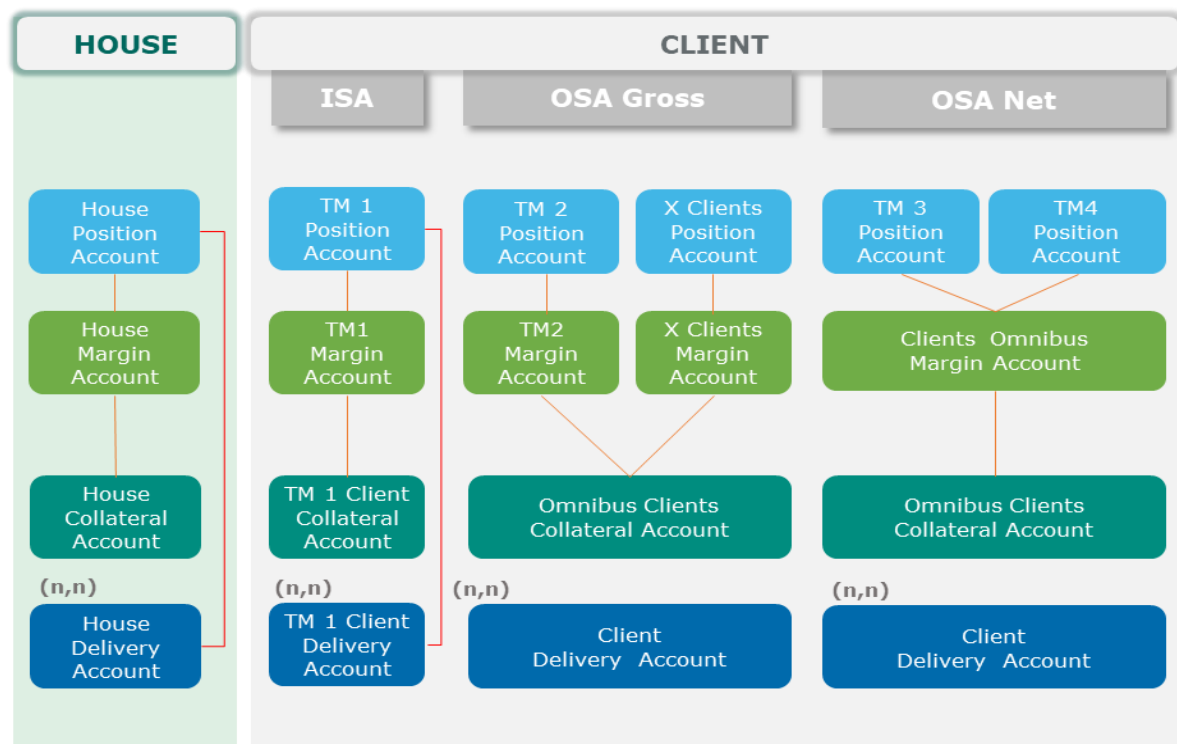
Each Position Account is identified by a unique Id (Position Account Id code).

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The diagram below outlines the three generic Client Account structures that Euronext Clearing will offer.

Figure 4.1 - Clearing Member Account Structures

4.3.   Liquidity Provider Position Accounts

When a Clearing Member or one of its trading clients acts as a liquidity provider on the Euronext Cash Markets, the Clearing Member shall request to open one or more 'Liquidity Provider' Position Accounts, in addition to the House Position Accounts and Client Position Accounts.

Liquidity Provider Position Accounts can be located:

■ in the Clearing Member's House Account structure for the registration of trade legs related to its own trading activity as a liquidity provider; or

■ in the Clearing Member's Client Account structure (Trading Member's account structure) for the registration of trade legs carried out by Trading Members for their liquidity provider activity.

Positions reflected in the Clearing Member's House Account structure (in a dedicated Liquidity Provider Position Account) can be netted at Margin Account level and Delivery Account level with the House Position Account.

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Positions held in the Clearing Member's Client Account structure in a dedicated Liquidity Provider Position Account can be netted at Margin Account level and Delivery Account level with the Trading Member's other Position Accounts.

Figure 4.2 – Position Accounts
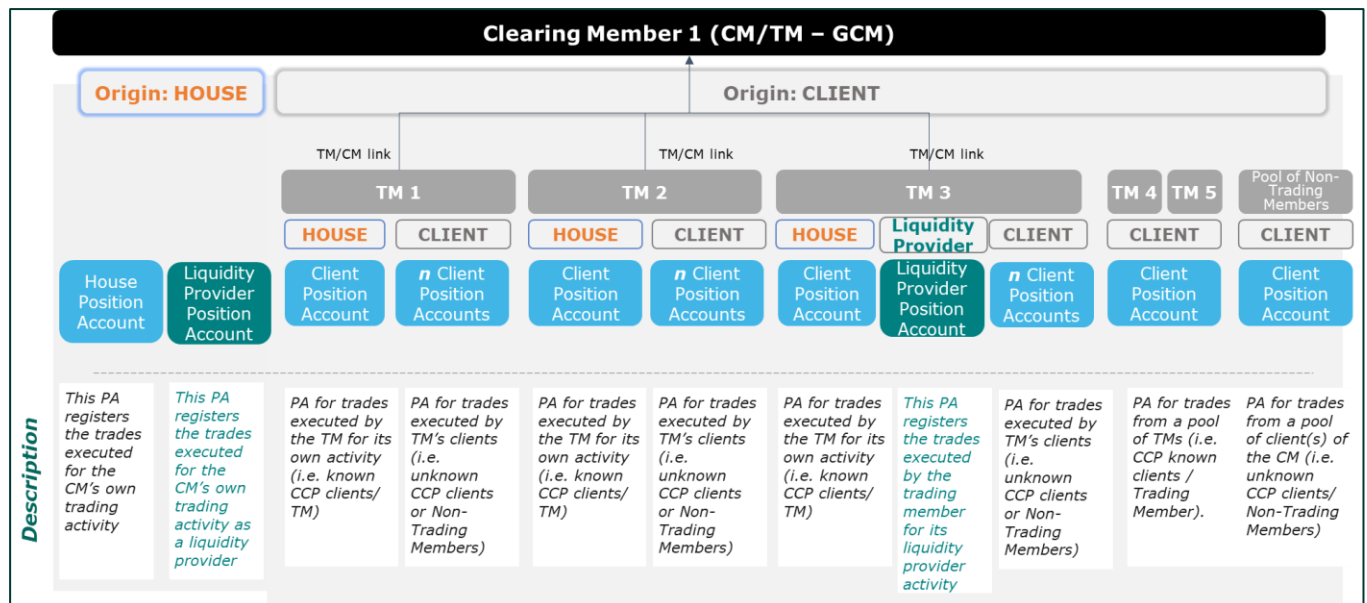
4.4.   Position Account management

Positions (i.e. the obligations arising from trades executed in the market and accepted under CCP guarantee) are registered or updated in the Position Accounts in real time with respect to the trade execution and the settlement status.

