



Options Multilateral Compression Onboarding Guide for Clearing Members and Participants

V1.0



Contents

DOCUMENT HISTORY 3

INTRODUCTION..... 3

SUPPORTED PRODUCTS..... 5

ADDITIONAL PRODUCTS WILL BE SUPPORTED OVER TIME. 5

OPERATIONAL TIMELINE 6

INPUTS SUBMITTED BY PARTICIPANTS 8

1. Input Portfolio 8

2. Participant Risk Constraints 9

PRINCIPLES OF COMPRESSION 10

OUTPUTS GENERATED BY CME 11

1. Margin Report 11

2. Compression Summary 11

3. Compression Report per Option 12

4. Combined Portfolio Output 13

5. Greek Report..... 14

BACK OFFICE PROCESSING..... 15

PORTFOLIO SUB ACCOUNT SUPPORT 17

OCC CROSS MARGIN PROGRAM..... 18

Document History

Date	Version	Description
10/2018	1	Initial Version

Introduction

The goal of the Multilateral Compression Service is to attempt to identify potential offsetting efficiencies between the open interest of market participants in certain options on futures products and related underlying futures and, through compression, to promote more favorable capital treatment for the Clearing Members of such market participants and their customers who have been impacted by the Basel III standardized capital requirement formulas.

Chicago Mercantile Exchange Inc. (**CME**) designed the Multilateral Compression Service to allow Equity Options market participants (each, a **Participant**) to reduce the number of contracts and notional positions in relevant contracts in their cleared portfolios without materially impacting their desired risk profile.

CME plans to run Compression Cycles within the Multilateral Compression Service once per month on an initial basis. CME reserves the right to amend the frequency of Compression Cycles and, where required, CME may elect to operate Compression Cycles more frequently than monthly.

This document provides operational level detail on the Multilateral Compression Service provided by CME. Further information on the Multilateral Compression Service is set out in the relevant Exchange Rulebook at Rule 857 and in the CME Group Multilateral Compression Process Protocol (the **Protocol**), each of which are publicly available on the CME Group website. Capitalized terms used in this document and not otherwise defined herein shall have the meaning set out in the Protocol. In the event of any conflict between this document and the legal terms in the Rulebook or the CME Compression Agreement between CME and any Participant, the Rulebook and the CME Compression Agreement shall prevail. In the event of any conflict between this document and the Protocol, the Protocol shall prevail.

All inquiries regarding the Multilateral Compression Service should be sent to cme.core@cmegroup.com.

Eligibility Criteria for participation in Compression Cycle

In order to be eligible to participate in the Multilateral Compression Service in respect of Equity Options and each related Compression Cycle, prospective Participants must meet one of the following criteria:

- Maintain an average daily volume (ADV) of at least 30K (RT) over the preceding 3 months in S&P related options
 - Inclusive of both SP (Standard) and ES (E-mini S&P) weekly, end of month and quarterly options; or
- Submit a portfolio of at least 30K contracts in S&P related options for compression
 - Inclusive of both SP (Standard) and ES (E-mini S&P) weekly, end of month and quarterly options

Additionally, prospective Participants that meet the above criteria will need to demonstrate operational readiness through testing, as determined by CME, and such other eligibility criteria as determined by CME from time to time, as set out in the Protocol.

Registration for Compression Service

Participants that wish to use the Multilateral Compression Service must:

(i) execute a license agreement with CME for use of the CME CORE Compression Service User Interface:

Please contact CME by sending an email to cme.core@cmegroup.com for a copy of the license agreement and access form for the CME CORE Compression Service User Interface (UI).

A CME Login ID required to access Compression Service User Interface.

If you do not have a CME Login ID, please follow these instructions:

1. Go to the [CME CORE login screen](#):

<https://cmecore.cmegroup.com/core/index.html>

2. Click on the "Need to Register" link and provide the required information.
3. Receive your CME Group Login and activation email

After executing the license agreement, Participants will request access to the Compression Service UI via the access form provided by CME. The completed form needs to be sent to cme.core@cmegroup.com.

Only authorized users within the Participant (listed on the access form and identified as Authorized Individuals under the CME Compression Agreement) are allowed to:

- send instructions on behalf of the Participant to participate in Compression Cycles;
- upload Input Portfolios and Participant Risk Constraints; and
- accept the results from a Compression Cycle (provided by CME to the Participant in the form of a Compression Proposal) by provision of a Participant Acceptance.

