

CME CORE User Manual

6/22/2015

Futures trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade.

All references to options refer to options on futures.

CME Group is a trademark of CME Group Inc. The Globe Logo, CME, Chicago Mercantile Exchange, Globex, iLink, E-mini, CME EOS Trader, Galax-C, FirmSoft, CME DataSuite, and CME DataMine are trademarks of Chicago Mercantile Exchange Inc. New York Mercantile Exchange, NYMEX, miNY, and ClearPort are registered trademarks of the New York Mercantile Exchange, Inc. COMEX is a trademark of Commodity Exchange, Inc.

FIX[™] and FAST[™] are trademarks of FIX Protocol Limited. FIX/FASTSM is a service mark of FIX Protocol Limited.

Dow JonesSM, Dow Jones AIG Commodity IndexSM, The DowSM, Dow Jones Industrial Averagesm, and DJIASM are service marks of Dow Jones & Company, Inc. and American International Group, Inc. (AIG) and have been licensed for use for certain purposes by the Board of Trade of the City of Chicago, Inc (CBOT[®]). CBOT futures and options on futures contracts based on the Dow Jones Industrial AverageSM are not sponsored, endorsed, sold or promoted by Dow JonesSM, and Dow JonesSM makes no representation regarding the advisability of trading such product(s).

BM&FBOVESPA[™] is a trademark of BM&FBOVESPA, KRX[™] is a trademark of Korea Exchange, DME[™] is a trademark of Dubai Mercantile Exchange, BMD[™] is a trademark of Bursa Malaysia, BMV[™] is a trademark of Bolsa Mexicana De Valores.

All other trademarks are the property of their respective owners.

The information within this document has been compiled by CME Group for general purposes only. CME Group assumes no responsibility for any errors or omissions. Additionally, all examples in this brochure are hypothetical situations, used for explanation purposes only, and should not be considered investment advice or the results of actual market experience.

All matters pertaining to rules and specifications herein are made subject to and are superseded by official CME, CBOT, and NYMEX rules. Current rules should be consulted in all cases concerning contract specifications.

Copyright © 2014 CME Group Inc. All rights reserved..

Table of Contents

Getting Started	7
Additional Information	7
Demos	7
Functionality	7
Work Flow	7
Logging In and Logging Out	8
Receive an Administrative Message	8
Contact Information	8
What's New	9
The Landing Page	. 11
Main Menu	. 12
Margin Calculator	12
Reports	12
Trade Overview	. 13
Credit Default Swaps	13
Interest Rate Swaps	13
Simplified Incremental VaR Analysis	. 14
Delta Ladder	14
Foreign Exchange	. 14
Futures and Options	. 14
Portfolio Margining	15
Reasoning for Use	. 15
Margin Optimization	. 15
Historical Value at Risk (HVar)	16
Simplified Incremental VaR Analysis	16
The Trade Menu	17
Copy, Cut and Paste Trade information	. 17
Add Rows	. 18
Remove or Isolate Rows	18
Import or Export a Trade Portfolio	. 18
Filter Trades	. 18
Hide / Show Portfolio Summary	18
Interest Rate View	19
Schedule a Report	20
Download Center	21
Documents	21
Software	22
Rates Calculator	23
Portfolio Type Options	25
Manage Portfolios	26
Portfolio Options	. 26
Add a Portfolio	. 27
Load Cleared Portfolios	. 28
Search Portfolios	28

Load Trades	29
Export the portfolio summary	29
Remove Selected Portfolios	29
Downloads	29
Manage Trades	30
IRS Trade Reference	30
Trade Grid Options	30
Import Trades	31
Manually Enter non-IRS Trades	32
Manually Enter Interest Rate Swaps	32
Add a Variable Notional Schedule	33
Edit / Remove / Export Trades	34
Save and Validate Portfolios	34
IRS Expanded Trade Editor	34
Run Analysis	36
Report Generation Options	36
Viewing Reports	36
Margin Portfolios	36
Combine Portfolios	37
Optimize Portfolios	38
Termination	39
Coupon Blending (IRS Only)	42
Futures and Options Trade Management	44
Manage Futures and Options Portfolios	45
Portfolio Options	45
Add a portfolio	45
Margin Portfolios / Schedule a Margin	47
Search Portfolios	48
Remove Portionos	48
Export Portiono Summary	48
Trade Option	49 ۸۵
Add Trades	49 ۱۵
Fdit Trades	49 51
Remove Trades	51 51
Export Trades	51 51
Margin Trades	51 51
Base Portfolio and Hypothetical Portfolio	51
Fxamples	52
Base Portfolio	52
Hypothetical Portfolio	
Navigating Hypothetical Portfolios in the Portfolio Section	
CDS and FX Trade Management	
The Portfolio Menu for CDS and FX	56
Additional Menu Options	57
Add CDS or FX Trades	58
Import Trades	58

Load Trades From an Existing Portfolio	58
Manually Enter Credit Default Swaps	59
Manually Enter Foreign Exchange Trades	60
Manage Calculation	61
Generate a Margin Report	61
Trade Validation Errors	62
Trade Validation Rules	62
General Validation Rules	62
Interest Rate Swap Trade Validation Rules	62
Start and Maturity Date Validations	62
Zero Coupon Validations / Defaults	62
Overnight Index Swap (OIS) Validations / Defaults	63
View Reports	64
Report Descriptions	64
Export Reports	65
Credit Default Swap Results	66
Net Positions Breakdown	66
Interest Rate Swap Margin Results	67
IRS Margin Details	67
IRS Margin Report	67
IRS Margin Details Scenario Analysis	68
Termination Reports (IRS only)	69
Termination Summary	69
Termination Details	70
Coupon Blending (IRS only)	71
Selective Coupon Blending report	71
All-in Coupon Blending report	/1
OTC FX Margin Results	72
Delta Ladder Report	/3
Delta Ladder Margin Details	73
Delta Ladder Margin Details Scenario Analysis	
Dertfelie Margin Detaile Benert	75
Nargin Amounts without Dortfolio Margining	70
Margin Amounts with Dortfolio Margining (Cross margining)	70
	70
Dortfolio Margin Posults Proakdown	70
Portfolio Margin Results Comparison Breakdown	//
Portfolio Margin Details Report	,
Portfolio Margin Ontimization Details Report	79
Margin Amounts without Margin Ontimization	79
Margin Amounts with Margin Optimization (Cross-margining)	,5
Savings	<i>7</i> 9
Portfolio Margin Optimization Detail Report Breakdown	80
Margin Optimizer Results Comparison Breakdown	
Portfolio Margin Optimization Detail Report	81
Postion Optimization Report	81

Ideal Optimization Report	
Layout Reference	83
Layout Reference for Credit Default Swaps	84
Layout Reference for IRS	86
Reference for Basic Layout (Interest Rate Swaps)	87
Reference for Simple Layout (Interest Rate Swaps)	88
Layout Reference for Trade Register (Extended) View	90
Layout Reference for Foreign Exchange	
Layout Reference for Futures and Options	100

Please submit user experience feedback about this help system.

Getting Started

CME CORE is an interactive margin calculator that provides a means for cleared over the counter customers and clearing firms to:

- Calculate initial margins using portfolio upload or manual trade entry to model actual or hypothetical portfolios.
- Maintain transparency with clearing house minimum margin methodology applied to all customers.
- Calculate capital efficiencies across multi asset classes. See below for all supported product types including transparency into IRS portfolio margining program.

CME CORE consists of multiple components, which are accessible from the Landing page.

Additional Information

For additional information on any of these products, reference:

About OTC Derivatives

For more on CME CORE and to get started initially:

<u>CME CORE: Clearing Online Risk Engine</u>

Demos

Access CME CORE demos for more information on:

- Getting started
- Uploading and margining Futures & Options
- Rates overview
- Rates portfolio manangement

Functionality

CME CORE provides a tool to enter, margin trades, and view reports for:

- Credit Default Swaps (CDS)
- Interest Rate Swaps (IRS Trades and IRS Delta Ladder)
- Foreign Exchange Trade (FX)
- Futures and Options
- Portfolio Margining
- Margin Optimizer

Work Flow

All components follow the same work flow:

- 1. Add trade information to a grid
- 2. Validate, save and margin or validate, save and portfolio margin / optimize
- 3. View and interpret reports

Logging In and Logging Out

CME CORE uses SMART Click to manage application authentication. SMART Click is a self-managed, centralized user profile service that authenticates access to CME Group applications and services. To register for a SMART Click ID, retrieve a SMART Click ID or Password or for additional assistance, refer to the SMART Click WebHelp.

To log into CME CORE:

1. Using a supported internet browser, navigate to: https://login.cmegroup.com/.

The **SMART Click Login** page displays.



- 2. Enter SMART Click ID and Password, then lick Login.
- 3. From the common navigation menu, select Portfolio & Risk > CORE Margin Calculator.

CME Group	Portfolio & Risk 🛛 🔻	-
	FirmSoft	
	CORE Margin Calculator	

To log out of CME CORE:

Click **Logout** in the upper right corner of the page.

Receive an Administrative Message

Administrative messages display in the yellow band above the Portfolio section.

Margin engines are down. in 14 minutes x

• To close the message band, click the "X" on the right.

Contact Information

Access the Client Systems Wiki Contact Information page for CME CORE contact information.

What's New

Date	Author	Торіс	Description		
6/22/15	MR	Getting Started	Revised login instructions		
9/20/14	JK	 <u>Run Analysis</u> <u>Coupon Blending reports</u> 	 For Coupon Blending, added the following: Run analysis section (1) Report page (2) 		
8/15/14	ЈК	 Manage Report Generation (now called Run Analysis) Termination Reports Rates Calculation Trade Overview Manage Portfolios (Rates) and CDS / FX 	 Added Termination to the Rates Calculation Section (1) Added new page for Termination Reports (2) Updated Rates Calculation page to include Status (Core/Cleared) (3) Updated IRS description (4) Search feature added to Portfolio menu descriptions (5) 		
5/10/14	Яſ	 Download Center The IRS Trade Editor Basic Layout Reference Updates that reference above changes: The Landing Page and Main Menu Manage Trades Manually Enter Interest Rate Swaps 	 Added new page for Download Center Added Basic Swap information Added a new page fo Basic Layout Reference Modified download center content Added a section for IRS Trades Modified to take into account Basic Swap 		
4/14/14	ЈК	 <u>Rates Calculation</u> <u>CDS and FX Trade Management</u> 	 Removed legacy pages for IRS and DL. (n/a) Adjustments to existing sections for removal of legacy IRS and DL pages: Modified Rates Calcution section (1). Added CDS and FX Trade Managment section (2). 		
3/15/14	JK	 Added pages: <u>Rates Calculator</u> <u>Portfolio Type Options</u> <u>Manage Portfolios</u> <u>Manage Trades</u> <u>Manage Report Generation</u> Modified pages: <u>The Landing Page and Main Menu</u> <u>Trade Overview</u> 	 Added 5 pages for Rates Calculator (1) Modified pages to reference Rates Calculator (2) 		

The list below describes the updates made to the CME CORE Help system.

Date	Author	Торіс	Description
		 Portfolio Margining Page Add Trade Information to a Grid Futures and Options Trade Management 	
1/10/14	JK	 Added Pages: <u>Futures and Options</u> <u>Trade Management</u> <u>Manage Portfolios</u> <u>Manage Trades</u> <u>Base Trades and Hypothetical</u> <u>Portfolios</u> 	 Added 4 pages for Futures and Options GUI update (1) Modified existing pages to adjust for Futures and Options GUI update (2)
8/24/13	JK	 Trade Overview Add Trade Information to a Grid Manually Enter Interest Rate Swaps Using the IRS Single Trade Editor Margining, Viewing and Exporting 	 Updates for VNS (1, 2, 3, 4) Scheduling a margin report (5)

The Landing Page

Use the Landing page to access CME CORE.



- A. Main Menu: Access all CME CORE functionality from the main menu, including reports.
- B. Shortcuts: Access Margin Calculator or Margin Optimizer by clicking Click here to get started for the appropriate tool.
- C. Download Center: Click View the Download Center to access sample portfolio format files and help files.
- D. Knowledge Center: Links to product, clearing, CME Margin API and other information.
- E. Margin Matrix: Margin Matrix for IRS Vanilla Swaps and Credit Default Swaps.

Note: Click Help for user guide, support, about and download information.

Main Menu

The following options are available from the Main Menu:

- Margin Calculator
- Reports
- Download Center

Margin Calculator

Home	Març	gin Calculator <mark></mark>	Reports	~	Download Center
Rates ^{BE}	ETA	Futures & Opt	tions	CDS	FX

Access all portfolios from Margin Calculator. IRS, Delta Ladders, Futures and Options, Margin Calculation and Margin Optimization are available from the Rates Calculation page.

To select a product:

1. Click Margin Calculator.

Note: When Margin Calculator is selected, the adjacent arrow points up. The product selection menu is locked and remains visible until another main menu option is selected.