At Position Account level, positions are kept in 'gross' with aggregation of trade legs. The aggregation of trade legs at Position Account level is applied according to the following attributes:

- ISIN code;
- Intended settlement date;
- Currency;
- Market represented by the MIC code (trades with MIC codes related to Euronext SME Growth markets[3] shall be kept separated in order to apply the relevant CSDR penalty rate on settlement fails);

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[3] Current MIC codes corresponding to the Euronext SME Growth Market: ALXB for Euronext Growth Brussels, ALXP for Euronext Growth Paris, XESM for Euronext Growth Dublin, ALXL for Euronext Growth Lisbon.

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- Settlement place[4]; and
- Side (buy or sell).

The aggregation of trade legs results in two 'net values':

- one aggregation of trade legs for each buying counterparty; and
- one aggregation of trade legs for each selling counterparty.

The aggregation of trade legs in Position Accounts is performed on a real-time basis.

At Position Account level, Euronext Clearing offers fungibility on financial instruments traded across different Euronext Cash Markets (for example, multi-listed products).

The only exception is linked to some financial instruments traded on the Euronext Growth markets, which are excluded from aggregation with the same instruments traded on non-SME growth markets, for CSDR penalty application purposes.

Clearing Members will be offered the possibility to open as many Position Accounts as needed.

4.5.   Delivery Account

Clearing Members can request Euronext Clearing to open as many Delivery Accounts as they need for their settlement configuration.

The Clearing Member is required to open at least one Delivery Account in Euronext Clearing per settlement address for each settlement system (i.e. per settlement account held in the CSD/ICSDs).

The settlement address must include the following details:

- The settlement platform: Target 2 Securities (T2S) or Euroclear Bank;
- The CSD in T2S where the securities account is opened: possible CSDs are Euroclear France, Euroclear Belgium, Euroclear Netherland, Euronext Securities Porto (formerly Interbolsa) and NBB-SSS;
- The owner of the securities account (i.e. Settlement Agent);
- The securities account in T2S or in Euroclear Bank.

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[4] As detailed in section 2.3 of this document

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Figure 4.3 – Delivery Accounts structures – Concept
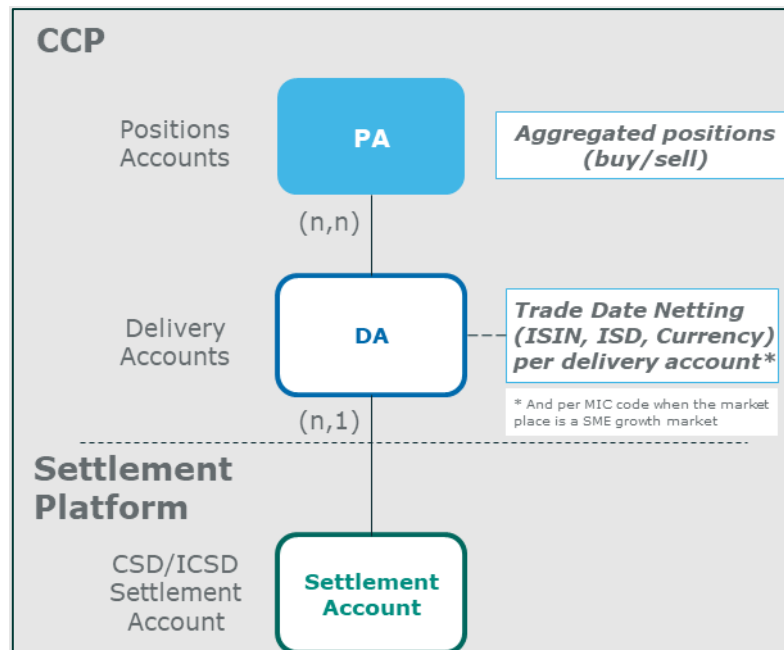
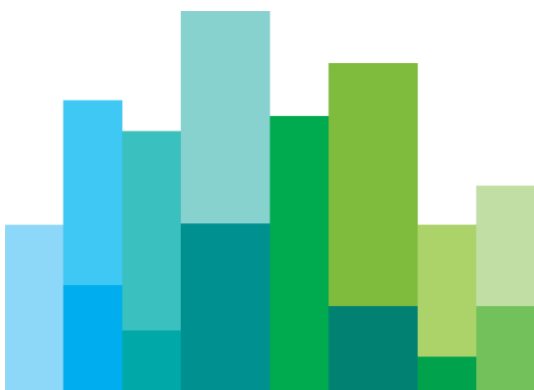Examples of the possible configuration of Delivery Accounts are described in Appendix A.

5. SETTLEMENT

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All trade legs allocated to a Delivery Account that have the same ISIN, the same Intended Settlement Date (ISD) and the same settlement currency[5] are netted together in order to create a net balance that will be sent to the settlement platforms for settlement.

A unique Settlement Netting Reference is allocated to each trade leg contained within the same settlement netting instruction. The settlement netting reference will be allocated in real time and can be subject to modification at the end of trade date in the case that the netting is replaced by two aggregations (please refer to paragraph "strange nets" 5.1). The final settlement netting reference will be reported in the settlement report at end-of-day on the trade date.

Euronext Clearing instructs the client settlement accounts associated to the Delivery Account in T2S and Euroclear Bank, on behalf of the Clearing Member or on behalf of the Settlement Agent of the Clearing Member via a Power of Attorney (POA).

Settlement instructions are submitted to the settlement platforms on trade date at end-of-day.

The Settlement Netting Reference associated to the net balance is reported in the settlement instruction that is sent to the settlement system.

Settlement will take place:

- In **T2S**:
    - when the securities are eligible for T2S/Euronext Securities Milan (formerly Monte Titoli);
    - when the settlement currency is EUR.

- In **Euroclear Bank**[6]:
    - for all securities traded on Euronext Dublin;
    - when the securities are international ETFs (included euro-denominated ETFs issued in Euroclear Bank);
    - when the securities are not eligible in T2S/Euronext Securities Milan;
    - when the settlement currency is not EUR.

5.1.   Strange nets

When the netting process results in a 'strange net' – meaning that the netting corresponds to a delivery or receipt of cash or securities only, or delivery or receipt of both cash and securities in the same direction – the settlement instructions are

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[5] The MIC code is an additional netting key that is used when the marketplace is an SME growth market.
[6] For non-euro currencies, the currency calendar will be used to position the ISD accordingly.