A duly authorized representative and signatory acting on behalf of the Participant is required to verify the relevant authorized users listed on the access form (identified as Authorized Individuals under the CME Compression Agreement). The CME CORE team or the CME EASE team will confirm a Participant authorized user's entitlement is complete.

(ii) execute a CME Compression Agreement with CME for participation in the Multilateral Compression Service:

The CME Compression Agreement sets out the core legal terms governing participation in the Multilateral Compression Service by Participants.

Please contact CME by sending an email to cme.core@cmegroup.com for a copy of the CME Compression Agreement.

Please note that the relevant Clearing Member of the Participant (a **Participant Clearing Member**) must also provide an Acknowledgment Letter in the form specified in Annex 2 of the CME Compression Agreement in order for a Participant to be permitted to participate in the Multilateral Compression Service.

Registration for Compression Cycles

Once registered for the Multilateral Compression Service, a Participant must register for each individual Compression Cycle by sending an email to the CME CORE team: cme.core@cmegroup.com no later than 6pm CST 2 business days prior to the date of the Compression Cycle.

OPTIONS MULTILATERAL COMPRESSION SERVICE

Each Participant must notify CME of the primary authorized user contact for the purposes of each Compression Cycle (which must be an Authorized Individual for the purposes of the CME Compression Agreement).

Supported Products

The Multilateral Compression Service will initially support equity option multilateral compression in the following products:

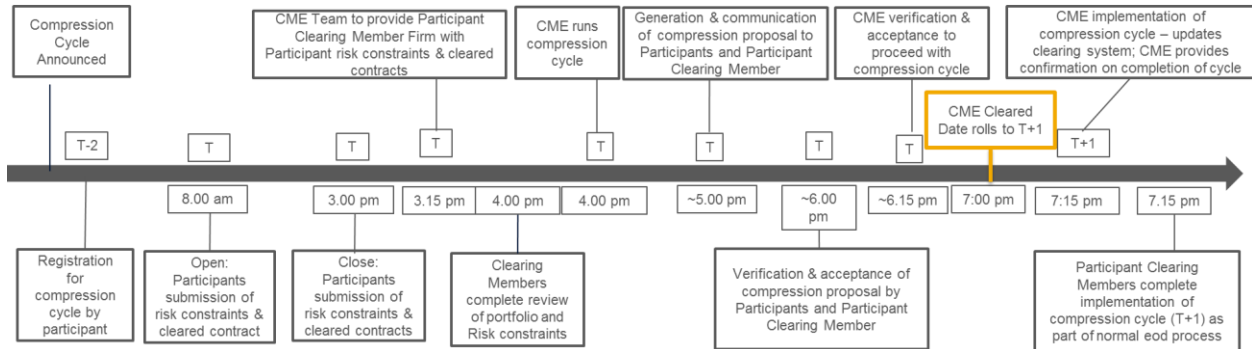
ES, E1A, E1C, E2A, E2C, E3A, E3C, E4A, E4C, E5A, E5C, EW, EW1, EW2, EW3, EW4, EV, EV1, EV2, EV3, EV4,

SP, S1A, S1C, S2A, S2C, S3A, S3C, S4A, S4C, S5A, S5C

Additional products will be supported over time.

Operational Timeline

The below diagram outlines the operational timeline of a Compression Cycle.



1. CME shall schedule and provide notice to Participants and Participating Clearing Members of the commencement date of each Compression Cycle (T) by publishing relevant information on cmegroup.com or through a CME Clearing advisory.

Notification shall include but shall not be limited to:

- a. Confirmation of CME cleared transactions that are eligible for inclusion in the Compression Cycle;
- b. Any additional applicable eligibility criteria for participation in the Compression Cycle.

2. At least two business days before the commencement of the scheduled Compression Cycle (T-2), Participants that wish to participate in the Compression Cycle must register for the Compression Cycle via the process outlined in the section “Registration for Compression Cycles” above. Only a Participant that has registered for such Compression Cycle shall be entitled to submit Participant Risk Constraints and an Input Portfolio (cleared contracts only) via the Compression Service UI for inclusion in such Compression Cycle.

Prior to the Compression Cycle, CME will contact each Participant Clearing Member via email and require the Participant Clearing Member to confirm whether the Participant Clearing Member wishes to approve only Input Portfolios and applicable Risk Constraints or whether the Participant Clearing Member also wishes to approve each Compression Proposal to permit the Participant to participate in the Compression Cycle.