2. Click the product to margin or click Portfolio Margining. Theselected product page displays.

Reports

Home	Home Margin Calculator V Reports Download Center						
Rate	S BETA	F	utures & Option	s CDS	FX		
Margin	Margin History Ideal Optimization IRS & Delta Ladder & Futures (SEQ) Portfolio Margin Detail						
Account	Firm	Туре	Margin Result	Created	Env	# Trades	Report Export -
🖃 Margi	in Runs	s - Firm: /	ABC, Account: 123	4			
1234	ABC	IDEA	\$7,838,303	Mon Apr 07 2014	PROD	65	GME Group CORE IRS Portfolio Margin Optimization Report
1234	ABC	IRS/D	\$28,482,159	Mon Apr 07 2014	PROD	30	Environment: PROD
1234	ABC	IRS/D	\$29,909,500	Mon Apr 07 2014	PROD	22	Margin Contribution Breakdown Optimization Breakdown
1234	ABC	IRS	\$3,224,149	Mon Apr 07 2014	PROD	13	Initial Base Margin Requirement: 7,838,302.81 Initial Futures & Options Residual 0.00 Initial Futures & Options Residual 0.00 23,137,003,20
1234	ABC	IRS	\$3,204,194	Mon Mar 10 201	PROD	13	Total Portfolio IM Requirement: 7,838,302.81
1234	ABC	IRS	\$3,224,149	Mon Apr 07 2014	PROD	13	Total Number of IRS Trades: 17 Optimized Portfolio Margin IM Requirement: 7,83,02.81 Total Number of Futures Positions: 48 Optimized Futures & Options Residual 0.00 Optimized Portfolio Total Margin: 7,838,302.81 0 0

Access all reports from the Reports tab.

Note: In addition to accessing reports from the Reports tab, reports for portfolios on the <u>Rates Calcution</u> page may be accessed by clicking the reports icon () that appears to the right of the reports after they have been run.

To select a report:

1. Click Reports.

Note:Double-click Reports to lock the Reports menu and keep the product selections visible until another main menu option is selected.

- 2. Click the product report to view.
- 3. In the Margin History list, double-click a Margin Run. The corresponding report displays.

Trade Overview

CME CORE allows margining on the following products:

- Credit Default Swaps
- Interest Rate Swaps (includes Portfolio Margining and Optimization)
- Delta Ladder (includes Portfolio Margining and Optimization)
- Foreign Exchange
- Futures and Options
- Portfolio Margining
- Portolio Optimization

To Switch between product pages, use the Main Menu.

Credit Default Swaps

CME CORE provides a way to easily, independently run margin requirements for Credit Default Swaps (CDS) using the Credit Default Swap Portfolio page.

The generated report includes:

- Margin Computation
- Contributing Portfolio Factor
- Factor Breakdown Report
- Portfolio Net Positions
- SNAC Trade Conversion

Credit Default Swaps are calculated using CME SPAN.

See Cleared OTC Initiatives - CME Group: An Overview for more on CDS trading.

Interest Rate Swaps

Interest Rate Swaps (IRS) are calculated using <u>Historical Value at Risk (HVaR</u>). Interest Rate Swaps can be <u>margined</u> against Futures and Options.

Input options include Variable Notional Swaps. Features:

- Available for Fixed vs. Floating Swaps and Basis Swaps
- Clients can submit customized notional schedule
- See Amortizing Swaps Clearing for more on Variable Notional Swaps

The generated reports include:

- PNL Vector Histogram
- PNL Report

<u>Termination</u> can be run on IRS portfolios to show trades which can be terminated while still keeping the same portfolio profile. Termination <u>Summary and Detail reports</u> are generated.

See Cleared OTC Initiatives - CME Group: An Overview for more on Interest Rate Swaps.

Simplified Incremental VaR Analysis

<u>Simplified Incremental VaR Analysis</u> is triggered through the <u>Combine Selected</u> functionality. This functionality provides the ability to easily combine two or more portfolio that contain IRS trades or a delta ladder, and receive the margin results for the new aggregate portfolio.

Delta Ladder

Delta Ladder Estimation Engine provides low latency IRS margin calculation for portfolios represented by DV01 across the tenor / curve structure. The Estimation Engine estimates results that are generally within a couple percentage points of variance from full revaluation, and is recommended for use with low latency estimation of results. Delta Ladders can be <u>margined</u> against Futures and Options.

The portfolio is populated based on apportioning DV01 to various IRS curves and tenor buckets. For example, a 10 year swap with DV01 of 100 on a USD 3 Month Libor Trade could be entered in CME CORE by populating the 3656 day (10 year) column in the Delta ladder entry screen and using a 3 Mo Libor Curve

The generated reports include:

- Margin Report
- PNL reporting
- Delta Ladders

Simplified Incremental VaR Analysis can also be run on Delta Ladder portfolios.

Optimization can be performed from the Rates Calculation page.

See Delta Ladder Spec for more on creating Delta Ladders in CME CORE.

Foreign Exchange

OTC FX Clearing provides a post-execution clearing and settlement service designed to meet the risk-mitigation needs of market participants. This allows customers to retain the flexibility of OTC products and to utilize any established OTC execution method, while addressing counterparty credit risk.

The generated report includes:

- Account information
- PNL Vector Histogram

See Cleared OTC Initiatives - CME Group: An Overview for more on FX trading.

Futures and Options

Futures and Options supports calculation of all eligible futures and options contracts by the following exchanges:

- CME
- NYMEX
- COMEX
- CBOT

Treasury Futures and Options and Eurodollar Futures and Options are available for portfolio margining.

Interest Rate Futures and Options are calculated using CME SPAN.

The generated reports include:

• IRS & Delta Ladder & Futures (SEQ) Portfolio Margin Details (pending asset classes)

Note: Access from the Rates tab if Futures and Options are margined with IRS and / or Delta Ladder.

• Futures and Option Report (Futures and Options only)

Portfolio Margining

Portfolio Margining provides the ability to margin Interest Rate Swaps and/or Delta Ladders with Interest Rate Futures by leveraging the current multi-currency HVaR framework. CME CORE calculates savings from a total costs perspective.

Porfolio Margining is accessed from the Rates Calculator page.

The generated reports include:

- IRS Trades & Futures (SEQ) Portfolio Margin Details
- Delta Ladder & Futures (SEQ) Portfolio Margin Details
- IRS & Delta Ladder & Futures (SEQ) Portfolio Margin Details

See Portfolio Margining of Cleared OTC IRS Swaps and Futures for more on portfolio margining.

Reasoning for Use

Treasury Future prices and Eurodollar prices are used as an underlying risk factor, as they account for risks, including:

- Switch of the Cheapest-to-Deliver (applies to Treasury Futures)
- Delivery timing (applies to Treasury Futures)
- Changes in the convexity adjustment (applies to Eurodollars)
- Covers extremely well-hedged portfolios (applies to Eurodollars)

Margin Optimization

The Margin Optimizer specifies the ideal allocation of Eurodollar and Treasury Futures to move into the OTC Customer Cleared Swaps account to minimize portfolio risk, and therefore, reduce margins. Clearing Members can use the Margin Optimizer to facilitate Portfolio Margining for both their clients and their house accounts. Interest Rate curve sensitivities in the form of Delta Ladders and/or Interest Rate Swaps are optimized against Futures.

Margin Optimization is accessed from the Rates Calculator page.

The generated reports include:

- IRS Portfolio Margin Optimization Report
- Delta Ladder Portfolio Margin Optimization Report
- IRS & Delta Ladder Portfolio Margin Optimization Report

See CME CORE Margin Optimization Demo for a demo.

Historical Value at Risk (HVar)

- HVaR calculation for Interest Rate Swaps, Delta Ladder, Portfolio Margining and Margin Optimization:
 - Margins are built to provide 99% coverage over a 5-day closeout Period
 - Historical scenarios are:
 - Generated using a 5-year look back period
 - Synchronized across all observed tenors on the zero curve, across all currencies
 - Scaled using Exponentially Weighted Moving Average (EWMA) based volatility forecasts
 - Margin is currently the 99.7 percent of portfolio changes (loss) across all scenarios
- HVaR calculation for FX:
 - Initial margins calculated utilizing historical VaR, using a 99%, 5-day loss coverage assumption.

Simplified Incremental VaR Analysis

Simplified Incremental VaR Analysis is useful for running a base portfolio of Interest Rate Swaps or Delta Ladders each day and then adding in smaller IRS portfolios without having to do a margin re-run—essentially dynamic margin creation. This tool is typically used when very large portfolios are used and re-running the portfolios with additional trades would be time consuming.

Simplified Incremental VaR Analysis is accessed via the Combine Selected function of the Rates calculator.

The Trade Menu

The Trade Entry (Grid) section for all trade types includes a Trade Menu, which contains basic tools for managing trade information. Use the Trade menus to perform basic editing, import/export and filtering tools for the Trade Entry sections.

Note: trade:	: Me s.	enu does not apply to Futu	res and Options. Access	Futures an	d Options	Trade Management	for Futures and	d Options
	0	Remove Selected Rows	🗗 Isolate Selected Rows	Paste	🖹 Сору	😹 Cut 🛛 🗐, Import	Export -	🝸 Filter 🗸

The Trade Menu provides the following functionality:

- Copy, cut and paste trade information
- Add rows
- Remove or isolate rows
- Import and export portfolios
- Filter trades by specified criteria
- Hide / Show Portfolio Summary

Note: The Interest Rate Swap page has an additional option to select between view types.

Copy, Cut and Paste Trade information

CME Core provides basic editing capabilities to make it easier to enter, modify or remove trade information. Individual data cells or rows of data can be copied and pasted within a trade section.

Note:

- You cannot cut and past between different portfolios.
- Short-cut keys CTRL-C, CRTL-V and CRTL-X can also be used to copy, paste and cut information.
- If the Paste, Copy and Cut options are grayed out in the trade menu, these options are not available on your browser.
 Use the Ctrl-C (Copy), Ctrl-X (Cut) and Ctrl-V (Paste) options only.
- Copying / pasting more than one row or column at a time is not recommended.
- CME CORE does not check that rows are pasted into a corresponding cell, for example, Firm ID into Firm ID. Verify that data has been posted into the correct row and column.

To copy and paste trade information:

- 1. Select one or more data cells or a row of trade data.
- 2. Use Ctrl-C to copy the trade information or click Copy in the Trade menu.
- 3. Select, from **left to right** or **up to down**, the cells into which to paste the data, and use **Ctrl-V** or **Paste** in the **Trade** menu to paste the information.

To cut and paste trade information:

- 1. Select one or more data cells or a row of trade data.
- 2. Use Ctrl-X to cut the trade information or click Cut in the Trade menu.
- 3. Select, from **left to right** or **up to down**, the cells into which to paste the data, and use **Ctrl-V** or **Paste** in the **Trade** menu to paste the information.

Add Rows

To add a trade row:

Position the cursor in the section where the row is to be added and click the [+] symbol on the left of the menu. The new row shows in the trade list.

Note: View Manage Trades in the Rates Calculation section for adding IRS trades manually from the Trade Grid.

Remove or Isolate Rows

To delete one or more rows:

- 1. Click the box or boxes adjacent to the rows to delete.
- 2. Click Removed Selected Rows.



- 1. Click the box or boxes adjacent to the rows to isolate.
- 2. Click Isolate Selected Rows.

Import or Export a Trade Portfolio

Import any type of portfolio from a csv file. Export trade data into Excel, PDF or XML (formatted for use with API) files. Use a file that was previously exported from CME CORE or create a file manually. Files exported from other applications can also be used, as long as they have the correct format.

See Add Trade Information to a Grid for importing trade information.

To export a trade portfolio:

- 1. Click the **Export** arrow. The export options display.
- 2. Select a file option. The **Opening Portfolio** window displays.

Note: Export to API option is available for IRS, CDS, FX and Futures and Options trade data.

3. Select Open with or Save File option.

Note: Files are saved to the **Downloads** directory.

Filter Trades

Trades can be filtered by various options, depending on which CME CORE product is being used. Only one filter type can be selected at a time.

To filter trades:

Click the Filter arrow and select the appropriate filter.

Hide / Show Portfolio Summary

To view more trades in the Trade grid, the Portfolio section can be hidden, so that the Trade grid displays on a larger portion of the screen.

To toggle between hiding and showing trades:

Click the 🗖 icon to hide the Portfolio section and the 🗹 icon to make the Portfolio section visible when it is hidden.

Interest Rate View

Interest Rate Swaps have additional functionality to select between view types.

Note: This selection is for viewing trades. Product type can also be selected for individual trades.

To select an IRS view:

Click the arrow to the right of Vanilla and select a Product view.

📻 Export 🗸 🍸 I	Filter 👻 📔	Vanilla 🔹
Maturity Date	Dire	Vanilla
09-06-2021	PAY	OIS
09-06-2021	PAY	015
09-06-2021	PAY	Zero Coupon
09-06-2021	PAY	Basis
09-06-2021	PAY	FRA
09-06-2021	PAY	
09-06-2021	PAY	Extended

View displays:

- Vanilla: View only simple columns
- OIS: View only Overnight Index Swap columns
- Zero Coupon: View only Zero Coupon columns
- Basis: View only Basis columns
- FRA: View only Forward Rate Agreement columns
- Extended: Shows leg information in addition to simple swap display (all columns)

Note: To easily view / enter all fields for a single trade, use the IRS Basic Trade Editor.

Schedule a Report

CME CORE allows report scheduling.

