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Eurex Clearing C7

Derivatives Clearing Functional Reference Guide

Document version C7 Release 13.0 – Version 1.1

- Simulation valid from 31 August 2026
- Production valid from 9 November 2026

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Change history

Date	Ver.	Change
15 June 2015	3.0	Initial version for C7 3.0
25 Sep 2015	3.1	▪ Updated Four-Eyes principle processing logic ▪ Additional samples for Transaction management ▪ Updated give-up/take-up principle
21 Mar 2016	3.2	▪ New disclaimer ▪ Language & grammar corrections ▪ Report name updates ▪ Added launch date ▪ 2.2. Clarification on functionality remaining on @X-tract ▪ 3.1.1. Clarification on the uniqueness requirement for account names ▪ Restructured chapter 5 ▪ 5.3.1.1 Clarification: Re-open of previously non-existent positions not supported ▪ 5.3.3.1 Clarification on ITM default and maximum settings ▪ New section 5.3.3.3 on the future position creation for options on futures with internal underlying ▪ New section 5.3.3.4 on manual exercise of post-spin-off options.
28 July 2016	3.3	▪ Initial version for C7 3.1 ▪ 2.5 Clarification: System time of C7 ▪ 3.1.2 Clarification: Usage of accounts on T7 and clearing account rules ▪ 4.4.2 Enhancement: Four-Eye-principle processing ▪ 5.2.8 New: Average Pricing 5.2.9 Clarification: Handling of proposal fields for automatic give-up ▪ 5.2.10 Enhancement: Preliminary priced trades now available for transaction management functions ▪ 5.3.1.3 New: Automatic close-out ▪ 5.3.3.2 Clarification: Entitlement settings for exercise and non-final settlement prices ▪ 5.3.8 New: Automatic position conversion for flexible contracts
17 Oct 2016	3.4	▪ Production version for C7 3.1 ▪ 5.2.8.1 Enhancement: Average pricing is available also on the first trading day of a new contract (was: is not available) ▪ 5.2.8.6; Clarification: As part of de-merge processing, split transactions are inverse booked individually, an “un-split” does not occur ▪ 5.2.9: O/C indicator is forwarded to take-up side as set on the trading layer for trades with automatic give-up ▪ 5.2.9: Take-up from agent to net (“M”) accounts allowed ▪ Language corrections
4 May 2017	3.5	New: 5.2.11: Transaction-based settlement
9 May 2017	4.0	Initial version for C7 Release 4.0
7 May 2018	4.1	Initial version for 2018

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Date	Ver.	Change
		▪ 5.3.5: Reference for the extension of the Abandon functionality via FIXML Interface
30 July 2018	4.2	New amendments because of new Product Phases in C7: ▪ 5.1.5 Transaction duration and product phases for transaction management ▪ 5.1.6 Applicable product phases for position management ▪ Chapter 5.1.6 has been merged into chapter 5.1.5. Transaction duration and applicable product phases for transaction and position management
27 Aug 2018	4.3	▪ Market Maker accounts (M1 and M2) are changed to mandatory gross booking rule ▪ Transaction duration was extended by one additional business day, so that transactions are adjustable until T+3 ▪ New list of not supported ASCII characters
28 Nov 2018	4.4	▪ Introduction of Baskets and basket related attributes ▪ Transaction and position management enhancements due to the introduction of baskets ▪ Average pricing restrictions for EnLight trades
28 Jan 2019	4.5	▪ removal of mandatory posting of quotes to M1 for ECC trades ▪ add product phase “internal” (Clearing Limitation phase for ECC only) ▪ add transaction duration T+2 for ECC (T+3 for ECAG) ▪ add chapter 5.3.9 Cascading settlement of energy futures
22 Aug 2019	4.6	▪ add TradePublishIndicator in Average Pricing ▪ add chapter 4.4.3 Four-Eye principle overview for reference data ▪ add maintenance of Give-up accept and Auto-Take-up accept flags in chapter 5.2.9 ▪ add chapter 6 Product Assignment
7 Nov 2019	4.7	▪ add clarification regarding restate of Give-up in chapter 5.2.9 ▪ add clarification concerning the consideration of designated quantities upon auto close-out in chapter 5.3.1.3 ▪ add clarification regarding the effect of product de-assignment in chapter 6.2
11 Feb 2020	4.8	▪ add in chapter 5.2.8.1 new rules for Average Pricing regards Block QTPIP transactions, Inter Product Spread & Packs and Bundle Strategies ▪ 5.2.8.1 clarification changes for Average Pricing rules ▪ add in chapter 5.2.5.3 clarification regarding rate identifier

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Date	Release	Change
9 Sep 2020	7.0	▪ Moved the reference data related content to C7 Reference Data Functional Manual ▪ Rephrased “accounts” or “position accounts” into “transactions accounts” cross the complete document (without track changes) ▪ updated links to the website crosses the complete document (without track changes) ▪ 3.2 Changed the Account Booking Rules for ECAG and ECC ▪ 5.2.4 and 5.1.6 change transaction duration from T+3 to T+5 for ECAG ▪ 5.2.5 Changed Transaction Adjustment since Rate Identifier can no longer be changed by means of transaction adjustment ▪ 5.2.8 Compression trades cannot be merged ▪ 5.3.2.3 Clarification regarding cash only position transfers ▪ 6.0 Rephrased Product Assignment
	7.0.1	No update for C7 Release 7.0.1
25 Jan 2021	7.1	No update for C7 Release 7.1
28 Jun 2021	8.0	Increased the maximum number of transactions for an Average price merge via the C7 GUI to 5.000 in section 5.2.8.8 Interfaces
27 Aug 2021	8.1	Next Gen ETD Contracts ▪ Added validation in Section 5.2.8 for avg. pricing merge regarding new strategy sub-type in case of MoC T+X transactions ▪ Standard to Standard Position Conversion, changes in Section 5.3.8 ▪ Added Section 7 to explain the validation for some clearing activities based on Contract Identification Eligibility and Registered Participant Contract Eligibility
15 Oct 2021	8.1	▪ Next Gen ETD Contracts ▪ In section 7, added the level validation related to contract identification eligibility on the give-up side in addition to the take-up side and changed the validation on external position transfer to the initiating side.
15 Mar 2022	8.1	▪ Next Gen ETD Contracts ▪ Corrected the average price merging validation in case of BSPD transactions in section 5.2.8
27 Apr 2022	8.1	▪ Next Gen ETD Contracts ▪ Deletion of section 7 (Contract Identification Eligibility and Registered Participant Eligibility) as no grace period for the activation of NextGen ETD is required anymore (Eurex Clearing Circular 24/2022).
30 May 2022	9.0	▪ Add Value Based Average Pricing functionality ▪ Preliminary trades no longer available for Variance Futures (5.2.11)

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Date	Release	Change
1 Dec 2022	9.1	▪ Repeated the changes related to Value Based Average Pricing functionality in Green ▪ Add Fee Identification Code in C7-GUI, TCR, PMR, Allocation report messages and C7 reports
24 July 2023	10.0	▪ Details regarding two new reference fields in case of position transfer with cash and cash only transfer added. ▪ Details added regarding the internal assignment algorithm as described in circular 254/08 ▪ Details added regarding the Adjusted Open Interest
30 Nov 2023	10.1	▪ Removal of chapter "5.3.3.3 Cash Only Transfer" and update of chapter "5.3.3.2 External Position Transfer" ▪ Decommission of the Compression Service as announced in Eurex Circular 050/23 (update of chapter 5.2.8.1 and 5.2.9.1.1) ▪ Update of chapter 5.3.1.2 "Zero Cost Quantity"
5 June 2023	10.0	▪ Incorporate change of rounding convention, i.e., rounding on transaction resp. position level replaces rounding on contract level for ETD cash flow calculation. ▪ Modify/Add trade types relevant for VBAP processing and Buyside Trading disclosure features ▪ Incorporate new Sub Roles "Authorized Manager with System Access", "Basic Authorized Manager" and modify Sub Role "Basic Disclosed Client with Reports" into "Basic Disclosed Client" in chapter 5.2.7.
24 July 2023	10.0	▪ Details regarding two new reference fields in case of position transfer with cash and cash only transfer added. ▪ Details added regarding the internal assignment algorithm as described in circular 254/08 ▪ Details added regarding the Adjusted Open Interest
30 Nov 2023	10.1	▪ Removal of chapter "5.3.3.3 Cash Only Transfer" and update of chapter "5.3.3.2 External Position Transfer" ▪ Decommission of the Compression Service as announced in Eurex Circular 050/23 (update of chapter 5.2.8.1 and 5.2.9.1.1) ▪ Update of chapter 5.3.1.2 "Zero Cost Quantity"

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Date	Release	Change
27 May 2024	11.0	▪ Update of chapter 5.3.1.2.3 Current ZCQ: “Clarification about current ZCQ calculation regarding futures transactions created after transaction-based settlement of futures-on-futures." ▪ RateIdentifier specific enhancements for VBAP in section 5.2.9 ▪ Update of chapter 5.3.4.1 Automatic exercise: Clarification of the ITM parameter on the Automatic Exercise – Maintenance window and example calculation for the ITM value. ▪ Update of chapter 5.2.9.3.3 VBAP enhancement: Account Transfers to have text fields also via FIXML request.
2 Dec 2024	11.1	▪ Clarification update: VBAP rounding rules for System Calculated Average Price (AvgPx) will be rounded down to 7 digits ▪ Note about discontinuing Classic average pricing processing.
26 May 2025	12.0	▪ Updates in chapter 5.1.7 with respect to P-Account fee eligibility. ▪ Updates in chapter 5.1.8 with respect to Internal product phase. ▪ Added new chapter 5.1.10 for equalization payment. ▪ Clarification update in chapter 5.2.1: Headline changed from “Available adjustments and booking logic” into “Available adjustments”. ▪ Clarification update in chapter 5.2.4 Transaction separation. ▪ Updates regarding Value Based Average Pricing in chapter 5.2.9 with respect to: o VBAP Firm Group Name. o The possibility of instructing multiple allocations at once in section 5.2.9. The Allocation processing rules section 5.2.9.3.3.2 is rewritten as part of this change, which includes the request for an allocation with closing adjustment. o Separate text fields for offset and average price transactions. o Adding calculation details of Initial Mathematical Average Price in 5.2.9.2.1. o Clarification update of Bookings and broadcasts in 5.2.9.3.3.3. o Clarification update of System Calculated Average Price formula in 5.2.9.3.3.4. ▪ Updates on Current ZCQ calculation related to Value Based Average Pricing transactions to close in 5.3.1.2.3. ▪ Clarification update in chapter 5.3.1.3 Rule-based automatic close-out for contracts using the front-month settlement. ▪ Updates in chapter 5.3.3.2 with respect to introduction of new mandatory field “Reason Code” for External Position Transfers. ▪ Updates due to KRX Link decommissioning in various chapters.

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Date	Release	Change
18 Aug 2025	12.0	▪ Correction on Current ZCQ calculation related to Value Based Average Pricing transactions to close in chapter 5.3.1.2.3 o Deleted the previously added statement: "+ Value Based Average Pricing transactions booked to open after allocation with closing error" o Added the following statement: "– Value Based Average Pricing transactions booked to close as part of the allocation with closing error"
1 Dec 2025	12.1	▪ Updates related to C7 Release 12.1 o Updates regarding VBAP for Block QTPIP trades in chapter 5.2.9.1.1 o Updates regarding FX options restrictions for manual exercise, abandon and ITM parameter settings in chapters 5.3.4 and 5.3.6 ▪ Updates related to previous C7 Releases: o Correction of sub roles for transaction account transfers during the product phase "No Position Move Phase" in chapter 5.1.8 o Correction of sub roles for VBAP allocation with transaction account transfers in chapter 5.2.9.3.3.2
16 Mar 2026	12.1	▪ Updates related to C7 Release 12.1 o The originally documented updates regarding FX options restrictions for manual exercise, abandon and ITM parameter settings in chapters 5.3.4 and 5.3.6 were reversed o Clarification concerning in the money minimum parameter in chapter 5.3.4.1
1 June 2026	13.0	▪ Updates regarding Fee Code/Fee maturity Qualifier in chapter 5.1.7 Fee Identification Code ▪ Classic Average Price services will be decommissioned at the end of 2026, changes in chapter 5.2.8. 5.2.1, 5.2.9.1.1, 5.2.9.1.3 ▪ Clarification update in chapter 5.2.9.3.3.1 VBAP trade types ▪ Introduced a new reference field "Prior UTI" as a part of the External Position Transfer entry in chapter 5.3.3.2. ▪ Updates regarding product assignment/ de-assignment possibility on both trading and clearing level in chapter 6.
18 Nov 2026	13.0	▪ Clarification update about restricted characters during Text field adjustments in chapter 5.2.5.1 ▪ Format update for VBAP firm group name (FirmGrpID) to allow spaces and certain special characters as valid values 5.2.9.1

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1 Introduction

This document provides an overview of the functionality regarding Transaction and Position management and related Entitlement provided by C7.

1.1 Audience

This document is intended for all Members and Vendors intending to make use of the C7 functionality and serves as an overview of how to use the service. It assumes that the reader has a basic understanding of the clearing functionality and the systems offered by Eurex Clearing.

1.2 Conventions used in this document

Cross references to other chapters within this document are always clickable but not marked separately.

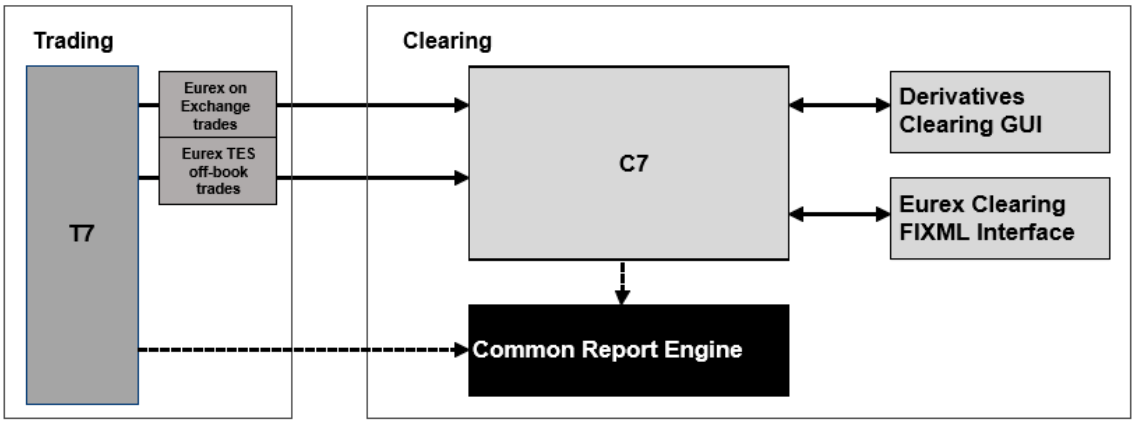
Hyperlinks to websites are underlined.

Changes applied to this document after the last version has been published (other than grammar/ spelling corrections) are marked with a change bar in the left margin as demonstrated in this paragraph. Old change bars will be removed from version to version.

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2 Interfaces

2.1 System overview



2.2 Clearing GUIs

Members can use the C7 Derivatives Clearing GUI for all transaction and position management functionality in all transaction accounts as well as maintenance of product assignment and auto approval for give-up/take-up.

For detailed information on the C7 Derivatives Clearing GUI, please refer to the C7 Derivatives Clearing GUI User Guide, which is available for download on the Eurex Clearing website:

www.eurex.com/ec-en/ > Support > Initiatives & Releases > C7 Releases > related release > System documentation > Eurex Clearing GUIs

Windows mentioned in this document refers to the C7 Derivatives Clearing GUI, unless stated otherwise.

2.3 Eurex Clearing FIXML interface

The Eurex Clearing FIXML Interface fully supports transaction and position management on all transaction accounts. Additionally, the interface carries public broadcasts (e.g., settlement prices). For further information on the FIXML Clearing Interface, please refer to the interface documentation available for download on the Eurex Clearing website:

www.eurex.com/ec-en/ > Support > Initiatives & Releases > C7 Releases > related release > System documentation > Interfaces

2.4 Reports

Reports are solely distributed via the Common Report Engine and are available in XML and CSV file formats. Full details on report structures and XSD schema files are available on the Eurex Clearing website in the Eurex XML Report Reference Manual.

www.eurex.com/ec-en/ > Support > Initiatives & Releases > C7 Releases > related release > System documentation > Reports

For further information on the Common Report Engine, please refer to the Common Report Engine User Guide. All documents are available at:

www.eurex.com/ec-en/ > Support > Technology > Common Report Engine

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2.5 System time

C7 runs in UTC and displays all timestamps in UTC. This applies to both the C7 Derivatives Clearing GUI and the FIXML Interface. In the FIXML Interface, all timestamps carry a time zone designator, i.e., they show the offset towards UTC, allowing Members to convert the time to any time zone they wish to display.

For regulatory reporting purposes, some reports feature timestamps converted to Frankfurt local time, i.e., CET/CEST. For details on all reports, please consult the XML Report Reference Manual.

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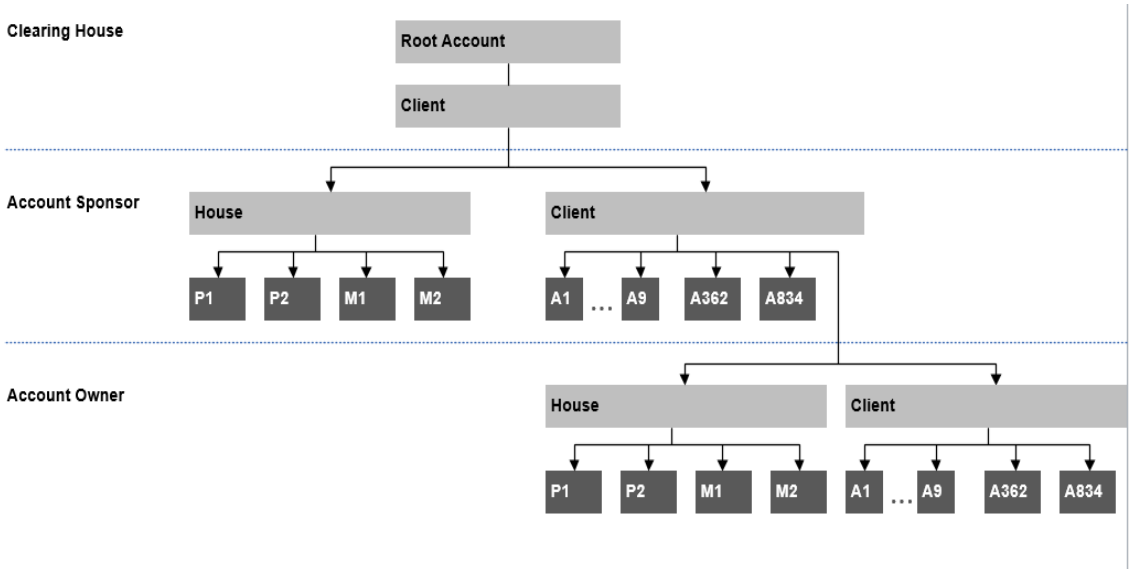
3 Transaction accounts

In the basic setup, Members can make use of the following transaction accounts:

- Agent accounts
- Proprietary accounts
- Market maker accounts

All accounts are held gross.