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managed according to the set-up selected by the Clearing Member in T2S or Euroclear Bank, based on the following alternatives:

- For settlement in T2S, the Clearing Member can indicate how to manage strange nets on the basis of the following options:
  - keep the netting as it is;
  - replace the single netting with two net clearing transactions, one Delivery versus Payment ('DvP') and one Receipt versus Payment ('RvP') transaction (aggregation).

- For Settlement in Euroclear Bank, strange nets are always managed as follows:
  - the single netting is replaced with two net clearing transactions, one DvP and one RvP transaction (aggregation).

When the net is replaced with an aggregation, the settlement netting reference will be kept and split into two different netting references that will include a letter at the end of the reference indicating the side of the settlement instruction ('B' for the buy legs aggregation, 'S' for the sell legs aggregation).

5.2.   Settlement attributes

Euronext Clearing will promote settlement efficiency through the following attributes related to settlement instructions:

Matching

For settlement in T2S, the settlement instructions are sent in 'already matched' mode; For settlement in Euroclear Bank the instructions will have a matching status in the settlement systems after validation.

Hold/Release

For settlement in Euroclear Bank and in T2S, during the onboarding process, the Clearing Member may request that settlement instructions sent by Euronext Clearing via PoA are placed systematically 'on hold'.

Partial Settlement

Automatic partial settlement is always allowed in T2S and Euroclear Bank.

5.3.   Settlement status and fails

The Euronext Clearing system updates in real time the settlement status of the related settlement obligations.

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Settlement fails refer to any unsettled positions at the end of the intended settlement date, and at the end of each settlement day the settlement platforms recycle any unsettled settlement instructions, updating the status where appropriate.

The length of the extension period[7] (i.e. the duration of the fail before a buy-in is initiated) is:

- 4 days for shares;
- 7 days for all securities other than shares (i.e. ETFs, Warrants, Bonds, Structured Products)

The calculation of the end validity date will follow the Target 2 calendar. In case of fails in a settlement currency other than euro, the extension period will also take into account the opening days of the payment system of the settlement currency of the underlying financial instrument.

On the last extension day, if the settlement instruction is still unsettled or partially unsettled, Euronext Clearing will initiate a buy-in procedure to obtain the securities and deliver them to the CCP's receiving counterparties.

On a real-time basis, failed/partially failed settlement obligations are reported in position accounts for risk calculation.

Market Claim and transformation

Corporate actions related to failing settlement instructions will be automatically managed by the (I)CSDs. Should the event not be managed by the (I)CSD, Euronext Clearing will take the appropriate actions to perform market claims and transformation settlement instructions.

5.4.   Buy-in procedure

Clearing Members will receive a report the day before the end of the extension period to inform them of a potential buy-in.

At end-of-day on the last day of the extension period, Euronext Clearing will put on hold the wholly or partially unsettled settlement instruction and initiate the buy-in process.

The following day, Euronext Clearing will inform the Clearing Member that the buy-in procedure has been initiated and Euronext Clearing will go through a broker network in order to purchase the securities at the best price.

In the event that the buy-in is not successful, Euronext Clearing performs a cash settlement and this requires the CCP to allocate the cash compensation to one or multiple receiving Clearing Members. When the buy-in is settled or the cash

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[7] The length of the extension period may be modified due to regulatory changes.

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compensation is performed, Euronext Clearing will cancel the failing instruction from the settlement system.

Clearing Members will be informed through the relevant member reports of the buy-in procedure executed.

5.5. Sell-out

In the case that a Member is unable to receive the securities due to a lack of available cash, Euronext Clearing will alert the Clearing Member at the end of the Intended Settlement Date (ISD) in order to request it to credit its cash account and then settle its failed buying position. On the morning of the day after ISD, if the buying position is still failed, Euronext Clearing will inform the Clearing Member that the 'sell-out' procedure of the unsettled securities could be triggered.

5.6. Buyer protection

When a receiving settlement instruction is not fully settled due to a voluntary corporate action event, Euronext Clearing will ensure that the receiving Clearing Member requests buyer protection in accordance with the T2S market standards.

5.7. CSDR Cash penalties

In accordance with the CSDR Settlement Discipline regulations, art. 19, Euronext Clearing will establish procedures to collect and distribute cash penalties on failing instructions based on the calculation reported by (I)CSDs.

Daily penalties reporting distributed by the (I)CSDs will allow the CCP to perform a reconciliation against the failing positions it recognises and send daily reporting to Clearing Members or their Settlement Agents.

On the 14th business day, Euronext Clearing will receive monthly reporting from the (I)CSDs and distribute to its Clearing Members the final list of penalties and the monthly net penalties, to be paid/received on the 17th business day.

Penalty amounts (Net) are registered per settlement place at Clearing Member /Position Account level, following fails registration rules.[8]

CCPs penalties are debited/credited on the 17th business day at Clearing Member level, on Target2.

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[8] For instance, penalties will be reported at fails account level when the Clearing Member has many Position Accounts linked to one Delivery Account.

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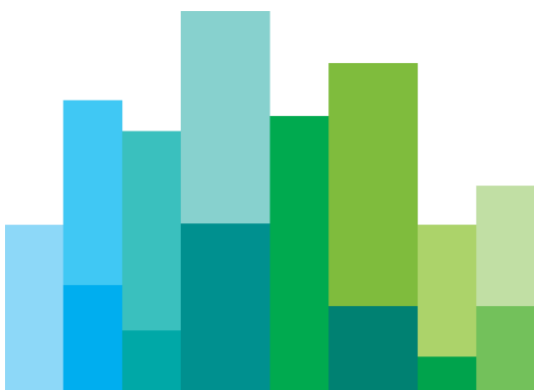
5.8. Reporting for members on settlement

Euronext Clearing will provide reporting to Clearing Members on pre-settlement and settlement information.

Details on member reporting are provided in a dedicated section of this document.

5.9. Fees

Fails and buy-in fees will be charged to failing Clearing Members. These administrative fees are designed to cover the costs and work involved in the processing of settlement fails and buy-ins. Details of fees will be included in the fee schedule document

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6. RISK FRAMEWORK

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One of the main goals of Euronext Clearing is to ensure that its Risk Framework remains aligned to best market practices, providing the financial system with increasingly efficient and reliable solutions for the capture and allocation of risks within the system.

Euronext Clearing has therefore developed a Value-at-Risk ('VaR') based margin methodology for the clearing of Equities and as well as of Equity and Index Derivatives. Specifically, a Historical Expected Shortfall approach has been chosen as the preferred risk measure to be applied for the computation of margin requirements. The new risk framework will allow to create cross-margining efficiencies between cash equity and equity & index derivatives asset classes.