3. On the day of commencement of the Compression Cycle (T), each Participant that has registered for a Compression Cycle shall send to CME, via the Compression Service UI, the Participant Risk Constraints and Input Portfolio in the CME specified format defined below. It is recommended that the Participant and Participant Clearing Member agree upon Participant Risk Constraints and the Input Portfolio prior to submission to CME. CME may be contacted to review inputs with all parties.

- a. The submission of Input Portfolios and Participant Risk Constraints via the Compression Service UI opens at 8.00 AM CT and closes at 3.00 PM CT. Participants that encounter operational issues should contact cme.core@cmegroup.com for assistance.
- b. On the day of the scheduled Compression Cycle (T), the CME team will provide details of the Participant inputs (Participant Risk Constraints and Input Portfolio) and any relevant CME Risk Constraints to the relevant Participant Clearing Member. The

OPTIONS MULTILATERAL COMPRESSION SERVICE

- Participant Clearing Member may explicitly approve/reject the inputs for each Compression Cycle by sending an email to cme.core@cmegroup.com, which shall constitute the Clearing Member Rejection or Clearing Member Acceptance.
- c. CME Risk Constraints may be imposed to override Participant Risk Constraints if necessary in the sole determination of CME. It is anticipated that CME Risk Constraints would generally be used in the case where a Participant's Risk Constraints would otherwise restrict the compression opportunity for all Participants in a Compression Cycle. CME will provide details of any applicable CME Risk Constraints to Participants and Participant Clearing Members via email.
 - d. Where Participant Clearing Member provides a Clearing Member Rejection the relevant Participant shall not participate in the Compression Cycle.
 - e. Where Participant Clearing Member provides a Clearing Member Acceptance in relation to the Input Portfolio and Participant Risk Constraints the Participant Clearing Member shall, unless expressly requested to the contrary by the Participant Clearing Member, be deemed to accept any Compression Proposal generated by CME within the Participant Risk Constraints in respect of an individual Compression Cycle.
 - f. Except where the Participant Clearing Member has expressly requested prior approval of the Input Portfolio and Participant Risk Constraints, where Participant Clearing Member does not reject the Participant Risk Constraints and Input Portfolio by sending a Clearing Member Rejection, the Participant Clearing Member shall be deemed to have approved the Participant Risk Constraints and any CME Risk Constraints and CME shall proceed to generate a Compression Proposal in respect of such Participant portfolio. In this scenario, in order for the Participant's portfolio to be compressed by inclusion in the Compression Cycle the Participant Clearing Member must provide a Clearing Member Acceptance in relation to the Compression Proposal generated by CME.
4. On T, CME will run the compression algorithm between 3.00 PM & 5.00 PM CT, on the basis of the Participant Risk Constraints and Input Portfolio, together with any relevant CME Risk Constraints, using end of day settlement prices for T.
 5. On T, CME will provide each Participant with the Compression Proposal by ~5.00 PM CT. Each Participant will receive reports which together make up a Compression Proposal, via the Compression Service UI, in the format of the sample reports provided below.
 - a. Where Participant Clearing Member has expressly requested prior approval of the Compression Proposal prior to the implementation of the Compression Cycle, notwithstanding any prior Clearing Member Acceptance of the Participant Risk Constraints and Input Portfolio, CME will also make the Compression Proposal available to the Participant Clearing Member for review by ~5.00 PM CT.
 - b. In the event that CME Risk Constraints are imposed by CME in generating any Compression Proposal, CME will make the Compression Proposal available to the Participant Clearing Member for review and the Participant Clearing Member must approve or reject the Compression Proposal.
 - c. Where CME provides the Compression Proposal to the Participant Clearing Member, the Participant Clearing Member must approve or reject the CME compression proposal by sending an email to cme.core@cmegroup.com by 6.00 PM CT, which shall constitute the Clearing Member Acceptance or Clearing Member Rejection.
 6. On T, Participant shall confirm acceptance of the Compression Proposal via the Compression Service UI by ~6.00 PM CT which shall constitute Participant Acceptance.