To schedule a Margin Report:

1. Click the clock (\bigcirc) icon beside the portfolio to schedule. The **Schedule a Margin** dialog box appears.

Note: If a margin has not been previously scheduled, click Schedule a Margin in the bottom left corner. The Schedule a Margin dialog box displays the scheduling fields.

2. Enter or edit the following fields:

Field	Description
Next Schedule Date	Pick the date of the next margin run from the calendar.
Finish By	Select a finish time from the list.
Repeat	Select a repeat interval from the list.
Note	Add a note (optional).

3. Click Save. Clock icon turns green showing schedule is set and dialog box closes.

Download Center

Download documents or software from the Download Center.

Home N	largin Calculator	Reports	Download Center
Documents	Software		

- Download Documents
- Download Software

Documents

Download asset class templates and supported products list.

Documents	Software	Software									
Welcome to CORE											
CME CORE is an interactive margin calculator that allows you the opportunity to upload cleared and/or hypothetical positions into CORE to view initial margin calculations and portfolio margining savings. The following are CME CORE upload templates and welcome documents to help you get started!											
File		Version	Description								
OTC IRS Simple Upload Template		1.0.0	Simple Trade Upload File Format for Interest Rate Swaps that populates the simple view								
Delta Ladder Template	Upload	1.0.0	Delta Ladder File Upload Template								
Futures & Op Template	tions Upload	1.0.0	Futures & Options Trade Upload Template								
OTC CDS Uplo Template	ad	1.0.0	Credit Default Swaps Trade Upload Template								

Download documents include:

- Templates for all asset classes
- OTC IRS Templates:
 - Basic, Simple and Trade Register templates
 - OTC IRS VNS Simple Trade and VNS Schedule template
 - OTC IRS Supported products list
- Futures and Options only download section

To download files:

- 1. Click Download Center. The download options display.
- 2. Click file to download.

Note: File save / open actions may vary depending on browser type.

Software

Download PC-Span, and request CME Optimizer or Span Risk Manager download information.

Documents Software	1								
Welcome to the sof	tware d	ownload center of CME CORE.							
CME Clearing provides software that can be installed locally.									
Here is a list of software that is available through CME CORE									
PC SPAN - Free CME Optimizer- Free									
 Span Risk Manager - \$3 	000								
If you are a legacy cme-ch.com software user and already have SPAN or Optimizer installed, please claim your software entitlements by entering your cme-ch.com user name and password in the claim window and you will see your software appear for download.									
Username Password Submit									
If you are interested in purch	asing span	risk manager, please follow the link below for payment instructions.							
For more information about	our softwar	e, please email cme.core@cmegroup.com							
PC-SPAN									
For more information ca desktop application that includes a scripting lang once a day.	II the SPA offers ma uage calle	N Hotline at 312-648-3888. A single-user, windows based argin calculation across multiple exchanges. The software also ed "Span-it" that allows you to automate margin calculation							
File	Version	Description							
PC-SPAN version: 4.5 build: 568	1.0.0	The latest version of PC-SPAN.							
SpanPosConvDoc v.3.2	1.0.0	Span Position Conversion Utility Documentation							
SPAN Position Converter	1.0.0	This application allows users to transform .csv portfolios into position files for SPAN.							
Register for Software									

PC-Span is a single-user, windows based desktop application that offers margin calculation across multiple exchanges. The software also includes a scripting language called "Span-it" that allows you to automate margin calculation once a day. For more information call the SPAN Hotline at 312-648-3888."

Request CME Optimizer or Span Risk Manager:

- To request CME Optimizer, contact cme.core@cmegroup.com.
- To purchase SPAN Risk Manager, click the <u>Register for Software</u> link at the bottom of the page.

To download files:

- 1. Click **Download Center.** The download options display.
- 2. Click software to download. Software downloads.

Note: File save / open actions may vary depending on browser type.

Rates Calculator

Use the Rates Calculator page to manage portfolios, trades, margining and optimization for the following: Interest Rate Swaps, Delta Ladders and Futures and Options. Portfolios may be consist of any of these individual trade types or combinations of these trade types. In addition to margining and optimizing IRS trades and/or DL portfolios with futures, CME CORE provides an Ideal Optimization analysis. Portfolios may also be combined, using the Combine Selected option.

Access the <u>Portfolio Type Options</u> page for a full list of all trade types which may be utilized from the Rates Calculator page, and which margining / optimization options are available for these trades.

A portfolio may have a status of "CORE," "Cleared EOD" or "Cleared CUR," depending on whether the trades have been cleared through CME Group and are part of the Clearing System database.

- **CORE**: For any aggregate portfolio or any combination of IRS, Delta Ladder or Futures in the Rates Margin Calculator. This include hypothetical portfolios and cleared portfolios which have been edited.
- For Interest Rate Swap portfolios only:
 - Cleared EOD: Status is assigned when a CME generated IRS Trade Register file is uploaded or a portfolio is uploaded using "Load Cleared Portfolio. CME CORE builds a portfolio that includes all trades cleared in the account as of the prior day's end of day process.
 - If a Trade Register contains many firms and accounts, one new Cleared EOD portfolio is created per FIRM / ACCOUNT combination.
 - If multiple Trade Registers upload at once, a new Cleared EOD portfolio is created per Trade Register.
 - If trades are removed from or added to a Cleared EOD portfolio, it becomes a CORE portfolio.

		Portfolio Su	mmary	P- D	Load Cleared Portfolios	📑 Load Trade	🛛 📴 Add Port	folio 📃 Remove Se	elected Portfolios	Experience	port Portfolio Sum	nary Downlo	oads 👻 🛛 Marg	in Selected Port	folios		d
		Saved On	•	Name		 Description 		-	Account 🔹	Firm	 Margin Type 	▼ #Trades	▼ Margin Resu	ilt 👻	Core/C	eared 🔻 📝	
		07-08-2014	ିତ	Portfolio Agg	regate Aggregate	T&C Target F	ortfolio		Aggregate	Aggreg	IRS	120	Saved	Portfolio 鞲	Core	:	
		07-08-2014	ିତ	Portfolio Agg	regate Aggregate	T&C Remnan	t Portfolio [USD]		Aggregate	Aggreg	IRS	80	Sav	ed Portfolio	Core	I	
		07-08-2014	ିତ	Portfolio Agg	regate Aggregate	T&C Termina	ted Portfolio [US	D]	Aggregate	Aggreg	IRS	40	Sav	ed Portfolio	Core		
		03-07-2014	ତ	Portfolio ABC	1234				1234	ABC	IRS/DL/SEG	23	Sav	ed Portfolio	Core		
		03-07-2014	ିତ	Futures and	Options				1234	ABC	SEG	6	Sav	ed Portfolio	Core		6
		03-07-2014	ତ	Interest Rate	e Swaps				1234	ABC	IRS	2	Sav	ed Portfolio	Core		
		03-07-2014	ିତ	Delta Ladder					1234	ABC	DL	4	Sav	ed Portfolio	Core		
	M	4 Page	1 of	1 > >											Disp	laying 1 19 of	19
	Cr	eated On: Ma	rch 7, 201	4 N	ame: Portfolio ABC 1 RS/DL/SEG)	234	Firm: ABC	Account: 12	34 #	Trades: 23	Margin: S	aved 🚺 Sa	ave Validate	Margin Optim	ize T	erminate Bler	id
		IRS F	utures & (Dotions	Delta Ladder												_
	0	🖨 Add Tra	de • 6	Remove Sel	ected Rows 🛛 🙀 Isola	e Selected Rows	Paste	🖞 Copy 🐰 Cut 🛛	1 Import - E	Export -	🏹 Filter 🕶	Vanilla	•				
В		Fir	rm ID	Account ID	Cleared Trade ID	Product Type	Currency	Effective Date	Maturity Date	Dir	ection Notic	nal	NotionalType	Leg1 FixedRat	e	Leg2 Index	
		🛃 1 AB	BC	1234	2	VANILLA	USD	03-18-2015	03-18-2017	PA	Y 3000	00000	BULLET	0.009925		USD-LIBOR-BBA	4
		🗹 2 AB	BC	1234	1	VANILLA	USD	03-07-2016	03-07-2017	PA	Y 2030	00000	BULLET	0.0126		USD-LIBOR-BBA	· · · ·
		🛃 3 AB	BC	1234	11	VANILLA	USD	05-14-2015	05-14-2017	RE	CEIVE 3053	00000	BULLET	0.010715		USD-LIBOR-BB/	1. C

The Rates Calculator page allows multiple types of trade portfolios to be entered and margined / optimized. To manage this, there are three tabs in the Trade grid: IRS, Futures & Options and Delta Ladder. Trades are entered from their respective grids.

Futures and Options portfolios can either be: futures segregated accounts (SEG), OTC sequestered accounts (SEQ), or a combination of the two.

- A. Manage Portfolios in the Portfolio section:
 - Load trades and load cleared portfolios (IRS only)
 - Add a new portfolio
 - Remove selected portfolios
 - Export the portfolio summary

- Download templates
- Schedule a Margin Report
- B. <u>Manage Trades</u> in the **Trade Grid**:
 - Add
 - Edit / Remove / Export
 - Save and Validate
- C. Manage Report Generation in Portfolio Section or Trade Grid:
 - Margin
 - Combine Selected
 - Optimize
 - Termination
 - Coupon Blending

Portfolio Type Options

Multiple portfolio types may be loaded and margined from the Rates Calculator page. Portfolio types include:

- Interest Rate Swaps (IRS)
- Futures and Options (SEG, SEQ, SEG-SEQ)
- Delta Ladders (DL)

Futures and Options portfolios can either be: futures segregated accounts (SEG), OTC sequestered accounts (SEQ), or a combination of the two.

These portfolio types can be combined into different margin types. The table below shows all possible combinations, and which results are available for that margin type. If a Result is indicated "False" in the table below, a result will not be returned for the margin / optimization when it is run in CME CORE.

Selecting Optimize triggers two processes: margin optimization and the ideal optimization.

- **Optimal margin results based on Margin Optimization**: Calculates the ideal allocation of *user defined futures* (trades provided in the upload) to move into an OTC sequestered account to minimize portfolio risk.
- Ideal Optimization: Calculates the *ideal allocation of futures* to hedge the OTC account and minimize portfolio risk based on the IRS portfolio.

Note: When adding Futures, denote the Margin Type as **FUT** to signify the future is in a Futures Segregated (SEG) account, or **OTC** to signify the future is in a Sequestered (SEQ) account.

Margin Type	Margin Result	Ideal Opt Result	Opt Result
SEG	Yes	False	False
SEQ	False	False	False
SEQ/SEG	False	False	False
DL	Yes	Yes	False
DL/SEG	Yes	Yes	Yes
DL/SEQ	Yes	Yes	Yes
DL/SEQ/SEG	Yes	Yes	Yes
IRS	Yes	Yes	False
IRS/SEG	Yes	Yes	Yes
IRS/SEQ	Yes	Yes	Yes
IRS/SEQ/SEG	Yes	Yes	Yes
IRS/DL	Yes	Yes	False
IRS/DL/SEG	Yes	Yes	Yes
IRS/DL/SEQ	Yes	Yes	Yes
IRS/DL/SEQ/SEG	Yes	Yes	Yes

Manage Portfolios

Use the Portfolio section to manage all portfolio types generated on this page.

Portfolio Summa	ry	🗴 🏷 🖌 🕛 Load Cleared Portfolios 🛛 Load Trades 🛛 🛱 Add Portfolio 🗐 Remove Selected Portfolios 📾 Export Portfo							Portfolio Summary 🕴 D	folio Summary 🛛 Downloads 👻		
Saved On 🔹		Name 🔻	Description	 Accou 	nt '	Firm	Margin Type	#Trades •	Margin Result	-	Core/Cleared 🔻	
07-10-2014	ଡ	Portfolio 1 ABC123		ABC 12	23	1	IRS	305	Saved Portfo	olio	Cleared EOD 🚊	
07-09-2014	ଡ	Portfolio 1 ABC123	CME CORE has calcul	. ABC12	23	1	IDEAL-OPT	353	\$ 7,371,213	E	Core 📑	
07-09-2014	ତ	Portfolio Aggregate Aggregate		Aggre	gate	Aggreg	IRS/DL/SEG-SEQ	33	Saved Portfo	olio	Core	
05-06-2014	ତ	Portfolio ABC 1234		1234		ABC	SEG	6	Saved Portfo	olio	Core 🔚	

Portfolio Options

Portfolio management workflow typically involves: portfolio creation, accessing the portfolio at a later time, exporting portfolio information, and deleting the portfolio. Example templates may be downloaded for portfolio types.

- Add a Portfolio:
 - Add a new portfolio (use for hypothetical portfolios)
 - Load cleared portfolios (Access permission from CME is required)
- Search for / Load an Existing Portfolio:
 - Search portfolios
 - Load trades
- Export the Portfolio Summary:
 - Export the portfolio summary
- Remove Portfolios:
 - Remove selected portfolios
- Download Templates:
 - Download templates

Add a Portfolio

One or more portfolios can imported or manually entered from the Rates Calculator page.

Note the following:

- If file is entered manually, portfolio does not show up in the Portfolio summary until the file is saved.
- If more than one file is loaded and the Account / Firm information is the same for all files, then the generated portfolio will be named Portfolio [Firm] [Account] and have the same Account / Firm information.
- If more than one file is loaded and the Account / Firm information is not the same for all files, then the generated portfolio will be named "Portfolio Aggregate Aggregate," and both Account and Firm will have the value of "Aggregate."

