EUREX

Eurex Clearing C7

Derivatives Clearing Functional Reference

Document version C7 Release 9.0

- Simulation valid from 12 September 2022
- Production valid from 21 November 2022

Change History

Date	Ver.	Change
15 June 2015	3.0	Initial version for C7 3.0
25 September 2015	3.1	– Updated Four-Eyes principle processing logic – Additional samples for Transaction management – Updated give-up/take-up principle
21 March 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 October 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 - 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 August 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 November 2018	4.4	- Introduction of Baskets and basket related attributes - Transaction and position management enhancements due to introduction of baskets - Average pricing restrictions for EnLight trades
28 January 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 August 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 November 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.February 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

Date	Release	Change
09 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 January 2021	7.1	No update for C7 Release 7.1
28 June 2021	8.0	No update for release C7 8.0
27 August 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 October 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 March 2022	8.1	Next Gen ETD Contracts Corrected the average price merging validation in case of BSPD transactions in section 5.2.8
27 April 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)

Table of Contents

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.

2 Interfaces

2.1 System overview
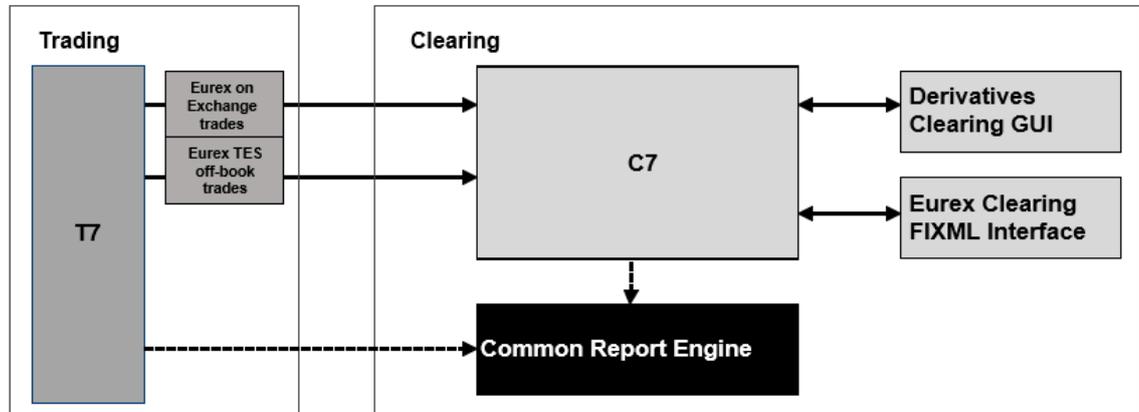
2.2 Clearing GUIs

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 refer 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:

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

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.

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
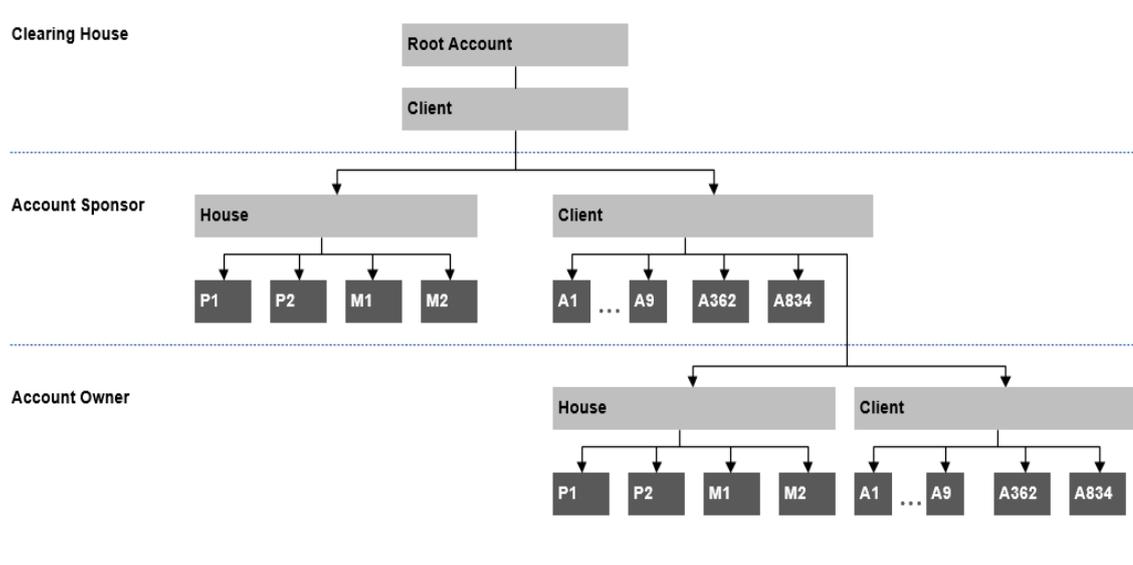
3.2 Account Booking Rules for ECAG and ECC

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:

- 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.