VaR-based margin methodologies allow CCPs to leverage on fully integrated simulation mechanisms, by providing re-evaluations over the full scope of margined portfolios by means of several risk factor scenarios. Furthermore, VaR-based models ensure that margin requirements adhere constantly to currently observed market volatility, allowing CCPs to transition from discrete updates in the risk model they employ to automated ones.

Both Initial Margins and Default Fund contributions will be called in EUR for Cash Equity.

6.1. Margin principles

The adopted Expected Shortfall margining methodology can be broken down logically into a core section and into a supplementary (add-ons) section aimed at managing those residual risks which are not already covered by the core engine.

The Initial Margins composition and considered risk factors can be mapped as in the following table:

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Table 6.1 – Composition of Initial Margins and considered risk factors

VaR Engine	VaR Margin Component	Risk Factor/s
Core Engine	Mark-to-Market/Variation Margin	Market Price Risk (from trade date to evaluation date)
	Expected Shortfall Margin - Historical (rolling) - Historical (stressed)	Market Price Risk (what-if scenarios) P&L distribution at portfolio level. Rolling metric is scaled while the stressed measure is unscaled
Add-ons Engine	Decorrelation Margin	Break-in-Correlations Risk

6.2.   Stress testing and Default Fund

In order to preserve market integrity in the case of insolvencies even under the most extreme conditions, and in line with international best practices and regulatory requirements, Euronext Clearing gauges the appropriateness of its Default Fund through stress test simulations. The amount of the Default Fund is established in such a way that Euronext Clearing is able to ensure the stability of the guaranteed system in the case of the simultaneous defaults of the two most exposed banking groups.
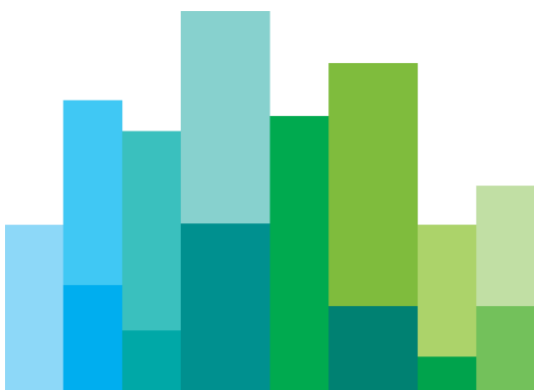
Euronext Clearing has designed a specific set of tools intended to cope with the potential pro-cyclical behaviours of its Risk Framework.

The regulatory framework (RTS 153/2013) mandates that the CCPs must adequately monitor and, if deemed appropriate, calibrate the required margins according to the current market conditions, trying to reach a balance between risk sensitivity and anti-procyclicality of margins to the maximum extent possible.

This implies that the required margins should be as stable as possible, with robustness evidently outweighing procyclicality concerns in the trade-off hierarchy.

The margining methodology developed for the Equity and Equity & Index Derivatives leverages on a set of tools to mitigate pro-cyclicality, such as the application of a scaled rolling lookback period and the application of an unscaled stressed lookback period.

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7. COLLATERAL MANAGEMENT

7. COLLATERAL MANAGEMENT

Clearing Members are required to cover their portfolio exposure in the case of a default, by depositing collateral with Euronext Clearing to cover Initial Margin exposures and Default Fund contributions.

These coverage requirements shall be fulfilled using Euronext Clearing eligible securities and/or cash in eligible currencies.

The following will apply from the date Euronext Clearing will become the default CCP of the Euronext legacy Cash Markets to Euronext Clearing:

- Cash in EUR Central Bank Money will be accepted to cover Initial Margin requirements and Default Fund contributions; and

- National Central Banks guarantee[9] ('NCB') will be accepted for Dutch and Belgian Clearing Members to cover Initial Margin requirements; and

- Securities collateral denominated in EUR will be accepted for Initial Margins coverage, under the legal regime of full title transfer.

7.1.   Euronext Clearing eligible collateral

Cash collateral

EUR cash is accepted, with effect from the date of the migration of the Euronext Cash Markets to Euronext Clearing.

Securities collateral

Securities collateral will be accepted by Euronext Clearing for Initial Margin (end-of-day and intraday) and will include ECB Government, Supranational & Agency bonds of the highest quality.

The full list of securities eligible for Euronext Clearing and any amendments to the list will be communicated to clients.

In order to limit large and concentrated exposures, Euronext Clearing will apply concentration limits to the accepted collateral as a percentage of global collateral deposited by the Clearing Member and for some securities (or group of securities) in a maximum EUR amount.

Concentration limits for securities are defined at Clearing Member ID level based on the following criteria:

- By collateral category; and
- By collateral issuance country; and

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[9] The National Central Bank guarantee is an "at first demand" guarantee in EUR cash.

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- By collateral sub-category (e.g. bucket of liquidity).

Accepted securities (one security or a group of securities) can be removed from the eligible collateral list or downgraded intra-day under exceptional market circumstances.

NCB guarantee

NCB guarantee will be accepted for Dutch and Belgian clients to cover their Initial Margin exposure. A concentration limit expressed as a percentage will apply to this collateral type.

7.2.   CCP & Clients Collateral Accounts

Clearing Members or their Settlement Agent shall deposit eligible securities as collateral in the relevant Euronext Clearing collateral omnibus account, as described below:

- Euronext Securities Milan for all assets eligible in Euronext Securities Milan and the T2S CSDs, with whom Euronext Securities Milan has a direct CSD link[10] (France, Belgium, Netherlands, Germany, Spain, Portugal, Austria, Ireland);
- Euroclear Bank for all assets not eligible in Euronext Securities Milan.

Euronext Clearing will set up a collateral omnibus account for all clients whatever their account structure; House, NOSA, GOSA (including clients under standard ISA model), with the following exception:

- Fully segregated ISA clients: Upon the client's request, Euronext Clearing may use one or more specific CCP collateral account(s).

Euronext clients or clients' securities Settlement Agents may have their securities account at any T2S CSD and/or Euroclear Bank. Securities deposits and withdrawals will result in cross-jurisdiction securities transfer settlement instructions.

7.3.   Securities Collateral temporary exclusion

The following collateral events will not be managed by Euronext Clearing due to operational and/or financial risks, and therefore related securities will be temporarily excluded from the list of accepted securities, based on:

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[10] In the case of any specific cross-jurisdiction taxation constraints on a market, Euronext Clearing would open a securities collateral account in the respective domestic CSD.

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- Pre-defined delay before a Corporate Action event (except interest & coupon payments);
- Pre-defined delay before Expiry Date of an asset; or
- Illiquidity of an asset (no quotation for a pre-defined delay).

Exclusion cases are notified to Clearing Members and they will be requested to withdraw the impacted collateral before the event occurs. The respective deposited collateral will be valued as zero by Euronext Clearing from that point in time.