To add a portfolio:

1. Click Add Portfolio. The Add New Portfolio dialog box displays.

Add New Portfolio	Upload CSV File	Enter Manually	×
File:			Select a File
The <u>download center</u> contains	Import		

- 2. Do one of the following:
 - Upload CSV File(s):
 - a. Click Select a File...and select a file to load.
 - b. Click Import. The file name and type displays below Files Uploaded in the dialog box.

Add New Portfolio	ad CSV File Enter Manually	x							
File:		Select a File							
The <u>download center</u> a contains templates for the accepted import formats.									
Files Uploaded	IDC								
CORE Futures and Ontions csv	Eutures & Ontions								
Delta Ladder.csv	Delta Ladder	Done							

c. (IRS only) If an IRS file requires a VNS schedule, the following link appears beside the uploaded file:

The <u>download center</u> contains templates for the accepted import formats.									
Files Uploaded VNS Simple Upload for IRS.csv	One or more of your portfolios needs your attention. IRS Have a VNS file?	Done							

Either:

- Load a VNS file by clicking Have a VNS file? and importing the appropriate VNS schedule.
- Load a VNS file at a later time.
- d. To load additional files, click **Select a File...** and select a file to load, then click **Import**. Repeat until all files are loaded.

Note: Multiple files can be uploaded across the different asset classes to create aggregate portfolios.

- e. Click Done when fished with all files. Portfolio(s) displays in Portfolio Summary.
- Manually Enter Files:
 - a. Click Enter Manually. The Grid Area displays. Follow instructions on Manage Trades to enter trades.

Load Cleared Portfolios

To load a cleared portfolio:

1. Click Load Cleared Portfolios in the Portfolio menu.

ľ	Home Margin Calculator ^						ts ∽	Dow	nload Center	
Rates BETA Futures & Options CDS FX										
	Portfolio	Summa	iry	<i>р</i> -	ßı	oad Clear	ed Portfo	lios	🔁 Load Trades	Add Portfolio
	Saved On	•		Name				•	Description	
	08-12-20	14	ଡ	Portfoli	o Aggr	egate Agg	regate			
	08-12-20	14	\odot	Portfoli	o Aggr	egate Agg	regate			

The Select and Load Clearing Accounts into CORE dialog box displays.

Select and Load Clearing Accounts into CORE											
	User Id	Trading Firm Id	Trading Firm Name	Clearing Member	Clearing Member Fir	Account Id	Account Name	Account Type			
		1234	A Trading Firm	1234	Clearing Member	ABC 123	ABC 123	PERFORMAN			
	allow here	1234	A Trading Firm	1234	Clearing Member	ABC 123	ABC 123	PERFORMAN			
		1234	A Trading Firm	1234	Clearing Member .	ABC 123	ABC 123	PERFORMAN			
I.	🗐 Page	1 of 1	▶ ▶]		End of	Day	Current	Displaying 1 - 10 of 10			

- 2. Click the box adjacent to the accounts to load.
- 3. Select End of Day or Current.
- 4. Click Load Selected.
- 5. Portfolios load into trade grid, with a status of Cleared EOD or Cleared CUR.

	Rates BETA		utures & Options	CD	S FX							
🛛 Portfolio Summary 🔎 - 🗋 Load Cleared Portfolios 📳 Load Trades 📴 Add Portfolio 📃 Remove Selected Portfolios 📾 Export Portfolio Summary Downloads -												Downloads 🗸
	Saved On	•	Name	•	Description	•	Account	Firm •	Margin ₹	#Trades	Margin Result 🔹 👻	Core/Cleared 🔻
	08-12-2014	ିତ	ABC 123		EOD Cleared Portfolio	retrieved 03	1234	123	IRS	1057	Saved Portfolio	Cleared EOD <u></u>
	08-12-2014	ିତ	ABC 123		EOD Cleared Portfolio	retrieved 03	1234	123	IRS	1057	Saved Portfolio	Cleared EOD 🚊

Search Portfolios

Use Search to filter portfolios on any search term within the Name, Account or Firm fields.



To search portfolios:

- 1. Click P and enter a search term in the box. Only portfolios which match the entered term in any part of the Name, Account or Firm fields display.
- 2. To clear the search "filter," click the filter icon. All portfolios display.

Load Trades

Trades are loaded similarly to other portfolios. If two or more portfolios are loaded into the trade grid at the same time, then a new aggregate portfolio will be generated when the portfolio is margined.

To load trades:

- 1. Click the box adjacent to the portfolio(s) to load.
- 2. Click Load Trades. One of the following occurs:
 - If there is no existing portfolio, the trades load.
 - If there is an existing portfolio, a dialog box displays with the Portfolio load options.
- 3. If the dialog box displays, select Close Existing, Merge with Existing or Cancel. Trades load or action is canceled.

Portfolio Combinatio	x		
Do you want to merge the selecte	d portfolio or cl	ose all existing trades a	and open new?
	Close Existing	Merge with Existing	Cancel

Export the portfolio summary

Export a summary of all portfolios.

To export the portfolio summary:

Click Export Portfolio Summary. Summary information is downloaded in a .csv file.

Remove Selected Portfolios

Remove one or more portfolios from the Portfolio section.

To remove one or more portfolios:

- 1. Click the box adjacent to the portfolios to remove.
- 2. Click Remove Selected Portfolios.
- 3. In the Remove Current Items dialog box click Yes.

Downloads

Download sample files.

To download templates:

- 1. Click Downloads.
- 2. Select file to download from the list. File downloads in a .csv file.
- 3. Open or Save file.

Manage Trades

Use the Trade grid to manage trades for all portfolio types generated on this page.

Cr	eated	On: S	September	2, 2014 Nan	me: Portfolio 262 Test	. <i>(IRS)</i> Firm	n: 262	Account: Test123	# Trades: 6	Margin: Sav	ed 🛛 🚺	ave Validate	Margin Op	otimize	ninate Blend
	IRS		Futures &	Options	Delta Ladder										
0	🕄 🔂 Add Trade 👻 🖳 Remove Selected Rows 🖓 Isolate Selected Rows 🗎 Paste 📋 Copy 🐰 Cut 🏦 Import 🕶 🔚 Export 🗸 🏹 Filter 🗸 Vanilla 🔹														
			Firm ID	Account ID	Cleared Trade ID	Product Type	Currency	Effective Date	Maturity Date	Direction	Notional	NotionalType	Netting ID	Client ID	Blending ID
	2	1	262	Test123		VANILLA	USD	06-17-2016	06-17-2017	PAY	320339822.59	BULLET		123ABC	987654321
	2	2	262	Test123		VANILLA	USD	06-17-2016	06-17-2017	RECEIVE	5617307.69	BULLET		567ABC	987654321

Portfolios in the Trade Grid are identified by: Created on Date, Name, Firm, Account and Number of Trades. Margin indicates portfolio status, and following Margin, will show the margined amount.

There are three trade grids:

- IRS
- Futures and Options
- Delta Ladder

From an open portfolio, click a tab to view trades for the corresponding trade types.

Note: Futures and Options may also be viewed and updated from the Futures and Options page.

IRS Trade Reference

IRS trades may be imported or manually entered using the basic template, the simple template, or the trade register.

See the following layout reference for input fields for each template:

- Basic template required fields
- Simple template input fields
- Trade register input fields

Trade Grid Options

From the Trade Grid:

- Import Trades
- <u>Manually Enter non-IRS Trades</u>
- Manually Enter Interest Rate Swaps
- Add a Variable Notional Schedule (VNS)
- Edit / Remove / Export trades
- Save and Validate portfolio(s)

Import Trades

Import portfolios for any trade type. IRS trades may also require a Variable Notional Schedule (VNS).

Note: When adding Futures, denote the Margin Type as **FUT** to signify the future is in a Futures Segregated (SEG) account, or **OTC** to signify the future is in a Sequestered (SEQ) account.

To import a portfolio:

- 1. Click Add Portfolio to add a new portfolio OR select the box adjacent to an existing portfolio and click Load Trades to load an existing portfolio.
- 2. Do one of the following:
 - New Portfolio:
 - a. Click Import Portfolio button in the appropriate trade grid.



- b. From the Import Items dialog box, select a file to import.
- c. Click Import. Trades appear in Trade Grid.
- d. Click Save.
- Existing Portfolio:
 - a. Click Import.
 - b. If the Import Trades dialog box displays, select an option:

Import Trades	×
A portfolio is already opened, what do you wa	ant to do with the imported trades?
Overwrite existing trades Append to the exis	ting trades Create a new portfolio
Keep the active portfolio open and	Save to the portfolio summary table

c. In the Import Items dialog box, select a file and click Import.

Import It	ems	×
File:	Select a File	1
	Import	

The Uploading message displays, and the trade grid populates.

3. (IRS Trades only) If trades with notional schedules are found, the Notional Schedule dialog box displays.

Notional Schedule	×							
Trades with notional schedules were found, do you want to import a Notional Schedule								
	Cancel Import Notional Schedule							

Do one of the following:

- Click Import Notional Schedule, select a file and click Import. The Variable Notional Schedule imports.
- Click Cancel. The dialog box closes.

Manually Enter non-IRS Trades

To add non-IRS trades to a grid manually:

- 1. Click Add Portfolio and select Enter Manually to add a new portfolio OR select the box adjacent to an existing portfolio and click Load Trades to load an existing portfolio.
- 2. Click the [+]button, place cursor in the new row and enter all item information.

Manually Enter Interest Rate Swaps

A minimal amount of information is required to generate an IRS Portfolio for the selected swap. Leg information can be entered manually or generated automatically. Use the IRS Row Editor to enter this infomation.

Note: Using the Expanded Trade Editor for entering more complicated IRS swaps.

IRS Row E	ditor (1)			X
Firm ID ABC	Account ID 4444	Cleared Trade ID 1	Product Type VANILLA 🗸	
Effective Date:	03/07/2016 🖩 Currency:	USD 💌 Notional:	203000000	
Maturity Date:	03/07/2017 III Direction:	PAY 💌 Leg1 FixedRate:	0.0126	
				🔒 Save

Fields displayed vary by product type.

Note:

- Click the expand icon ([™]) to view the expanded trade editor.
- Click the arrow icons (← →) to navigate between trades.
- The current row number displays at the top.
- Click "Save" to save changes.
- All Basic Swap fields are required when entering information directly into the trade grid.
- Variable Notional Swaps can be manually entered.

To manually enter trades:

- Click Add Portfolio and select Enter Manually to add a new portfolio OR select the box adjacent to an existing portfolio and click Load Trades to load an existing portfolio.
- 2. Do one of the following:
 - From the **IRS** tab, click the \mathbf{Z} icon on the left side of a trade row.

A G A		Remove S	🗗 Isolate Selected Rows					
		Firm ID	Account ID	Cleared Trade ID				
	1	Test	1234	1M USD				
	2	Test	1234	6M USD				

OR

• From the IRS tab, click Add Trade and select a Product Type.



The IRS Basic Editor displays.

- 3. Enter Firm ID, Account ID and Cleared Trade ID.
- 4. Select a Product Type. Fields displayed may vary depending on product type selected.
- 5. Select / enter remaining fields as required.
- 6. Click Save when information is complete.

Add a Variable Notional Schedule

Import or manually add a VNS from the IRS trade grid when there are existing IRS Trades.

To import a Variable Notional Schedule for IRS Trades:

1. Click the Import arrow and select Import Variable Notional Schedule.



The **Import Items** dialog box displays.

Import Iter	ns	×
File:		Select a File
		Import

2. Select a file and click Import. The Variable Notional Schedule imports.

To manually enter a Variable Notional Schedule for IRS Trades:

1. In the Notional column, click the Schedule icon for a Variable Notional Swap.

Note: Notional Type for Variable Notional Swaps is SCHEDULE.

Generate Schedule displays.

17750000	
🗒 Generate S	chedule

- 2. Do one of the following:
 - Click Generate Schedule. Schedule generates and displays.
 - Manually enter schedule amounts in Step Notional column.
- 3. Click another section of the display. Schedule closes and schedule icon turns green.

Edit / Remove / Export Trades

The menu functionality on the Rates Calculator page does not differ from the other non-Futures and Options pages.

To edit, remove or export trades on any portfolio:

- 1. Click the tab of the portfolio to edit.
- 2. Follow instructions in corresponding section on the Trade Menu.

Save and Validate Portfolios

Save and Validate Portfolios prior to margining or optimization.

To save and validate trades:

1. Click **Save**. Trades are saved. Confirmation message displays. Margin fields in both the Trade Grid and the Portfolio section will indicate trade is saved.

Note: If a Portfolio with a different trade type is added, a new portfolio is created with a Margin Type that reflects this. For example, if IRS trades are added to a DL portfolio, a new portfolio is created with Margin Type IRS/DL.

Note: If the Cross-Margin boxes are checked for a futures position, this denotes that the trade is in a OTC Sequestered account and the margin type will be SEQ. If this box is selected for some of the future positions, but not all the futures, the margin type will be SEG-SEQ.

Note: If the Account / Firm information is not the same for both files, the Portfolio Name will be "Aggregate Aggregate," and Account and Firm values will both be "Aggregate."