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")

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.
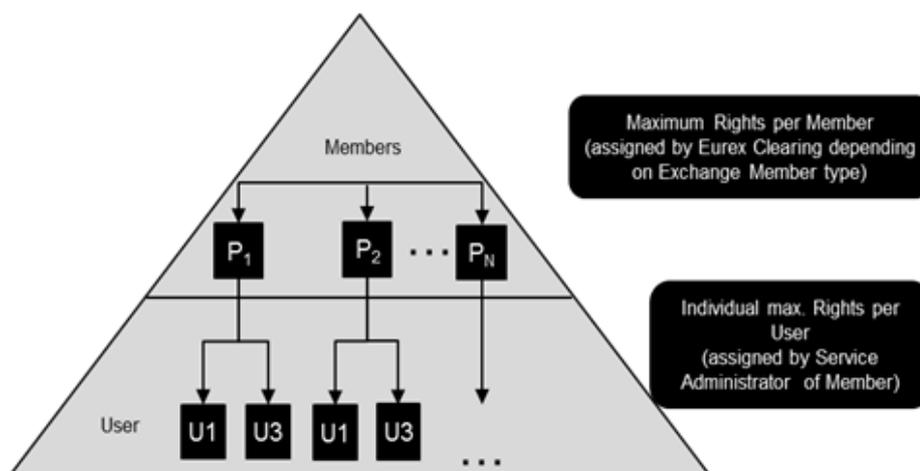
To provide an User with a right, this right must be initially assigned to the Member to which the User belongs. Eurex Clearing defines the maximum entitlements of a Member (e.g. based on the Member type) and assigns the roles to the Members accordingly. The Member (Service Administrator) can define and 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:
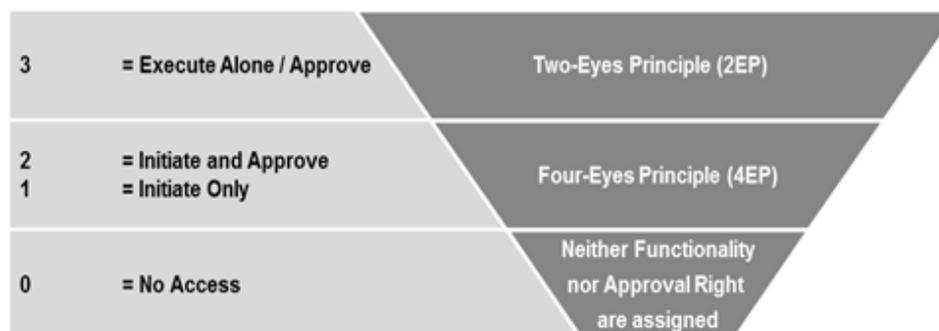
- **Entitlement Level 3** indicates that the User is allowed to initiate a transaction alone and no second User is required for approval. The User can additionally approve or reject transactions entered by another User.

- **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 a 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.

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 an User.

As the entitlement concept follows a hierarchical approach, the entitlement of an 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, an 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 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 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.

In order to apply for simplified outsourcing, the outsourcing Disclosed Client with Member ID has to 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 an 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 have to approve a pending position transfer to fulfill the Four-Eye requirement.

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[1] IOU stands for "Improved Outsourcing"

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 each 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 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 an 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 an 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://member.eurexclearing.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 an 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 instrument/

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

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 Transaction duration and applicable product phases for transaction and position management

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

In the Clearing Phase, all clearing activities are allowed.

B No Position Move Phase

This product phase allows all clearing activities but restrict 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 with Reports).

C Internal

Instead of No Position Move, the ECC products will automatically go through Clearing Limitation ECC phase. This phase if for ECC internal users only which can enter adjusting events for the clearinghouse.

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.

5.2 Transaction management

5.2.1 Available adjustments and booking logic

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 fields[3], Member and beneficiary information for cooperation products (KRX))
- Transaction open/close adjustment
- Transaction account transfer
- ~~Average price processing~~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:

Transaction Management	Clg Mbr	Account	Tran ID	Suffix ID	Parent Suffix ID	O/C Flag	Status	B/S	Tran Type	Tran Qty	Booking quantity 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

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

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

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:

	Tran ID	Suffix ID	B/S	O/C Flag	Tran Qty	Tran Type	Booking quantity	
							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:

	Tran ID	Suffix ID	B/S	O/C Flag	Tran Qty	Tran Type	Booking quantity	
							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 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):

Transaction Management	Text1	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	Tran Type	Tran Qty	Booking Quantity	
									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 amount of splits is unlimited; functionally the amount of splits is naturally limited by the transaction quantity. The whole quantity of the original transaction has to 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 (KRX)
- Own Reference ID

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

Each transaction can optionally carry a – one character long[1] – Rate Identifier. 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 result from an average pricinge – merge request, the Rate Identifier of the original transactions may only persist in the new transaction in case all original transactions had the same Rate Identifier; if this does not apply, field will be empty in the new transaction. This applies for both, classic average price functionality and Value Based Average Pricing.

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 with the exception of the exclamation mark (!), the pipe symbol (|), double quotes ("), single quotes ('), apostrophe (`), ampersand (&), equal sign (=), at sign (@), plus (+), lesser than (<) and greater than (>). 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:

Transaction Management	Text1	Text2	Text3	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	Tran Qty	Tran Type	Booking quantity 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, such as the Eurex/KRX cooperation 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:

Transaction Management	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	Tran Qty	Tran Type	Booking Quantity		Link Member ID	Link Beneficiary
								Long Qty	Short Qty		
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.

Transaction Management	Own Reference ID	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	Tran Qty	Tran Type	Booking quantity	
									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. In order 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 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 and example for a transaction open/close adjustment:

Transaction Management	Tran ID	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Type	Booking Quantity	
									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. Exception are quotes, which cannot be transferred via transaction account transfer.

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

Transaction Management	Tran ID	Account Name	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Type	Booking Quantity	
										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 with Reports. These transfers do not require any approvals. 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).

5.2.8 Classic average price processing

The classic average price processing functionality allows merging of multiple transactions into one transaction with an average price calculated by Eurex Clearing. The amount 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).

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[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.

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.

5.2.7.15.2.8.1 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)
- 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 (Eurex-KRX cooperation)
- Transactions with preliminary price
- Transactions with TrdType=1008 "Compression Trade"
- Transactions which have Tran Type "11 Average Price"

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.

5.2.7.25.2.8.2 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.

~~5.2.7.3~~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.