When needed, the Clearing Member can then substitute the collateral to be withdrawn for:

- other securities accepted by the CCP;
- cash collateral; or
- a mix of securities and cash collateral.

However, coupon interests related to the collateral deposited by the Clearing Member in Euronext Clearing Collateral Account(s) will be returned to the Clearing Member.

7.4.   Collateral valuation

Securities collateral is revalued at any time an Initial Margin call is run. The resulting collateral value will be expressed in EUR.

The evaluation will consider real-time market prices and haircuts calculated by the CCP, based on:

- the asset typology group;
- bonds duration; and
- country of issuance.

A Wrong Way risk adjustment will apply for each Client, depending on the country of incorporation of the Clearing Member and the issuance country of the collateral security.

7.5.   Collateral cover requirements

Collateral cover requirements are defined across markets and instruments, in line with EMIR obligations:

- For Initial Margin exposure, per Clearing Member ID, cover requirements are segregated by:
  - House Account structure; and
  - Each Client Account structure (NOSA);
  - Each Client Account structure (GOSA); and

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- Each ISA Account structure.
- For Default Fund contributions, per Clearing Member ID.

For each Initial Margin collateral account and separately for the Default Fund, the client's collateral surplus or shortfall is defined end-of-day and intra-day, with regards to:

- Available collateral amount;
- Usage of client's excess of collateral[11]; and
- Collateral buffer set up by the client (permanent surplus of collateral).

7.6.   Cash collateral settlement

In the case that securities collateral is not sufficient to cover the client's Initial Margin exposure, or if the client decides to cover its Initial Margin requirement in cash EUR and/or if an additional contribution to the Default Fund is required, Euronext Clearing will send a cash call notification to the client or its paying agent.

Cash calls will settle through T2 by Direct Debit:

- By 09:00 CET latest if start of day; and
- Within a pre-defined window after the notification has been sent, if intra-day.

For Dutch and Belgian clients covering their Initial Margin exposure with NCB guarantees, a confirmation request will be sent respectively to the Dutch National Bank / the Belgian National Bank, for them to confirm that the guarantee granted to the client is sufficient to cover the respective client exposure:

- At 08:30 CET latest at start of day; and
- Within a pre-defined window, if intra-day.

7.7.   Securities collateral settlement

The Clearing Member can make a request for collateral deposit, withdrawal and/or substitution through the Euronext Clearing GUI or via an API connection.

After a collateral request has been accepted, Euronext Clearing will instruct the collateral transfer from/to the Clearing Member account to/from the Euronext Clearing collateral account at Euronext Securities Milan or Euroclear Bank respectively.

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[11]In the case that an excess of cash overpassing the client buffer is detected by Euronext Clearing, the related cash amount is returned automatically to the Clearing Member/its Paying Agent.

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7.8. Reporting for members on collateral management

Euronext Clearing will provide reporting and alerts to Clearing Members on collateral information.

Details on member reporting are provided in a dedicated section (8. Reporting & Connectivity) of this document.

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8. REPORTING & CONNECTIVITY
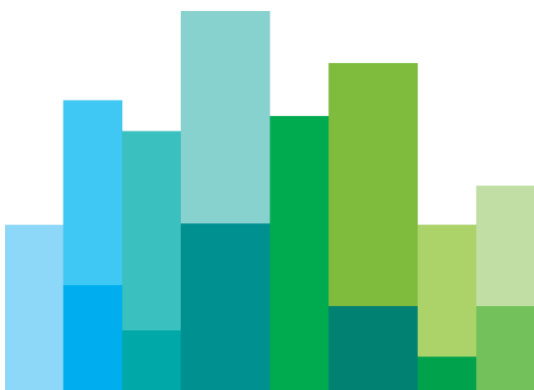
8. REPORTING & CONNECTIVITY

8.1. Overview of communication channels

Clearing Members can interact with the Euronext Clearing System to access clearing data and perform dispositive actions using several communication channels.

While providing a common informative set, each channel addresses specific use cases and should therefore be deemed complementary to the others.

The first channel, the Graphical User Interface ('GUI'), shows users real-time clearing data on a web browser. Additionally, it provides dispositive features that enable the interaction of the Clearing Member with the settlement and collateral management workflows.

The second channel, the Application Programming Interface ('API'), enables interoperability of the Clearing System with the Clearing Member's own systems. It is based on a machine-to-machine protocol and provides all the informative and dispositive functions that are made available for human users on the GUI.

Finally, Member Reports provide a snapshot of clearing data taken at relevant moments in the open market day, in a structured format that can be read by both human users and automated systems.

8.2. Graphical User Interface (GUI)

The Graphical User Interface is provided as a Web Application that can be accessed through a Web Browser (e.g. Google Chrome, Microsoft Edge, Mozilla Firefox).

Clearing Members can raise requests to obtain application credentials for their internal users, together with the respective PIN generation for virtual devices. User accounts can be profiled by Euronext Clearing for a full segregation of duties, following Clearing Member indications.

Once logged in, the user can access and prompt real-time data concerning all clearing processes, including trade capture, pre-settlement, position keeping, margin calculation and margin call, collateral management and default fund contributions. Data can also be exported in different formats using specific custom schemas and filters, and processed locally on the user's desktop.

In addition, the user receives real-time notification on clearing events (e.g. margin call) and can download mandatory and tailor-made reports (the same reports available via SFTP).

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An interactive tool is also provided to perform margin calculations on real and simulated portfolios, while a monitoring tool is provided to generate custom alerts on user-defined metrics.

8.3.   Application Programming Interface (API)

The features provided by the GUI, including real-time informative and dispositive actions, are mirrored in the API). Clearing Members can obtain credentials for API access using a dedicated web application (API Manager). API credentials are segregated per environment and can be dynamically generated and revoked by the user itself.

Once the Clearing Member has obtained its API credentials and installed them on its own systems, the Clearing Member can implement and deploy IT processes that can interoperate with the Euronext Clearing system.

Through the same API connection, Members will be able to retrieve reports, query the warehouse database and perform dispositive actions.

Interoperability of applications happens over the HTTP protocol, using a query language for APIs called GraphQL. GraphQL provides a complete and understandable description of the data in the API, gives the applications the power to ask for exactly what it is needed and nothing more (no over-fetching), making it easier to adapt to API upgrades over time, and enable powerful developer tools.

API actions are grouped in the following three main types that cover the main use cases:

- Queries: to retrieve data from the Clearing System;

- Subscriptions: to activate real-time data flows;

- Mutations: to interact with the Clearing System with dispositive actions.

GraphQL protocol is widely used and related libraries are freely available for the most common programming language.

8.4.   Reports

Euronext Clearing will report updated and comprehensive information to Clearing Members on trades executed and all related clearing data, including risk and collateral management reports.