3.1 Account structure



3.2 Account booking rules for ECAG and ECC

3.2.1 Trades for ECAG and ECC

In T7 the Clearing Account information is optional whereas the Trading Capacity is mandatory.

For the assignment of a Clearing Account in C7, the provided Clearing Account is used if it is in consistence with the Trading Capacity attached to the trade. Valid combinations are the following:

- Trading capacity “Client” = A1–A9 or additional agent accounts
- Trading capacity “Proprietary” = P1&P2 and M1&M2
- Trading capacity “Market Making” = M1&M2 and P1&P2
- All other accounts are not valid, this will include G1 and G2

T7 will ensure that a member can only use a valid trading capacity.

If no Clearing Account is provided at all, or if the provided Clearing Account does not fit to the provided Trading Capacity or the provided Clearing Account is not entitled for the ETD market the trade will be booked to the respective default Clearing Account as determined by the Trading Capacity:

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- Trading capacity “Client” defaults into clearing account A1. If A1 is not available, then trade will be booked into P1.
- Trading capacity “Proprietary” defaults into P1.
- Trading capacity “Market Making” defaults into M1. If M1 is not available, then trade will be booked into P1.

3.2.2 Quote for ECAG

Quotes are booked in the following way:

- with a trading capacity market making and valid clearing account M1 or M2 will be booked into the provided clearing account.
- with a trading capacity market making and valid clearing account different to M1 or M2 will be booked to M1.
- with a trading capacity market making and without any clearing account will be booked to M1.
- with a trading capacity market making and not existing clearing account will be booked to M1.

3.2.3 Quote for ECC

For clearing house ECC the provided clearing account will define the account to book a quote to, regardless of the trading capacity. If the clearing account provided by T7 is not existing or no clearing account is provided, the quote defaults based on the trading capacity to “M1”.

3.2.4 Automatic give-up processing

If a transaction provided by T7 indicates a valid Take-Up member then the Clearing Account will be determined as described in 3.2.1. Subsequently and only if all give-up related validations are fulfilled, C7 will automatically trigger the give-up processing.

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4 Entitlement

4.1 Overview

The entitlement mechanism is used to grant Members and Users access to functionality in the C7 system, such as transaction and position management. This chapter gives an overview of the main principles of the entitlement model and describes setup and configuration options.

4.2 Roles and privileges

The C7 entitlement model uses roles as a basis. The roles are assigned to a Member and the Member's Service Administrator can assign the roles to the other Users.

The roles themselves contain privileges. Every privilege defines access to a specific activity. E.g., a member could have the privilege to "Add Give-up". A request entered by an User can only be processed if the corresponding privilege is assigned to the User/Member.

The following roles are supported for Transaction and Positions Management (please refer also to C7 User Entitlement Guide for a complete list of roles and their description):

- **Position and Transaction Manager**

  This role represents the rights to perform transaction and position management related activities (e.g. "Add Give Up", "Approve Give Up")

- **Position and Transaction Manager View Only**

  This role provides the right to perform inquiries related to transaction and position management (e.g. "Clearing Transaction Inquire")

- **Clearing Manager**

  This role represents the rights for an User of a Clearing Member to perform clearing activities (e.g. "Notification Manage")

- **Clearing Manager View Only**

  This role provides the right to perform Clearing Member exclusive inquiries only (e.g. "Notification Inquire")

- **Service Administrator**

  This role represents the necessary entitlement for administration activities (e.g. "User Entitlement Update")

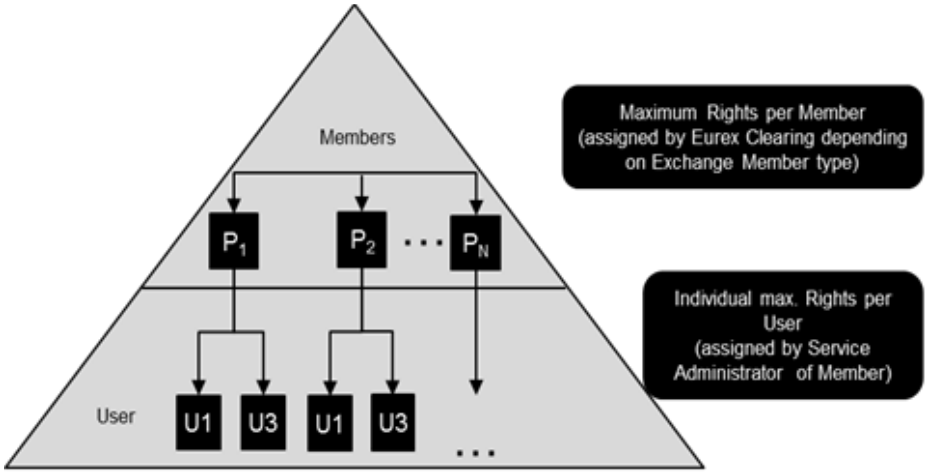
- **Service Administrator View Only**

  This role provides the right to perform inquiries related to administration activities (e.g., "User Entitlement Inquire")

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4.3 General setup and maintenance

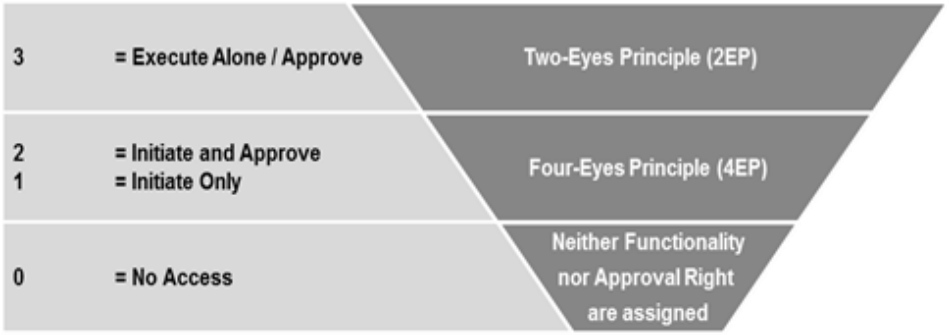
The C7 Entitlement Model follows a hierarchical approach. This approach uses top-down logic for the allocation of access rights.



To provide a User with a right, this right must be initially assigned to the Member to which the User belongs. Eurex Clearing defines the maximum entitlement of a member (e.g. based on the Member type) and assigns the roles to the Members accordingly. The Member (Service Administrator) can define and maintain the entitlements for the other Users.

While assigning roles to Users, the Member can modify the settings of the privileges contained in it concerning entitlement level and transaction account.

The following four entitlement levels are available in the system:



- **Entitlement Level 3** indicates that the User is allowed to initiate a transaction alone and no second User is required for approval. The User can additionally approve or reject transactions entered by another User.
- **Entitlement Level 2** indicates that the User is allowed to initiate a transaction while requesting a Four-Eye approval and approve or reject a transaction entered by another User.
- **Entitlement Level 1** indicates that the User is allowed to initiate a transaction requesting Four-Eye approval.
- **Entitlement Level 0** indicates that the User has no access to any privilege at all. This means that the User can neither initiate nor approve or reject a transaction.

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A privilege can be configured for a transaction account or for all client and/or house accounts. Products are not considered when a privilege is assigned to a User.

As the entitlement concept follows a hierarchical approach, the entitlement of a User can never exceed the maximum entitlements of the Member. Consequently, reductions in these maximum entitlements of a member are automatically applied to the entitlement settings of the affected Users.

For detailed information on the entitlement mechanism, please refer to the C7 User Entitlement Guide, available for download on the Eurex Clearing website:

www.eurex.com/ec-en/ Support > Initiatives & Releases > C7 Releases > related release > System documentation > Overview & Functionality

4.4 Four-eye principle processing

Entitlement levels define how a certain activity can be performed by an User and to which extent. If Four-Eye principle is required for a certain activity, a User cannot perform the action on his own, but needs a second User to approve the action. The User initiating the action for which the Four-Eye principle is required needs to have at least the entitlement level 1. For the approval of any Four-Eye principle request the User requires an entitlement level of at least 2. Four-Eye principles can be applied to a range of activities as listed in the C7 User Entitlement Guide available for download on the Eurex Clearing website under the following path:

www.eurex.com/ec-en/ > Support > Initiatives & Releases > C7 Releases > related release > System documentation >

Four-Eye principle is only applicable to the C7 Derivatives Clearing GUI, the FIXML Clearing Interface does not support, nor require approvals by a second User. Pending Four-Eye principle requests are deleted at the end of the business day.

For further detail on particular Four-Eye logic per functionality, please refer to the respective chapters below.

4.4.1 Four-eye principle processing for entitlement settings

If an activity is executed that requires a Four-Eye approval, it remains as a pending Four-Eyes principle request as long as the approval/rejection is outstanding. The Four-Eye Principle – Entitlement window displays an overview of all pending Four-Eye principle requests for approval/rejection. This allows members to configure Four-Eye approval per activity according to their individual needs. Any pending Four Eye request will be cancelled by the system as part of the end of day process.

4.4.2 Four-eye principle processing for position management features

Members may optionally specify that activities related to Manual Exercise, Abandon and Position Transfer with cash (entry and approval) are subject to the Four-Eye principle process. Requests requiring approval by a second User are displayed on the Four-Eye Principle – Clearing window, accessible via the Four-Eye Principle menu. The overview window shows the number of pending requests per type (exercise, abandon, position transfer); the approval needs to be performed on detail windows (one per type), which are accessible from both the overview window and the menu. All detail windows support multi-select and -approval/-rejection. Note that the overview window displays the number of pending requests for the current Member, i.e. a Clearing Member will only see his own pending requests, not those of his Disclosed Client (s) with Member ID.

4.4.3 Four-Eye principle overview for reference data

For product maintenance activities as well as for changes in the settings for Auto GU/TU-Approval Clearing Members can optionally apply a Four-Eye principle process. Those requests require

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approval by a second user and are displayed on the “Four Eye Principle Overview“ window for Reference Data. This is accessible via the ‘Reference Data’ Menu Switch.

Pending Four-Eye principle requests are deleted at the end of the business day.

It is also possible to inquire about the status of historical Four Eye request on that window in order to see the final status and involved users.

4.5 Simplified outsourcing

C7 offers simplified outsourcing of back-office functions via FIXML and via the C7 Derivatives Clearing GUI. The simplified outsourcing mechanism is only available for Clearing Members (CMs) insourcing back-office functions of their Disclosed Clients with Member ID. Simplified outsourcing is not available to other insourcing firms or for CMs outsourcing to other CMs or their clients. In this case, outsourcing is only available through a procedure where a member provides his certificate (AMQP or GUI) to the insourcing firm.

To apply for simplified outsourcing, the outsourcing Disclosed Client with Member ID must provide a dedicated technical User ID prefixed with IOU[1]. This can be done via the Announcement of Outsourcing of Back-Office Functions of Eurex Clearing Disclosed Clients Market Participants. The respective forms are available for download on the Eurex Clearing website under the following path:

www.eurex.com/ec-en/ > Find > Forms

The technical User ID’s entitlement will be checked for every request, irrespective of the interface used for sending requests (GUI or FIXML). If the outsourcing Disclosed Client with Member ID wants to limit the scope of outsourced back-office functions, they can do so by limiting the privileges assigned to the technical User ID.

Under simplified outsourcing a User on the Clearing Member side can log into the GUI using their own Member ID and their own User ID. Transaction Accounts including all transactions and positions of Disclosed Clients with Member ID are visible to the Clearing Member in any case. If simplified outsourcing has been set up and if the privilege to perform insourcing activities has been assigned to the logged in User, they can initiate requests for transaction or position management out of the Disclosed Clients with Member ID transaction account.

Four-Eye checks on the Disclosed Clients Market Participants’ side are not supported for simplified outsourcing. For the approval of position transfers with cash, Four-Eye checks can be established at the Clearing Member’s side, if required. In this case, two CM Users must approve a pending position transfer to fulfill the Four-Eye requirement.

[1] IOU stands for “Improved Outsourcing”

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5 Position and transaction management

5.1 General overview

5.1.1 Purpose of position keeping

The position keeping of options and futures contracts enables Members to inquire their current positions, enter adjustments on transactions, and to enter adjustments to positions (position adjustments).

5.1.2 Information on position balance and movements

All parties involved in a trade receive a transaction confirmation via the Eurex Clearing FIXML Interface as soon as the trade is successfully booked in the relevant transaction account (proprietary, market maker or agent account) on the clearing layer. Members can also inquire about their position on the C7 Derivatives Clearing GUI on the Position Overview window. From the Position Overview window, the User can call the Transaction Overview window on the C7 Derivatives Clearing GUI. Starting from the initial position, this window shows the position movements on a transaction level. The position balance at the start of the booking cut, as well as all preceding position movements, are documented in the CB012 Account Statement report.

5.1.3 Transaction ID

Transactions are identified by a unique transaction ID. The ID is a variable length alphanumeric string with up to 19-characters. The ID is globally unique across the clearing system, will not be changed for the lifetime of the transaction and will not be re-issued[2]. Each transaction also carries a 10-digit numeric suffix that increases with each adjustment.

Note that the transaction ID is entirely independent of IDs issued by other systems, such as the T7 trading system. Key IDs used on the trading layer – T7 on-exchange trading or off-book trades entered via Eurex's Trade Entry Service (TES) – will be made available in C7 for reconciliation purposes between systems but cannot be used to trigger any transaction adjustments.

5.1.4 Position ID

For regulatory reporting purposes, C7 assigns a unique, variable-length, alphanumeric ID to each position. The ID is up to 11 characters long. Each transaction in the same instrument, transaction account and with the same basket ID (please refer also to 5.1.5 Basket ID) is booked to the position ID established when the first such transaction is reported. Note that a position amount of "0" (e.g. due to exercise) does not delete the position ID. The same position ID will be referenced once new transactions in the same instrument and with the same basket ID are booked to the transaction account again. For further information on the usage of the position ID, please refer to the EMIR reporting documentation available in the Member Section under

https://membersection.deutsche-boerse.com/ → Clearing Resources → EMIR Reporting

5.1.5 Basket ID

Trades entered in T7 as part of one basket are marked by the trading system via a unique automatically generated basket ID. Each trade belonging to the same basket will have the same Basket ID. Trades belonging to a basket will be booked as individual transactions/positions in C7 considering the respective basket ID as provided by T7. Therefore, trades in the same

[2] In the foreseeable future, i.e. until all possible combinations for the 19-character alphanumeric string have been used.

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instrument/transaction account will create non-fungible positions and related Position IDs (please refer to 5.1.4 Position ID) in C7 if basket IDs are provided by T7.

The basket ID is unique across all members/throughout time and is defined as numeric value with up to 20 characters. The field is not maintainable in C7.

5.1.6 Rate Identifier

Each transaction can optionally carry a – one character long[1] – Rate Identifier (FIXML 1031-CustOrderHandlingInst). The identifier is in accordance with the FIA guidelines for Execution Source Code Schema and aims to clearly identify the execution method used for Exchange Traded Derivative trades at point of origin, allowing executing and clearing brokers to easily reference the appropriate brokerage rate for the execution method. The Rate Identifier is reported in C7 as entered on T7 and cannot be changed in C7.

In a transaction that results from Classic average pricing merge, the Rate Identifier will persist in case all transactions which were merged have the same Rate Identifier. If this is not the case, then the Rate Identifier of the merged transaction will be set to empty.

In a transaction that results from Value Based Average Pricing and other transaction adjustments, the Rate Identifier will always persist.

The following valid values are possible from T7:

Value	Description
	Empty
C	Vendor-provided Platform
D	Other or Default
G	Sponsored Access
H	Premium Algorithmic Trading Provider
W	Desk Electronic
Y	Client Electronic

5.1.7 Fee Identification Code

The Fee Identification Code will be sent in every transaction confirmation message (TCR), position confirmation message (PMR) and Allocation report message. This code will contain fee relevant information associated with the respective transaction/position event and consists of 15-character length. Each character in this string will indicate fee specific information with respect to the transaction or position event.

The Fee Identification Code will be dynamic during the transaction lifecycle. The code will be recalculated for every transaction adjustment and sent out real time through the TCR/Allocation report. Similarly, the Fee Identification Code will be calculated for every position event/adjustment and is sent out real time through the PMR.

The transaction Fee Identification Code will also be shown on the C7 GUI Transaction overview windows and in the EOD reports CB012, CB715, CB716, CB750 and CB751.

Also, Public report CB002 (Product and Price Report – Fee Identification Code) will contain Fee Identification Code information for all Eurex products and their prices as defined in the Eurex price list.