OPTIONS MULTILATERAL COMPRESSION SERVICE

- a. If any Participant rejects the Compression Proposal, CME will notify each Participant and Participant Clearing Member that the Compression Cycle will not be completed by CME.
 - b. If any Participant Clearing Member rejects the Compression Proposal, CME will notify each Participant and Participant Clearing Member that the Compression Cycle will not be completed by CME.
7. On T, CME verifies each Participant and Participant Clearing Member's approval of the Compression Proposal. If CME determines to proceed with the Compression Cycle, it will provide the notification of CME Acceptance to Participants via the Compression Service UI and to Participant Clearing Members that request such confirmation.
 8. If CME proceeds with the Compression Cycle, on T after 7pm CT (for processing on T+1), CME will create offset positions and onset positions within the clearing system for effective date T+1 (on the basis of end of day settlement prices on T, as set out in the relevant Compression Proposal).
 9. CME will provide confirmation on the completion of the Compression Cycle to Participants and Participant Clearing Members on T+1 in the form of the CME Confirmation, confirming the Compression Cycle Effective Time which shall be on T+1.
 10. CME shall provide FIXML trade capture report messages to each Participant Clearing Member through FEC+ to update their back office records for the Participant. The trade capture report will use the trade type of transfer record with a new reason code of Compression. This FIXML message is uniquely created for the purposes of the Multilateral Compression Service provided pursuant to Rule 857 and is not a transfer for the purposes of Rule 853. See sample trade capture report below.
 11. Participant Clearing Members to complete implementation of Compression Cycle for T+1 processing as part of normal end of day processing for T+1. On the day of commencement of the Compression Cycle (T), CME does not anticipate any impact to clearing member end of day processing.

Inputs submitted by Participants

Compression Participants will generate two input files as defined below .

1. Input Portfolio

Participants will provide input positions using the following (csv) format.

Field	Description	Optional / Required
Firm Id	Represents Globex Execution Identifier	Required
Acct Id	Represents Participant Clearing Member Firm back office account identifier. CME will work with Participant Clearing Member Firm to identify account id.	Required
Exchange	Exchange ID e.g: CME	Required
Ticker Symbol	Globex Tickers as provided by CME in product reference file. Not intended for use day 1, leave blank.	Optional
Product Name	Name of the product as provided by CME on product reference file. Not intended for use day 1, leave blank.	Optional

OPTIONS MULTILATERAL COMPRESSION SERVICE

CC Code	Combined Commodity code as provided by CME in the product reference file.	Required
Period Code	This the maturity date of the futures contract represented as "YYYYMM"	Required
Put / Call	PUT / CALL indicator	Required for options
Strike	Strike price	Required for options
Underlying Period Code	Underlying period code	Required for options
Quantity	A positive number will indicate long position, a negative number will indicate short position	Required

The following fields are verified by compression service: Exchange, CC code, Period Code, Put / Call, Strike, Underlying Period Code (for options). Products expiring on the day of the Compression Cycle or prior to the Compression Cycle will not be included in the Compression Cycle.

2. Participant Risk Constraints

Participants of the Multilateral Compression Service will set risk constraints to ensure the Compression Proposal generated by CME is within pre-agreed parameters and tolerances as outlined below (Participant Risk Constraints).

Constraints can be set within the scope of all option contracts (with different strikes) that share the same expiry and underlying future. Global constraints can be set to include all products for a given firm.

These risk constraints, listed below, limit the amount of variance between the original portfolios and the compressed portfolios returned to Participants after the process is complete.

1. Net Vega, Gamma, Delta over the portfolio
2. Net Vega, Gamma, Delta by Expiry
3. Option Premium change (Net Option Value)
4. SPAN Risk change
5. Theoretical Price deviation per positions and per portfolio

Participants will provide Participant Risk Constraints using the following (csv) format:

Field	Description	Optional / Required
Firm Id	Represents Globex Execution Identifier. Must map to a 'Firm Id' in the Portfolio Input	Required
Account Id	Represents Participant Clearing Member back office account Identifier. Must map to 'Acct Id' in the Portfolio Input.	Required
Exchange	Exchange ID e.g: CME	Required