2. Click Validate. If Validation passes, confirmation message displays.

Validated trades

• If validation errors occur, correct and re-validate.

IRS Expanded Trade Editor

The IRS Expanded Trade Editor shows all fields for a single IRS trade in one view.

IRS Row Edi	tor (1)									X
Firm ID ABC	Account 1	ID 4444	Cleared	Trade ID	1	Product Type	VA	NILLA		← →
Effective Date:	03/07/2016	Currency:	USD	~	Notional:	203000000				
Maturity Date:	03/07/2017 🏼	Direction:	PAY	*	Leg1 FixedRate:	0.0126				
Leg 1 (Fixed Leg)					Leg 2 (Float Leg)					
Type:	FIXED 👻	Fixing			Type:	FLOAT	v	▲ Fixing		
StartDayAdjBusDayC	NONE	Date Offset:		~	StartDayAdjBusDayC	NONE	¥	Date Offset:	-2D	v
MatDateAdjBusDayC	MOD_FOLLOW	Day Type:		~	MatDateAdjBusDayC	MOD_FOLLOW	•	Day Type:	BUSINESS	~
MatDateAdjCal:	GBLO,USNY 👻	DateAdjBusDayCon	N	~	MatDateAdjCal:	GBLO, USNY	~	DateAdjBusDayConv	MOD_FOLL	ow ▼
 Payment 		DateAdjCal:		~	Payment			DateAdjCal:	GBLO	v
Frequency:	6М 👻	Roll Convention:	504		Frequency:	3M	~	RellConv	7	
Relative To:	CALCULATION 🛩	Spread	EOM	•	Relative To:	CALCULATION	~	Spread:	/	
AdjBusDayConv:	MOD_FOLLOW ¥	StubType:			AdjBusDayConv:	MOD_FOLLOW	*	StubType:		×
Adj Calendar:	GBLO,USNY 👻	FirstPegPeriodStart	02/21/2016	-	Adjusted Cal:	GBLO, USNY	~	FirstRegPeriodStartD		-
Date Offset:	~	LastPegPeriodEndD	a 00/20/2016		Date Offset:		~	LastRegPeriodEndDa		
Day Type:	~	▲ Stub Rate	u 09/30/2010		Day Type:		•	Stub Rate		
Day Count:	30/360 💌	InitStubRate:			DayCount:	30/360	•	InitStubRate:		
CompMethod:	NONE	InitialStubRateInde	×	~	CompMethod:	NONE	~	InitialStubRateIndex		v
Index:	~	InitialStubRateInde	×	~	Index:	USD-LIBOR-BB.	¥	InitialStubRateIndex		v
IndexTenor:	~	FinalStubRateIndex	d	~	IndexTenor:	3M	•	FinalStubRateIndex1		v
▲ Reset		FinalStubRateIndex	4	~	▲ Reset			FinalStubRateIndex		v
Frequency:	~	CurrentPeriodRate:			Frequency:	3М	•	CurrentPeriodRate:		
Relative To:	~	FinalStubRate:			RelTo:	CALCULATION	~	FinalStubRate:		
DateAdjBusDayCon	~				DateAdjBusDayCon	MOD_FOLLOW	~			
DateAdjCal:	~	Accruedinterest:		_	DateAdjCal:	GBLO, USNY	~	Accruedinterest:		
Calculation		Settlement Date			 Calculation 					
PerAdjBusDayConv:	MOD_FOLLOW ~	FRA Discounting		~	PerAdjBusDayConv:	MOD_FOLLOW	•			
PerAdjCal:	GBLO,USNY 💌		L		PerAdjCal:	GBLO, USNY	¥			
Frequency:	6М 💌				Frequency:	ЗМ	~			

V To edit a trade using the IRS Expanded Trade Editor:

1. Click the expand icon (\square) in the upper right of the screen.

The editing window expands.

- 2. Select a **Product Type**. View will adjust to show only fields required for the selected product type.
- 3. Enter information as appropriate.
- 4. Click 🔯 in the upper right of the IRS Trade Editor when finished with all edits. The IRS Trade Editor closes, and the row information will appear as entered in the Trade grid.
- 5. Click **Save** in the upper right of the **Trade** grid. Row is saved.

Run Analysis

Run analysis for margining, combining portfolios and optimization to generate reports, or run a termination for an IRS portfolio. Functionality for these options is split between the Portfolio section and Trade Grid.

	Portfo	io Summary	P - D	Load Cleared Portfolios	📑 Load Trade	s 📴 Add Portfo	olio 🕴 📃 Remove S	elected Portfolios 🛛	Export Portf	olio Summary Down	iloads 👻 🛛 Ma	rgin Selected Po	rtfolios Con	nbine Selected
	Saved (On ▼	Name 🔺		 Description 			▼ Account	▼ Firm ▼	Margin Type 🛛 🔻 🗍	Trades 🔻 Ma	rg <mark>n</mark> Result	▼ Cor	e/Cleared 🔻
	08-29-2	014 (🔊 Portfolio 262	Test123				Test123	262	IRS 1	1	Saved Por	tfolio Clea	ared EOD <u>m</u>
	03-07-2	014 (Portfolio ABC	1234				1234	ABC	IRS/DL/SEG 2	3	Saved Por	tfolio Cor	e 🖪 🗋
	03-07-2	014 🤇	Futures and	Options				1234	ABC	SEG 6		Saved Por	tfolio Cor	e 😑
	03-07-2	014 🦿	🕑 Interest Rate	Swaps				1234	ABC	IRS 2		Saved Por	tfolio Cor	e 🖅
<														>
14	4 4 Page 1 of 1 ▶ ▶ Displaying 1 - 5 of 5													
Cre	Created On: August 29, 2014 Name: Portfolio 262 Test (IRS) Firm: 262 Account: Test123 # Trades: 11 Margin: Saved 🚯 Save Validate Margin Optimize Terminate Blend													
1	IRS Futures & Options Delta Ladder													
0	🕄 🚭 Add Trade 🗸 🖓 Remove Selected Rows 🖓 Isolate Selected Rows 🗎 Paste 📋 Copy 🐰 Cut 🛨 Import 🗸 📑 Export 🗸 🏹 Filter 🗸 🛛 Vanilla 🔹													
		Firm ID	Account ID	Cleared Trade ID	Product Type	Currency	Effective Date	Maturity Date	Direction	Notional	NotionalType	Netting ID	Client ID	Blending ID
	2	1 262	Test123	1	VANILLA	USD	06-17-2016	06-17-2017	PAY	205000000	BULLET	6667777	123ABC	987654321
	-7	2 262	Test123	7	VANTELA	LICD	06 17 2016	06 17 2017	DAV	15400000	DINIET	FFFCCCC		
	2 .	2 202	TESCILO	'	VANILLA	030	00-1/-2010	00-1/-201/	FAI	13400000	DOLLET	2220000	234ABC	987654321

Report Generation Options

Margin, combine or optimize portfolios:

- Margin
- <u>Combine Portfolios</u>
- Optimize
- Termination (IRS Only)
- Coupon Blending (IRS Only)

Viewing Reports

- To view **generated reports**, click the report icon adjacent to the report (E), or click <u>Report</u> and navigate to the corresponding report tab.
- To view the Ideal Optimization Report, navigate to Reports -> Rates, and select a report of type IDEAL-OPT.

Margin Portfolios

Margin portfolios from the Portfolio section or the Trade Grid.

Note: From the Rates calculator, Futures and Option-only portfolios cannot be margined if they contain any futures in the OTC Sequestered account (if Margin Type is SEQ or SEG-SEQ).

Note: Reports generated from the Portfolio section can also be scheduled.
CME CORE



To margin a portfolio from the Portfolio section:

- 1. Select the box adjacent to the portfolio to margin.
- 2. Click Margin Selected Portfolios in the Portfolio menu. Portfolio is margined. Margin result amount displays in the Margin Result field of the Portfolio section and the Margin field of the Trade Grid.

To margin a portfolio from the Trade Grid:

- 1. Load trades into the Trade Grid.
- 2. Validate trades.
- 3. Click Margin. Portfolio is margined. Margin result amount displays in the Margin Result field of the Portfolio section and the Margin field of the Trade Grid.
- 4. To view reports, access the individual report page. For example, view IRS/SEG reports in Reports -> IRS.

Combine Portfolios

Combine multiple portfolios that contain an IRS or DL Margin Type (like DL/SEG with an IRS) to create a combined portfolio with margin result.

Note: Portfolios that consist of Futures and Options ONLY (margin types: SEG, SEQ, SEG-SEQ) are not eligible to be combined with other portfolios via "Combine Selected" option.

Margin Type	#Trades	Margin Result
IRS/DL	15	\$ 3,408,898
IRS	13	\$ 3,204,194 📑
DL	2	\$ 464,507

To combine portfolios:

- 1. Load a portfolio that contains IRS trades or a delta ladder (this includes aggregate portfolios that contain IRS and DL margin types).
- 2. Click the box adjacent to each margined portfolio to combine. The **Combine Selected** button becomes active.

Margin Selected Portfolios	Combine Selected

3. Click **Combine Selected**. A new portfolio is created and a margin result is generated for the portfolio.

Optimize Portfolios

Selecting Optimize triggers two processes: margin optimization and the ideal optimization:

- **Optimal margin results based on Margin Optimization**: Calculates the ideal allocation of *user defined futures* (trades provided in the upload) to move into an OTC sequestered account to minimize portfolio risk.
- Ideal Optimization: Calculates the *ideal allocation of futures* to hedge the OTC account and minimize portfolio risk based on the IRS portfolio.

Portfolios generated from the provided futures and option portfolio following optimization:

- Optimized portfolio (Portfolio type + -OPT): Optimization of the current portfolio. Description field in the Portfolio Summary is assigned "Optimized."
- Ideal-optimization portfolio (IDEAL-OPT): CME CORE has calculated an ideal Optimization for your portfolio please see reports.
- Original portfolio is margined with recommended futures.

Ideal optimization is automatically triggered if Optimize is selected and the portfolio includes either an IRS and/or DL portfolio. The Ideal Optimization report provides the recommended future positions to achieve this ideal savings.

Note: See <u>Portfolio Type Options</u> for which portfolio types may and may not be optimized.

^	Portfolio Summary 📴 Load Trades 🛛 📴 Add Portfolio 🔁 Remove Selected Portfolios 📾 Export Portfolio Summary Downloads 🗸										
	Saved On		Name	Description	Account	Firm	Margin Type	#Trades		Margin	Result
	03-13-2014	0	Delta Ladders - SEG	CME CORE has	1234	ABC	IDEAL-OPT	48		\$	1,342,893 📑
	03-13-2014	ତ	Delta Ladders - SEG		1234	ABC	DL/SEG	8		\$	5,927,682 📑
	03-13-2014	ଡ	Delta Ladders - SEG	Optimized	1234	ABC	DL/SEG-SEQ-OPT	14		\$	5,604,446 🖪

To optimize a portfolio:

1. <u>Load trades</u> into the Trade Grid.

Note: If a portfolio does not contain user provided Futures and Option positions (margin type IRS, DL or IRS/DL), when Optimize is selected, this will trigger the Ideal Optimization.

2. Click Optimize in the Trade Grid. Optimization portfolios are created.

Termination

Termination can be performed on USD, EUR, GBP, and JPY vanilla swaps that are part of IRS only portfolios (Margin Type must equal IRS). This functionality shows which trades can be terminated while maintaining the portfolio risk profile. Run Termination analysis for a cleared IRS portfolio, or a hypothetical portfolio manually created or uploaded via the IRS Simple Upload File.

Termination is performed within the following parameters:

- Selection of one of the following four Vanilla Swap currencies: USD, GBP, EUR, JPY.
- Filtering of trades by Vanilla Floating Index Tenors: 1M, 3M, 6M.
- Use of a default risk profile, existing profile, or creation of a new one.

Saved On	•	Name •	Description	Account	•	Firm 🔻	Margin Type 🔻	#Trades	Margin Result 🔹	Core/Cleared	•
07-10-2014	ିତ	Portfolio 1 ABC 123	Termination Target Portfolio	ABC123		1	IRS	120	Saved Portfolio 🎽	Core	•
07-10-2014	ିତ	Portfolio 1 ABC123	Termination Remnant Portfolio [USD]	ABC123		1	IRS	81	Saved Portfolio	Core	-
07-10-2014	6	Portfolio 1 ABC123	Termination Terminated Portfolio [USD]	ABC123		1	IRS	39	Saved Portfolio	Core	-
07-10-2014	6	Portfolio 1 ABC 123		ABC123		1	IRS	305	\$ 9,728,609 🕎	Cleared EOD	

Three new portfolios are created following a Termination run:

- Termination Target Portfolio: All Vanilla Swap trades for the currency type selected.
- Termination Remnant Portfolio: Trades that remain following removal of suggested termination trades.
- Termination Terminated Portfolio: Trades which may be terminated.

Note: To access reports following portfolio generation, click the \Rightarrow icon in the Termination Target Portfolio. Termination reports cannot currently be accessed through the Reports tab.

To generate Termination files:

1. Select an IRS Portfolio (Margin Type IRS) and click Load Trades.

Note: Margin type must be IRS. The button is disabled for all other margin types (i.e. IRS/DL or IRS/SEG), as these are not supported for running Termination analysis.