The Fee Identification Code contains the following Trading and Clearing related information:

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- **Fee Sub Product Qualifier**,
  This Qualifier provides information on different fee exceptions from the standard product level.
- **Fee Maturity Qualifier,**
  This Qualifier provides details regarding the termination of ~~information on whether~~ the associated ~~contract is short dated~~ SSDF contract ~~or not~~.
- **Fee Buy-Side Trading Disclosure Qualifier,**
  This Qualifier provides information on whether the transaction is qualified for the Eurex Buy-Side Trading Disclosure fee rate or not.
- **Fee Trade Originator Qualifier,**
  This Qualifier provides information on which trading capacity the trade was executed in the trading system (T7), and on which clearing account the transaction is booked in the clearing system (C7), respectively. However, in case of disclosed clients who are not trading participants of Eurex Deutschland or are not affiliated to a trading participant of Eurex Deutschland, the Market Maker and Proprietary accounts are mapped to a different value for correct fee calculation.
- **Fee Trade Type Qualifier,**
  This Qualifier provides the information on which execution channel the transaction was originally executed on T7 application.
- **Fee Trade Publication Qualifier,**
  This Qualifier provides the information if the trade is real-time or deferred disclosed to the market.
- **Fee Member-Specific Qualifier,**
  This Qualifier provides information on whether the fee charged is in standard currency or in alternate currency.
- Three qualifiers reserved for future (Trading relevant).
- **Fee Post-Trade Qualifier,**
  This Qualifier provides the information on fee relevant post trade services used or executed on C7 application.
- **Fee Position Event Qualifier,**
  This Qualifier provides the information on the fee relevant position events/adjustments services used or executed on the C7 application.
- Another 3 qualifiers reserved for future (Clearing relevant).

Further details can be found in the new document “Fee Identification Code – User Guide”, available for download on Eurex Clearing website www.eurex.com/ec-en/ under the following path:

www.eurex.com/ec-en/ > Support > Initiatives & Releases > C7 Releases > related release > System Documentation > Overview and Functionality.

5.1.8 Transaction duration and applicable product phases

Transactions are adjustable for a limited period of time, known as the transaction duration. The limit is set to allow adjustments on T=trade date until T+2 (for ECC) and T+5 (for ECAG). The base date for the calculation of the transaction duration is the trade date, as set by the trading system. During the transaction duration, adjustments are possible depending on the product phase in which the product is at that time.

The following product phases are differentiated by the C7 system:

- **A** Clearing Phase

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In the Clearing Phase, all clearing activities are allowed.

- **B** No Position Move Phase
  This product phase allows all clearing activities but restricts the transfer of quantity to other participants via Give-up or External Position Transfer. Internal position transfers and Transaction Account Transfer are allowed (include the Transaction Account Transfer from the Clearing Member to one of their clients with sub role Disclosed Client with System Access or Basic Disclosed Client or Authorized Manager with System Access or Basic Authorized Manager).
- **C** Internal
  For both ECAG and ECC, during the Internal product phase, only internal users can perform position and transaction management activities. Internal product phase is typically used for emergency events and for ECAG additionally in case of events like Market Disruption.
- **D** No Settlement Phase
  This product phase allows all clearing activities but Exercise, Abandonment from Automatic Exercise or Notifications are not allowed.
- **E** Restricted Access Phase
  When a product is in the phase, Restricted Access, position and transaction management is not possible.

5.1.9 Rounding convention for ETD cash flows

The cash flows resulting from ETD business are rounded on transaction resp. position level; this replaces the previous rounding on contract level which was valid until the launch of C7 release 10.0. The following cash transaction types are affected:

- Premium Paid/Received including residual calculation
- Variation Margin Paid/Received including residual calculation
- Cash Settlement Paid/Received
- Position Transfer with Cash Debit/Credit

Rounding always applies in accordance to the currency decimals (mostly 2, for GBX and JPY cash amounts are rounding integer).

Please note that physical settlement is still rounded on contract level; this applies for the physical settlement of options and futures on stock as well as for FBND deliveries. Also the settlement amount of FX products that are settled payment-vs-payment are rounded on contract level.

5.1.9.1 Sample for variation margin calculation

Sample for variation margin position of a EUR denominated, capital adjusted FSTK contract where SOD position and new transaction of the current day is evaluated against current day settlement price during EOD processing.

FSTK contract where trading unit: 102.5678; tick size: 0.0001; tick value: 0.0001; previous day's settlement price: €122.8765; current day's settlement price €123.1234.

Calculate variation margin for SOD position:

SOD position: 100 (long) / 60 (short)

Variation Margin = ROUND ((current day's settlement price – previous day's settlement price) * trading unit * $\frac{Tick\ Value}{Tick\ Size}$ * net position)

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Variation Margin = ROUND ((123.1234 – 122.8765) * 102.5678 * $\frac{0.0001}{0.0001}$ * 40)

Variation Margin = €1,012.96

Calculate variation margin for each single transaction:

Trade buy 80 @ 123.4567

Variation Margin = ROUND ((current day's settlement price – transaction price) * trading unit * $\frac{Tick\ Value}{Tick\ Size}$ * no. of contracts)

Variation Margin = ROUND ((123.1234-123.4567) * 102.5678 * $\frac{0.0001}{0.0001}$ * 80)

Variation Margin = €- 2,734.87

5.1.10 Equalization payment for stock options (OSTK)

Upon the adjustment of OSTK due to a corporate action, the capital adjustment ratio (R-factor) is applied to the strike price and the trading unit. In case the adjustment of the trading unit results in a lot size that is not an increment of one share, the adjusted lot size will be rounded to the nearest whole share. If the unrounded lot size is exactly halfway between two eligible lot sizes, then it shall be rounded up to the next eligible lot size. Consequently, only an integer trading unit remains.

Please see some basic examples on the table below:

trading unit (before CA)	R-factor	adjusted trading unit	adjusted trading unit (rounded to the increment of one share)	fractional trading unit (cash settled)
100	0.85119048	117.4825170	117	0.4825170
100	0.94355678	105.9819633	106	-0.0180367
50	1.01010101	49.5000000	50	-0.5000000
100	2.00000000	50.0000000	50	0.0000000

An equalization payment will be made to neutralize the effect of rounding.

The equalization payment per contract in C7 is calculated as follows:

S = c * ((Q2 * R) - Q)

S = Equalization Payment (per contract)

c = Series settlement price of the previous day

Q2 = Lot size after the corporate action (rounded)

R = R-factor

Q = Lot size before the corporate action

The result is multiplied with the no. of contracts of the position and subsequently rounded in accordance with the currency decimals.

The equalization payment will be booked as option premium and will be processed with value date Ex-date +1.

The following reports document the payments:

- CA752 Capital Adjustment Positions Overview (on Cum-date)
- CB790 Premium Information (on Ex-date)
- CB012 Account Statement (on Ex-date)
- CD710 Daily Cash Account Statement (on Valuta-/Payment-Date)

5.2 Transaction management

5.2.1 Available adjustments

This document uses the terms “transaction”, “transaction adjustment” and “transaction management” for any transaction in clearing. The term “trade” is only used in the context of a new on-exchange-trade or a new TES trade.

C7 provides the following transaction adjustments for transactions:

- Transaction separation
- Transaction adjustment (to adjust text fields3, Member and beneficiary information for cooperation products
- Transaction open/close adjustment
- Transaction account transfer
- ~~Merge and de-merge in context of classic average price processing~~
- Grouping/ungrouping as a precondition for Value based Average Pricing
- Give-up/take-up

Clearing Members can only perform transaction adjustments for their own transactions, not for those of their Disclosed Clients with Member ID, unless an outsourcing agreement is in place.

Please note: Transactions that are part of a pending give-up process cannot be adjusted, and the respective quantity is blocked from position adjustments such as exercise or close-out. Reversed transactions cannot be adjusted.

5.2.2 Booking logic

C7 processes transaction adjustments in two steps. In a first step, a transaction is generated that inverse-books the original transaction. This record receives the next available suffix and references the parent suffix ID. On the GUI, the inverted transaction is marked with status “inverse”. The original record will be marked with the status “adjusted”, which signifies that the record cannot be adjusted further.

The next step is an adjusted transaction, which is then booked. This record receives the next available suffix (or suffixes, in case of separation) and references the parent suffix.

The following table shows an example for a transaction adjustment:

[3] Note that text field changes are also supported with all other adjustments except from grouping request for VBAP.

										Booking quantity	
Transaction Management	**Clg Mbr**	**Account**	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**O/C Flag**	**Status**	**B/S**	**Tran Type**	**Tran Qty**	**Long Qty**	**Short Qty**
Original Transaction	**ABCFR**	**A1**	**456789**	**0000000000**		**O**	**adjusted**	**B**	**000**	**100**	**100**	**0**
Account Transfer	ABCFR	A1	456789	0000000001	0000000000	O	inverse	B	004	-100	-100	0
Account Transfer	**ABCFR**	**EXY**	**456789**	**0000000002**	**0000000000**	**O**	**adjusted**	**B**	**004**	**100**	**100**	**0**
Transaction Separation	ABCFR	EXY	456789	0000000003	0000000002	O	inverse	B	006	-100	0	0
Transaction Separation	**ABCFR**	**EXY**	**456789**	**0000000004**	**0000000002**	**O**	**adjustable**	**B**	**006**	**50**	**0**	**0**
Transaction Separation	ABCFR	EXY	456789	0000000005	0000000002	O	adjustable	B	006	25	0	0
Transaction Separation	**ABCFR**	**EXY**	**456789**	**0000000006**	**0000000002**	**O**	**adjustable**	**B**	**006**	**25**	**0**	**0**

C7 allows a practically unlimited number[4] of adjustments to one transaction and rejects adjustments that would lead to errors.

If the transaction quantity of a trade to close exceeds the current open long or current open short quantity in the respective transaction account a closing error will occur. The system will close out as much quantity as possible and convert the quantity that cannot be closed out into a new opening trade, which is marked as a trade with closing error. In the FIXML interface this is indicated in the field PositionEffectAction (29001).

The following table shows an example for a trade that is marked as a closing error (Transaction ID 252525), indicated by Transaction Type 010:

							Booking quantity	
	Tran ID	**Suffix ID**	**B/S**	**O/C Flag**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Trade	**323232**	**0000000000**	**B**	**O**	**100**	**000**	**100**	**0**
Trade	789102	0000000000	S	O	120	000	0	120
Trade with closing error	**252525**	**0000000000**	**B**	**C**	**150**	**010**	**30**	**-120**

The following table shows an example where the first buy-to-close trade leads to a closing error as there is no open short position:

							Booking quantity	
	Tran ID	**Suffix ID**	**B/S**	**O/C Flag**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Start of day total long and short quantities are both "0"								
Trade with closing error	616161	0000000000	B	C	100	010	100	0

5.2.3 Position-neutral booking

Transaction adjustments that do not change the position are booked position neutral. This is the case for transaction adjustments, like text field adjustments, adjustments of the Member/beneficiary

[4] Technically, the limit is determined by the number of available suffixes.

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information for cooperation product trades, grouping/ungrouping for Value Based Average Pricing and transaction separations.

The following table shows an example for a position neutral booking (text adjustment):

								Booking Quantity	
Transaction Management	**Text1**	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**Tran Type**	**Tran Qty**	**Long Qty**	**Short Qty**
Original Transaction	**TRADETEXT**	**565656**	**0000000000**		**adjusted**	**B**	**000**	**100**	**100**	**0**
Transaction Adjustment	TRADETEXT	565656	0000000001	0000000000	inverse	B	005	-100	0	0
Transaction Adjustment	**NEWTEXT**	**565656**	**0000000002**	**0000000000**	**adjustable**	**B**	**005**	**100**	**0**	**0**

5.2.4 Transaction separation

Members may split one transaction into several smaller ones via transaction separation. Separations are booked as position-neutral adjustments, i.e. the long/short quantities are “0”. Technically, the number of splits is unlimited; functionally the number of splits is naturally limited by the transaction quantity. Only transactions with a transaction quantity > 1 are possible to split. The whole quantity of the original transaction must be distributed among the new transactions. That means that the separation process can only be processed if there is no remaining quantity after the separation.

The following table shows an example for a transaction separation:

								Booking Quantity	
Transaction Management	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Original Transaction	**787878**	**0000000000**		**adjusted**	**B**	**100**	**000**	**100**	**0**
Transaction Separation	787878	0000000001	0000000000	inverse	B	-100	006	0	0
Transaction Separation	**787878**	**0000000002**	**0000000000**	**adjustable**	**B**	**50**	**006**	**0**	**0**
Transaction Separation	787878	0000000003	0000000000	adjustable	B	30	006	0	0
Transaction Separation	**787878**	**0000000004**	**0000000000**	**adjustable**	**B**	**20**	**006**	**0**	**0**

5.2.5 Transaction adjustment

The general transaction adjustment is used to modify

- text fields
- Member and beneficiary information for cooperation products
- Own Reference ID

All these adjustments are booked position neutral, i.e. both the long and short booking quantities are zero.

5.2.5.1 Text field adjustments

Each transaction carries three text fields. C7 supports 36 characters per text field. The supported character set is ASCII characters 32-126 except for the exclamation mark (!, 33), the pipe symbol (|, 124), double quotes (", 34“), single quotes (', 39‘), grave accent (`, 96)~~apostrophe (`)~~, ampersand (&, 38), equal sign (=, 61), at sign (@, 64), plus (+, 43), lesser than (<, 60) and

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greater than (>, 62). ~~The asterisk sign (*) is fully supported.~~ Leading spaces are fully supported whereas trailing spaces will be automatically truncated.

The following table shows an example for a text adjustment:

										Booking quantity	
Transaction Management	**Text1**	**Text2**	**Text3**	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Original Transaction	**TRDTEXT1**	**TRDTEXT2**	**TRDTEXT3**	**858585**	**0000000000**		**adjusted**	**B**	**100**	**000**	**100**	**0**
Transaction Adjustment	TRDTEXT1	TRDTEXT2	TRDTEXT3	858585	0000000001	000000000	inverse	B	-100	005	0	0
Transaction Adjustment	**NEWTEXT1**	**NEWTEXT2**	**NEWTEXT3**	**858585**	**0000000002**	**000000000**	**adjustable**	**B**	**100**	**005**	**0**	**0**

5.2.5.2 Cooperation product member information

Trades in cooperation products require both Member and beneficiary information. The fields Link Member ID and Link Beneficiary for Member and beneficiary can be modified via transaction adjustment. The following table shows an example for a change in the Member information for cooperation products:

								Booking Quantity			
Transaction Management	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**	**Link Member ID**	**Link Beneficiary**
Original Transaction	**232323**	**0000000000**		**adjusted**	**B**	**100**	**000**	**100**	**0**	**1234567**	**ABCDLM**
Transaction Adjustment	232323	0000000001	000000000	inverse	B	-100	005	0	0	1234567	ABCDLM
Transaction Adjustment	**232323**	**0000000002**	**000000000**	**adjustable**	**B**	**100**	**005**	**0**	**0**	**5678901**	**ABCDLM**

5.2.5.3 Own Reference ID adjustment

An Own Reference ID can be defined during trading of baskets, but it can also be optionally maintained in C7. The ID can be up to 20 characters alphanumeric long.

In C7 the restrictions described in 5.2.5.1 apply also for the maintenance of the Own Reference ID.

									Booking quantity	
Transaction Management	**Own Reference ID**	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Original Transaction	**TRDREFID**	**858585**	**0000000000**		**adjusted**	**B**	**100**	**000**	**100**	**0**
Transaction Adjustment	TRDREFID	858585	0000000001	000000000	inverse	B	-100	005	0	0
Transaction Adjustment	**NEWREFID**	**858585**	**0000000002**	**000000000**	**adjustable**	**B**	**100**	**005**	**0**	**0**

5.2.5.4 Making a transaction available on T+x

C7 supports the direct adjustment of transactions during the transaction duration, i.e. for multiple days after the trade date. For Users of the C7 Derivatives Clearing GUI, this means that they may inquire and directly modify any transaction throughout its availability. To make a “historic” transaction visible in third party systems, C7 supports non-adjustments, i.e. the adjustment of a transaction without changing any data with the Transaction Adjustment functionality on the C7 Derivatives Clearing GUI. When a User selects a transaction from T-1, T-2 (applicable for ECC) respectively from T-1, T-2, T-3, T-4 or T-5 (only available for ECAG) on the C7 Derivatives Clearing GUI and enters a “non-adjustment” the suffix is increased and the appropriate broadcasts are sent

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via the FIXML Interface, thus making the transaction available again for adjustment in third party systems. Note that – in contrast to previous releases – there is no "historical trade" indicator on either GUI or FIXML interface. In the CB012 Account Statement report, however, these transactions will be marked as historic transactions.

5.2.6 Transaction open/close adjustment

Members may change the open/close flag for a specific transaction by performing a transaction open/close adjustment, i.e., a member can adjust an opening transaction into a closing transaction and vice versa. Adjustments that would lead to errors are rejected by the system.

Note that a transaction adjustment from "close" to "open" may be triggered automatically along with a grouping request as part of the Value Based Average Pricing functionality (see 5.2.9.1.3). Such an adjustment is not reversed back to "close" by the system in case the transaction is de-assigned from the group.

The following table shows an example for a transaction open/close adjustment:

									Booking Quantity	
Transaction Management	**Tran ID**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**O/C**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Original Transaction	**656565**	**0000000000**		**adjusted**	**B**	**O**	**100**	**000**	**100**	**0**
Open/Close Adjustment	656565	0000000001	000000000	inverse	B	O	-100	002	-100	0
Open/Close Adjustment	**656565**	**0000000002**	**000000000**	**adjustable**	**B**	**C**	**100**	**002**	**0**	**-100**

5.2.7 Transaction account transfer

Members can transfer transactions to another account. However, this transfer is only possible within their own transaction accounts. The re-booking of a transaction is possible on all accounts. Exceptions are quotes, which cannot be transferred via transaction account transfer.

The following table shows an example for a transaction account transfer (FLX to A1):

										Booking Quantity	
Transaction Management	**Tran ID**	**Account Name**	**Suffix ID**	**Parent Suffix ID**	**Status**	**B/S**	**O/C**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**
Original Transaction	**717171**	**FLX**	**0000000000**		**adjusted**	**B**	**O**	**100**	**000**	**100**	**0**
Account Transfer	717171	FLX	0000000001	000000000	inverse	B	O	-100	004	-100	0
Account Transfer	**717171**	**A1**	**0000000002**	**000000000**	**adjustable**	**B**	**O**	**100**	**004**	**100**	**0**

General Clearing Members (GCM) can transfer transactions between their own transaction accounts and those of its clients with sub role Disclosed Client with System Access or Basic Disclosed Client or Authorized Manager with System Access or Basic Authorized Manager. These transfers do not require any approval. Note that in contrast to "regular", Member-internal account transfers the reversal message for the original transaction is sent to the Source Member, whereas the new transaction message is sent to the Receiving Member. As for all transaction confirmation messages, the Clearing Member receives a drop-copy of the new transaction booking message via the FIXML interface.