OPTIONS MULTILATERAL COMPRESSION SERVICE

CC Code	For Scope=OptionExpiry it is the CC code of the option product. For Scope= UndFutureExpiry, it is the CC code of the underlying future.	Optional (Required if 'PeriodCode' is present)
Period Code	For Scope=OptionExpiry it is the period code of the option product. For Scope= UndFutureExpiry, it is the period code of the underlying future	Optional
Scope	Allowed entries are UndFutureExpiry, OptionExpiry, and Global. i. For Scope =OptionExpiry constraint is applied on the level of option expiry (Valid only for Delta, Gamma, and Vega Constraints) ii. For Scope=UndFutureExpiry constraint is applied on the level of all products that share the same underlying future. iii. For Scope=Global constraint is applied on the level of portfolio. Fields CC Code and PeriodCode in this case are ignored.	Required
NOV Constraint Tolerance	E.g. Acceptable NOV Constraint Tolerance to a firm is \$50K then NOV Constraint Tolerance should be 50000 and NOV Constraint Tolerance Type to be selected is Absolute.	Optional*
NOV Constraint Tolerance Type	Relative: number between 0 and 1 representing % change Absolute: number representing absolute value of change	Optional*
Delta Constraint Tolerance	The two fields work in tandem, similar to NOV Constraint Tolerance and NOV Constraint Tolerance Type. Constraints can be provided in \$value or between 0 and 1 choosing Absolute or Relative, accordingly.	Optional*
Delta Constraint Tolerance Type		Optional*
Gamma Constraint Tolerance	The two the fields work in tandem, similar to NOV Constraint Tolerance and NOV Constraint Tolerance Type. Constraints can be provided in \$value or between 0 and 1 choosing Absolute or Relative accordingly.	Optional*
Gamma Constraint Tolerance Type		Optional*
Vega Constraint Tolerance	Both the fields work in tandem, similar to NOV Constraint Tolerance and NOV Constraint Tolerance Type. Constraints can be provided in \$value or between 0 and 1 choosing Absolute or Relative accordingly.	Optional*
VegaConstraintToleranceType		Optional*

*Note: Line items in Constraints files can express either NOV constraints OR Greek Constraints, but when Scope = OptionExpiry, NOV constraints cannot be present.

Principles of Compression

The principles of operation of the algorithm can be made available by CME upon request.

Outputs generated by CME

The Multilateral Compression Service will generate 5 reports, in csv format, to help a Participating Firm understand the benefits of Compression Cycle. Together, these 5 reports constitute the Compression Proposal. A description of all 5 reports is set out below:

1. Margin Report

Field	Description
Firm Id	Firm's Globex Execution Identifier e.g. 1LU
% Change Margin After-Before	Percentage change in SPAN value after compression - before compression
% Change NOV After-Before	Percentage change in NOV after compression - before compression

2. Compression Summary Report

Field	Description
BusDate	Compression run date
Firm	Firm's Globex Execution Identifier e.g. 1LU
Future code	Combined Commodity code as provided by CME in the product reference file.
Future Period Code	Maturity month and year of the futures contract represented as "YYYYMM"
Products	Products grouped based on underlying expiry
Future price	Price at which the underlying future can be bought or sold for delivery in the future
CVF	This specifies the contract size of each underlying future contract
NOV Input	Net Option Value input in USD
NOV	Net Option Value of compression / output portfolio in USD
Delta Input	Delta of input portfolio in USD
Delta	Delta of compressed / output portfolio in USD
Vega Input	Vega of input portfolio in USD
Vega	Vega of compressed / output portfolio in USD

OPTIONS MULTILATERAL COMPRESSION SERVICE

Gamma Input	Gamma of input portfolio in USD
Gamma	Gamma of compressed / output portfolio in USD
Net num futures Input	Number of futures contracts input for compression
Net num futures	Number of futures contracts in compressed portfolio
Num futures input	Absolute value of number of futures contracts input for compression
Num futures	Absolute value of number of futures contracts in compressed portfolio
Num options Input	Number of options contracts input for compression
Num options	Number of options contracts in compressed portfolio
Num all contracts	Total number contracts in compressed portfolio
Gross notional(price based) Input	Derived by multiplying future price x CVF x number of option contracts before compression
Gross notional(price based)	Derived by multiplying future price x CVF x number of option contracts after compression
Gross notional min fair value (price based)	Price based gross notional after maximal fair compression with no constraints
Compression(price based)%	Comparing gross notional input and output to measure the amount of compression based on future price
Max fair compression (price based)%	Maximum possible fair compression without constraints
Gross notional (strike based) input	Derived by multiplying strike price x CVF x number of option contracts before compression
Gross notional (strike based)	Derived by multiplying strike price x CVF X number of option contracts after compression
Gross notional min fair value (strike based)	Strike based gross notional after maximal fair compression with no constraints
Compression (strike based) %	Comparing gross notional input and output to measure the amount of compression based on strike
Max fair compression (strike based)%	Maximum possible fair compression without constraints