~~5.2.7.3.1~~5.2.8.3.1   Calculate average price

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

~~5.2.7.3.2~~5.2.8.3.2   Calculate variation margin

$$Variation\ Margin_i(trade) = Variation\ Margin_i(contract)\ x\ Trade\ Quantity$$

Where:

For buy transactions:

$$Variation\ Margin_i(contract) = ROUND\ \left[\left((Previous\ Day\ Settlement\ Price - Trade\ Price_i)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\right);2\right]^{[6]}$$

For sell transactions:

$$Variation\ Margin_i(contract) = ROUND\ \left[\left((Trade\ Price_i - Previous\ Day\ Settlement\ Price)\ x\ Trading\ Unit\ x\ \frac{Tick\ Value}{Tick\ Size}\right);2\right]^{[6]}$$

Total:

$$Total\ Variation\ Margin = \sum_{i=1}^{n} Variation\ Margin_i(trade)$$

~~5.2.7.3.3~~5.2.8.3.3   Calculate variation margin after merge

For buy transactions:

$$Variation\ Margin_{average}(contract) = ROUND\ \left[\left((Previous\ Day\ Settlement\ Price - Average\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ value}{Tick\ Size}\right);2\right]^{[6]}$$

For sell transactions:

$$Variation\ Margin_{average}(contract) = ROUND\ \left[\left((Average\ Price - Previous\ Day\ Settlement\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size}\right);2\right]^{[6]}$$

Total:

$$Total\ Variation\ Margin_{average} = Variation\ Margin_{average}(contract)\ x\ Total\ Quantity$$

~~5.2.7.3.4~~5.2.8.3.4   Calculate residual

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

~~5.2.7.4~~5.2.8.4   Average price & residual calculation for options

For options, C7 performs three calculations to determine average price and residual. In order to enable Members to reliably predict these values before submitting an average price merge

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[6] Please note that for GBX products the residual is rounded to integer. And 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.

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.

5.2.7.4.15.2.8.4.1   Define values at contract level

$$Premium; (contract) = Round \left[\left(Trade\ Price; x\ Trading\ Unit\ x\ \frac{Tick\ Value}{Tick\ Size} \right); 2 \right]\ ^{7}$$

$$Premium; (trade) = Premium; (contract)\ x\ Trade\ Quantity;$$

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

Calculate average price & average premium

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

$$Average\ Premium\ (contract) = Round \left[\left(Average\ Price\ x\ Trading\ Unit\ x\ \frac{Tick\ Value}{Tick\ Size} \right); 2 \right]\ ^{7}$$

$$Total\ Average\ Premium = Average\ Premium\ (contract)\ x\ Total\ Quantity$$

5.2.7.4.25.2.8.4.2   Calculate Residual

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

5.2.7.55.2.8.5   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 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.

5.2.7.65.2.8.6   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:

- 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
- transaction must be booked "to open"
- 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.

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[7] Please note that for GBX products the residual is rounded to integer.

5.2.7.75.2.8.7   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.

5.2.7.85.2.8.8   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 1000 transactions can be merged on the GUI. Via FIXML, the amount of transactions to be merged is practically unlimited[8]. 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.

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. Subsequently the Member can remove the transaction again from the group or directly re-assign it to another group. The group name is an alpha-numeric string with a maximum of 19 digits defined by the member; on member level, the group name must be unique per trade date.

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

The assignment of a group name to the first transaction generates the group; the de-assignment of the group name from the last transaction in the group cancels the group.

Upon creation of the group, C7 will assign a unique group ID. 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 group is available for transactions

- o   with the same trade date

- o   of the same instrument, position account and equal side (buy/sell)

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[8] Message size limits apply.

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

If a group is created with a certain (member-defined) group name and trade date (taken from the original transaction), the member cannot use the same group name 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 group; in this case the group is still available in the C7 database with group status "cancelled".

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

- o 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.

- o 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

- o 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 group:

- o Cooperation products (Eurex-KRX cooperation)

- o Market on Close (MoC) trades

- o Basket trades

- o Preliminary priced trades

- o Transactions with TrdType=1008 "Compression Trade"

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

- o 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 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 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 for grouped transactions.

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 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	Acc Name	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Price	Tran Type	Group Name	Group ID	Average Price Indicator	Notional Value
Original Transaction	717171	A1	0000		adjusted	B	O	100	10,00	000				
Grouping	717171	A1	0001	0000	inverse	B	O	-100	10,00	009				
Grouping	717171	A1	0002	0000	not adjustable	B	O	100	10,00	009	XY	123	Original	1000,0000000

Upon grouping, *TradeCaptureReport* messages will be broadcasted via FIXML for the inverse and new transaction. After successful assignment of a transaction to a group, the field Group Name (tag 1854), Group ID (tag 1730), Average Price Indicator (tag 1853) and Notional Value (tag 831) will be available in the transaction. The new transaction type for grouping= **009** will be shown in 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 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 broadcasted can be found in 5.2.9.2).

The re-assignment of a transaction from one group to another as well as the removal of a transaction from a group again 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 resp. from a group is only possible as long as no allocation out of the group has been processed or after all allocations have been cancelled.

The sample in the table below exemplifies 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 subsequent to ungrouping.