Note that a transaction account transfer may also be triggered along with an allocation request as part of the Value Based Average Pricing functionality (see 5.2.9.3.3.2).

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5.2.8 ~~Classic average price processing~~ (decommissioned)

~~Please note: The average price merge & de-merge functionality will be discontinued in 2026.~~

~~The classic average price processing functionality allows merging of multiple transactions into one transaction with an average price calculated by Eurex Clearing. The number of transactions to be merged is practically unlimited[5]. The price of the merged transaction is determined using a volume-weighted average calculation and is rounded to 7 digits. A residual amount – representing the difference in cash flows – can result from the calculation/rounding. The residual calculation is done in accordance with the general valuation and rounding methods used by Eurex Clearing (for details, see below).~~

~~In addition to and independent from the classic average price processing described in this chapter, Eurex Clearing offers the Value Based Average Pricing functionality that is described in 5.2.9 of this document.~~

~~5.2.8.1 Average price merge~~

~~The creation of average priced transactions is available for transactions:~~

- ~~with the same trade date.~~
- ~~of the same instrument, transaction account, basket ID and equal side (buy/sell)~~
- ~~with the same "to open" indicator.~~
- ~~that are either on exchange or bi-lateral off-book, or multi-lateral off-book transactions, i.e., off-book transactions can only be merged with other off-book transactions of the same bi-/multilateral type and for transactions with the same non-disclosure flag (TradePublishIndicator) and same "Fee Buy-Side Trading Disclosure" values.~~
- ~~that are adjustable, i.e., the transaction duration has not expired, and they are not part of another pending workflow.~~
- ~~with trade type "EnLight Triggered Trade". Note, they can only be merged with other EnLight transactions.~~
- ~~with trade type "Block QTPIP trades". Note, they can only be merged with other Block QTPIP transactions.~~
- ~~with Strategy Type 5 = Futures Spread. Note, for the Strategy Sub Type = BSPD (numeric value 2), they can only be merged with other Futures Spread transactions, containing the same Strategy Sub Type value. For transactions with Strategy Type 5 = Futures Spread and Strategy Sub Type = SPD (numeric value 1) no restrictions exist.~~
- ~~with Strategy Type 6 = Inter Product Spread. Note, they can only be merged with other Inter Product Spread transactions, containing the same Strategy Sub Type value.~~
- ~~with Strategy Type 8 = Packs and Bundles. Note, they can only be merged with other Packs and Bundles transactions, containing the same Strategy Sub Type value.~~

~~Average pricing is not available for:~~

- ~~Cooperation products~~
- ~~Transactions with preliminary price.~~
- ~~Transactions which have Tran Type "11 Average Price".~~

[5] ~~The amount of transactions to be merged into one is limited on the GUI, see 5.2.8.8. Via FIXML, the number is functionally unlimited. Technical limits for message sizes apply.~~

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The merged, average priced transaction will be identifiable by trade type (51 on FIXML, AVERAGE_PRICE on the GUI) and will be booked with transaction type 011 Average Pricing. Note that it receives a new transaction ID (with suffix 0). The merged transaction will be available for transaction management (including give-up) but cannot be part of another average price merge.

5.2.8.2 Residual handling

During average pricing, a residual amount is possible, which is the difference of cash flows. Either a positive or a negative residual can arise after the original transactions have been re-priced at the average. This residual amount remains "attached" to the new average priced transaction (suffix 0) and will not be moved with any adjustments on that transaction. Note that average pricing is not cash flow neutral.

5.2.8.3 Average price & residual calculation for futures

For futures, C7 performs four calculations to determine average price and residual. In order to enable Members to reliably predict these values before submitting an average price merge request, the calculation steps are detailed below. Please take note of the rounding applied at various steps. To learn more about the forecast feature, please refer to 5.2.8.5 below.

Please note in general for this chapter that rounding for GBX/JPY products is to integer & for others to 2 decimals.

5.2.8.3.1 Calculate average price

$$Average\ Price = ROUND\left[\left(\frac{\sum_{i=1}^{n}(Trade\ Price * Quantity)}{Total\ Quantity}\right); 7\right]$$

5.2.8.3.2 Calculate variation margin for original (merged) transactions

The variation margin calculations will be based on the Rounding conventions described in the section 5.1.9.

For buy transactions:

$$Variation\ Margin;(\ transaction) = ROUND\left[\left((Current\ Day\ Settlement\ Price - Trade\ Price;)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\right)\ x\ Transaction\ Quantity\ ; 2\right]$$

For sell transactions:

$$Variation\ Margin;(\ transaction) = ROUND\left[\left((Trade\ Price - Current\ Day\ Settlement\ Price;)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\right)\ x\ Transaction\ Quantity\ ; 2\right]$$

Total:

$$Total\ Variation\ Margin = \sum_{i=1}^{n} Variation\ Margin;(n\ transaction)$$

Where "n" is number of trades involved in the Average price merge.

5.2.8.3.3 Calculate variation margin of average price transaction after merge

For buy transactions:

$$Variation\ Margin_{\ average} = ROUND\left[\left((Current\ Day\ Settlement\ Price - Average\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ value}{Tick\ Size}\ x\ Total\ merged\ Transaction\ Quantity\right); 2\right]$$

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For sell transactions:

$$Variation\ Margin_{average} = ROUND\left[\left((Average\ Price - Current\ Day\ Settlement\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\ x\ Total\ merged\ Transaction\ Quantity\right);2\right]$$

5.2.8.3.4 Calculate residual

$$Residual = Total\ Variation\ Margin - Variation\ Margin_{average}$$

Note: the residual for future transactions which is calculated upon average price creation and reported in the average price transaction via FIXML and GUI is only an indicative amount calculated based on previous day's settlement price[6]. After the current day settlement price is available the residual amount is recalculated; reporting on CB012 shows the final residual.

5.2.8.4 Average price & residual calculation for options

For options, C7 performs three calculations to determine average price and residual. To enable Members to reliably predict these values before submitting an average price merge request, the calculation steps are detailed below. Please take note of the rounding applied at various steps. To learn more about the forecast feature, please refer to 5.2.8.5 below.

5.2.8.4.1 Calculate premium of original transactions

The options premium calculations will be based on the Rounding conventions described in the section 5.1.9.

$$Premium;(transaction) = Round\left[\left(Trade\ Price;x\ Trading\ Unit\ x\frac{Tick\ Value}{Tick\ Size}\ x\ Transaction\ Quantity\right);2\right]$$

$$Total\ Premium = \sum_{i=1}^{n} Premium\ (n\ transaction);$$

Where "n" is number of trades involved in the Average price merge.

5.2.8.4.2 Calculate average price & average premium

$$Average\ Price = ROUND\left[\left(\frac{\sum_{i=1}^{n} Trade\ Price * Quantity}{Total\ Quantity}\right);7\right]$$

$$Total\ Average\ Premium = Round\left[\left(Average\ Price\ x\ Trading\ Unit\ x\ \frac{Tick\ Value}{Tick\ Size}\ x\ Total\ Quantity\right);2\right]$$

5.2.8.4.3 Calculate Residual

$$Residual = Total\ Premium - Total\ Average\ Premium$$

5.2.8.5 Price, residual amount and quantity forecast

On the C7 Derivatives Clearing GUI, forecast values for the average price, residual and total quantity are displayed on the Average Price Merge window.

Via the FIXML Interface Members can optionally submit forecast values for the average price, the residual, and the quantity with the merge request. The system will check if the forecast is equal to

[6] On the first trading day of a new futures series, the previous day's settlement price is assumed to be "0" for the purpose of average pricing calculations.

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the values calculated by the system; if this is the case, the request is processed, otherwise it is rejected. When the request message does not contain forecast fields, the average price process will start directly.

5.2.8.6 De-merge

Average priced transactions can be de-merged, i.e., the original transactions can be re-established. The following conditions must be met for an average priced transaction to be available for de-merge:

- The transaction must be adjustable, i.e., transaction duration (see 5.1.5) has not run out and there is no pending give-up/take-up process.
- The transaction must be booked "to open."
- The transaction must be booked to the transaction account in which the average price merge took place.

Average priced transactions that have been moved from the original transaction account via account transfer or give-up must be transferred back by the Member before they can be de-merged. Note that this might affect multiple transactions in case of transaction separation(s) pursuant average price merge – Members must transfer back all parts of the separated, original transaction.

De-merged transactions are booked with transaction type 012 De-Merge under their original transaction ID (with increased suffix). The residual amount that was attached to suffix 0 of the merged transaction will be displayed and booked out accordingly.

5.2.8.7 Mistrade reversal for average priced transactions

If an average priced transaction contains a trade that becomes a mistrade, the average price transaction is automatically de-merged before the (mis-)trade reversal is processed.

5.2.8.8 Interfaces

Average price merge and de-merge can be initiated on both the C7 Derivatives Clearing GUI and via the FIXML interface. Due to display restrictions, a maximum of 5000 transactions can be merged on the GUI. Via FIXML, the number of transactions to be merged is practically unlimited[7]. Any merge/de-merge action entered on the GUI will be reflected on the FIXML interface. The CB715 Average Pricing report contains all merge/de-merge actions, reports CB012 Account Statement, CB790 Premium Information and CB795 Variation Margin Information contain residual information where applicable.

[7] Message size limits apply.

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5.2.9 Value Based Average Pricing

The Value Based Average Pricing (VBAP) functionality allows Members to group transactions and to create average priced transactions out of the group in a flexible manner.

C7 will keep track of the group as a new entity and will calculate certain group parameters.

Based on the group value members can “create” average priced transactions and allocate them at the current system calculated or a tailor-made average price.

~~Note that the Value Based Average Pricing is independent from the classic Average Price Processing described in 5.2.8.~~

5.2.9.1 Grouping/Ungrouping

Transactions can be added to and subsequently removed from a group. Members can request grouping via GUI or FIXML. To add a transaction to a group, Members must assign a group name to the transaction. Members can optionally assign a firm group name along with the group name while assigning the transaction to a VBAP group. After successfully assigning the transaction to the group (combination of group name and firm group name), C7 will generate and assign a unique group ID, VBAP group. Subsequently the Member can remove the transaction from this VBAP group or directly re-assign it to another VBAP group. The group name is an alpha-numeric string with a maximum of 19 digits defined by the member. The firm group name is an ~~alpha-numeric~~ string with a maximum of 19 digits defined by the member. The supported character set is ASCII characters 32-126 except for the exclamation mark (!, 33), the pipe symbol (|, 124), double quotes (", 34), single quotes (', 39), grave accent (`, 96), ampersand (&, 38), equal sign (=, 61), at sign (@, 64), plus (+, 43), lower than (<, 60) and larger than (>, 62). Leading spaces are fully supported whereas trailing spaces will be automatically truncated. The combination of group name and firm group name must be unique per trade date on a member level.

Note that grouping requests do not support a simultaneous text adjustment on the original transactions. The text fields will remain unchanged.

The assignment of the first transaction generates the unique group ID; the de-assignment of the last transaction from the group cancels the group.

A group may be in status INCOMPLETE, COMPLETE, CLOSED or CANCELLED. The grouping of transactions, i.e., the assignment resp. de-assignment of transactions to/from a certain group is only possible as long the group is in status INCOMPLETE. The different group statuses and possible status changes are explained in detail in 5.2.9.3.1 in this document.

5.2.9.1.1 Criteria for grouping

The assignment of transactions to the same VBAP group is available for transactions,

a. with the same trade date

b. of the same instrument, position account and equal side (buy/sell)

c. that are adjustable (i.e., transaction duration has not yet expired, and the transaction is not part of another workflow)

If a VBAP group is created with a certain group name, firm group name and trade date (taken from the original transaction), the member cannot use the same combination of group/firm group names for transactions of a different instrument, different position account or different side if these transactions have the same trade date.

This is even not possible if all transactions are removed from the VBAP group; in this case the VBAP group is still available in the C7 database with status “cancelled”.

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Restrictions for the assignment of transactions to the same group apply for:

a. transactions with Strategy Type 5 = Futures Spread and Strategy Sub-Type = BSPD (numeric value 2); they can only be grouped with other Futures Spread transactions, containing the same Strategy Type and Strategy Sub Type values. For transactions with Strategy Type 5 = Futures Spread and Strategy Sub-Type = SPD (numeric value 1) no restrictions exist.

b. transactions with Strategy Type 6 = Inter Product Spread; they can only be grouped with other Inter Product Spread transactions, containing the same Strategy Sub Type value

c. transactions with Strategy Type 8 = Packs and Bundles; they can only be grouped with other Packs and Bundles transactions, containing the same Strategy Sub Type value

The following transactions cannot be assigned to a VBAP group:

a. Cooperation products

b. Market on Close (MoC) trades

c. Basket trades

d. Block QTPIP trades

e. Preliminary priced trades

f. transactions that are already part of an allocation (pending give-up or grouping)

g. transactions that have already been subjected to the Value Based Average Pricing~~transactions that have already been average priced (this applies for the Value Based Average Pricing and the classic average price functionality)~~.

5.2.9.1.2 Transaction adjustment and broadcasts in case of (un)grouping

Grouping will add a member-defined group name, a member-defined firm group name, a group ID determined by Eurex Clearing, the notional value of the transaction and an average price indicator to the transaction record. These attributes are reported in the transaction and are shown in the GUI, in TradeCaptureReport messages broadcasted via FIXML and reports. The adjustment due to grouping is booked position-neutral, i.e., both the long and short booking quantities are zero.

If a transaction is assigned to a VBAP group, the transaction status changes to “not adjustable”. Hence, grouped transactions are blocked for further adjustments (except group maintenance). However, they can still be removed from the group (de-assigned) resp. re-assigned to another group, as long the status of the affected groups is INCOMPLETE. All other transaction adjustments, e.g., text adjustment, O/C adjustment, transaction separation etc. will be rejected once the transaction is assigned to a VBAP group.

The following table shows an example for the assignment of a Transaction to a Value Based Average Pricing group. The Member requests the assignment of the transaction e.g., to Group Name XY, to Firm Group Name ABC and Eurex will create Group ID 123 upon assignment of the first transaction to the group. Each transaction assigned to a group will report a notional value (transaction quantity * transaction price). The notional values of all transactions assigned to a group sum up to the total notional value of the group.

Transaction Management	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Price	Tran Type	Group Name	Firm Group Name	Group ID		Notional Value
Original Transaction	717171	0000		adjusted	B	O	100	10.00	000					
Grouping	717171	0001	0000	inverse	B	O	-100	10.00	009					
Grouping	717171	0002	0000	not adjustable	B	O	100	10.00	009	XY	ABC	123	Original	**1,000.0000000**

Upon grouping, TradeCaptureReport messages will be sent via FIXML for the inverse and new transactions. After successful assignment of a transaction to a group, the field Group Name (tag 1854), the Firm Group Name (tag 1728), Group ID (tag 1730), Average Price Indicator (tag 1853) and Notional Value (tag 831) will be available in the transaction. The transaction type for grouping= 009 will be assigned to the field TransferReason (tag 830). As for any other transaction adjustment, the suffix will be increased with each inverse and new transaction and will be reported in the field TradeReportID (tag 571). Eurex will also broadcast an AllocationInstructionAlert message to inform the Member about the group (more detailed information about when the AllocationInstructionAlert message is sent can be found in 5.2.9.2).

The re-assignment of a transaction from one VBAP group to another as well as the removal of a transaction from a VBAP group results in a transaction adjustment with transaction type 009. After re-assignment, the previous group ID is reported once only in field Previous Group ID (tag 2771) of the new transaction. In case of a re-assignment the criteria described in 5.2.9.1.1 must be fulfilled. Note that assignment and de-assignment of transactions to/from a VBAP group is only possible if the VBAP group status is INCOMPLETE.

The sample in the table below shows the transaction adjustments in case of a re-assignment of a transaction from one group to another and a subsequent removal of the transaction from the group; the transaction account transfer after removal of the transaction from group ID 456 is shown to illustrate that the PrevGroupID is reported only once and will be removed in any transaction adjustment after ungrouping.

Transaction Management	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Price	Tran Type	Group Name	Firm Group Name	Group ID	Previous Group ID	Average Price Indicator	Notional Value
Grouping	717171	0002	0000	Adjusted	B	O	100	10.00	009	XY	ABC	123		Original	1,000.0000000
(Re)-Grouping	717171	0003	0002	inverse	B	O	-100	10.00	009	XY	ABC	123		Original	-1,000.0000000
(Re)-Grouping	717171	0004	0002	adjusted	B	O	100	10.00	009	YZ		456	123	Original	1,000.0000000
(Un)-Grouping	717171	0005	0004	inverse	B	O	-100	10.00	009	YZ		456	123	Original	-1,000.0000000
(Un)-Grouping	717171	0006	0004	adjusted	B	O	100	10.00	009				456		
Account Transfer	717171	0007	0006	inverse	B	O	-100	10.00	004				456		
Account Transfer	717171	0008	0006	adjustable	B	O	100	10.00	004						

The quantity of all transactions assigned to a group will be blocked on position level; there will be new position attributes "**Designated Grouping Long"** and **"Designated Grouping Short"**. The quantity designated for grouping on position level corresponds to the sum of all remaining quantities of all groups of the respective side (buy or sell). The designated quantity for grouping is increased due to

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the assignment of transactions to a group and cancellation of allocations out of the group (see 5.2.9.3.4); the designated quantity for grouping is decreased due to de-assignment of transactions from a group, due to allocations out of the group (see 5.2.9.3.3.2) and due to the cancellation of a group (see 5.2.9.3.6).

5.2.9.1.3 Automatic O/C adjustment in case of grouping

Only transactions "to open" can be assigned to a VBAP group. ~~In contrast to the classic average price functionality, for Value Based Average Pricing it is not necessary to perform an O/C adjustment first, in case a transaction "to close" must be assigned to a group. This will be done automatically by the system.~~

In case a member requests grouping of a transaction "to close" via FIXML or GUI, the corresponding transaction will be adjusted "to open" first and subsequently the transaction will be assigned to the group.