3. Compression Report per Option

Fields	Description
--------	-------------

OPTIONS MULTILATERAL COMPRESSION SERVICE

BusDate	Compression run date
Firm	Firm's Globex Execution Identifier e.g. 1LU
Future code	Combined Commodity code as provided by CME in the product reference file
Future period code	Maturity month and year of the futures contract represented as "YYYYMM"
Product code	Combined Commodity code as defined by CME
Product period code	Maturity month and year of the futures contract represented as "YYYYMM"
Future price	Price at which the underlying future can be bought or sold for delivery in the future
CVF	Contract Value Factor, or contract size of each underlying future contract
Num options input	Number of options contract input for compression
Num options	Number of contracts in compression portfolio
Gross notional(price based) input	Derived by multiplying future price x CVF x number of option contracts before compression
Gross notional(price based)	Derived by multiplying future price x CVF x number of option contracts after compression
Compression(price based)%	Quantifying compression by comparing the gross notional before and after compression based on price
Gross notional(strike based) input	Derived by multiplying strike price x CVF x number of option contracts before compression
Gross notional(strike based)	Derived by multiplying strike price x CVF x number of option contracts after compression
Compression(strike based)%	Quantifying compression by comparing the gross notional before and after compression based on strike

4. Combined Portfolio Output

Field	Description
Firm	Firm's Globex Execution Identifier e.g. 1LU
Exch	CME
BusDate	Compression run date
Prod code	Combined Commodity code as defined by CME
Period code	Maturity month and year of the futures contract represented as "YYYYMM"
Expiry Date	Expiry date of future/option
Price	Price for future / option contract

OPTIONS MULTILATERAL COMPRESSION SERVICE

P/C/F	Put / Call / Futures indicator
Strike	Strike for options
InputLong	Total number of long positions for a Future/Option by strike in the submitted portfolio
InputShort	Total number of short positions for a Future/Option by strike in the submitted portfolio
Long	Total number of long positions for a Future or by strike for options in compressed portfolio
Short	Total number of short positions for a Future or by strike for options in compression portfolio
NetChangeLong	Net change in long positions before versus after compression
NetChangeShort	Net change in short positions before versus after compression
ExcludedFromCompression	False – product included in the compression run; or True – product removed from the compression run (for example: expiring options)

5. Greek Report

Field	Description
BusDate	Compression run date
Firm	Firm's Globex Execution Identifier e.g. 1LU
ProdCode	Combined Commodity code as defined by CME
PeriodCode	Maturity month and year of the futures contract represented as "YYYYMM"
Spot	Underlying future values. 3 values (report rows) are provided for each product: (i) stressed spot value shifted down, (ii) current future value, and (iii) stressed spot value shifted up
Delta offset input	Calculated by subtracting the Delta (in USD) at the spot price from the calculated Delta (USD) at bumped levels (described in 'Spot' above) from input portfolio
Delta offset	Calculated by subtracting the Delta (USD) at the spot price from the calculated Delta (USD) at bumped levels (described in 'Spot' above) from compressed portfolio
Gamma input	Gamma of the input portfolio in USD
Gamma	Gamma of the compressed portfolio in USD

OPTIONS MULTILATERAL COMPRESSION SERVICE

Vega input	Vega of the input portfolio in USD
Vega	Vega of the compressed portfolio in USD

Back Office Processing

Once the results of the Compression Proposal are approved by the relevant Participants and Participant Clearing Members and the Compression Cycle is completed to effect the offset (close-out) and establishment of new positions, to be effective on T+1, CME will generate FIXML trade capture report using the trade type, transfer, to update the back office of Participant Clearing Members.

- CME's FIXML TRADE API details transfer trades types (section 3.8).
 - <http://www.cmegroup.com/clearing/files/allocate-claim-match-model-overview.pdf>
- A new transfer reasons code 'O' will be used to designate transfers that are created for the purposes of the Compression Service. Note: TrnsfrRsn="O" and OrdTyp="O">
- CME will be the opposite firm on each transfer with a TMF id of 995
- The price on the transfer message will be based on the final settlement price on the day of the Compression Cycle
- The Compression Cycle date will be reflected as TrdDt on the transfer records
- The Cleared Date (BizDt) of the Transfers will be for T+1. CME and Clearing Members will process the compression cycle results on T+1

CME Clearing will generate transfer messages and send them to FEC+ to acknowledge the new trade for the Participant.