		Rates BETA	Fu	itures & C	ptions	CDS	FX					
	^	Portfolio Sum	mary	<u>۶</u> - [Load Trades	📑 Add	l Portfolio		Remove	Se	lected F	Portfolios
		Saved On	•	Name	•	Descrip	Account	•	Firm	•	Margi	n Type
l	v	07-10-2014	ି	Portfolio 1	ABC123		ABC123		1		IRS	
ľ		07-09-2014	Ø	Portfolio Ag	gregate Agg		Aggregate		Aggreg.		IRS/D	L/SEG-SEQ
		05-06-2014	\odot	Portfolio AB	C 1234		1234		ABC		SEG	

IRS trades load in the Trade Grid.

2. Click Termination.

Cr At	eated (ugust 5,	On: , 201	4 1	ame: Portfolio ABC123 <i>(IRS</i>)	Firm	1 Ac AB	count: # C123 8	‡ Trades: }	Margin: Saved	Save Validate	Margin Optimiz	e Terminate
	IRS		Future	es & Options	Delt	a Ladder						
0	🛿 🗗 Add Trade 🔹 🖳 Remove Selected Rows 🛛 🖕 Isolate Selected Rows 🖨 Paste 📋 Copy 🐰 Cut 🛨 Import 👻 🗒 Export 🔹 🏹 Filter 🗸											
			Firm ID	Account ID	Cleared	Trade ID	Product Type	Currency	Effective Date	Maturity Date 👻	Direction	Notional
	2	1	1	ABC123	4		VANILLA	EUR	08-10-2033	08-10-2053	PAY	8000000
	Z	2	1	ABC123	3		VANILLA	JPY	04-05-2019	04-05-2024	PAY	880000000
	2	3	1	ABC123	2		VANILLA	JPY	02-07-2019	02-07-2024	PAY	300000000

The Termination window displays.

Terr	nination	di Chan <u>pandhan</u>	X
Note: i detern	This analysis can on nine the trades to be	ly be run for a single currency at a time. To get started select a currency and index tenor(s) to included in the termination and compaction process.	
1	Currency:	~	
2	Filter:	Vanilla - Floating Index Tenor: 🕼 1M 🕼 2M 🕼 3M	
3	Risk Profile:	~	
* Selec	t a default profile p	er currency or create and save a user defined risk profile. Run Analysis	

3. From the **Currency** drop-down, select a currency.

1	Currency:		~
$\overline{\mathbf{O}}$	Filter	USD	
0	r neen	GBP)
		EUR	
3	Risk Profile:	JPY	

- 4. Select Floating Index Tenor(s).
- 5. Select one of the following:
 - **Default** risk profile.

3	Risk Profile:	Default	*	View
* Select	t a default profile pe	r currency or create and s	ave a	user defined risk profile.

If desired, click View to view the Default risk portfolio.

• An existing risk profile from the **Risk Profile** drop-down.

-						1
3	Risk Profile:	JPY Profile	×	Edit	Delete	
						•

If desired, click Edit to edit the selected profile, or Delete to delete profile.

- A new risk profile:
 - a. Select Create New from the Risk Profile drop down.

3	Risk Profile:	Default		¥	View	
* Selec	t a default profile per	Default			user defined	
		Create New				
	VANILLA	New Risk Profile Risk Profile			02-1	

b. Enter profile name in the Create New Risk Profile dialog box, and click Create.

Create New Risk Profile	x
USD Profile	Create

c. To edit new profile, click Edit.

3	Risk Profile:	USD Profile	~	Edit	Delete	

The Risk Profile displays.

	Min	Max	Name					Cancel
obal	-1000	1000	New Risk	Profile				
	Min	Max		Min	Max		Min	Max
91D	-1000	1000	🔲 1096D	-1000	1000	🔲 4383D	-1000	1000
183D	-1000	1000	🔲 1461D	-1000	1000	🔲 5479D	-1000	1000
274D	-1000	1000	🔲 1826D	-1000	1000	🔲 7305D	-1000	1000
365D	-1000	1000	🔲 2192D	-1000	1000	🔲 9131D	-1000	1000
457D	-1000	1000	🔲 2557D	-1000	1000	10958D	-1000	1000
548D	-1000	1000	🔲 2922D	-1000	1000	14610D	-1000	1000
639D	-1000	1000	🔲 3287D	-1000	1000	18263D	-1000	1000
731D	-1000	1000	🔲 3653D	-1000	1000			

c. Update Name, Global Min / Max DV01 parameters and /or individual tenor DV01 requirement buckets. To adjust individual tenor buckets, check the box adjacent to a tenor to activate that row, then adjust the values.

Note: Global min and max are the DV01 parameters at a portfolio level. The Termination analysis stays between the desired global min and max risk profile regardless of adjustments at the individual tenor level.

- d. Click Save. Risk Profile closes.
- 6. Click **Run Analysis**. The Termination Analysis runs. The <u>three new portfolios</u>: **Termination Target Portfolio**, **Termination Remnant Portfolio** and **Termination Terminated Portfolio** are created and display in the **Portfolio** section.

Note: If no trades are applicable to the Termination calculation, a message appears indicating that the Currency and Index Tenor Filter combination produced 0 trades to send to the termination engine, and that a new currency / index combination should be selected.

7. Click 🗯, in the Margin Result column of the Termination Target Portfolio to view results.

Coupon Blending (IRS Only)

Use Coupon Blending to reduce the amount of line items in a portfolio while maintaining the same risk profile to support backoffice operational efficiency. Coupon blending may reduce multiple IRS trades within a portfolio down to two trades:

- A fixed rate trade with a weighted notional
- A floating rate (0 fixed rate) trade and the residual notional

With Coupon Blending, CME CORE is solving for cash flows; therefore, the analytics solves for trades with the same trade economics like index tenor and currency. The difference between coupon blending and termination analytics, is that coupon blending is done within a portfolio of cleared trades facing CME Group, therefore nothing goes out to market.

To run coupon blending in CME CORE, use a CME generated IRS trade register that has the **Blending ID** field populated. CME CORE offers two types of Coupon Blending:

- All- In Coupon Blending: CME CORE suggests trades to be blended together based on matching Blending IDs. Following the analytics run, CME CORE creates a new portfolio called "ALL_IN blended from '[Original portfolio name]'."
- Selective Coupon Blending: Blending is excuted using a combination of Blending ID and Client ID. For trades to be eligible for blending they <u>must</u> contain the same **Blending ID** and **Client ID**. Trades that are not to be used for Blending purposes must contain a unique Client ID. Following the analytics run, CME CORE creates a new portfolio called "SELECTIVE blended from '[Original portfolio name]'."

^	Portfolio Sumn	nary	👂 🗸 🛛 🔓 Load Cleared Portfolios	📑 Load Trades 🛛 📑 Add Portfolio 🕴 🔁 Remove	e Selected P	ortfolios	odi E	Export Port	folio Summary	Dow	nloads 👻			
	Saved On	•	Name	 Description 	•	Account	•	Firm	 Margin Type 	•	#Trades 🔻	Margin Result	•	Core/Cleared 🔻
	09-02-2014	0	Portfolio 262 Test123 (Blended)	SELECTIVE blended from 'Portfolio 262 Test123'		Test123		262	IRS		6	Saved Portfolio	3	Cleared EOD <u></u>
	09-02-2014	6	Portfolio 262 Test123 (Blended)	ALL_IN blended from 'Portfolio 262 Test123'		Test123		262	IRS		2	Saved Portfolio	3	Cleared EOD <u></u>
	08-29-2014	0	Portfolio 262 Test123			Test123		262	IRS		11	Saved Portfoli	io	Cleared EOD 🚊

To run Coupon Blending:

1. Select an IRS Portfolio (Margin Type IRS), where the Blending ID field is populated, and click Load Trades.

Note: Margin type must be IRS. The button is disabled for all other margin types (i.e. IRS/DL or IRS/SEG), as these are not supported for running Termination analysis.

	Rates BETA	Fu	itures 8	options	CD		FX					
^	Portfolio Sum	mary	<u>ب</u> م	🔁 Load Trades	Ę	Add	Portfolio	E	Remov	/e Sel	lected F	Portfolios
	Saved On	•	Name		▼ De	scrrip	Account	•	Firm	•	Margi	n Type
7	07-10-2014	ିତ	Portfolio	262 Test123			ABC123		1		IRS	
	07-09-2014	ି	Portfolio	Aggregate Agg			Aggregate		Aggre	g	IRS/D	L/SEG-SEQ
	05-06-2014	Q	Portfolio	ABC 1234			1234		ABC		SEG	

IRS trades load in the Trade Grid.

Cr Se	eated pteml	On: ber 2,	2014	Name: Portfoli Test (IRS)	o 262 Firm: 262	Account: Test123	# Trades: 6	Margin: Saved	i Save Valida	ate Margin	Optimize Terminate	Blend
	IRS		Futures &	Options	Delta Ladder							
0	0	Add ⁻	Trade 👻	🖳 Remove Sele	ected Rows 🛛 🙀 Isoli	ate Selected Rows	Paste [🕽 Copy 🗶 Cut	🛨 Import 👻 🔚 Expo	ort 🗸 🏹 Filte	er 👻 🛛 Vanilla	-
			Firm ID	Account ID	Cleared Trade ID	Product Type	Currency	Effective Date	Maturity Date	Direction	Notional	Notional
	Z	1	262	Test123		VANILLA	USD	06-17-2016	06-17-2017	PAY	320339822.59	BULLET
	2	2	262	Test123		VANILLA	USD	06-17-2016	06-17-2017	RECEIVE	5617307.69	BULLET

2. Click **Blend**. The **Coupon Blending** dialog box displays.

All-In Coupon Blending		Selective Coupon Blending
All-In Coupon Blending will be executed using Blending ID	or	Blending will be executed using the combination of Blending ID and Client ID. For trades to be eligible for blending they will need to contain the same Blending ID and Client ID. Trades that are not to be used for Blending purposes should contain a unique Client ID.
All-In Coupon Blending		Selective Coupon Blending

- 3. Select All-In Coupon Blending or Selective Coupon Blending. CME CORE performs blending analytics, and an ALL_IN or SELECTIVE blended portfolio is generated.
- 4. To view reports, click the reports icon (E) adjacent to Saved Portfolio. <u>Coupon Blending reports page</u> displays.

Futures and Options Trade Management

Use the Futures and Options Portfolio page to manage Futures and Options trades.

Note: Futures and Options may also be entered on the <u>Rates</u> page. Trades entered through the Futures and Options portfolio page will also display on the Rates page.

A				В				
My Portfolios Add New	Trade	S Add Edit Remove Expor	t•					
Remove Export Margin Search P Portfolio Name Change Margin	[⊉ Pc 10] 08	ortfolio A - Futures and Options Jan 14 A trading firm	1234 \$ 3,12	5 Margi	3			
Date Firm ▲ Account #Trades ⑦ Portfolio A - Futures and Options \$ 3,125 08 Jan 14 A trading firm 1234 5	Base Trac	des (5) 🔘 Invalid Trades						
Portfolio C - Futures and Options \$ 1,875 08 Jan 14 A trading firm 1234 3	 Е) 	change Ticker Symbol	Product Name	CC Code Period	Code Put / Call	Strike Under	lying Period Code Net F	Position
O Portfolio B - Futures and Options \$ 625 08 Jan 14 A trading firm 1234 1		ME GE5G4 P0000 ME GE5G4 P0000	5-YR EURODOLLAR 5-YR EURODOLLAR 5-YR EURODOLLAR 5-YR EURODOLLAR 5-YR EURODOLLAR	E5 20140 E5 20140 E5 20140 E5 20140 E5 20140	2 PUT 2 PUT 2 PUT 2 PUT 2 PUT	100 20190 100 20190 100 20190 100 20190 100 20190 100 20190	13 1 13 1 13 1 13 1 13 1 13 1	

The Futures and Options Portfolio page consists of:

- A. The Portfolio section which contains a list of all the portfolios for the selected trade type. From the Portfolio section:
 - Add a new portfolio
 - Margin a portfolio or schedule a margin
 - Search portfolios
 - Remove portfolios
 - Export the portfolio summary
- B. The Trade grid, which displays trades for a selected portfolio. From the Trade grid:
 - Add trades
 - Edit trades
 - <u>Remove trades</u>
 - Export trades
 - Margin Trades

Manage Futures and Options Portfolios

Portfolios display on the left side of the page.

Μ	y Portf	folios	Add New	
Rei	move Export	Margin	Search	٩
	Date	Firm 🔺	Account	#Trades
	O Portfolio	A - Futures and	Options	\$ 3,125
	08 Jan 14	A trading firm	1234	5
	O Portfolio	B - Futures and	Options	Margin
	08 Jan 14	A trading firm	1234	5
	Portfolio	C - Futures and	Options	\$ 1,875
	08 Jan 14	A trading firm	1234	3

Portfolio Options

The following options are available:

- Add a portfolio
- Margin portfolios / Schedule a margin
- Search portfolios
- Remove portfolio(s)
- Export portfolio summaries

Add a portfolio

Add portfolios from the Portfolio section by uploading a file or entering manually.

```
Note: New Portfolios are created as base portfolios.
```

To add a portfolio:

1. Click Add New. The Add New Portfolio dialog box opens.

Add I	New Portfolio	Upload CSV File	Enter Manually	x
File:				Select a File
The <u>dov</u>	<u>wnload center</u>	templates for the ac	cepted import formats.	Import

- 2. Do one of the following:
 - Upload a file:
 - a. Click Upload CSV File (if not already selected).
 - b. Click **Select a File** and select a file to upload. Click **Open** to continue.
 - c. Click Import. Portfolio is added to list and trades load into the Trade area.