The O/C adjustment will result in an inverse and new booking first; the transaction "to open" will not yet have a group name, a firm group name a group ID, a notional value or an average-price indicator.

Subsequently the adjustment due to grouping is booked with transaction type 009.

Note that an adjustment "to open" is not reversed back to "close" automatically if such a transaction is de-assigned from the group.

5.2.9.2 Calculating and Broadcasting of Group parameters

A group is created once the first transaction is assigned to it. A VBAP group can be uniquely identified on member level by the group name, firm group name and trade date OR by the Group ID.

C7 will maintain and calculate the following parameters which will be continuously updated in case transactions are added to/removed from the VBAP group or in case of allocations out of the VBAP group or cancellation of allocations or group cancellation:

Parameter	Definition
Group Name	Group Name defined by the Member. The Group Name and Firm Group Name will be unique per trade date on member level.
Firm Group Name	Firm Group Name defined by the Member. The Group Name and Firm Group Name will be unique per trade date on member level.
Group ID	Unique group ID assigned by the Clearing House upon group creation.
Total Group Quantity	Sum of the transaction quantities of all transactions assigned to the group. In addition, C7 will keep track of the total group quantity depending on sub-group specific data (see 5.2.9.3.2).
Remaining Group Quantity	Sum of the transaction quantities of all transactions assigned to the group minus the sum of the quantities of allocations out of the group/plus the sum of cancelled allocations. In addition, C7 will report remaining sub-group quantity depending on sub-group specific data (see 5.2.9.3.2).

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Parameter	Definition
Total Group Value (Notional value of the Total Group Quantity)	Sum of the notional values of all transactions assigned to the group.
Remaining Group Value (Notional value of the Remaining Group Quantity)	Sum of the notional values of all transactions assigned to the group minus the notional value of all allocations out of the group/plus the notional value of cancelled allocations.
High	Highest transaction price in the group.
Low	Lowest transaction price in the group.
System Calculated Average Price	Volume weighted average price of the group (based on the remaining notional value and the remaining group quantity), rounded down to 7 digits.
Initial Math. Average Price	Volume weighted average price of all original transactions assigned to the group, reported with a precision of 20 decimals.
Group Status	Status of the group.

Members will be informed about group updates via FIXML *AllocationInstructionAlert* message and can inquire about the information at any time on the C7 Derivatives Clearing GUI.

Please note that an *AllocationInstructionAlert* is sent for each update of the group, i.e., if the Member sends a request to assign more than one transaction to a group (e.g., 1000 transactions in one request), then C7 will broadcast one *AllocationInstructionAlert* message to inform the Member about group parameters after all those (e.g., 1000) transactions have been assigned. Likewise, if members send an Allocation Instruction request which includes 50 individual allocations, then C7 will broadcast all these individual allocations and send one *AllocationInstructionAlert* message to inform about the group parameters.

An *AllocationInstructionAlert* message is broadcasted via FIXML in case:

a. the group has been created, i.e., when the first transaction is assigned to the group,
b. of each update due to grouping (assignment/de-assignment/re-assignment of transactions),
c. of a successful allocation of average price transactions out of the group,
d. an allocation out of an average price group is cancelled,
e. the group is deleted,
f. of mistrade processing (after de-assignment of relevant transactions from the group).

On the GUI, the VBAP group data will be shown on the “VBAP – Group Overview Window > View Group Data”.

5.2.9.2.1 Initial Mathematical Average Price

The Initial Mathematical Average Price of the group represents the unrounded volume-weighted average price of the group at the time when the group status changes to “complete”. The Initial Mathematical Average Price is calculated and updated continuously as long as the group status is “incomplete”; when the group status changes from “incomplete” to “complete” it is not further updated.
The Initial Mathematical Average Price is not rounded, shown with a precision of 20 digits, calculated and updated as follows:

$$\text{Initial Mathematical Average Price} = \frac{Total\ Group\ Value}{Total\ Group\ Quantity}$$

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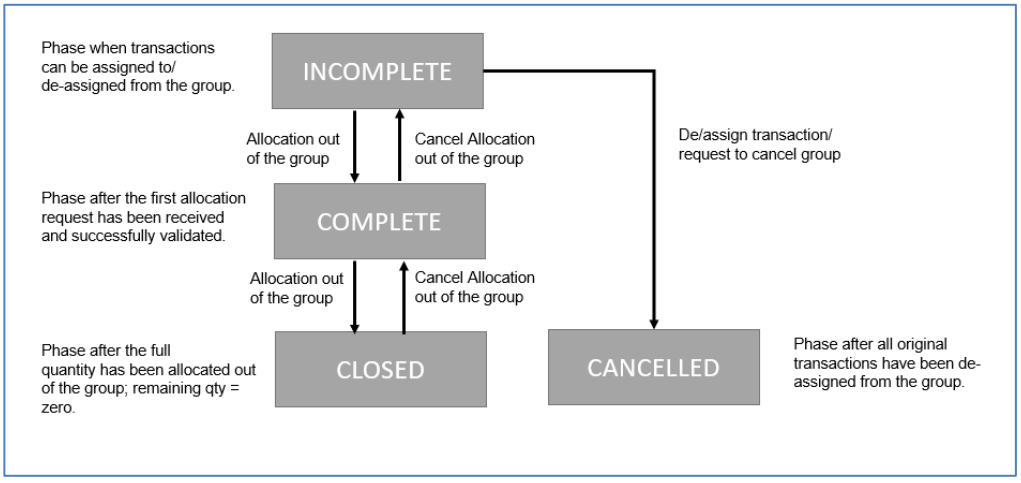
5.2.9.3 Value Based Average Pricing processing

5.2.9.3.1 Group status

A Value Based Average Pricing group may have one of the following statuses that can change within the lifecycle of a group:

Status	Description
INCOMPLETE	The group is in status INCOMPLETE, as long as no allocations out of the group have been requested or if all allocations out of the group have been cancelled.
COMPLETE	The group is in status COMPLETE, if the first request to allocate a transaction out of the group has been received. The status changes with the successful validation of the allocation request already before the allocation is processed and fixes the initial mathematical average price.
CLOSED	The group is in status CLOSED, if the remaining group quantity has been reduced to zero due to allocations out of the group. A closed group can be reopened by the cancellation of average price transactions (cancellation of allocations out of the group).
CANCELLED	The group is in the status CANCELLED, if all transactions have been de-assigned from a group.

The diagram below outlines the possible state changes:



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5.2.9.3.2 Mixing of fee-types within a Value Based Average Pricing group

The Value Based Average Pricing services offered by Eurex will allow members to assign transactions belonging to different fee-types (fee-type will be denoted hereafter as sub-group) to the same VBAP group. The sub-group is identified through the combination of transaction's trade type, trade publish indicator and rate identifier. The possible sub-groups are various combinations of trade types, trade publish indicators (Real time disclosed/Deferred disclosed) and rate identifiers (valid values listed in the section 5.1.6). Refer section 5.2.9.3.2.1 for an example view of sub-groups.

The system will calculate the group parameters and will also calculate the total and remaining quantities at sub-group level as described in the section 5.2.9.2. Example calculation and tabular view of total and remaining transaction quantities per sub-group is listed in sections 5.2.9.3.2.2 and 5.2.9.3.2.3.

5.2.9.3.2.1 Example - sub-groups view

S. No	Original trade type (TrdTyp value)	Trade Publish Indicator	Rate Identifier (Rate ID)
1	VBAP On-Exch Buyside non-disclosed (1050)		Desk Electronic (W)
2	VBAP On-Exch Buyside disclosed (1053)		Sponsored Access (G)
3	VBAP TES1 Buyside non-disclosed (1051)	Real time disclosed	Client Electronic (Y)
4	VBAP TES1 Buyside disclosed (1054)	Real time disclosed	Vendor-provided Platform (C)
5	VBAP TES1 Buyside non-disclosed (1051)	Deferred disclosed	Vendor-provided Platform (C)
6	VBAP TES1 Buyside disclosed (1054)	Deferred disclosed	Premium Algorithmic Trading Provider (H)
7	VBAP TES2 Buyside non-disclosed (1052)	Real time disclosed	Premium Algorithmic Trading Provider (H)
8	VBAP TES2 Buyside disclosed (1055)	Real time disclosed	Other or Default (D)
9	VBAP TES2 Buyside non-disclosed (1052)	Deferred disclosed	Other or Default (D)
10	VBAP TES2 Buyside disclosed (1055)	Deferred disclosed	Desk Electronic (W)

5.2.9.3.2.2 Example - Group Transactions view

Assume a VBAP group contains the following transactions.

TranID	Sfx	Group ID	B/S	Qty	Tran Price	Trade Type	Trade Publish Ind.	Buy side disclosure based on feeidentcode	Rate ID	Avg PrcInd	Notional Value
T857RB5	0002	1234	B	67	4,171.00	REGULAR		non-disclosed	D	Original	279,457.0000000
T948CR8	0002	1234	B	256	4,170.00	REGULAR		non-disclosed	D	Original	1,067,520.0000000
T948CX8	0002	1234	B	256	4,170.00	REGULAR		non-disclosed	C	Original	1,067,520.0000000
T855Z2F	0002	1234	B	69	4,172.00	REGULAR		disclosed	G	Original	287,868.0000000
T856PRE	0002	1234	B	34	4,176.00	VOLA	PUBLISHED	non-disclosed	C	Original	141,984.0000000
T853HY1	0002	1234	B	456	4,168.00	TES BLOCK	PUBLISHED	disclosed		Original	1,900.608.0000000
T896CM3	0002	1234	B	89	4,174.00	TES BLOCK	DEFERRED PUBL.	non-disclosed	H	Original	371,486.0000000
T853PH8	0002	1234	B	367	4,167.00	TES BLOCK	DEFERRED PUBL.	disclosed	H	Original	1,529,289.0000000
T855U9F	0002	1234	B	47	4,169.00	ENLIGHT	PUBLISHED	non-disclosed	W	Original	195,943.0000000
T904HS5	0002	1234	B	45	4,175.00	ENLIGHT	PUBLISHED	disclosed	Y	Original	187,875.0000000
T855U9A	0002	1234	B	50	4,169.00	ENLIGHT	DEFERRED PUBL.	non-disclosed	H	Original	195,943.0000000
T904HS5	0002	1234	B	55	4,175.00	ENLIGHT	DEFERRED PUBL.	disclosed	D	Original	187,875.0000000

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5.2.9.3.2.3 Example - Sub-Group data view on C7 GUI

The reporting of sub-quantities for different sub-group levels on the C7 GUI View Group Overview window will be like below:

S. No	Original Trade Type	Trade Publish Indicator	Rate ID	Total Sub Quantity	Remaining Sub Quantity
1	VBAP On-Exch Buyside non-disclosed		D - Default	323	323
2	VBAP On-Exch Buyside non-disclosed		C - Vendor-provided Platform	256	256
3	VBAP On-Exch Buyside disclosed		G - Sponsored Access	69	69
4	VBAP TES1 Buyside non-disclosed	Real time disclosed	C - Vendor-provided Platform	34	34
5	VBAP TES1 Buyside disclosed	Real time disclosed		456	456
6	VBAP TES1 Buyside non-disclosed	Deferred disclosed	H - Premium Algorithmic Trading Provider	89	89
7	VBAP TES1 Buyside disclosed	Deferred disclosed	H - Premium Algorithmic Trading Provider	367	367
8	VBAP TES2 Buyside non-disclosed	Real time disclosed	W - Desk Electronic	47	47
9	VBAP TES2 Buyside disclosed	Real time disclosed	Y - Client Electronic	45	45
10	VBAP TES2 Buyside non-disclosed	Deferred disclosed	H - Premium Algorithmic Trading Provider	50	50
11	VBAP TES2 Buyside disclosed	Deferred disclosed	D - Default	55	55

5.2.9.3.3 Allocations out of a Value Based Average Pricing group

In case a member intends to allocate an average price transaction out of a group, they can request for a specific sub-group level, i.e., a trade type, trade publish indicator and rate identifier along with the allocation quantity. Allocation requests for a specific sub-group level must contain all sub-group attributes except in cases where the attribute value is empty, e.g., trade publish indicator is empty for on-exchange allocation, then trade publish indicator is not required in the request & if Rate ID is empty for a specific sub-group, then Rate ID is not required in the request.

If the request is not for a certain sub-group level in the allocation request, C7 will perform pro-rata allocation. This may result in multiple average price transactions. The details about the pro-rata allocation processing are explained in the section 5.2.9.3.3.2.

The allocation of average price transactions out of a group can be requested via C7 GUI or via FIXML interface using *AllocationInstruction* message. In case it is intended to instruct multiple allocations at once, this can be submitted via the FIXML interface.

5.2.9.3.3.1 VBAP trade types

The Member must specify one of the following VBAP trade types in the allocation request, where TES2 stands for EnLight Triggered Trades and TES1 stands for all other off-book transactions:

FIXML Valid[8] values	GUI Valid Values	Report Decodes	Description
1050	G	VB	VBAP On-Exch Buyside non-disclosed
1051	H	VB1	VBAP TES1 Buyside non-disclosed
1052	J	VB2	VBAP TES2 Buyside non-disclosed
1053	U	VB3	VBAP On-Exch Buyside disclosed
1054	X	VB4	VBAP TES1 Buyside disclosed

[8] The trade types 1053, 1054 and 1055 are for future consideration.

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FIXML Valid[8] values	GUI Valid Values	Report Decodes	Description
1055	Y	VB5	VBAP TES2 Buyside disclosed

Note that C7 will keep the transaction's original trade type in the average price transactions where possible, but it may change due to the combination of transaction trade types present in the VBAP group,

a. a request to allocate 1050/1053 (On-Exchange related) transaction out of the group will always return trade type Regular Trade on the average price transaction that is created,
b. a request to allocate 1052/1055 (TES2/Enlight related) transaction out of the group will always return trade type EnLight-Triggered Trade.
c. a request to allocate 1051/1054 (TES1 related) transaction out of the group, C7 will return original off-book trade type (e.g., VOLA or TES BLOCK) in the average price transaction, in case only one original trade type is in the group. ~~If more than one off-book trade type is assigned in a group, then C7 will report 1051/1054 in the average price transaction based on the buyside disclosure value.~~ But C7 will return 1051/1054 in the average price transaction if more than one off-book trade types "with same trade publish indicator and same rate id" are assigned in a group.

5.2.9.3.3.2 Allocation processing rules

Value Based Average Pricing allows the creation of average priced transactions in a flexible manner.

This chapter distinguishes between allocations and the corresponding requests. An allocation creates the actual average-priced transactions. The request instructs C7 to process these allocations. One request can submit one single or even multiple allocations at once. Fields provided at the request level apply to all allocations within that request.

In a first step the entire request will be validated. It is checked if the information provided for all the individual allocations is consistent, valid and the whole request can be executed. The request will either be accepted in full or rejected in full.

Essentials on individual allocation level, within one request members can specify VBAP allocations with various individual parameters:

- **Individual Allocation ID** (mandatory) is the user-defined ID. It must be unique within one allocation request.
- **Allocation Quantity** (mandatory) defines the requested allocation quantity per individual allocation. The total requested quantity of all individual allocations within one allocation request must not exceed the remaining group quantity.
- **Average price** (optional): System Calculated Average Price is used if no price is defined within the allocation. A tailor-made price can be specified but must stay in the group's high/low price range. Please note that all the individual allocations in a request must carry the same price. The remaining notional value of a group must not become negative.
- **Sub-groups** (optional): In case sub-group details are provided, the allocated quantity from a sub-group should not exceed the remaining quantity of the respective sub-group. Pro-rata distribution will be performed for the respective allocations, if no sub-group details are provided. A mix of allocations with and without pre-specified sub-groups is allowed.
- **Transfers** (optional): Give-up/ Take-up or Account Transfer can be requested.
- **Text fields** (optional) correspond to the chosen transfer or only for the new VBAP transactions.
- **O/C Indicator** (conditional): Average Price Transactions can be booked also as "to close" transactions. The indicator can be modified during VBAP creation and Give-Up/ Take-Up.

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Essentials of Pro-Rata Distribution:
For individual allocations without defined sub-group, pro-rata ratio will be calculated to distribute the total allocation quantity proportionally across all available VBAP sub-groups.

$$Ratio_i = \frac{Requested\ Allocation\ Qty_i}{Total\ Remaining\ Group\ Qty}$$

$$i = \frac{number}{name} of\ Subgroup\ in\ the\ VBAP\ Group$$

C7 generates a separate average price transaction with the respective quantity for each sub-group, applying the calculated ratio. The resulting pro-rata quantities are rounded to the nearest integer.

$$Pro\ Rata\ Allocation\ Qty_i = Ratio_i * Remaining\ Subgroup\ Qty$$

If the sum of the allocated quantities for all sub-groups does not match the requested quantity due to rounding, the following applies:

- If, $\sum Pro\ Rata\ Allocation\ Qty_i > Requested\ Allocation\ Qty$, then the sub-group allocation with the highest allocated quantity will be subtracted by one. If the Total Allocation Quantity still does not match the requested quantity, then the sub-group with the next highest allocated quantity will be subtracted by one. This will continue until the rule is fulfilled.
- If, $\sum Pro\ Rate\ Allocation\ Qty_i < Requested$ Allocation Qty, then the sub-group with the highest allocated quantity will be incremented by one. If the Total Allocation Quantity still does not match the requested quantity, then the sub-group with the next highest allocated quantity will be incremented by one. This will continue until the rule is fulfilled. Refer below example, where the quantity is incremented.