Transaction Management	Tran ID	Acc Name	Suffix ID	Parent Suffix ID	Status	B/S	O/C	Tran Qty	Tran Price	Tran Type	Group Name	Group ID	Previous Group ID	Average Price Indicator	Notional Value
Grouping	717171	A1	0002	0000	Adjusted	B	O	100	10,00	009	XY	123		Original	1000,0000000
(Re)-Grouping	717171	A1	0003	0002	inverse	B	O	-100	10,00	009	XY	123		Original	-1000,0000000
(Re)-Grouping	717171	A1	0004	0002	adjusted	B	O	100	10,00	009	YZ	456	123	Original	1000,0000000
(Un)-Grouping	717171	A1	0005	0004	inverse	B	O	-100	10,00	009	YZ	456	123	Original	-1000,0000000
(Un)-Grouping	717171	A1	0006	0004	adjusted	B	O	100	10,00	009			456		
Account Transfer	717171	A1	0007	0006	inverse	B	O	-100	10,00	004			456		
Account Transfer	717171	P1	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 the assignment of transactions to a group and cancellation of allocations out of the group (see 5.2.9.3.7); 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) and due to the cancellation of a group (see 5.2.9.3.9).

5.2.9.1.3   Automatic O/C adjustment in case of grouping

Only transactions "to open" can be assigned to a Value Based Average Pricing (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 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 in case a transaction that was subject to an automatic O/C adjustment is again de-assigned from the group.

5.2.9.2   Group parameters

A group is created once the first transaction is assigned to it. A group can be uniquely identified on member level by the group name and trade date resp. by the group ID that is generated by Eurex once the group is created.

A group represents a workflow. C7 will maintain and calculate the following group parameters that are continuously updated in case transactions are added to/removed from the group or in case of allocations out of the group, cancellation of allocations and group cancellation:

Parameter	Definition
Group name	Group name defined by the Member; must be unique per member and trade date.
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 subsets of the total group quantity depending on fee-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 subsets of the remaining group quantity depending on fee-specific data (see 5.2.9.3.2).
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 the individual transactions assigned to the group minus the notional value of 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 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 group 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 1000 transactions to a group, C7 will broadcast one *AllocationInstructionAlert* message to inform the Member about group statistics after the 1000 transactions has been assigned.

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

- the group has been created; i.e., once the first transaction is assigned to the group
- of each update due to grouping (assignment/de-assignment of transactions)
- of a successful allocation of average price transactions out of the group
- an allocation out of an average price group is cancelled
- the group is deleted
- of mistrade processing for transactions assigned to a group

On the GUI, the group data will be shown on the new window "Value Based Average Pricing – Group Overview".

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 status CANCELLED, if all transactions have been de-assigned from a group.

The below diagram outlines the possible state changes:
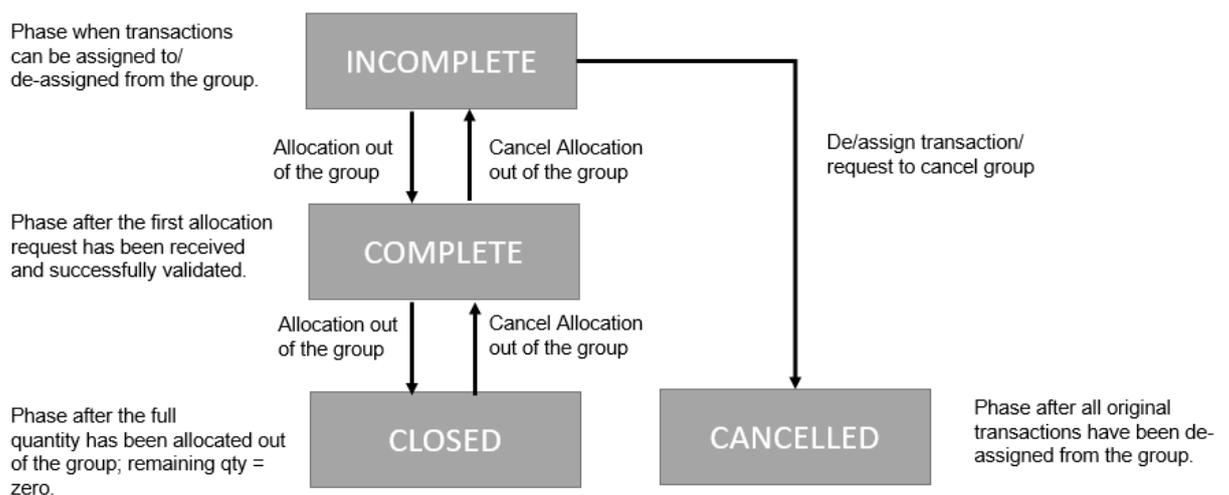
5.2.9.3.2   Mixing of fee-types within a Value based Average Pricing group

Value Based Average pricing allows a Member to assign transactions with different fee-levels, i.e. different trade type and trade publish indicator to the same group.

If this applies, the system will calculate the group parameters as listed in 5.2.9.2 across all transactions in the group but will keep track of "fee-specific" subsets of the total and remaining group quantity.

In case a Member wants to allocate an average price transaction out of the group, he can optionally request a fee-level, i.e., a trade type and trade publish indicator along with the allocation quantity. If the Member does not request a certain fee-level, i.e., in absence of a trade type and trade publish indicator in the allocation request, C7 will do a pro-rata allocation out of the group. This may result in multiple average price transactions per allocation request. Detailed information about processing of allocations out of the group is explained in 5.2.9.3.3 of this document.

To simplify the process of a pro-rata allocation out of the group and to keep the number of average price transactions resulting from one request as small as possible, all trade types with the same fee-level are combined in one subset.