Note: Access the Download Center for templates of accepted import formats.

- Add a trade manually:
 - a. Click Enter Manually. Add Portfolio area displays, with portfolio naming section active.
 - b. Enter Name, Firm and Account (required), and Description(optional).

A. Portfolio			Description
Name	Firm	Account	Description
Portfolio 12, 13, 13	A Trading Firm	1234	Trades for 12/13/13

When required fields are entered, the **Add Trades** section becomes active.

c. Select Product Name from the drop-down. Clearing Code and Exchange will also populate.

B. Add Trade	es					
Product Information		Maturity Code		Option Details		
Product Name:	10Y TREASURY NOTE	Maturity Code:	•	Put / Call:		\sim
Clearing Code:	21 👻	Quantity / Position		Strike:		~
Exchange:	CBT	Quantity:	Â	Underlying Period Code:		v
Ticker Information				couc.		_
Ticker:	v		Clear Form		Add Irade	

Note: To change Product Name, the Ticker, Exchange and Clearing Code fields must be cleared.

- d. Select Ticker. Maturity Code will also populate. If trade is an option, Put / Call, Strike and Underlying Period Code also populate.
- e. Enter Quantity / Position.
- f. Click Add Trade.

Maturity Code		Option Details		
Maturity Code:	201402 💌	Put / Call:	CALL	*
Quantity / Position		Strike:	100.5	×
Quantity:	1	Underlying Period Code:	201403	¥
	Clear Form		Add Trade	

Note: Add Tradeis enabled only when all necessary information is populated.

Trade displays in Created Trades list.

Created Trades										
E	Exchange	Ticker Symbol	Product Name	CC Code	Period Code	Put / Call	Strike	Underlying Peri	od Code	Net Positions
0	вт	OZNG4 C 1030	10YR US TREASURY	21	201402	CALL	103	201403		2
					Done					

- g. To enter additional trades, repeat steps c-f.
- h. When finished with all trades, click **Done**. Trades are added to portfolio.

Margin Portfolios / Schedule a Margin

Portfolios can be margined from the Portfolio section, and margining can be scheduled.

To Margin a Portfolio:

- 1. Check the box(es) adjacent to the portfolio(s) to margin.
- 2. Do one of the following:
 - Click Margin in the same row as the Portfolio to margin.

OR

• Click Margin above the Portfolio list.

Re	move Export	Margin	Search	۹.
	Portfolio Name Date	Firm	Change Account	Margin #Trades
	O Portfolio: 13 Dec 13	12.13.13 A Trading Firr	1234	Margin 1
	O Portfolio 13 Nov 13	test test	test	Margin 3

The background of the Margin Field for the selected portfolios becomes a striped blue/gray background as calculation takes place.

Note: If the portfolio is new and hasn't been saved, the trades will be automatically be validated prior to margining.

3. Results can be viewed in the Reports section.

To schedule a Margin Report:

1. Click the clock (^(O)) icon beside the portfolio to schedule. The **Schedule a Margin** dialog box appears.

Note: If a margin has not been previously scheduled, click Schedule a Margin in the bottom left corner. The Schedule a Margin dialog box displays the scheduling fields.

2. Enter or edit the following fields:

Field	Description
Next Schedule Date	Pick the date of the next margin run from the calendar.
Finish By	Select a finish time from the list.
Repeat	Select a repeat interval from the list.
Note	Add a note (optional).

3. Click Save. Clock icon turns green showing schedule is set and dialog box closes.

Search Portfolios

Searches match on any part of Portfolio Name, Firm Name and Account.

To search portfolios:

Enter text to search for in the search box.

If the text is included in the Portfolio Name, the Firm Name or the Account of a portfolio, the matching portfolio(s) display in the list.

Remove Portfolios

Remove one or more portfolios.

To remove one or more portfolios:

- 1. Click the box adjacent to the portfolio(s) to remove.
- 2. Click **Remove**. A confirmation dialog box appears.
- 3. Click Yes on the dialog box. The selected portfolio(s) no longer appear in the list.

Note: Removing a base portfolio also deletes any hypothetical portfolios for that base portfolio.

Export Portfolio Summary

Download a summary of all portfolios, including margin results. Includes hypothetical portfolios.

- **To export the portfolio summary:**
 - 1. Click Export.

Note: Depending on the browser being used, additional dialog box messages may display.

2. Open the file or save to the computer.

Manage Futures and Options Trades

Trades for a portfolio display on the right side of the page.

Т	Trades Add Edit Remove Export -											
	Fact Portfolio											
	Q	19 Dec 13	Trading Firm	9888	\$ 21,2	10	Margin					
	Base	Trades										
(🛛 Vali	d Trades (3)	Invalid Trades									
)	Exchange	Ticker Symbol	Product Name		CC Code	Period Code	Put / Call	Strike	Underlying Period Code	Net Positions	
) 1	CME	CSCG5	CASH CHEESE FL	JTU	CSC	201502				1	
) 2	NYMEX	FVBF6	1% FOIL(PLTS)	CAR	FVB	201601				1	
) 3	COMEX	SILH4	1000 OZ SILVER	FUT	SIL	201403				1	
C) 3	COMEX	SILH4	1000 OZ SILVER	FUT	SIL	201403				1	

Trade Option

The following trade options are available:

- Add trades
- Edit trades
- <u>Remove trades</u>
- Export trades
- Margin Trades

Add Trades

Trades can be added before or after margining the portfolio.

Note: Adding trades after margining creates a hypothetical portfolio with original and added trades.

To add trades to a portfolio:

1. Click Add. The Add New Trades dialog box displays.

Add N	ew Trades	Upload CSV File	Merge with Existing	Enter Manually	X			
File:	File:							
The <u>dov</u>	<u>wnload center</u> contains templates for the accepted import formats.							

- 2. Do one of the following:
 - Upload a file:
 - a. Click Upload CSV File (if not already selected).
 - b. Click Select a File and select a file to upload. Click Open to continue.
 - c. Click Import. Portfolio is added to list and trades load into the Trade area.
 - Merge with existing file:

- a. Click Merge with Existing. The portfolio list displays.
- b. Click a portfolio. The selected portfolio and new portfolio merge scenario display on the right side of the dialog box.
- c. Click **Merge Portfolios** at the bottom of the dialog box. The trades from the selected portfolio merge with the trades from the existing portfolio.
- Add a trade manually:
 - a. Select Product Name from the drop-down. Clearing Code and Exchange will also populate.

Add Trade						
Product Information		Maturity Code			Option Details	
Product Name:	10Y TREASURY NOTE	Maturity Code:		*	Put / Call:	\sim
Clearing Code:	21 💌	Quantity / Position			Strike:	v
Exchange:	CBT	Quantity:		×	Underlying Period	v
Ticker Information					Code.	
Ticker:	•		Clear Form		Add Trade	

Note: To change Product Name, the Ticker, Exchange and Clearing Code fields must be cleared.

- b. Select Ticker. Maturity Code will also populate. If trade is an option, Put / Call, Strike and Underlying Period Code also populate.
- c. Enter Quantity / Position.
- d. Click Add Trade.

Maturity Code			Option Details		
Maturity Code:	201402	*	Put / Call:	CALL	~
Quantity / Position			Strike:	100.5	*
Quantity:	1	×	Underlying Period Code:	201403	*
	Clear Form			Add Trade	

Note: Add Tradeis enabled only when all necessary information is populated.

Trade displays in Created Trades list.

Created Trades								
Exchange	Ticker Symbol	Product Name	CC Code	Period Code	Put / Call	Strike	Underlying Period Code	Net Positions
CBT	OZNG4 C 1030	10YR US TREASURY	21	201402	CALL	103	201403	2
				Done				

- e. To enter additional trades, repeat steps a-d.
- f. When finished with all trades, click **Done**. Trades are added to portfolio.

Edit Trades

Edit trades before or after margining a portfolio.

Note: Editing trades after margining creates a hypothetical portfolio with original and added trades.

To edit trades in a portfolio:

- 1. Click Edit. Portfolio switches to edit mode and Cancel Edit / Save Changes options display.
- 2. Modify trades as needed. Click **Save Changes** or **Cancel Edit**.

Note: If a different portfolio is selected prior to saving or cancel, a prompt to save or ignore changes displays.

Remove Trades

Remove trades before or after margining a portfolio.

Note: If trades removed after margining a hypothetical portfolio is created with original and added trades.

To remove trades from a portfolio:

- 1. Click the box(es) to the left of the trade(s) to remove.
- 2. Click **Remove**. Dialog box displays.
- 3. Click Yes to delete trades. Trades are removed from portfolio.

Export Trades

Export trades to a CSV, PDF or API-ready file (XML).

- To export trades:
 - 1. Click Export.

Note: Depending on the browser being used, additional dialog box messages may display.

2. Open the file or save to the computer.

Margin Trades

Margin portfolios or selected trades. Portfolios can also be margined from the Portfolio section.

To margin a portfolio:

Click **Margin**. Portfolio is margined. The background of the Margin Field becomes a striped blue/gray background as calculation takes place.

Note: If the portfolio is new and hasn't been saved, the trades will be automatically be validated prior to margining.

To margin selected trades:

- 1. Select trade(s) to margin. Margin button switches to Margin Selected.
- 2. Click Margin Selected. A Hypothetical Portfolio is created. Trade(s) and margin amount display in this portfolio.

Base Portfolio and Hypothetical Portfolio

New portfolios are created as base portfolios. Trades in a base portfolio can be added, edited or removed without changing the portfolio identifying information. After a portfolio has been margined, however, editing or adding to the portfolio will create a hypothetical portfolio. Adding or removing subsets of trades in a hypothetical portfolio allows the execution of 'What if' analysis seeing the margin impact on the overall portfolio without changing the state of the base portfolio.

Examples

Base Portfolio

5	Y	F&O Portfo Futures and						
8	19 Dec 13		Trading Firm	9888	\$21,210		Margin	
Base Trades								
۲	Valid	Trades (3)	Invalid Trades					
		Exchange	Ticker Symbol	Product	Name	CC Code	Period Code	
	1	CME	CSCG5	CASH C	HEESE FUTU	CSC	201502	
	2	NYMEX	FVBF6	1% FO	L(PLTS) CAR	FVB	201601	
	3	COMEX	SILH4	1000 O	Z SILVER FUT	SIL	201403	

This base portfolio has three trades, and the green total indicates the trades have been margined.

The portfolio name is "F&O Portfolio."

Hypothetical Portfolio

When edits are made to the base portfolio after it has been margined, a selected hypothetical portfolio is created. In this example, the product Alberta Power Pool has been added to the portfolio.

Tr	Trades Add Edit Remove Export - Make Base										
2	Hypothetical Portfolio A										
	Hypothetical Portfolio A for portfolio F&O Portfolio										
Ċ	3	19 Dec 13	Trading Firm	9888 -		Margin					
в	ase 1	Trades	Selected Hypothetical I	Portfolio							
١	/alid	Trades (4)	O Added Trades (1)	Removed Trades	🔘 Invalid T	rades					
		Exchange	Ticker Symbol	Product Name	CC Code	Period Code					
	1	CME	CSCG5	CASH CHEESE FUTU.	CSC	201502					
	2	NYMEX	FEFG4	ALBERTA PWR POOL	AEF	201402					
	3	NYMEX	FVBF6	1% FOIL(PLTS) CAR	FVB	201601					
	4	COMEX	SILH4	1000 OZ SILVER FUT	SIL	201403					

Note the following:

• Name of portfolio is "Hypothetical Portfolio A" and Description is "Hypothetical Portfolio A for portfolio F&O Portfolio."

Note: Double-click the edit icon (\mathbb{Z}) adjacent to the hypothetical portfolio name to update portfolio names and descriptions.

- Base portfolio still exists, but the Selected Hypothetical Portfolio has been created in a new tab.
- Valid trades now shows 4 and added trades shows 1. If a trade is removed, it will show in the removed trades total.
- "Make Base" displays and can be clicked to make the portfolio a new base portfolio. if the Hypothetical Portfolio becomes a Base Portfolio, the Selected Hypothetical Portfolio tab no longer displays in the original base portfolio.

Navigating Hypothetical Portfolios in the Portfolio Section

More than one hypothetical portfolio can be created. Hypothetical portfolios display below the base portfolio in the Portfolio section.



In the example below, F&O Portfolio has three hypothetical portfolios.

Note the following:

• Margined hypothetical portfolios will show both the margin amount and difference between the hypothetical portfolio and the base portfolio.

- To navigate between the hypothetical portfolios, click on the hypothetical portfolio to view and it will display in the "Selected Hypothetical Portfolio" tab to the right of the base tab.
- Clicking a base portfolio from the Portfolio section will display the base portfolio only, however the base portfolio is always accessible when a hypothetical portfolio is selected:

Base Trades	Selected Hypothetic	al Portfolio
Valid Trades (3)	Added Trades	Removed Trades

• To expand view of hypothetical portfolios, click <u>►</u>. To close hypothetical portfolio view, click <u>►</u>.