A Participant Clearing Member back office function will receive the following message to process the transfer message for a Participant. All messages will be sent after 7 PM CT

Sample Trade Capture Report message outlined below:

```
<?xml version="1.0" encoding="UTF-8"?>
<FIXML>
  <TrdCaptRpt RptID="165F3648C810002DB1142000011111" TransTyp="0" RptTyp="1" TrdTyp="3"
  TrnsfrRsn="O" MtchID="165F3648C810001AA11A" PxTyp="2" TrdDt="2018-10-22" BizDt="2018-10-23"
  MLegRptTyp="1" MtchStat="1" MsgEvtSrc="CMESys" TrdRptStat="0" TrdID="100001"
  TrdID2="165F3648C810001AA11A" LastQty="1" LastPx="10.8" TxnTm="2018-10-22T19:00:35-05:00"
  TrdHandlInst="3" OrigTrdDt="2018-10-22" VenueTyp="X" VenuTyp="X" LastUpdateTm="2018-10-
  22T19:00:35.804-05:00" ForceAckOrRpt="RPT">
    <Hdr Snt="2018-10-22T19:00:35-05:00" SID="CME" TID="123" SSub="CME" TSub="CME"/>
    <Instrmt Sym="SPZ8 C2930" ID="SP" CFI="OCAXPS" SecTyp="OOF" Src="H" MMY="20181200"
    MatDt="2018-12-21" StrkPx="2930.0" Mult="250" Exch="CME" PutCall="1" PxQteCcy="USD"/>
    <Undly MMY="201812"/>
    <Amt Typ="PREM" Amt="-2700.00" Ccy="USD"/>
    <RptSide Side="1" ClOrdID="COMPRESS" InptSrc="MQM" InptDev="API" CustCpcty="4"
    OrdTyp="O" SesSub="X">
      <Pty ID="CME" R="21"/>
      <Pty ID="123" R="4"/>
      <Pty ID="CME" R="22"/>
      <Pty ID="123" R="1"/>
      <Pty ID=ACCTEXAMPLE" R="24">
        <Sub ID="2" Typ="26"/>
      </Pty>
  </TrdCaptRpt>
</FIXML>
```

OPTIONS MULTILATERAL COMPRESSION SERVICE

```

    <Pty ID="995" R="17"/>
    <Pty ID="123" R="38">
      <Sub ID="2" Typ="26"/>
    </Pty>
    <RegTrdID ID="FECF165F3648C810001AA11A " Src="1010000023" Typ="0" Evnt="2"/>
    <TrdRegTS TS="2018-10-22T19:00:35-05:00" Typ="1"/>
  </RptSide>
</TrdCaptRpt>
</FIXML>

```

The table below outlines the description of all the fields in a transfer message.

Transfer Message field	Description	Sample
TransTyp	Action Taken on a trade	0
RptTyp	Report Type	0
TrdTyp	Trade Type	3
LastQty	Trade quantity	213
LastPx	Trade Price	1749.1
MLegRptTyp	Multileg Reporting Match Type	1
SID	Sender ID - the firm executing the transfer, 3-digit string	CME
TID	Recipient	123
SSub	Sender Firm Exchange	CME
ID	Product Code	ES
SecTyp	Product Type	OOF
MMY	Period Code	20180900
StrkPx	Strike Price	1025.0
Exch	Product Exchange	CME
PutCall	0=Put,1 = Call	1
Side	Trade Side 1=buy,2=Sell	1
ClOrdID	Client Order ID	CMPRS_1. This is a sequential number for every transfer message.
CustCpcty	Customer Order Capacity (CTI)	4
OrdTyp	Order Type	O
Pty ID="CME" R="22"	22=Firm Exchange. (CME/CBT/NYMEX)	Pty ID="CME" R="22"
Pty ID="123" R="1"	1=Executing Firm. (TMF)	Pty ID="123" R="1"
Pty ID="ACCT1" R="24"	24=Customer Account; we will use Back-office Bookkeeping Account Number	Pty ID="ACCT1" R="24"
Sub ID="1" Typ="26"	26=Account Type (Origin). ID 1=Customer Account, 2=House Account	Sub ID="1" Typ="26"
Pty ID="995" R="17"	17=Opposite Firm. (TMF)	Pty ID="995" R="17"

OPTIONS MULTILATERAL COMPRESSION SERVICE

Pty ID="COMPRESS" R="48"	48=Claiming Account	Pty ID="COMPRESS" R="48"
Sub ID="2" Typ="26"	26=Account Type (Origin). ID 1=Customer Account, 2=House Account	Sub ID="2" Typ="26"
Sub ID="4" Typ="4000"	4000= Customer Order Capacity (CTI) for Claiming Firm.	Sub ID="4" Typ="4000"

Portfolio Sub Account Support

It is common for Participants to have multiple sub-accounts set up in their Clearing Member's back office for different trading desks/strategies. Each Participant allocates trades to sub-accounts through proprietary methodologies which are beyond scope of CME's Multilateral Compression Process.