With respect to the group details, the transaction quantity of the following transactions is shown as one subset of the total group quantity and will create an own average price transaction in case:

- On-book (regular) trades are combined in subset VBAP On-Exchange
- Off-book[9] transactions with the non-disclosure flag PUBLISHED are combined are combined in TES1 PUBLISHED
- Off-book[9] transactions with the non-disclosure flag DEFERRED PUBLICATION are combined in TES1 DEFERRED PUBLICATION
- "EnLight Triggered Trade" with non-disclosure flag PUBLISHED are combined in TES2 PUBLISHED
- "EnLight Triggered Trade" with non-disclosure flag DEFERRED PUBLICATION are combined in TES2 DEFFERED PUBLICATION

Sample for reporting of sub-quantities in case the group contains the following sub-quantities:

Tran ID	Suffix	Group Name	Group ID	B/S	Quantity	Tran Price	Trade Type	Trade Publish Ind.	Average Price Indicator	Notional Value
T856PRE	0002	XY	1234	B	34	4.176,00	VOLA	PUBLISHED	Original	141.984,0000000
T855Z2F	0002	XY	1234	B	69	4.172,00	REGULAR		Original	287.868,0000000
T853HY1	0002	XY	1234	B	456	4.168,00	TES BLOCK	PUBLISHED	Original	1.900.608,0000000
T857RB5	0002	XY	1234	B	67	4.171,00	REGULAR		Original	279.457,0000000
T855U9F	0002	XY	1234	B	47	4.169,00	ENLIGHT	PUBLISHED	Original	195.943,0000000
T853PH8	0002	XY	1234	B	367	4.167,00	TES BLOCK	DEFERRED PUBL.	Original	1.529.289,0000000
T896CM3	0002	XY	1234	B	89	4.174,00	TES BLOCK	PUBLISHED	Original	371.486,0000000
T904HS5	0002	XY	1234	B	45	4.175,00	ENLIGHT	PUBLISHED	Original	187.875,0000000
T948CR8	0002	XY	1234	B	256	4.170,00	REGULAR		Original	1.067.520,0000000

In addition of the total group quantity of 1.430 contract the following subset of the total quantity is reported:

Sub-Quantity	Trade Type	Trade Publish Indicator
392	VBAP On-Exchange	
579	VBAP TES1	PUBLISHED
367	VBAP TES1	DEFERRED PUBLICATION
92	VBAP TES2	PUBLISHED

If a Member intends to allocate a certain fee-level out of the group he must request a trade type and for off-book transactions in addition a trade publish indicator. For such request, the Member must use one of the new trade types used for Value Based Average Pricing where TES2 stands for EnLight Triggered Trades and TES1 stands for all other off-book transactions:

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[9] All off-book trade types except EnLight

FIXML	Valid Values	Decodes	Description
1009	G	VB	VBAP_ON_EXCHANGE
1010	H	VB1	VBAP_TES1
1011	J	VB2	VBAP_TES2

Note that C7 will keep the original trade type in the average price transactions where possible, i.e. a request to allocate VBAP – On-Exchange Trade out of the group will always return trade type Regular Trade on the average price transaction that is created, a request to allocate VBAP – TES2 Trade out of the group will always return trade type EnLight-Triggered Trade.

If the Member requests trade type VBAP TES1 out of the group, C7 will return the original off-book trade type, e.g. VOLA or TES BLOCK in case only one original trade type is contained in the group. If more than one off-book trade type is in the group, C7 will report VBAP TES1 in the average price transaction.

5.2.9.3.3 Allocations out of a Value Based Average Pricing group

Value Based Average Pricing allows the Member to create average price transactions out of the group in a flexible manner. The allocation of average price transactions out of the group can be requested via GUI or via FIXML (*AllocationInstruction*).
Within the allocation request, the Member can optionally provide a quantity, a fee-level (combination of trade type and trade publish indicator), a price, a target account, a target member.

- If a quantity is provided, average price transaction(s) with the provided quantity is (are) generated. If no quantity is given, average price transaction(s) that add(s) up to the total remaining quantity of the group is/are generated.
  Whether one or more average price transactions per request are generated depends on the number of different fee-levels within the group and whether the Member has requested a certain fee-level within the allocation request.
  If there is more than one fee-level within the group, the request to allocate the complete remaining quantity out of the group will always result in more than one average price transaction.
  If a quantity is provided in the allocation request, the Member can optionally request a certain fee-level (trade type in combination with a trade publish indicator) in addition to the quantity. If this applies, only one average price transaction in the requested trade type and with the requested trade publish indicator is generated.
  If only parts of the quantity are allocated out of the group and no specific fee type is requested, the system will apply a pro-rata allocation and might hence create more than one average price transaction.

  C7 will validate that the quantity:
  o provided in the request does not exceed the remaining group quantity, i.e., the group quantity must not become negative.
  o submitted along with a dedicated fee-level does not exceed the remaining sub-quantity with the same fee-level.
  If these validations fail, the request will be rejected.

- If a certain fee-level (trade type in combination with trade publish indicator) is provided in the request, the system will generate an average price transaction in the requested trade type and with the requested trade publish indicator. A dedicated fee-level can only be requested in combination with a quantity.

Valid trade types that can be provided in the allocation instruction request are the newly implemented trade types also mentioned in 5.2.9.3.2:

- o "VBAP_ON_EXCHANGE" is used to request the trade type "regular" for the allocation,
- o "VBAP_TES1" is used to request off-book transactions for the allocation, and
- o "VBAP_TES2" is used to request the trade type "EnLight" for the allocation.

The allocation request is rejected, if:

- o an invalid trade type is provided, i.e., trade type ≠ VBAP_ON_EXCHANGE, VBAP_TES1 or VBAP_TES2.
- o the fee-level is not fully specified, i.e., in case VBAP_TES1 or VBAP_TES2 are provided without a trade publish indicator or in case a trade publish indicator is provided without a trade type.
- o a certain fee-level is requested without a quantity.
- o the quantity submitted along with fee-specific information exceeds the remaining sub-quantity with the same fee specific information.