Example: Pro-rata Allocation Calcuations at C7

The total remaining group quantity before allocation:	880
The user requests the allocation quantity:	500

Ratio of the Allocation request: 500/880:	0.568181818182 *

Sub-group quantity (VBAP Sub-group overview)

VBAP Trade type (Original Trade Type)	Trade Publish Indicator	Rate ID	Total Quantity per Fee-Level	Rem. Quantity per Fee-Level (before allocation)	Ratio per Fee-level**	Pro-Rata Alloc. Quantity (unrounded)	Allocated Quantity*** (Rounded)	Adjusted Allocations	Remaining Quantity per Fee-Level
VBAP On-Exch buyside non-disclosed		G	161	161	0.182954545455	91.477272727273	91	91	70
VBAP TES1 buyside non-disclosed	PUBLISHED	C	354	354	0.402272727273	201.136363636364	201	202****	152
VBAP TES1 buyside non-disclosed	DEFERRED PUBLICATION	D	136	136	0.154545454545	77.272727272727	77	77	59
VBAP TES2 buyside disclosed	PUBLISHED	G	229	229	0.260227272727	130.113636363636	130	130	99
Totals			880	880	1.000000000000	500.0000	499	500	380

* The ratio is displayed with 12 digits, but internally it is unrounded.
** Ratio Per Fee-Level = Remaining Quatity Per Fee-Level / Total Remaining Group quanitiy all Fee-levels.
*** System calculated Allocation Quantity Per Fee-Level.
**** Adjusted Allocation quantity after incrementing the highest calculated allocation qty.

The system calculated total Allocations Quantity is less than Requested.

The total Allocations Quantity post adjustment equals the Requested Quantity.

If the request contains combination of pro-rata and sub-group level allocations, then sub-group level allocations are processed first. If multiple pro-rata allocations are present in one request, then the processing sequence is in the ascending order of their requested quantity. If requested quantity is same, then processing sequence is in the ascending order of their individual allocation IDs.

Create Average Price Transaction with Internal Account Transfer:
If a target account is provided within an allocation, this initiates the creation of an average priced transaction along with a related offsetting transaction in the original account. And a subsequent Internal Account Transfer of the average priced transaction into the account provided within the allocation. The open/close indicator is per default processed as “to open."

Create Average Price Transaction with Give-up/External Account Transfer:

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For 'Disclosed Client with System Access' or 'Basic Disclosed Client' or 'Authorized Manager with System Access' or 'Basic Authorized Manager' as target member and the corresponding Clearing Member as initiator, an external account transfer is automatically initiated. In this case the target position-account is mandatory. The open/close indicator is by default processed as "to open".
For all other cases a Give-Up is initiated. In this case the O/C indicator is mandatory as a proposal for the take-up member. If the provided Take-up member is not existing or not entitled to process take-ups, the request will be rejected.
In all cases an offsetting transaction and a VBAP transaction is generated on the original account and then the Give-Up/ External Account Transfer is initiated. The Give-up/Take-up processing rules as per Chapter 5.2.10 applies. Please note that either the Give-Up or Account Transfer is possible per individual allocation.

Create Average Price Transaction with open/ close indicator "C":
In case the average price transaction remains in the original account, the Average Price Transaction can be optionally booked "to close". The members can set the open/ close indicator to "C" within the individual allocation.

- If such individual allocation exceeds the current open long or open short quantity in the respective transaction account, then the request creates a VBAP transaction with closing error. A new transaction type "019" (VBAP Creation with Closing Error) will be assigned for the Average Price Transactions.
- If such allocation does not exceed the current open long or open short quantity in the respective transaction account, then the VBAP transaction is created with transaction type "016" (VBAP Creation) and the given closing quantity.

The Allocation request is rejected if,

- an invalid sub-group level is provided (Refer section 5.2.9.3.3.1 for valid trade types and section 5.1.6 for valid Rate Identifiers)
  OR
  the sub-group level is not fully specified, i.e., in the case of trade types 1051/1052/1054/1055, the trade publish indicator is mandatory.
- the given average price is not the same across all individual allocations.
- the given average price is not between the group's "High Price" and "Low Price" range, or the remaining group notional value becomes negative after the current allocation.
- the quantity information is missing for any of the individual allocation.
- the total allocation quantity of a specific sub-group level exceeds the remaining sub-group quantity
- the total allocation quantity of all the individual allocations exceeds the remaining group quantity.
- target account does not exist in case of internal/external account transfer.
- take-up member does not exist or is not entitled to take-up trade.
- the individual allocation contains member/account details for both Give-up and Account Transfers. Only one adjustment is allowed.

After successfully processing the first allocation from the VBAP group, the group status will be automatically set to COMPLETE. Thereafter, it will not be possible for members to manually assign a new transaction to the VBAP group & it will not be possible to manually de-assign transactions from a VBAP group. There is one exception where it is possible due to events like mistrade. For further details on mistrade processing, please refer to section 5.2.9.3.7.

5.2.9.3.3.3 Bookings and broadcasts due to allocations out of the group

The original transactions assigned to the group will not be booked inverse. Instead, C7 will create an offset transaction along with each average price transaction to keep the position unchanged.

The average price indicator of the generated transaction will indicate whether it is the offset or the average price transaction. The offset transaction will not be further adjustable.

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The VBAP Allocation ID links all average price and offset transactions that result from one Allocation Instruction request via FIXML (or using the create average price transaction window via C7 GUI). The combination of VBAP Allocation ID and VBAP Individual Allocation ID will link all average price and offset transactions that result from the individual allocation.

The offset and average price transactions may have different text details, which will depend on how the details were provided for the individual allocation in the request message.

									Booking Quantity					
Tran ID	**Suffix ID**	**Status**	**Average Price Identifier**	**Group ID**	**B / S**	**O / C**	**Tran Qty**	**Tran Price**	**Tran Type**	**Long Qty**	**Short Qty**	**Trade Type**	**Trade Publish Indicator**	**VBAP Allocation ID**	**VBAP Individual Allocation ID**
P683JM5	000	not adjustable	offset	1234	S	C	100	23.1234567	016	-100	0	REGULAR		789	567
P691RM7	000	adjustable	tailor-made	1234	B	O	100	23.1234567	016	100	0	REGULAR		789	567
P691ZK67	000	not adjustable	offset	1234	S	C	50	23.1234567	016	-50	0	VBAP TES1 Buyside non-disclosed	PUBLISHED	789	568
P691ZL98	000	adjustable	tailor-made	1234	B	O	50	23.1234567	016	50	0	VBAP TES1 Buyside non-disclosed	PUBLISHED	789	568

If average price transactions are allocated out of a group where all assigned original transactions have the same strategy type and strategy sub-type, these values will be inherited to the average price and offset transaction and will be reported accordingly.

If the original transactions in the group have different values in strategy type and strategy sub type, the corresponding fields in the average price and offset transaction will be empty. For filtering reasoning in the C7 GUI, the strategy type will be reported in such case with value “0 – Non-Strategy Trades” instead of empty.

5.2.9.3.3.4 Group update due to allocation out of the group

The notional value of the average price transactions will be deducted from the remaining notional value of the group; the quantity of the average price transactions will be deducted from the remaining group quantity. The remaining sub-quantity of the sub-group will be adjusted accordingly.

The system-calculated average price will be calculated and updated as follows:

$$\text{System calculated average price} = \text{ROUNDDOWN}\left[\left(\frac{Remaining\ Notional\ Value}{Remaining\ Group\ Quantity}\right); 7\right]$$

5.2.9.3.3.5 Residual calculation

For Value Based Average Pricing the residual defines the difference of cash flows between the allocation if it would be processed at the initial mathematical price and the actual cash flow using the average price of the allocation. Even if the system calculated average price of the group (rounded down to 7-digits) is used by the member, there might be a residual compared to the mathematical (unrounded) price.

If tailor-made prices are used, the residual has potential for stronger deviations.

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The residual is calculated on the transaction level and is reported in the average price transactions and -with the opposite sign- in the related off-set transaction[9].

5.2.9.3.3.5.1 Residual calculation for future products

To calculate the residual for **futures**, C7 performs the following calculations:

For buy transactions:

$$Residual; (allocation) = ROUND\left[\left((Allocation\ Price - Init.Math.Avg.Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\ x\ Allocation\ Quantity\right); 2\right]$$

For sell transactions:

$$Residual; (allocation) = ROUND\left[\left((Init.Math.Avg.Price - Allocation\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\ x\ Allocation\ Quantity\right); 2\right]$$

5.2.9.3.3.5.2 Calculate the residual for option products

To calculate the residual for **options**, C7 performs the following three steps:

1) Calculate premium for the allocation based on the initial mathematical average price on contract level

$$\text{Premium; (Math. Average Price)} = \text{ROUND [(Mathematical Average Price x } \frac{Tick\ value}{Tick\ size}\ x \text{ Trading Unit x Allocation Quantity) ,2]}$$

2) Calculate premium for the allocation based on the average price of the allocation

$$\text{Premium; (Allocation Price)} = \text{ROUND [(Allocation Price x } \frac{Tick\ value}{Tick\ size}\ x \text{ Trading Unit x Allocation Quantity) ,2]}$$

3) Calculate residual

for average priced buy transactions:

$$\text{Residual} = \text{Premium}_{\text{Allocation Price}} - \text{Premium}_{\text{Math.Average Price}}$$

for average priced sell transactions:

$$\text{Residual} = \text{Premium}_{\text{Math.Average Price}} - \text{Premium}_{\text{Allocation Price}}$$

5.2.9.3.4 Cancellation of an allocation out of the group

[9] Note that GBX and JPY products are rounded to integer.

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Members can request the cancellation of an individual allocation, or all individual allocations associated with same "VBAP Allocation ID" in one message (FIXML AI message), if the following conditions are fulfilled:

a. all affected average price transactions must be adjustable, i.e., the transaction duration has not run out and there is no pending give-up/take-up process,
b. post cancellation, the system calculated average price is within the Groups High-Low price range,
c. transaction must be booked "to open",
d. transaction must be booked to the transaction account in which the average price allocation took place.

Average price transactions that have been moved from the original transaction account via account transfer or give-up must be transferred back by the Member before the allocation can be cancelled. This might affect multiple transactions in case of a pro-rata allocation or in case of transaction separation after the average price allocation. Members must transfer back all parts of every average price transaction that were generated out of the allocation request that should be cancelled.

Inverse of the average price transactions and offsetting transactions are booked with transaction type 017 Cancel Value Based Average Price Allocation.

										Booking Quantity					
Tran ID	**Suffix ID**	**Account Name**	**Status**	**Average Price Identifier**	**Group ID**	**B/S**	**O/C**	**Tran Qty**	**Tran Type**	**Long Qty**	**Short Qty**	**Trade Type**	**Trade Publish Indicator**	**VBAP Allocation ID**	**VBAP Individual Allocation ID**
P683JM5	000	A1	adjusted	offset	1234	S	C	100	016	-100	0	REGULAR		789	567
P683JM5	**000**	**A1**	**inverse**	**offset**	**1234**	**S**	**C**	**-100**	**017**	**100**	**0**	**REGULAR**		**789**	**567**
P691RM7	000	A1	adjusted	tailor-made	1234	B	O	100	016	100	0	REGULAR		789	567
P691RM7	**000**	**A1**	**inverse**	**tailor-made**	**1234**	**B**	**O**	**-100**	**017**	**-100**	**0**	**REGULAR**		**789**	**567**
P691ZK67	000	A1	adjusted	offset	1234	S	C	50	016	-50	0	VBAP TES1 Buyside disclosed	PUBLISHED	789	568
P691ZK67	**000**	**A1**	**inverse**	**offset**	**1234**	**S**	**C**	**-50**	**017**	**-50**	**0**	**VBAP TES1 Buyside disclosed**	**PUBLISHED**	**789**	568
P691ZL98	000	A1	adjusted	tailor-made	1234	B	O	50	016	50	0	VBAP TES1 Buyside disclosed	PUBLISHED	789	568
P691ZL98	**000**	**A1**	**inverse**	**tailor-made**	**1234**	**B**	**O**	**-50**	**017**	**50**	**0**	**VBAP TES1 Buyside disclosed**	**PUBLISHED**	**789**	568

The inverse booking of average price and offset transaction is sent via FIXML and reported accordingly.

Upon cancellation of an allocation, the remaining notional value of the group is increased by the notional value of the cancelled average price transactions; the remaining quantity of the group is increased by the quantity of the cancelled average price transactions. The remaining quantity of the sub-groups are adjusted accordingly, and the system calculated average price will be updated.

5.2.9.3.5 Closing of a Value Based Average Pricing group

A group is in status CLOSED, if the remaining group quantity is reduced to zero due to allocations out of the group.

The closing of a Value Based Average Pricing group,

a. might be requested by the Member (see 5.2.9.3.3.2)
b. or will be triggered automatically by C7 if there is a remaining group quantity during product-specific end of day processing. This will be before the rule-based automatic close-out (see 5.3.1.3) is processed.
   I. The automatic closure of the group is processed at the current system calculated price of the group.
   II. The average price identifier of transactions generated during the product-specific end of day processing will be "VBAP - system generated transaction".
   III. Note that the system generated average price transactions can be cancelled by the Member on the next business day if the conditions for cancellation as described in 5.2.9.3.4 are fulfilled.

5.2.9.3.6 Group cancellation

Members can request cancellation of a group via FIXML (AllocationInstruction) or GUI. The cancellation of a group is possible if the group status = INCOMPLETE, i.e., either no allocation out of the group has been processed yet or all allocations that had been processed out of the group have been cancelled. The cancellation request will automatically de-assign all transactions from the group and set the group status to CANCELLED.

The group cancellation will also be triggered due to the de-assignment of the last transaction from the group (GUI or TradeCaptureReport request via FIXML).

5.2.9.3.7 Mistrade processing

If a transaction assigned to a Value Based Average Pricing group is subject to mistrade,

a. If no allocation out of the group has been processed yet, then the transaction is simply removed from the group and booked inverse.

b. If allocations out of the group have been already processed, then all allocations (average price transactions as well as offset transactions) will automatically be cancelled and finally the transaction subject to mistrade is de-assigned from the group and booked inverse.

In both scenarios, the group parameters are adjusted accordingly.

After mistrade processing, group status may be "incomplete" or "cancelled" (in case only the transaction subject to mistrade was contained in the group).

5.2.10 Give-up/take-up

Members can transfer transactions to other Members via a give-up. The following conditions must be met for a transaction to be available for give-up:

- The transaction is "to open"
- Give-up for quotes is not possible

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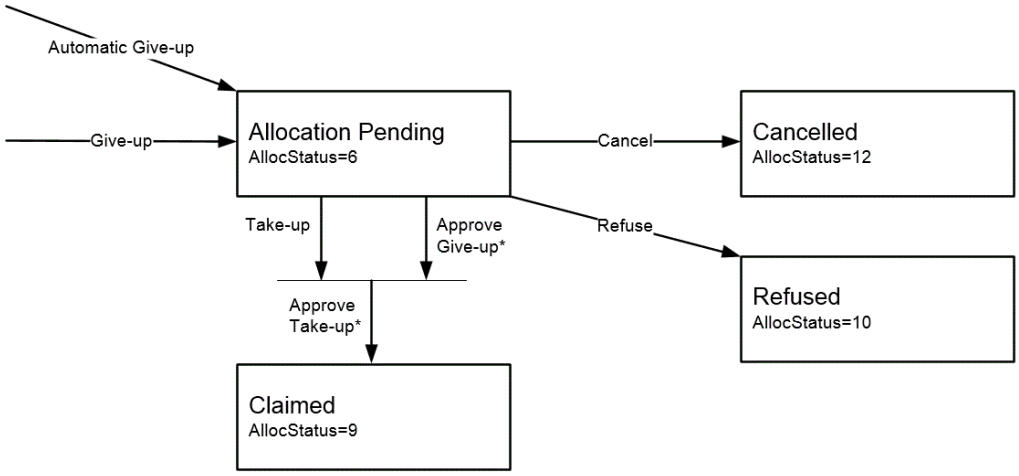
- The transaction duration has not expired
- The contract has not expired

Each give-up process receives a unique process ID, which is independent of the transaction ID. All give-up/take-up requests by Exchange Members require the approval of their respective Clearing Member. The C7 Clearing system provides an auto-approval functionality for give-up and take-up. By default, these values are set to yes on Exchange Member level. The Clearing Member may change the configuration to not confirm a give-up or take-up automatically, which becomes effective the next business day.

Note that a give-up may also be triggered along with an allocation request as part of the Value Based Average Pricing functionality (see 5.2.9.3.3.2).

Kindly refer to the C7 Reference Data Functional Guide for maintenance details for auto give-up/take-up.

The give-up Clearing Member can approve at any time (i.e. it can be the first, second, or third action in the process). The take-up Clearing Member can only approve after the take-up Exchange Member has claimed or taken-up the transaction.



*Take-up approval only available pursuant take-up action. Give-up approval can be performed at any time.

The initiating Member can cancel the give-up process if the status is “pending”. Give-up processes are not modifiable pursuant entry. Should a modification become necessary, the process needs to be cancelled first and submitted anew[10]. Note that the system will assign a new, unique process ID. Approvals are only valid for a given process ID. When a new process is started, approvals need to be submitted again. Take-ups can be processed for all transaction accounts.

Pending give-up processes are not cancelled during a booking cut (EOD processing), but will automatically be reallocated on the next business day if the conditions for give-up (see above) are still met and additionally the following is true:

- The transaction duration has not expired

[10] On the C7 Derivatives Clearing GUI, this can be triggered with a single click on the *Cancel+New* button.

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- The contract has not expired
- No capital adjustment took place for the product.
- The respective position is larger or equal than the number of designated contracts. The open position might not be sufficient to reallocate all pending give-up processes, e.g. due to assignment, auto close-out or position transfer. If only a subset of give-ups can be reallocated, eldest give-ups will be prioritized.

Transactions that are part of a pending give-up process cannot be adjusted.

Trades can be marked for automatic give-up processing upon order entry/off-book trade approval by specifying the take-up Member on the trading layer. C7 processes these trades in two steps: First, it books the trade to the standard transaction account according to clearing account rules (usually A1 or P1, as available – see 3.2.ff.). In a second step, the system will automatically trigger a give-up process. Note that this is subject to the same validation checks as any give-up initiated by the Member (i.e. it may fail if incorrect information was provided, e.g. a wrong take-up Member ID). Workflow broadcasts will be sent as for any other give-up process and the process can be cancelled by the give-up side if required. Note that in case of automatic give-up, text fields, own reference ID, O/C indicator[11], link member and beneficiary information – if applicable – of the original trade are forwarded as proposal values to the take-up side.