Reports will be available in the following formats:

- Machine readable: CSV, XML

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■ Human readable: CSV, XML, XLSX

Mandatory reports

The CCP will provide a set of 'mandatory reports' (drop copies of trades, open positions, settlement instructions, etc.) in machine and human readable formats. These reports will be available through APIs, SFTP or FIX messages for the drop copies.

Reports will be available for clients automatically at end-of-day and intraday, depending on the report periodicity.

Available reports will cover the following main categories:

■ Trade legs;

■ Open positions;

■ Settlement instructions (including Fails);

■ Buy-In information;

■ Margin calculation & margin call;

■ Collateral posted;

■ Default Fund contributions;

■ CSDR Penalties;

■ Payments; and

■ Fees.

The following table represents the suite of mandatory reports envisaged and the related timing for the production of each set of reports.

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Table 8.1 – Mandatory reports to be available for members of Euronext Clearing

	① Trade legs	② Open Positions	③ Settlement instruction (incl. Fails)	④ Buy-in	⑤ Margin calculation & Margin call	⑥ Collateral	⑦ Default fund	⑧ CSDR Penalties	⑨ Payments	⑩ Fees
Scope	Trade confirmation	All positions with value and quantity	Details of net settlement instructions to be settled	Buy-In triggered on Failed instructions	Margin components and margin positions account, Margin call amounts	Collateral	Default fund contribution, cash call and quota calculation	Penalties imposed by CSDs	Breakdown report detailing the components and respective amounts	Clearing, fails, Buy-In and service fees
Frequency	Real time	End of Day Intra-day	End of Day	End of Day	Intra-day End of Day	Intra-day End of Day	Intra-day End of Day	End of Day Monthly	Intra-day End of Day	Monthly

Tailor-made reports

Upon client request, Euronext Clearing will create recurring or one-time reports for specific needs on a best-efforts basis. These reports will be made available via APIs, SFTP and on the web portal for retrieval by the member who initiated the request.

Moreover, all the data captured and produced by the clearing system will be accessible through API calls for the members. Members will therefore be able to create their own reporting by interfacing their systems directly with the APIs to ensure smooth and personalised operations.

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9. NON-GUARANTEED ACTIVITY
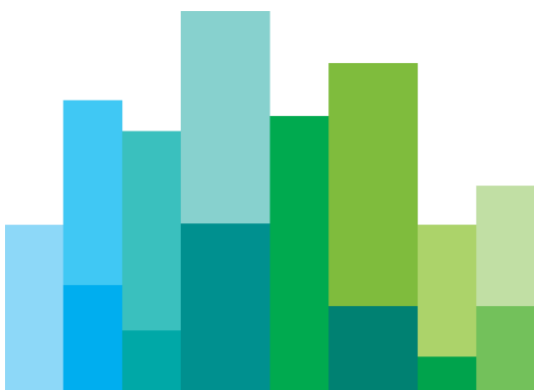
9. NON-GUARANTEED ACTIVITY

Euronext Clearing provides non-guaranteed clearing services in two cases:

- for securities defined as "non-guaranteed" by Euronext markets; and
- for guaranteed securities (as defined by Euronext markets) for which an opt out facility is offered to Trading Participant on TCS platform to change the guarantee indicator of a financial instrument from "guarantee" to "non guarantee".

Euronext Clearing receives non-guaranteed trades and validates them to ensure that the information reported is correct with respect to the referential static data (i.e. members and financial instruments referential).

When the non-guaranteed trade has been accepted, Euronext Clearing determines the Delivery Accounts (DAs) of the two counterparties according to the same criteria provided for guaranteed trades:

- Settlement platform: Target2 Securities (T2S) or Euroclear Bank (EB);
- Settlement place of the ISIN (T2S ESES FR, ESESBE, ESES NL, Euronext Securities Porto, NBB-SSS);
- Settlement currency of the trade leg (if non-EUR, settlement platform should be EB);
- Legal form of the ISIN for French Securities; and
- The Position Accounts / Delivery Accounts association.

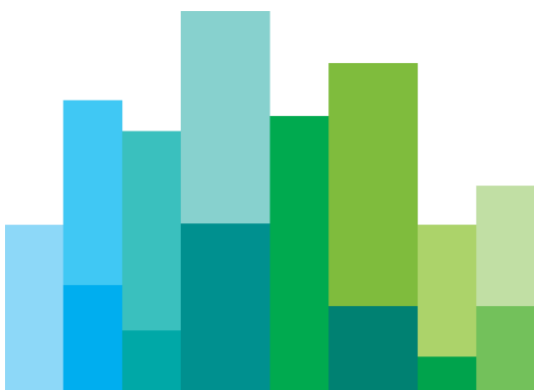Trades are registered in the related Delivery Account as non-guaranteed trades.

At Delivery Account level, if a trade is non-guaranteed, Euronext Clearing does not net it with other trades, but instead sends it for gross settlement.

The Euronext Clearing system instructs the Client Settlement Accounts (in T2S or in EB) on behalf of the two counterparties (or on behalf of their Settlement Agents) via a POA using the settlement attributes of the related Delivery Account (release or on hold).

Like for guaranteed trades, partial settlement is allowed for non-guaranteed settlement instructions, and the non-guaranteed settlement instructions are sent to T2S in 'already matched' mode and to Euroclear Bank in 'to be matched' mode. The MIC code related to the trading venue is reported in the settlement instruction.