The fee-level assignment for average priced transactions will be performed using the following logic:

- o VBAP_ON_EXCHANGE will always be booked as regular transaction (i.e. original trade type is persisted) without a trade publish indicator
- o VBAP_TES1:
  - o Original trade type is persisted if only one off-book trade type is in the TES1 sub-quantity (e.g., block, vola etc.) with the respective trade publish indicator
  - o VBAP_TES1 if different off-book trade types are mixed in the group with the respective trade publish indicator
- o VBAP_TES2 will always be booked as EnLight transaction (i.e. original trade type is persisted) with the respective trade publish indicator

If no fee-level is provided at all and there are transactions with different fee-levels in the group, C7 will create average price transactions applying the pro-rata approach.

If a pro-rata allocation out of a group is processed, respective rounding of sub-quantities might be necessary. To determine which quantity of each subset must be allocated out of the group, C7 determines the ratio of the allocation in comparison to the remaining group quantity first (ratio = remaining group quantity / allocation quantity). Subsequently this ratio is multiplied with each sub-quantity and the result is rounded to integer. The sum of the rounded (sub-) quantities calculated for all subsets should ideally match the allocation quantity. But it may also happen that due to rounding the sum of the subsets exceeds the allocation quantity or is less than the allocation quantity.

- If the sum of all subsets > allocation quantity, the available subset with the highest trading fee is rounded down.
- If sum of all subsets < allocation quantity, the available subset with the lowest trading fee is rounded up.

The list of the sub quantities in accordance with their prices, starting with the lowest trading fee up till the subset with highest trading fee is as follows:

(1) VBAP_ON_EXCHANGE, (2) VBAP_TES2 published, (3) VBAP_TES1 published, (4) VBAP_TES2 deferred publication, (5) VBAP_TES1 deferred publication.

Sample for rounding up (if the cheapest available fee-type is rounded up):

Example: the remaining group quantitiy before allocation is 880;
the member requests the allocation of 500 contracts out of the group:

Ratio of the allocaiton: 500/880   0,568181818182 *

* In this example the ratio is displayed with 12 digits, but actually it is unrounded.

	Rem. Quantity (before allocation)	Pro-rata Alloc. Quantity (unrounded)	Alloc. Quantity Rounded	Adjusted
VBAP ON EXCHANGE	354	201,136363636364	201	202
VBAP TES1 PUBLISHED	161	91,477272727273	91	91
VBAP TES1 DEFERRED PUBLICATION	136	77,272727272727	77	77
VBAP TES2 PUBLISHED	229	130,113636363636	130	130
Remaining group quantity	**880**		499	500

- If a price is provided, it is used for the average price transaction to be generated; if no price is provided, the system calculated average price is used for the average price transaction.

  C7 will validate that
  - the chosen average price is within the "high" and "low" range of the group
  - after deduction of the notional value of the allocation from the current group value, the remaining group value will not become negative
  - the future system calculated average price (after allocation is processed) must be within the "high" and "low" range.

- Members can optionally/conditionally provide a target account along with the allocation request. If this applies, the average price transaction is generated on the account where the original transaction is booked on and will be automatically transferred to the account provided in the request. If no account is provided, the average price transaction remains on the original account.

  C7 will validate that
  - the target account exists for the member, before processing the request. The allocation request will be rejected, if the target account does not exist for the member who initiated the request.

- Members can optionally provide a target member. If a target member is provided, the average price transaction is generated on the account where the original transaction is booked on and a give-up is initiated to the target member. In case the target member provided is a Disclosed Client with System Access or Basic Disclosed Client with Reports and the initiating member is the corresponding sponsor, C7 will initiate an external account transfer instead of a give-up. In this case a target account is mandatory.

  C7 will validate if
  - the target member exists and is entitled to take-up trades resp. if the account of the RC exists.

  The first successfully validated request to allocate an average price transaction out of the group will automatically set the group status to COMPLETE, i.e., after successful allocation, no additional transactions can be added to/removed from the group. Only exemption is a mistrade, where the transaction subject to mistrade is automatically removed from the group. For further details on mistrade processing, please refer to 5.2.9.3.10.

5.2.9.3.4   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 in the generated transactions indicates, whether it is the offset or the average price transaction. The offset-transaction will not be further adjustable.

The VBAP Allocation ID links all average price and offset transactions that result from the same request.

Tran ID	Suffix ID	Account Name	Status	Average Price Identifier	Group ID	B / S	O / C	Tran Qty	Tran Price	Tran Type	Booking Quantity Long Qty	Short Qty	Trade Type	Trade Publish Indicator	VBAP Allocation ID
P683JM5	000	A1	not adjustable	offset	1234	S	C	100	23,1234567	016	-100	0	REGULAR		789
P691RM7	000	A1	adjustable	tailor-made	1234	B	O	100	23,1234567	016	100	0	REGULAR		789
P691ZK67	000	A1	not adjustable	offset	1234	S	C	50	23,1234567	016	-50	0	VBAP TES1	PUBLISHED	789
P691ZL98	000	A1	adjustable	tailor-made	1234	B	O	50	23,1234567	016	50	0	VBAP TES1	PUBLISHED	789

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.

The same logic applies for the Rate Identifier/CustomerOrderHandlingInst(1031); if all original transactions assigned to a Value Based Average Pricing group contain the same value in field Rate Identifier, the same is reported in the average price and offset transactions generated out the group. If there are different values available in the group, the field Rate Identifier will be empty.

5.2.9.3.5   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 subsets of the remaining quantity will be adjusted accordingly.

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

$$\text{System calculated average price} = \frac{Remaining\ Notional\ Value}{Remaining\ Group\ Quantity}$$

5.2.9.3.6   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 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.