5.2.11 Handling of preliminary priced trades

Trades in products with preliminary and final prices (e.g. total return futures trades) are reported in both preliminary and final state on C7. Once the trade price is final, the preliminary trade is automatically inverse booked and the trade is re-booked with the final price. Both preliminary and final priced trades are available for transaction adjustments with one exception: preliminary priced trades cannot be merged via average pricing. Position adjustments are also available for positions in preliminary priced trades.

Sample booking:

Transaction Management	Clg Mbr	Account	Tran ID	Suffix ID	Parent Suffix ID	Trade Price	Status	B/S	Tran Type	Qty	Preliminary Price Tag
Initial preliminary transaction	**ABCFR**	**A1**	**456789**	**0000000000**		**800**	**adjusted**	**B**	**000**	**100**	**Y**
Transaction account transfer	ABCFR	A1	456789	0000000001	000000000	800	inverse	B	004	-100	Y
Transaction account transfer	**ABCFR**	**EXY**	**456789**	**0000000002**	**000000000**	**800**	**adjusted**	**B**	**004**	**100**	**Y**
Automatic inverse booking of preliminary transaction	ABCFR	EXY	456789	0000000003	0000000002	800	inverse	B	013	-100	Y
Rebooking with final price	**ABCFR**	**EXY**	**456789**	**0000000004**	**0000000002**	**850**	**adjustable**	**B**	**013**	**100**	

Transaction 456789 is booked as trade with preliminary price (Preliminary Price Tag is “Y”, in FIXML the ClearedIndicator field is set to 4=Cleared with Preliminary Price). The transaction is available for adjustments, in this sample it is moved from transaction account A1 to EXY. There is no difference in the account transfer handling compared to an adjustment on a regular trade. When

[11] Note that trades to close will be booked to open on the give-up side, but the proposal value to the take-up side (on the *Take-up Overview* on the GUI/the give-up workflow broadcast on FIXML) will be “C”.

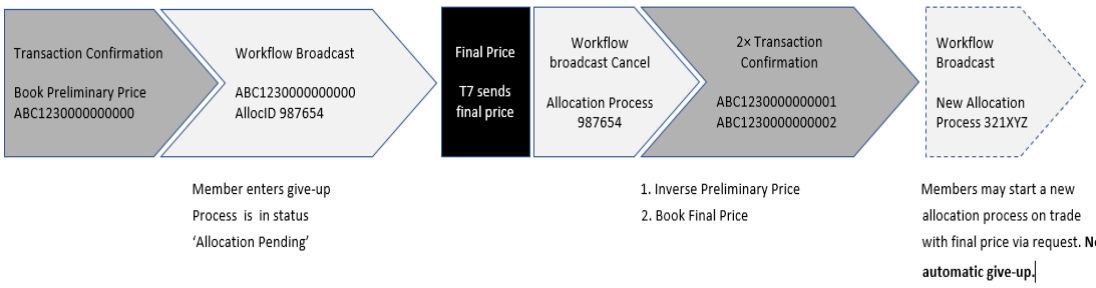
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the final price arrives from T7, the preliminary transaction gets automatically inverse booked with the next higher available suffix and the final transaction is re-booked with the final price (again, with higher suffix). Note that the final price adjustment carries transaction type “013”. Naturally, the price-adjusted transaction is not marked as a preliminary price anymore.

5.2.11.1 Give-up/take-up on preliminary priced trades

Give-up is available for preliminary priced trades. If the allocation process is successfully finished (i.e. take-up is complete and the transaction has been booked to the take-up side) before the final price arrives, the final price adjustment will simply be performed on the active (adjustable) transaction. Preliminary priced trades can be identified via the preliminary price indicator prior to take-up (ClearedIndicator=4 on the FIXML workflow broadcast, Preliminary Price Tag on the Take-up Overview on the C7 Derivatives Clearing GUI).

Should the final price arrive for a transaction that is part of a pending allocation process, this process will be cancelled by the system and the transaction will be re-booked at the final price on the original (give-up) side:



Should the transaction with the final price still be given-up, the allocation process needs to be started anew by the give-up Member.

5.2.11.2 Mistrade reversal on preliminary priced trades

Should a preliminary priced trade become subject to mistrade reversal, it will be reversed like any other transaction. Should a final trade become subject to mistrade reversal, the entire chain of adjustments, including the (re-)booking of the preliminary priced transaction, will be reversed. For further details on mistrade reversal handling, see 5.2.12 below.

5.2.12 Transaction-based settlement

C7 supports transaction-based settlement of futures-on-futures. Settlement of the respective contracts is handled on a transaction, rather than position basis. Consequently, each individual transaction settles into an individual transaction in the underlying futures contract. The transaction ID issued upon transaction creation survives settlement; the records for booking out the basis future and booking in the underlying future receive suffixes under the same base ID. Booking in/out under transaction-based settlement is marked with transaction type 018 Transaction Based Settlement (Orig Trade Type on the GUI, TransferReason (830) on the FIXML Interface). The trade type of the underlying future record is set to T - Future-to-Future Settlement Trade on the GUI and 1004 on the FIXML Interface. Note that the results of this type of settlement are reflected in the Transaction Overview on the GUI and in transaction confirmation messages on the FIXML interface.

Transaction Management	Tran ID	Suffix ID	Parent Suffix ID	Order No.	B/S	O/C	Booking Qty Long	Tran Qty	Symbol	Status	Tran Type	Trade Type
Initial preliminary	1234	0000000000		277163393	B	O	100	100	FES1	adjusted	000	0

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transaction												
Transaction management is available for the basis future record, in this sample, transaction adjustment actions on the basis future record have increased the suffix prior to settlement												
Booking out of basis future	**1234**	**0000000005**	**0000000004**	**277163393**	**B**	**O**	**-100**	**-100**	**FES1**	**inverse**	**018**	**0**
Booking in of underlying future	1234	0000000006	0000000004	**277163393**	B	O	100	100	FESX	adjustable	018	T (GUI) 1004 (FIXML)

5.2.13 Trade reversals

If a transaction becomes subject to mistrade reversal, C7 will reverse the transaction and all adjustments that have been applied to the same. Note that mistrade reversals can only occur for transactions that originated on the current business day. Should the transaction in question be part of any pending adjustment/workflow, such as give-up/take-up, this workflow will be cancelled by the system.

The following transaction adjustments will be considered during reversal processing:

- Transaction separation
- General transaction adjustment (text and cooperation product information)
- Transaction O/C adjustment
- Transaction account transfer
- Average pricing
- Give-up/take-up

If transaction adjustment activities A → B → C → D have been performed before a transaction becomes subject to mistrade reversal, first adjustment D will be reversed, then C → B → A. All reversals receive an increased suffix number. Reversed transactions are not adjustable. Note that the final reversal, which reverses the original transaction that became a mistrade, will reference the original parent suffix, and carry transaction type 007 Trade Reversal, making it distinguishable from a regular inverse booking.

The following table shows an example for the transaction chain of a trade reversal following a give-up/take-up. Transaction 456789 is reversed by Market Supervision due to the mistrade application:

Transaction Management	Clg Mbr	Account	Tran ID	Suffix ID	Parent Suffix ID	O/C Flag	Status	B/S	Tran Type	Qty
Original Transaction	**ABCFR**	**A1**	**456789**	**0000000000**		**C**	**reversed**	**B**	**000**	**100**
Manual O/C Adjustment	ABCFR	A1	456789	0000000001	0000000000	C	**reversed**	B	002	-100
Manual O/C Adjustment	**ABCFR**	**A1**	**456789**	**0000000002**	**0000000001**	**O**	**reversed**	**B**	**002**	**100**
Give-up by ABCFR	ABCFR	A1	456789	0000000003	0000000002	O	**reversed**	B	020	-100
Take-up by XYZFR	**XYZFR**	**A2**	**456789**	**0000000004**	**0000000003**	**O**	**reversed**	**B**	**030**	**100**
Reversal of Take-up	XYZFR	A2	456789	0000000005	0000000004	O	**reversed**	B	007	-100
Book in ABCFR; Give-up cancelled	**ABCFR**	**A1**	**456789**	**0000000006**	**0000000003**	**O**	**reversed**	**B**	**007**	**100**
Reverse O/C Adjustment	ABCFR	A1	456789	0000000007	0000000002	O	**reversed**	B	007	-100

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Transaction Management	Clg Mbr	Account	Tran ID	Suffix ID	Parent Suffix ID	O/C Flag	Status	B/S	Tran Type	Qty
Reverse O/C Adjustment	**ABCFR**	**A1**	**456789**	**0000000008**	**0000000001**	**C**	**reversed**	**B**	**007**	**100**
Reverse Transaction	ABCFR	A1	456789	0000000009	0000000000	C	**reversed**	B	007	-100

5.3 Position management

C7 provides the following position management features:

- Position close-out/re-opening
- Automatic position close-out
- Position account transfer
- External position transfer (with/without cash)
- Exercise/assignments
- Automatic exercise
- Abandon/Unabandon
- Notification/Allocation

Note that position management functionality is not available for cooperation products).

5.3.1 Position close-out/re-opening

5.3.1.1 Manual close-out/re-open

Members can close-out and re-open positions manually. Closing-out positions reduces the available[12] long and the short side of the position equally. Previously closed-out positions can be re-opened. The maximum amount available for re-opening cannot exceed the amount of previously closed-out positions. Opening of previously non-existent positions is not supported[13].

Note that the re-opening of positions is not available indefinitely. The period for re-opening is currently configured to five business days by Eurex Clearing and two business days by ECC.

5.3.1.2 Zero Cost Quantity

The Zero Cost Quantity (ZCQ) is the potential number of contracts that can be closed-out without late closing fees being charged. The ZCQ is calculated and displayed for all products. Flexible Contracts are not considered for late closing fees. All products as respectively outlined in Eurex Clearing AGs price list are considered for late closing fee. The quantity traded on the actual trading day can be closed-out immediately (when available the previous ZCQ will be reduced; when no previous quantity is available, the current ZCQ will be reduced instead). Consequently, close-outs entered between start of day and 13:30 CET will not necessarily influence the previous ZCQ and will never bring the previous ZCQ to a negative value. After 13:30 CET, close-out will always reduce the current ZCQ only.

[12] The “available quantity” is the current open long/short minus designated quantity, e.g., due to pending give-up.

[13] Upon request, Clearing Supervision can re-open a position on-behalf. However, this is only supported for positions created under the current clearing relationship, but not after clearer change.

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5.3.1.2.1 Historical transaction events

Regarding transactions from previous business days (e.g. take-up of a transaction traded on T-1), the following logic is applied:

- Adjustments to transactions from T-1 are considered when the ZCQ increases (take-up, received transaction account transfer and transaction open adjustment)
- Adjustments to "historical" transaction are not considered when the ZCQ is decreased (give-up, sending transaction account transfers and transaction closing adjustment)
- Adjustments to transactions from T-2 (and older) are not considered
- The current ZCQ instead of the previous ZCQ will be increased

5.3.1.2.2 Calculation logic

5.3.1.2.3 Current ZCQ

The current ZCQ is calculated as follows:

	Current ZCQ
=	trades to open (long and short)
+	transactions booked to open after closing error
+	taken-up to open
+	transactions booked to open after take-up with closing error
–/+	transaction account transfers for transactions to open
+	transactions to open adjustments
–	transactions to close adjustments
–	current give-ups which were taken-up
–	position close-outs
–	Value Based Average Pricing transactions to close
–	Value Based Average Pricing transactions booked to close as part of the allocation with closing error
+	take-ups on transactions from T-1
+	transaction transfers (for destination transaction account) on transactions from T-1
+	transactions to open adjustments on transactions from T-1
+	futures positions created after exercise of options on futures
+	futures transactions created after transaction-based settlement of futures-on-futures

5.3.1.2.4 Previous ZCQ

During the booking cut at EOD, the current ZCQ is transferred to the previous ZCQ. The logic is:

If the current ZCQ > 0, the value is set to the previous ZCQ

If the current ZCQ ≤ 0, the value of previous ZCQ is set as 0

Close-outs until 13:30 CET on T+1 will be calculated against the previous ZCQ as long as quantity is available. The remaining close-outs will be set off against the current ZCQ.

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5.3.1.2.5 General notes ZCQ

In general the following events are not considered for the ZCQ quantity:

- Position transfers
- Re-open
- Trade reversals
- Trade to close
- Exercise or notification
- A give-up of trades from T-1 (and older) is treated as neutral.
- A take-up of trades from T-2 (and older) is treated as neutral.

If ZCQ is negative due to close outs, a late closing fee will be charged at the end of the day. That is the case if the previous or current ZCQ, respectively, is not sufficient for the amount of close outs during the day.

The following tables show a sample calculation of the current and previous ZCQ:

T	Events	Current ZCQ	Previous ZCQ
09:00	**start of day**	**0**	**900**
11:00	close out (100)	0	800
EOD			

The ZCQ is positive, hence no late closing fees are charged.

T	Events	Current ZCQ	Previous ZCQ
09:00	**start of day**	**0**	**900**
11:00	close out (950)	-50	0
14:00	**close out (100)**	**-150**	**0**
EOD		0	0

The ZCQ is negative, late closing fees are charged.

5.3.1.3 Rule-based automatic close-out

Members can optionally instruct the system to automatically close-out open positions during the end-of-day processing; this can be activated per transaction account. Automatic close-out, just as manual close-out, equally reduces the long and short side of an open position. The functionality is supported for all transaction accounts. The automatic close-out rule is set as default for the market making accounts (M1 and M2). This setting can be modified. ZCQ rules (see 5.3.1.2) apply to automatic close-out. Members can specify, per transaction account, if they would like the system to close-out the maximum available long/short quantity or if it should only close-out up to the current zero cost quantity. For products without late closing fees, the ZCQ is always ignored, and the maximum quantity is closed-out. Designated quantities will be included in the automatic close-out processing. Hence there might be insufficient quantity on the following business day to restate all pending give-ups that were not taken on the previous business day.

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Kindly refer to the C7 Reference Data Functional Guide for maintenance of the automatic close-out and ZCQ flag.

Configured close-out rules will be executed during the daily end-of-day processing (including expiration day).

For options contracts automatic close-out processing will occur before the exercise/assignment processing. On the expiration day the automatic close-out will be completed before any automatic exercises take place.

Members wishing to exercise any positions that might be automatically closed-out, need to make sure they exercise manually before the end of day processing starts. This logic includes options using front-month settlement (e.g. for FX options).

For futures contracts automatic close-out processing will occur during the daily end-of-day processing. On the expiration day, automatic close-outs will be completed before the settlement processing starts i.e., before creating cash instructions or physical settlements. Important: no automatic close-out will be triggered for futures contracts using the front month settlement (e.g., for FGBL) on the expiration day. Members must process the potential close-out themselves manually.

For each automatic close-out, FIXML Position Update Confirmation Broadcast messages are sent; the format is the same as messages sent pursuant manual close-out, but they are marked with transaction type “129” (in the TransferReason field) as automatic close-outs.

Re-open of previously closed-out positions is available independent of the close-out trigger (manual or automatic).

Automatic close-outs are reported in the CB012 Account Statement report (marked with transaction type “129”), maintenance of automatic close-out parameters is reported in the CA770 Account Maintenance report.

5.3.2 Open Interest

Open Interest (OI) is defined as the total number of open long contract positions that have not been closed. This includes open long positions across all participants and their accounts for an instrument in the clearing house. The Adjusted Open Interest will be published every business day at 13:30 for the previous business day. The deferred publication time gives the members the possibility to correct their positions by position close-outs and re-openings until 13:30. The resulting Adjusted Open Interest is the Previous OI (T-1 EOD OI) adjusted by close-outs and re-openings.

5.3.3 Position account transfer

5.3.3.1 Internal position account transfer between accounts

Positions can be transferred to a different account and partial transfers are supported. Internal position transfers are executed immediately.

5.3.3.2 External position transfer

Positions can be transferred to another Member (external position transfer). All external position transfers are real-time and can optionally carry a cash amount. Just as give-up/take-up for transactions, external position transfers require the approval/acceptance of the initiating and receiving Member, as well as their respective Clearing Members. The initiating side Clearing Member can approve at any time (i.e. it can be the first, second, or third action in the process). The receiving side Clearing Member can only approve after the receiving Exchange Member has accepted the transfer.

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When the Clearing Member of the source and target transaction accounts is the same, the Clearing Member will need to approve only once. Multiple approvals will not be required. Similarly, when the Exchange Member of the source or target transaction account and the Clearing Member of that transaction account are the same entity, the required approvals will be auto populated, and the Member will not be required to approve multiple times.

As long as there are outstanding approvals, the transfer will stay pending until the end-of-day processing or until the request is canceled by the initiator or rejected/denied by one of the related parties.

External transfers are supported for all transaction accounts.

The total position quantity will only be reduced pursuant successful external transfer, i.e. when all approvals have been submitted. As long as the transfer process is pending, the designated quantities will be marked as such and displayed accordingly in the GUI, in addition to the total quantity.

Reason Code

In the case of external position transfer and external position transfer with cash, members are obliged to indicate the rationale behind each transfer by selecting a Reason Code, either via GUI or by providing this information as a part of Position Transfer upload file.

The list of valid Reason Codes comprises:

- 0 – Identical beneficial owner

  This transfer includes transfers between accounts with identical beneficial owners.
- 1 – Error correction

  This reason code is used when transferring positions to correct clearing errors, including misallocations or clerical errors.
- 2 – Portfolio auction

  This position transfer is initiated upon completion of a portfolio auction.

  For clearing house ECAG, the following applies:

  The portfolio auction has been disclosed to ECAG and the usage of the position transfer functionality has been applied for and approved by ECAG via the selected form.
- 3 – Non-recurring transfer

  This reason code refers to a one-time, non-routine movement of positions, typically due to events like mergers, acquisitions, consolidation, and corporate restructuring.

  For clearing house ECAG, the following applies:

  The non-recurring transfer has been disclosed to ECAG and the usage of the position transfer functionality has been applied for and approved by ECAG via the selected form.
- 4 – DMP (being exclusively available for ECAG and ECC employees)

  DMP is initiated by the Central Counterparty (CCP) in case of a Clearing Member default.