For trades accepted under the non-guaranteed clearing service, Euronext Clearing will provide real-time and end-of-day reporting.
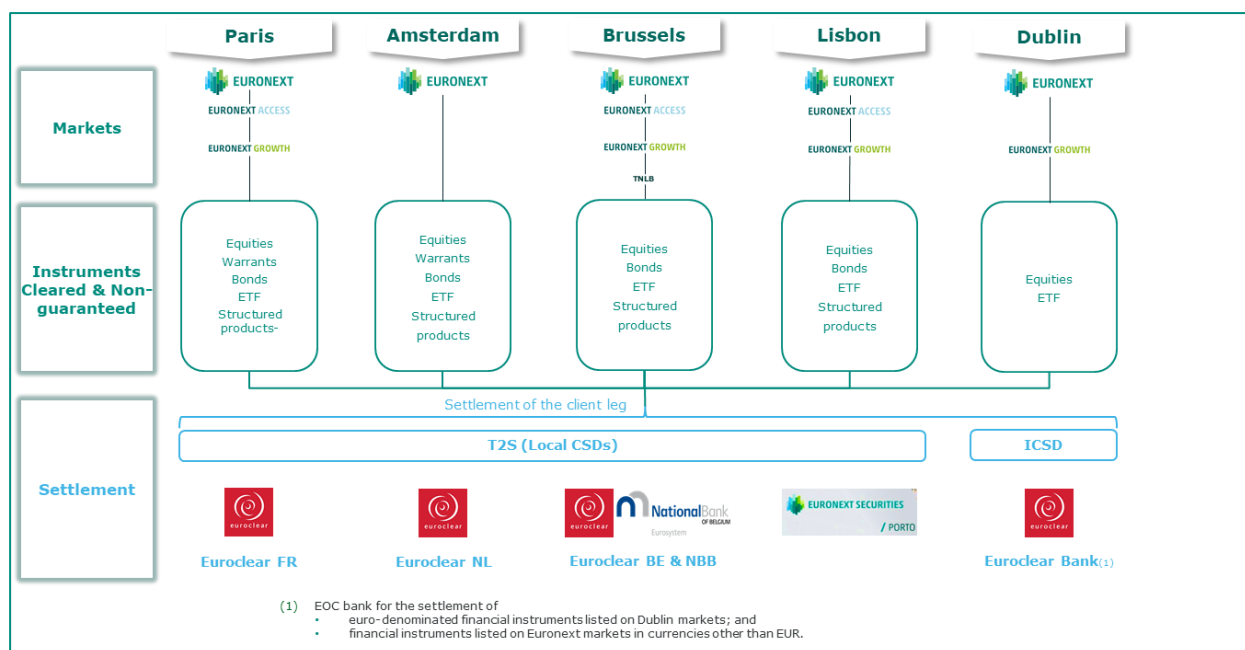
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Appendix

APPENDIX A

A.1.   Equity service overview

Figure A.1 – Equity service overview

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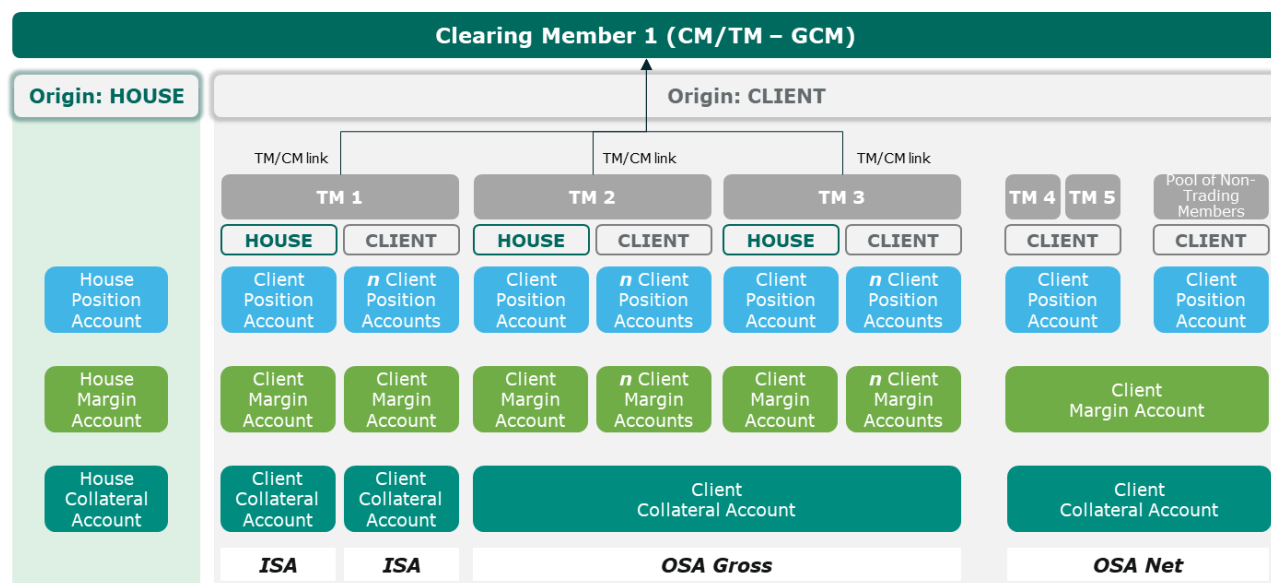
A.2.   Example of Account structures

The following diagram provides an overview of the possible account structures, in line with EMIR Regulation, that can be selected by the Clearing Member for its Clients.

Figure A.2 – Example of Account structures

Note on the above diagram: for the case of one Position Account used to register the trades of TM4 and TM5, this case only applies to two trading members belonging to the same legal entity (i.e. a TM legal entity using different Id codes).

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A.3. Examples of Settlement Account structures

The diagrams below show examples of possible set-ups of the Delivery Account.

Example 1:

For its own activity, the member has:

- 1 settlement account in each SCSD/ICSD; and then
- 1 Delivery Account per settlement account

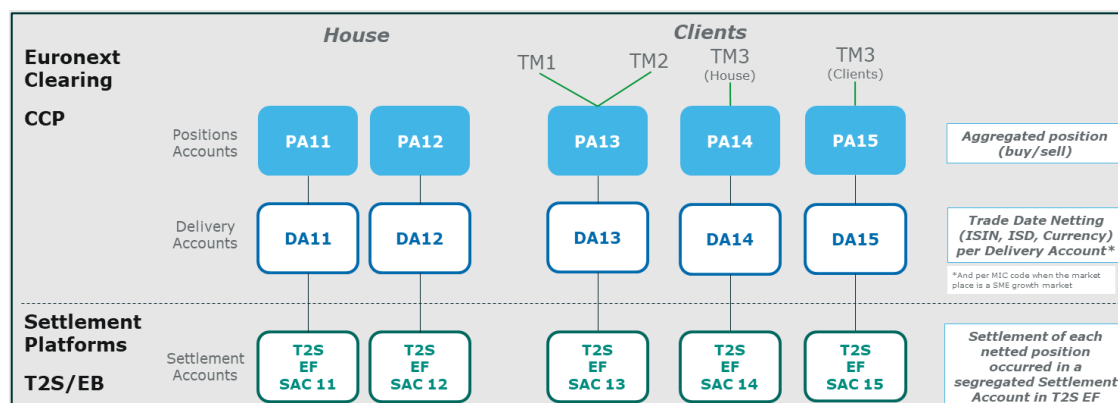Figure A.3 – Settlement Account structure example 1
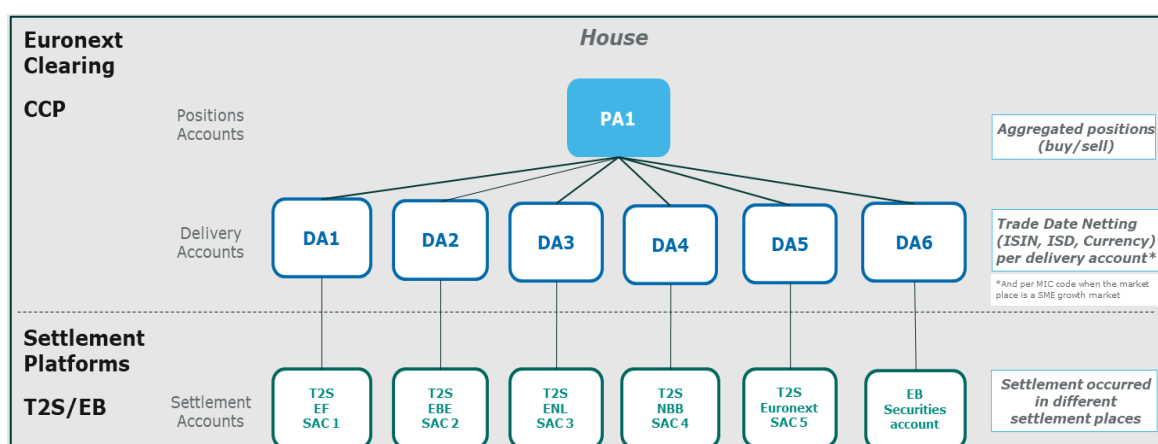
Example 2:

For a given settlement place (T2S/Euroclear France for example), the member has:

- 1 Delivery Account per Position Account; and
- 1 settlement account per Delivery Account

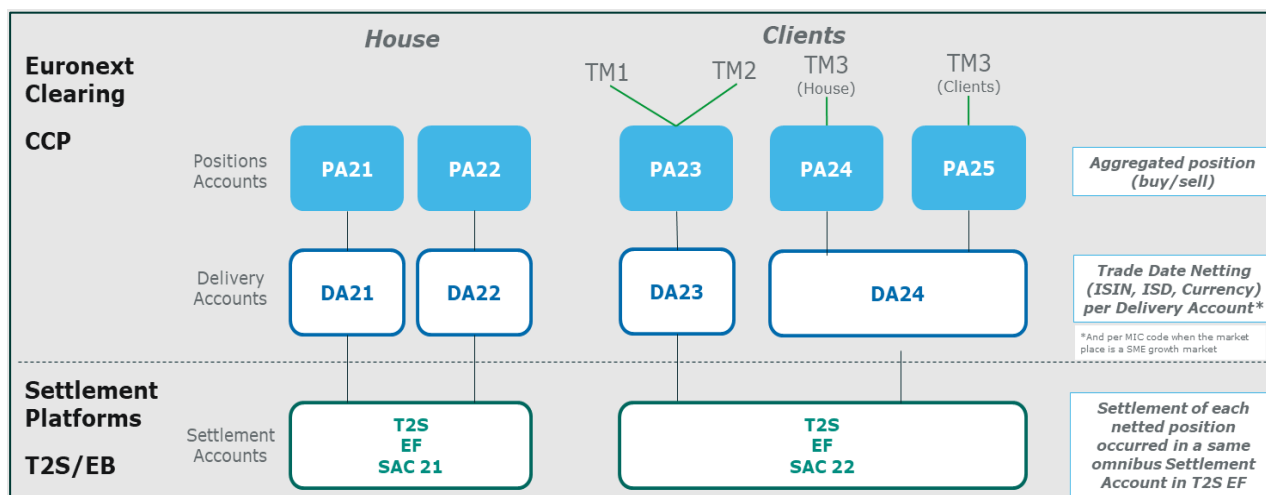Figure A.4 – Settlement Account structure example 2

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Example 3:

For a given settlement place (T2S/EF for example), the member has:

- 1 Delivery Account per Position Account; and
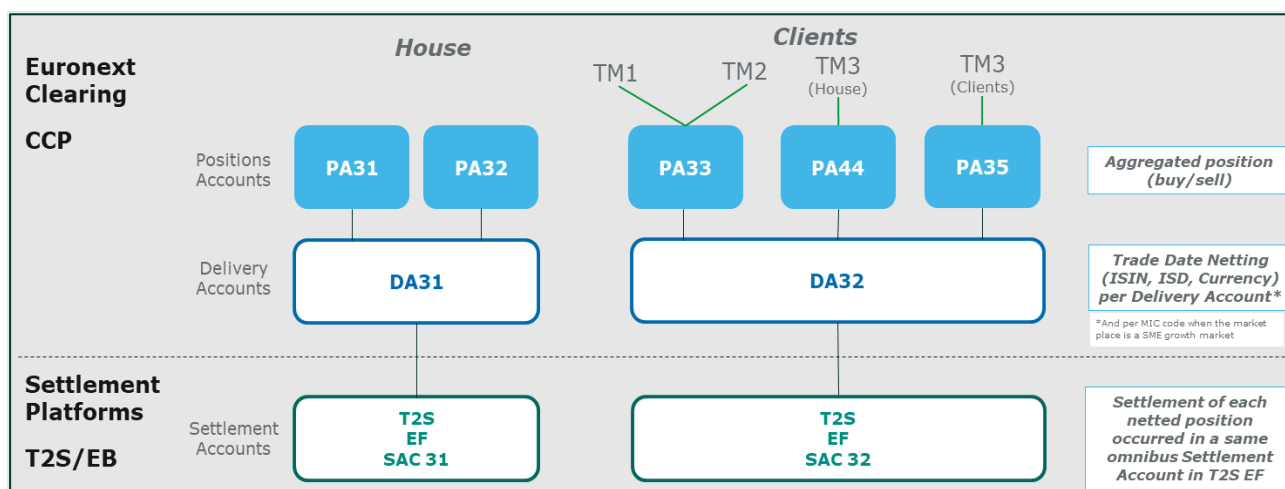- 1 settlement account at CSD level for many Delivery Accounts.

Figure A.5 – Settlement Account structure example 3
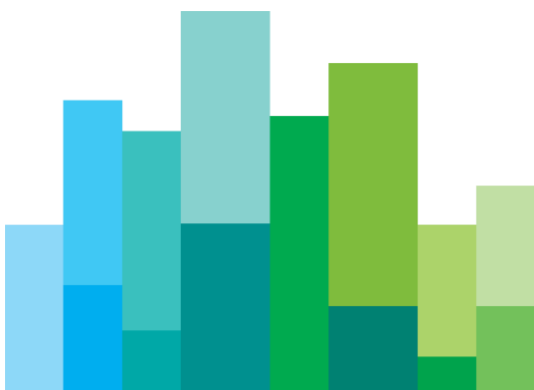

Example 4:

For a given settlement place (T2S/EF for example), the member has:

- 1 Delivery Account for many Position Accounts; and
- 1 settlement account at CSD level.

Figure A.6 – Settlement Account structure example 4

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