For purposes of multilateral compression, CME is running compression at the Participant's legal entity level and allows the Participants to submit any part of their portfolio to CME for compression

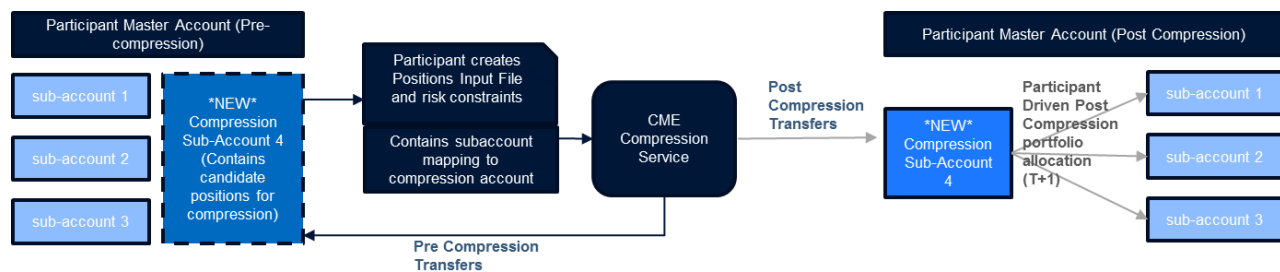
- The compression algorithm is designed to maximize compression opportunities at the Participant's legal entity level and does not optimize for the allocation of risk across sub-accounts as this theoretically constrains the benefit of compression

The Input Portfolio for compression may contain positions that sit in multiple back office sub-accounts with the Clearing Member as outlined below:

If a Participant elects to use multiple sub-accounts, CME will require the Participant and the Participant Clearing Member to create a new compression sub-account. From a Participant Clearing Member perspective, the sub-account can be configured for margin calculation or roll up to the same related master as the other sub-accounts depending on the existing set up of each Participant.

- Participants will specify the sub accounts and compression accounts on their Input Portfolio creating a mapping for CME to generate transfers to update Clearing Member back office.
- At the start of the compression process around 3 PM, CME will create pre-compression transfers to move all positions from the sub accounts to the compression accounts for the Clearing Member as specified by the Participant Input Portfolio file
- After compression successfully completes, CME will generate Post Compression Transfers into the compression sub account. At EOD cycle, the pre-compression portfolio transfers net down with post compression portfolio completing the compression process from a Clearing Member back office perspective. Clearing Member runs normal EOD activity on related master account for EOD cycle including but not limited to: PCS, CGM, Large Trader and Margin Calculation.
- Participants will work with their Clearing Member to allocate their post compression portfolio to their normal trading sub accounts. The timing of this process will be coordinated between Clearing Member and their Participants. There should not be a risk or economic impact by running this process the next day due to related master account structure overlaying the compression process.

If a Participant uses only a single sub-account per Compression Cycle, CME will allocate all compression trades to the original sub account.



OCC Cross Margin Program

For Equity Products, many compression Participants may also participate in the CME Cross Margin program with OCC. Here are key principles to include OCC cross margin positions into the compression process:

- A portfolio submitted for compression may only contain positions that map to a single CME performance bond account, which is the level at which CME computes margin requirements.
- If a user wants to use the performance bond account for OCC cross margin program, they will submit this account number on their Input Portfolio. In this case, all trades must reside in this account prior to compression at CME. All other positions mapping to the normal (non cross-margin) performance bond account would be excluded.
- The compression process may result in a change to risk profile based on the risk constraints which may also result in a change in initial margin requirement for the cross-margin program on the day of a Compression Cycle.
- A Participant may also elect to compress the normal (non cross-margin) performance bond account in which case all positions from the cross-margin performance bond account must be excluded.
- Prior to a given Compression Cycle, CME will work with the Participants and Clearing Members to determine which set of positions will be submitted for compression to ensure proper account information is provided on the input file.