When transferring a position, Members have the choice to adjust the position transfer price and/or to transfer a cash amount. In both cases, the member submitting the request is obliged to enter the

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following mandatory information - Original Trade Date From and Original Trade Date To. The system will display the position transfer price that is the price at which the position transfer is processed:

- Previous night's settlement price for future style products
- Zero for premium style products

The User can adjust that price by entering a cash adjustment price, which will lead to a calculated cash adjustment for the position transfer based on the difference between the entered price and the position transfer price. When this field is not filled the adjustment calculation will not be performed and the position transfer price will be used unadjusted.

The calculated cash adjustment is:

- if long positions are transferred =

$$\left(\frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit\ x\ (Cash\ Adjustment\ Price - Previous\ Nights\ Settlement\ Price)\ x\ number\ of\ long\ contracts\right)^{14}$$

- if short positions are transferred =

$$\left(\frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit\ x\ (Previous\ Nights\ Settlement\ Price - Cash\ Adjustment\ Price)\ x\ number\ of\ short\ contracts\right)^{15}$$

In addition to the adjusted position price, the User can enter a cash amount.

This calculation will also apply to the position transfer of premium styled options, where the previous night's settlement price will be set to zero. Only cash amounts up to a Clearing House defined limit (defined per currency) can be transferred. A cash amount can only be transferred for a specific instrument.

The total cash amount is calculated by the sum of the entered cash amount and the calculated cash amount from cash adjustment price. A positive amount indicates a credit of the corresponding amount to the inquiring participant; a negative amount indicates a debit. Please note that the entry field Cash Transfer Amount does not support the entry of a negative amount. The User must use the radio buttons Sent respectively Receive instead. For a newly created future-styled contract, a partial position transfer is not allowed because no previous settlement price is available.

Transferring a cash amount is only allowed in case either a long and/or short position (> 0) is entered.

Position transfers with cash are optionally subject to four-eye-principle validations. Note that each individual action (Add/Delete/Reject/Approve/Deny/Accept) may be subject to four-eye principle validations.

Prior UTI Reference

Members may optionally provide a Prior UTI during the entry of an external position transfer. This field adheres to the standard UTI specification, with a maximum length of 52 characters. Permitted

[14] Rounded to the currency decimals.

[15] Rounded to the currency decimals.

characters include only uppercase alphabets and numerals 0-9. Upon submission, the value remains unchanged throughout the position transfer workflow. Amendments to the Prior UTI following submission are not possible.

5.3.3.3 Modifying a pending transfer

Position transfer processes are not modifiable pursuant entry. Should a modification (e.g. of text fields) become necessary, the process needs to be canceled and submitted anew. Note that the system will assign a new, unique process ID. Approvals are only valid for a given process ID; when a new process is started, approvals need to be submitted again.

5.3.4 Exercise

5.3.4.1 Automatic exercise

The automatic exercise of positions in all types of option products is supported. The ITM for Automatic Exercise – Maintenance window on the C7 Derivatives Clearing GUI allows Members to inquire and maintain rules for the automatic exercise processing. Members can set in-the-money (ITM) amounts per product and transaction account which reflects the amount to be in the money for one lot. Upon processing of the automatic exercise all positions that are sufficiently in-the-money and not abandoned are exercised. Note that automatic exercise only applies on the expiration day, regardless of the option style (American/European).

Formula for the ITM calculation on the expiration day:

Call option: ITM amount for one lot = ROUND [(approved underlying price – strike price) * trading unit * $\frac{Tick\ Value}{Tick\ Size}$; 2][16]

Put option: ITM amount for one lot = ROUND [(strike price – approved underlying price) * trading unit * $\frac{Tick\ Value}{Tick\ Size}$; 2][16]

Sample for call on ABC AG single stock option with strike price of €180.00 and trading unit of 100 shares. Approved underlying price is €180.01. Tick size and tick value both 0.01.

ITM amount for one lot = ROUND [(approved underlying price – strike price) * trading unit * $\frac{Tick\ Value}{Tick\ Size}$; 2]

ITM amount for one lot = ROUND [(180.01 – 180.00) * 100 * 0,01 / 0,01; 2]

ITM amount for one lot = €1.00

ITM amounts/settings are not automatically transferred in case of member changes, such as clearer change or the setting up of a new member. Pursuant any such a change, ITM parameters must be maintained manually, if the Member does not want to use the ECAG defaults, which are:

- 0.01 for products denominated in currencies with 2 decimal places
- 1 for GBX/JPY products.

[16] Please note that for GBX/JPY products it is rounded to integer & for others rounded to 2 decimals.

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The maximum ITM value settings are:

- 5 for products denominated in currencies with 2 decimal places
- 500 for GBX/JPY products
- 5000 for FX products.

5.3.4.2 Manual exercise

Open long positions can be manually exercised via GUI and FIXML; both interfaces also support the entry of exercise adjustments (“un-exercise”). On the GUI, four-eye-principle can optionally be applied for all exercise actions (in/out-of-the money exercise and un-exercise). For the FIXML Interface, four-eye principle is generally not applicable.

On the C7 Derivatives Clearing GUI, the Exercise Overview window is used to manually exercise open long positions and to enter exercise adjustments. The window offers filter functionality allowing the User to filter for unexercised, exercised and abandoned positions using the appropriate checkboxes. An Exercise All checkbox is available on the window. A deferred underlying price feed is used to calculate the in-the-money amount. The In-the-Money and Out-of-the-Money checkboxes allow the User to filter based on the reference price. A dialog box informs the User if he tries to exercise an out-of-the-money option. If this warning is confirmed, the option is exercised anyway. The exercise of cash-settled options that are out-of-the-money is rejected.

Entitlement settings govern whether a single User is allowed to exercise options or if the approval of a second User is required (four-eye-principle). This can be configured both for in-the-money exercise and out-of-the-money exercise. To determine if an option is in- or out-of-the-money, the status of the underlying price is considered:

- If the underlying price is final (i.e. approved by Eurex) a true in/out-of-the-money valuation can be performed
- If the underlying price is not final, price movements during the day may move the option out-of-the-money.

Consequently, Eurex Clearing treats in-the-money checks on not yet approved underlying prices as non-final and requires an appropriate entitlement level for the “early” exercise of options (i.e. either both in- and out-of-the-money exercise must be allowed for the acting User, or a second, appropriately entitled user must approve via four-eye principle). Additionally, in case the manual exercise is based on a non-approved price a dedicated checkbox must be ticked to continue the exercise process.

Open long positions can be also exercised via the Exercise request in the Eurex Clearing FIXML Interface. The request message is confirmed by a PositionMaintenanceReport response, and a broadcast is sent upon successful processing. The Eurex Clearing FIXML Interface sends a PositionMaintenanceReport message once a position has been updated due to manual/automatic exercise, exercise adjustment or assignment. This applies to exercise requests entered either via GUI or FIXML.

5.3.4.3 Exercise of options on futures with internal underlying

When options on futures with internal underlying, e.g. OGBL, OGBM, OGBS are exercised, the respective future position (in FGBL, FGBM, FGBS) is created on the same business day.

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5.3.4.4 Manual exercise after spin-off

When an option has been subject to a spin-off on business day T, manual exercise is not supported on T+1 if no reference price is available. Exercise attempts will be rejected with an appropriate error message.

5.3.5 Assignment

When a long position in options is exercised, the system randomly selects an option seller from among all the open short positions of the same option series who will be assigned that exercise: the assigned seller will be obliged to fulfill the contractual conditions for delivery or, as the case may be, receipt of the underlyings. Exercised positions and assigned positions per option contract are displayed on the C7 Derivatives Clearing GUI in the Exercise Assignment Overview window and are also contained in the respective exercise/assignment XML Report.

5.3.5.1 Internal assignment algorithm

When a member exercises a long position in one of the proprietary accounts (P1, P2, M1, M2), there will be a check first whether there is an assignable short position in any other proprietary account of the same Member. If that is the case, the exercised position will first be netted against the Member's own short position before the remaining exercised position will be allocated by the Random Algorithm.

5.3.6 Abandon/unabandon

In order to exclude an option position (total or partial) from automatic exercise, Members can use the Exercise Overview window (Abandon tab) on the C7 Derivatives Clearing GUI or the FIXML Interface. On the GUI the quantity to be abandoned can be adjusted by filling in the Abandon Qty Change field. It can be increased or decreased by entering a positive or a negative value. If a positive value is entered, it may exceed the current open long position. However, a negative value must not exceed the previously abandoned quantity. Note that only expiring positions can be abandoned on expiration day.

5.3.7 Notification

Holders of short positions in physically settled products indicate their choice of deliverable from a basket via notification on the expiry date. Notifications are made by Clearing Members only. The notification process is only available for open short positions that have a basket of deliverables and needs to be performed on the C7 Derivatives Clearing GUI. A single position can be notified by using multiple securities out of the basket of deliverables (partial notifications), e.g. a position of 100 can have two securities notified for delivery with a quantity of 50 each.

Once the notification process is completed, the Clearing House allocates the deliverable to the holders of the other side of the respective position – the allocation process (see below).

Deletion of a notification can be achieved by entering a new notification request with a negative value of the already requested quantity on the day of the notification entry and before allocation. In addition, quantity changes can be done by entering new notification requests with either a positive or negative quantity to add to the already requested one.

5.3.8 Allocation

The securities nominated in the notification process are randomly allocated by the Clearing House to the holders of the long position in physically settled products. Clearing Members are informed of the allocations on the same business day. The notified and allocated securities are displayed on the C7 Derivatives Clearing GUI as well communicated via reports.

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5.3.9 Automatic conversion of standard and flexible contract positions

Under certain circumstances, standard/flexible contracts require a conversion. C7 supports automatic standard-to-standard, flex-to-flex and flex-to-standard conversions. Any such conversion will lead to the re-booking of the position and is reflected on the C7 Derivatives Clearing GUI, the FIXML Interface and XML/CSV Reports. For all position conversions, the pre-conversion positions will be booked out and the post-conversion position will be booked in; accordingly, these bookings can be identified by the transaction type "117=Position Conversion" (Tran Type field on the GUI, TransferReason on the FIXML PositionMaintenanceReport message).

5.3.9.1 Standard-to-standard position conversion

The combination of Monthly and Sub-monthly Contracts in the same product would mean more than one Standard Contract with different contract dates falling in one calendar month.

In case of a Holiday maintenance, the contract date must be shifted if the holiday entered is colliding with an existing contract. If the contract date is shifted, it can be either the previous or next business day, which depends on the product configuration. After the shift, the Contract Date and the Expiration Date might be in two different months. However, if two Standards Contracts exist with the same functional key after Holiday maintenance, then positions in those contracts will be consolidated in one. And one of the contracts will be inactivated.

The following rules used to decide which contract is inactivated in case of a conflict in functional key:

- If a Monthly Contract and a Sub-Monthly Contract have the same functional key, then the status of the Sub-Monthly Contract will be set to be inactive and the Monthly Contract status remains active.
- If a Monthly Contract and an EndOfMonth Contract have the same functional key, then status of the EndOfMonth Contract will be set to inactive and the Monthly Contract status remains active.
- If a Weekly and an EndOfMonth Contract have the same functional key, then status of the Weekly Contract will be set to inactive, and the EndOfMonth Contract status remains active.
- If a Daily and an EndOfMonth Contract have the same functional key, then the status of the Daily Contract will be set to inactive, and the EndOfMonth Contract status remains active.
- If a Weekly Contract and a Daily Contract have the same functional key, then the status of the Daily Contract will be set to inactive and the Weekly Contract status remains active.
- If contracts of the same contract frequency (E.g. Daily Contracts) have the matching functional key, then the Contract which was changed due to the Non-Business day maintenance will be inactivated.

The system consolidates towards a "surviving" position, the respective other position(s) are booked out and re-booked to the updated position. In some cases, these positions may be new to the Member.

5.3.9.2 Flex-to-flex and Flex-to-standard position conversion

Generation of new standard series in the system may create a standard contract that has identical parameters to an already existing flexible contract (e.g. identical strike price). In that case, positions in flexible contracts are converted to positions in the new standard series.

Expiration dates on flexible contracts can be freely chosen by Members upon flexible contract entry. Should an expiration date – especially in the case of long-running contracts – become a holiday, all affected flexible contracts need to be changed accordingly. Expiration date changes are always

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shifted towards the next available previous business day. The system considers the changed instrument parameters including the new expiration date and determines if another standard or flexible contract with these parameters already exists. If this is the case, the position in the updated flexible contract is booked out and re-booked to the respective standard or flexible contract. Please note that the expiration date change is processed as a pure date update if there is no other contract with the identical (updated) parameters; in this case, no update messages are sent.

Corporate actions concern both flexible and standard contracts; first the contract parameters are updated, then the system checks if the action has led to flexible and standard contracts being identical. The system cleans up the resulting, updated contracts as follows:

If two identical flexible contracts exist, they are consolidated to one.

If identical flexible and standard contracts exist, then all affected flexible contract position, and the standard position are converted to a standard position.

The system consolidates towards a "surviving" position, the respective other position(s) are booked out and re-booked to the updated position. In some cases, these positions may be new to the Member.

5.3.10 Cascading settlement of energy futures

A standard cascading setup for energy futures is setup as follows:

Annual, seasonal and quarterly futures are settled through Cascading and not via cash settlement.

Cascading of an annual future entail exchanging an annual future for four quarterly futures, cascading of a seasonal future entails exchanging a seasonal future for 2 quarterly futures and the cascading of a quarterly future entails exchanging of the quarterly future for three monthly futures. Cascading takes place on the expiry day of the contract.

Cascading on the expiration day comprises three steps: expiration and final profit and loss balancing on the annual/seasonal/quarterly futures according to the final settlement price and booking of the new future contracts at the final settlement price of the expired annual/seasonal/quarterly futures in the applicable transaction account. This corresponds to trade in these futures contracts at the final settlement price of the annual/seasonal/quarterly futures.

Preliminary profit/loss balancing of the newly created positions according to the daily settlement price of the futures contracts they have replaced.

On the expiration date of an annual future the annual contract is exchanged by four quarterly futures (1^{st} -4^{th} calendar quarter). On the same day the future position for the 1^{st} quarter expires and is cascading into three monthly futures.

On the expiration date of a seasonal future the seasonal contract is exchanged by 2 quarterly contracts (2 consecutive quarters: 4^{th} quarter of the current year + 1^{st} quarter of the next year for winter season or 2^{nd} + 3^{rd} quarter for summer season). On the same day the future position in the quarter expires and is cascading into 3 monthly futures.

In general a cascading product can be available for any combination of cascading future and its underlying future contracts.

On expiration date of any cascading future, the expiring series is replaced with all contracts of the underlying future, where the expiry month is equal to the expiry month of the cascading contract, but lower than the next available expiry month of the cascading products (e.g. DEBQ JAN20

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cascades to DEBM JAN20, DEBM FEB20 and DEBM MAR20, as the next available contract series is DEBQ APR20).

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6 Product assignment

Eurex Clearing assigns products to Clearing Members (Account Sponsors) and Disclosed Clients with Member ID (Account Owners) within the respective capacity for which a valid clearing and/or trading license is held. Following such assignment, both the Account Sponsor and the Account Owner are authorized to trade and clear the corresponding products. Any applicable pre-trade risk controls must be configured in T7.

~~Eurex Clearing assigns Clearing Members (Account Sponsors) and their Disclosed Clients with Member ID (Account Owners) all products within a capacity for which a clearing respective trading license applies. After this assignment, the Account Sponsor as well as the Account Owner is allowed to trade and clear the respective products.~~

~~Account Sponsors have the possibility to change their product settings as well as the settings for their Account Owners by de-assigning the products. These changes have an immediate effect on trading (for Account Sponsors and Account Owners) as well as on clearing (Account Owners only).~~

~~Clearing for Account Owners will be restricted for the following functions after the de-assignment of a product:~~

- ~~Take up~~
- ~~Receive Trade Account Transfer~~
- ~~Receive External Position Transfer~~

~~It is still possible to create a Give-up or an External/Internal Position transfer to another Registered Participant or transaction account.~~

~~Please refer to C7 Reference Data Functional Guide for product assignment details.~~

6.1 Impact of product (de-)assignment by Account Sponsor

Account Sponsors may amend product settings for their own accounts as well as for their Account Owners by de-assigning products. Products may subsequently be reassigned as required. All changes take effect immediately for both trading and clearing.

For Account Owners, product de-assignment by the Account Sponsor results in a restriction of the following activities:

- Trading
- Take up accept
- Receipt of external position transfers
- Receipt of transaction account transfers

For Account Sponsors' own accounts, product de-assignment can be applied separately for trading and clearing in any capacity:

- Trading can be restricted independently; or
- Clearing can be restricted only in the absence of an active trading assignment. In this case, clearing restrictions apply to:
  - Take up accept
  - Receipt of external position transfers

– Receipt of transaction account transfers

Please note that no configuration settings will be inherited from a Clearing Member to an Account Owner, nor from one Account Owner to another Account Owner.

6.2 Post de-assignment activities

Following product de-assignment, it remains possible to initiate give up transactions, external position transfers, or transaction account transfers for remaining transactions or positions, in order to facilitate position correction by transferring them to another Registered Participant.

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7 Appendix

7.1 Glossary

C7	C7 is the short name of the clearing architecture.
CSV	A file in CSV (**C**omma-**S**eparated **V**alues) format contains different values separated by a delimiter. Those files can be imported into and exported from the system.
DCM	**D**irect **C**learing **M**ember.
Derivatives Clearing GUI	The **C7 Derivatives Clearing GUI** is the browser-based GUI first introduced with release 1.0 of C7. It is used to access all transaction and position management functionality.
ECAG	**E**urex **C**learing **AG**
ECC	**E**uropean **C**ommodity **C**learing AG
GCM	**G**eneral **C**learing **M**ember.
GUI	A **G**raphical **U**ser **I**nterface is the front-end application that is presented to the User to interact with the system.
QTPIP	**Q**ualified **T**hird-**P**arty **I**nformation **P**rovider
RC	Registered Customer (RC) is an entity which is known to and set up by the clearing house but without having a T7 trading license.
TES	The **T**rade **E**ntry **S**ervice is offered by Eurex to enter off-book trades into the Eurex System for settlement
VBAP	Value Based Average Pricing
XLS	XLS is the proprietary file format for Microsoft Excel spreadsheets.
ZCQ	Zero **C**ost **Q**uantity is the potential number of contracts that can be closed-out without late closing fees being charged.