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

5.2.9.3.6.1   Residual calculation for futures

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

For buy transactions:

$$Residual; (contract)$$
$$= ROUND \left[\left((Allocation\ Price - Init.\ Math.\ Avg.\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size} \right); 2 \right]^{10}$$

$$Residual; (allocation) = Residual; (contract) * Allocation\ Quantity$$

For sell transactions:

$$Residual; (contract) = ROUND \left[\left((Init.\ Math.\ Avg.\ Price - Allocation\ Price)\ x\ Trading\ unit\ x\ \frac{Tick\ Value}{Tick\ Size} \right); 2 \right]^{10}$$

$$Residual; (allocation) = Residual; (contract) * Allocation\ Quantity$$

5.2.9.3.6.2   Calculate the residual for option contracts

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

$$Premium; (contract) = ROUND \left[(Mathematical\ Average\ Price\ x\ \frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit), 2 \right]^{10}$$

$$Premium; (total) = Premium; contract\ x\ Allocation\ Quantity$$

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

$$Premium; (contract) = ROUND \left[(Allocation\ Price\ x\ \frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit), 2 \right]^{10}$$

$$Premium; (total) = Premium; contract\ x\ Allocation\ Quantity$$

3) Calculate residual

for average priced buy transactions:

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

for average priced sell transactions:

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

5.2.9.3.7   Cancellation of an allocation out of the group

[10] Please note that for GBX products the residual is rounded to integer.

Members can request the cancellation of an allocation out of the group, if the following conditions are fulfilled:

- 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
- transaction must be booked "to open"
- 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.

Tran ID	Suffix ID	Account Name	Status	Average Price Identifier	Group ID	B/S	O/C	Tran Qty	Tran Price	Tran Type	Booking Quantity Long Qty	Short Qty	Trade Type	Trade Publish Indicator	VBAP Allocation ID
P683JM5	000	A1	adjusted	offset	1234	S	C	100	23,1234567	016	-100	0	REGULAR		789
P683JM5	**000**	**A1**	**inverse**	**offset**	**1234**	**S**	**C**	**-100**	**23,1234567**	**017**	**100**	**0**	**REGULAR**		**789**
P691RM7	000	A1	adjusted	tailor-made	1234	B	O	100	23,1234567	016	100	0	REGULAR		789
P691RM7	**000**	**A1**	**inverse**	**tailor-made**	**1234**	**B**	**O**	**-100**	**23,1234567**	**017**	**-100**	**0**	**REGULAR**		**789**
P691ZK67	000	A1	adjusted	offset	1234	S	C	50	23,1234567	016	-50	0	VBAP TES1	PUBLISHED	789
P691ZK67	**000**	**A1**	**inverse**	**offset**	**1234**	**S**	**C**	**-50**	**23,1234567**	**017**	**-50**	**0**	**VBAP TES1**	**PUBLISHED**	**789**
P691ZL98	000	A1	adjusted	tailor-made	1234	B	O	50	23,1234567	016	50	0	VBAP TES1	PUBLISHED	789
P691ZL98	**000**	**A1**	**inverse**	**tailor-made**	**1234**	**B**	**O**	**-50**	**23,1234567**	**017**	**50**	**0**	**VBAP TES1**	**PUBLISHED**	**789**

The inverse booking of average price and offset transaction is broadcasted 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 original group is increased by the quantity of the cancelled average price transactions. Fee-specific subsets of the remaining quantity are adjusted accordingly and the system calculated average price will be updated.

5.2.9.3.8 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

- o   might be requested by the Member (see 5.2.9.3.3)
- o   or will be triggered automatically by C7 if there is a remaining group quantity during product-specific end of day processing. The automatic closure of the group is processed at the current system calculated price of the group before the rule-based automatic close-out (see 5.3.1.3) is processed. The average price identifier of such transactions generated during the product-specific end of day processing will be "VBAP - system generated transaction". Note that system generated average price transactions can be cancelled by the Member on the next business day as long as the conditions for cancellation as described in 5.2.9.3.7 are fulfilled.

5.2.9.3.9   Group Cancellation

Members can request the cancellation of a group via FIXML *(AllocationInstruction)* or GUI. The cancellation of a group is supported 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 may also be triggered due to the de-assignment of the last transaction from the group (GUI or *TradeCaptureReport* request via FIXML).

5.2.9.3.10 Mistrade processing

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

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

- and allocations out of the group has already been processed, all allocations (average price transactions as well as offset-transactions) will automatically be cancelled and finally the transaction subject to mistrade is removed 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).

5.2.85.2.10   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
- 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).

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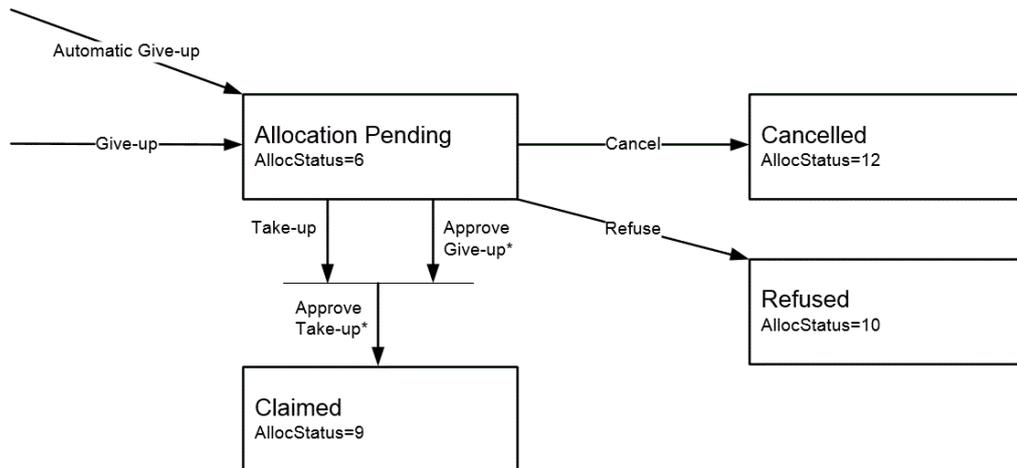
*Take-up approval only available pursuant take-up action. Give-up approval can be performed at any time.

The initiating Member can cancel the give-up process as long as 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[11]. 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
- 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

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

(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[12], link member and beneficiary information – if applicable – of the original trade are forwarded as proposal values to the take-up side.

5.2.9 5.2.11 Handling of preliminary priced trades

Trades in products with preliminary and final prices (e.g. ~~variance futures trades,~~ 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 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 preliminary price anymore.

5.2.9.1 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 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).

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[12] 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".

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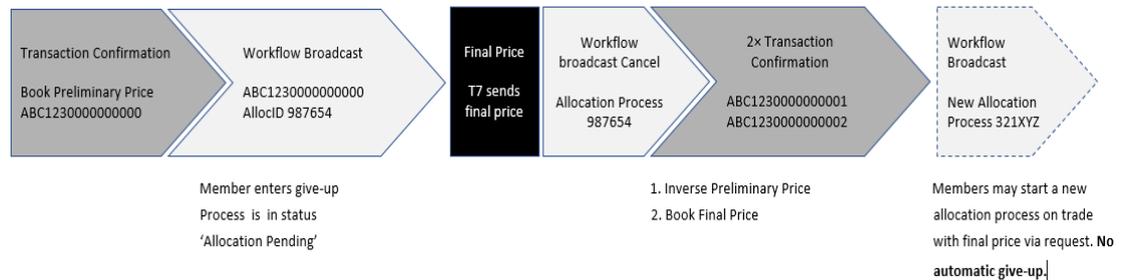
Should the transaction with final price still be given-up, the allocation process needs to be started anew by the give-up Member.

5.2.9.25.2.11.2 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 detail on mistrade reversal handling, see 5.2.12 below.

5.2.105.2.12   Transaction-based settlement

C7 supports transaction-based settlement of futures-on-futures. Settlement of the respective contracts is handled on 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 transaction	1234	0000000000		277163393	B	O	100	100	FES1	adjusted	000	0
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)

5.2.115.2.13   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 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
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 (Eurex/KRX).

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[13] 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[14].

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. Only futures and future-style products are considered for late closing fee. 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.

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)

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

[14] 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.

+ 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

+ 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

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. Remaining close-outs will be set off against the current ZCQ.

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 the 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 shows 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 auto-close out. 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.

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

Configured close-out rules will be executed during the daily end-of-day processing (including on expiration day of contracts), before exercise/assignment processing. Members wishing to exercise any (potentially) affected positions need to make sure they do so before the end of day processing starts. 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 Position account transfer

5.3.2.1 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.

5.3.2.2 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.

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.

When transferring a position, Members have the choice to adjust the position transfer price and/ or to transfer a cash amount. 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.

In addition to the adjusted position price, the User can enter a cash amount. The system will display in addition the total cash amount, which is the sum of the entered cash amount and the calculated cash from transfer price adjustment.

The calculated cash is = Value per cleared instrument (per lot)[15] × Number of contracts, where:

- Value per cleared instrument (if long positions are transferred) =

$$\frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit\ x\ (Cash\ Adjustment\ Price - Previous\ Nights\ Settlement\ Price)$$

- Value per cleared instrument (if short positions are transferred) =

$$\frac{Tick\ value}{Tick\ size}\ x\ Trading\ Unit\ x\ (Previous\ Nights\ Settlement\ Price - Cash\ Adjustment\ Price)$$

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.

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[15] Rounded to the currency decimals.

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.

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.

5.3.2.3 Cash only transfer

Members can also use a position transfer request to transfer cash only. The cash will be booked, after approval for external position transfers, to the destination account with the next booking cut. 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.

In case of a cash only transfer the member submitting that transfer is obliged to enter the following mandatory information in the free format text fields: instrument details (only after expiration), quantity, long/short.

5.3.2.4 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.

5.3.3 Exercise

5.3.3.1 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. 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).

ITM amounts/settings are not automatically transferred in case of member changes, such as clearer change or the setup of a new member. Pursuant any such 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 products.

The maximum ITM value settings are:

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

5.3.3.2 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 a 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 in case 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 if 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. In order 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 in order 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.

5.3.3.3 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.

5.3.3.4 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 as long as no reference price is available. Exercise attempts will be rejected with an appropriate error message.

5.3.4 Assignment

When a long position in options is exercised, the system randomly selects an option seller from among all 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 CE770 Exercise and Assign Overview XML Report.

5.3.5 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.

5.3.6 Notification

Holders of short positions in physically settled products indicate their choice of deliverable from a basket via notification on the expiry date. Notification is done 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.

5.3.7 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.

5.3.8 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).

5.3.8.1 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 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 same functional key after Holiday maintenance, then positions in those contracts will be consolidated in one. And, one of the contracts will be inactivated.

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 status of the Sub-Monthly Contract will be set to 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 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 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.

5.3.8.2 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 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.

5.3.9   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 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 a 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 (1st -4th calendar quarter). On the same day the future position for the 1st 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: 4th quarter of the current year + 1st quarter of the next year for winter season or 2nd + 3rd 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 cascades to DEBM JAN20, DEBM FEB20 and DEBM MAR20, as the next available contract series is DEBQ APR20).

6   Product Assignment

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.

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 application front-end that is presented to the User to interact with the system.
QTPIP	**Q**ualified **T**hird-**P**arty **I**nformation **P**rovider
TES	The **T**rade **E**ntry **S**ervice is offered by Eurex to enter off-book trades into the Eurex System for settlement
XLS	XLS is the proprietary file format for Microsoft Excel spreadsheets.