CDS and FX Trade Management

Manage CDS and FX trades from their respective portfolio pages.

Example: Portfolio page for CDS

The Portfolio page consists of a **Portfolio** section and a **Trade** grid.

- A. From the **Portfolio** section:
 - View Portfolios and overall margin result
 - Manage Portfolios
 - <u>Receive an administrative message</u>
- B. From the **Trade** grid:
 - View Trades
 - Add trades
 - Validate, save and margin

The Portfolio Menu for CDS and FX

Portfolios can be managed using the menu at the top of the portfolio section.

Portfolio Summary	<u>ہ</u> م.	Load Trades	Add Portfolio	📃 Remove Selected Portfolios	📾 Export Portfolio Summary	Downloads +	Margin Selected Portfolios
		10-17	white a second s				

Note:CDS has additional menu options.

Option	Functionality
Search	Click P and enter a search term in the box. Any portfolio that matches the term within the Name, Account or Firm fields will display.
	To clear the search "filter," click the filter icon:
	Image: Constraint of the second se
Load Trades	1. Click the box adjacent to the portfolio to load.
	2. Click Load Trades. Trades display in the Trade grid.
Add Portfolio	Click Add Portfolio to add a Portfolio. Grid area is cleared and a new, unnamed portfolio is added to the list. If changes from previous portfolio are pending, a prompt displays to save changes before proceeding.
Remove Selected	Select rows to delete and click Remove Selected Portfolios. Action cannot be undone.
Portfolios	Note: This option cannot be accessed unless at least one row is selected.
Export Portfolio Summary	Click Export Portfolio Summary to export summary information for all portfolios.
Downloads	• Download Template : Click Downloads and select Download Template . Open sample template with Notepad or save as a .csv.
	 Download Reference Data (CDS and Futures and Options only): Click Downloads and select Download Reference Data. Open reference data file with Notepad or save as a .csv.
	Note: File download actions may vary depending on browser type.
Margin Selected Portfolios (far right of menu bar)	Run margin calculation for the selected portfolio.

Additional Menu Options

Additional menu options are available either to the right of menu options or on the far right of the menu bar and vary by product.

Option	Applies to these products:	Description					
Environment	• CDS	Select Production or New Release. Located on far right of menu bar. Production Margin Selected Portfolios Production New Release					
Margin Matrix	• CDS	Click Margin Matrix on right of Portfolio menu. Downloads • Margin Matrix Margin Matrix-CDS pop-up displays. Option to print or export.					

Add CDS or FX Trades

Add trade information using one of these methods:

- Import trades
- Load trades from an existing portfolio
- Manually enter the following trade types:
 - Credit Default Swap (CDS)
 - Foreign Exchange (FX)

Import Trades

To import a trade portfolio:

- 1. Click the **Import** arrow.
- 2. If the Import Trades dialog box displays, select an option.

Import Trades X
A portfolio is already opened, what do you want to do with the imported trades?
Overwrite existing trades Append to the existing trades Create a new portfolio
Keep the active portfolio open and Save to the portfolio summary table

3. In the Import Items dialog box, select a file and click Import.

Import Iter	ıs 🕅
File:	Select a File
	Import

The Uploading message displays, and the trade grid populates.

Load Trades From an Existing Portfolio

To open an existing portfolio:

- 1. In the Portfolio section of the page, click one or more boxes adjacent to a portfolio, and click Load Trades.
- 2. Do one of the following:
 - One portfolio has been selected: in the Open or Append dialog box, select the option to create a new portfolio or to append the trades to the existing portfolio, as appropriate.
 - More than one portfolio has been selected: In the Create Merged or Append dialog box, select the option to create a new merged portfolio or to append the trades to the existing portfolio, as appropriate.

The selected portfolio populates the Trade grid.

Manually Enter Credit Default Swaps

Trades can be entered manually by filling in information for each trade row.

To manually enter trades:

1. Place cursor in an empty row in the Credit Default Swap grid and enter Firm ID, Account ID, Trade ID and RED ID.

Note: Trade ID and RED ID are not mandatory.

2. Click the Ticker, Reference Entity Name or Commodity Code Description box and click the arrow (...). A list with all Ticker, Reference Entity Name and Commodity Code Description options displays.

Ticker 🔺	Reference Entity Name	RED ID	Seniority	Restructuring	Maturity	Buy / Sell	N
v							
Ticker	Reference Entity	Name		CC Code Desc			
AA	ALCOA INC.		AA.SR.XR.USD				
AAHI	ALPHA APPALACH	IA HOLDIN	IGS, INC.	MEE.SR.XR.USD			Ξ.
ABX	BARRICK GOLD CORPORATION			ABX.SR.XR.USD			
ACE	ACE LIMITED			ACE.S	SR.XR.USD		

- 3. Click a Ticker, Reference Entity Name, Commodity Code Description combination. The following fields are populated:
 - Currency
 - Ticker
 - Reference Entity Name
 - Seniority
 - Restructuring
 - CC Code
 - CC Description
- 4. Click the **Maturity** box, click the arrow (w) and select a maturity date from the calendar.
- 5. Double-click the **Buy/Sell** box, click the arrow (**v**) and select from the list.
- 6. Enter a **Notional** amount.
- 7. Click the **Coupon** box, click the arrow (**v**) and select a value from the list.

Note: The Clearable field fills with a 'Y' or 'N' when required trade information has been entered.

Manually Enter Foreign Exchange Trades

Trades can be entered manually by adding trade information for each row.

Note: All fields are required.

To manually enter trades:

1. Place cursor in an empty row in the Foreign Exchange grid and enter Firm and Account.

Note: Firm and Account number must be the same for each distinct portfolio. A portfolio will be created for each unique Firm / Account combination entered.

2. Click on the right of the Ticker box. A list with all Ticker, Short Currency, Long Currency, Exchange and Currency Code options displays. Select a Ticker combination.

Ticker	Short Notional	Long Notional	Short Currency	Long Currency	Exchange	
v			·		F	
Ticker	Short Currency	/ Long Currency	Exchange	Currency	Code	
USDJPY	JPY	USD	CME	USDJYC		
NZDUSD	USD	NZD	CME	NZDUSC		Ξ
USDCAD	CAD	USD	CME	USDCAC		
USDPHP	РНР	USD	CME	USDPHP		
USDBRL	BRL	USD	CME	USDBRL		

The corresponding information displays in the grid.

3. Enter Short Notional, Long Notional and Maturity.

Manage Calculation

Create a portfolio, then perform one of the following actions:

- Generate a Margin Report
- Schedule a Report

Generate a Margin Report

Generate a margin report for CDS or FX portfolios.

► To generate a Margin Report for CDS or FX:

1. Click Margin Calculator in the Main Menu, and select CDS or FX.



- 2. Do one of the following:
 - Click Add Portfolio. A new portfolio is created in the Portfolio section.

OR

- Click the box adjacent to portfolio(s) to load and click Load Trades. Trades load in Trade Grid.
- 3. Add or import additional trades as needed.
- 4. Click Validate and Save in the Trade Menu.
 - If validation errors occur, correct and re-validate.
- 5. Do one of the following:
 - To margin trades from the Trade Grid:

Click **Margin** in the **Trade Menu**. The margin for the portfolio that is open is calculated and updated in the **Margin Result** field of the **Portfolio** section.

- To margin trades from the **Portfolio Section**:
 - a. Click the box adjacent to one or more portfolios to margin.
 - b. Click Margin Selected Portfolios. Margins are calculated for selected portfolios and display in the Margin Result field.

Trade Validation Errors

If a required field is not entered, or if entered data is incorrect, the field(s) will be flagged as an error during validation. Error cells are marked with a (1), the cell is surrounded with red, and an error message displays. Click **Okay**, correct errors and revalidate.

	9 🔂		Remove S	elected Rows	🖓 Isolate Selected Rows	📔 Paste	Copy	Ж с	Cut 🛛 🖳 Import -	6	Export -	Tilte	r 🕶 📔	Vanilla 👻	Valid	ate Save N	largin
E			Firm ID	Account ID	Cleared Trade ID	Product Type	Currency		Effective Date		Maturity Date	👚 Filte	er to view	only errors		NotionalType	Leg1
	2	1	Test	1234	3M USD	VANILLA	USD		09-06-2011		09-06-2021		PAY	1000000	,	BULLET	0.03
		2	Test	1234	1M USD	OIS	USD		09-06-2011		09-06-2021		PAY	1000000		BULLET	0.03
		3	Test	1234	6M USD	VANILLA	USD		09-06-2011		09-06-2021		PAY	1000000		BULLET	0.03
		4	Test	1234	6M EUR	FRA	EUR		09-18-2013	Ð	12-18-2013		PAY	1000000		BULLET	0.004
	-	_						_		_							•

Trade Validation Rules

There are minimal validation rules that apply to all products, and validation rules that are IRS specific. For a list of required and interdependent fields for each product, see <u>Layout Reference</u>.

General Validation Rules

- Trades within a portfolio must have thesame Firm IDs and the same Account IDs.
- To merge portfolio trades, both portfolios must have the same Firm IDs and the same Account IDs.

Interest Rate Swap Trade Validation Rules

Start and Maturity Date Validations

Note: Default stub values are assigned as shown below if these fields are not assigned.

- Values not supported in CME CORE are highlighted.
- The time between the Start Date and Maturity Date of the trade must be a multiple of the Calculation Frequency:
 - Scenario 1

START_DT = 12/15/2011

MAT_DT = 12/15/2012

CALC_FREQ = QTR (3M)

In this scenario, 12 months is divisible by 3. No Stub will exist on this swap.

• Scenario 2

START_DT = 12/15/2011 MAT_DT = 2/15/2013

CALC FREQ = QTR (3M)

In this scenario, 14 months is not divisible by 3. So, a stub of "ShortInitial" is assigned to this swap.

If the time between the Start Date and Maturity Date of the trade is NOT a multiple of the Calculation Frequency, a default STUB_TYPE value of "ShortInitial" is assigned to the trade.

Zero Coupon Validations / Defaults

CME CORE supports only USD, EUR and GBP-denominated zero coupon swaps.

- If a ZC Swap exists in the uploaded portfolio, the appropriate fields that define this product type must be included:LEG_ PAY_FREQ, LEG_CALC_FREQ, LEG_ROLL_CONV.
- If LEG_CALC_FREQ = 1T then:
 - LEG_PAY_FREQ is set to 1T
 - LEG_ROLL_CONV is set to NONE

Overnight Index Swap (OIS) Validations / Defaults

- Overnight Index Swaps are defined as the following:
 - USD-Federal Funds-H.15-OIS-COMPOUND
 - EUR-EONIA-OIS-COMPOUND
 - GBP-WMBA-SONIA-COMPOUND
 - JPY-TONA-OIS-COMPOUND
- For OIS swaps, the floating LEG_INDEX_TERM field must equal 1D on the upload file.
- For the floating leg only, if LEG_CALC_FREQ = 1T then:
 - LEG_RESET_FREQ is set to 1T

View Reports

► To select a report:

1. From the **Main Menu**, click **Reports** and then click the report type to view.

Home Mar	gin Calculator ~	Reports ^	Download Center
Rates BETA	Futures & Opt	ions CD	IS FX

Reports are listed along the left side of the page by Portfolio (Firm / Account) in order of most recent portfolio creation. All margins run for each portfolio are listed within the portfolio in create date order.

Margin History												
Account	Firm	Туре	Margin Result 🔺	Created	Env	# Trades						
🗏 Margi	Margin Runs - Firm: test, Account: test											
test	test	FX	\$16,725,505	Fri Jan 18	PROD	76						
test	test	FX	\$6,523,749	Mon Jan 07		10						

To sort by any column, hover over the column heading, click the arrow that appears to the right of the column, and select sort, grouping or column selections from the menu.

	Margin Result 👻	Ŧ	Cr	reated	Env
est, Account: test			ţ	Sort Ascen	ding
	\$16,725,505	Z	Ļ	Sort Desce	nding
	\$6,523,749				
	\$6,523,749		1	Columns	₽
	\$6,523,749			Group by t	his field
\$7,614,728			-	0.000 0 0 0	
\$7,602,529			/	Show in gr	oups

2. From the Margin Run list, click the row of the report to view. Report appears in window to right of list.

Report Descriptions

- Credit Default Swap
- Interest Rate Swap
- Foreign Exchange (FX)
- Delta Ladder
- Futures and Options

- Portfolio Margining
- Margin Optimizer and Ideal Optimization

Export Reports

Use the Report View to export margin reports to a pdf or excel file.

The Export menu provides the following functionality:

Report Icon	Description
Excel	Save report to an excel file.
Adobe Acrobat PDF	Save report to an Adobe Acrobat .pdf file.

Credit Default Swap Results

	CME Group COR	E			Si	123 CDS Margin Report eptember 05, 2013 Environment: PROD
	atal Maintonance Margin		Margin Contribution	n Breakdown	0.00.00	7.8
	Account:					TEST123
	Total Portfolio Gross Notion	al:				7,000,000.00
	Total Portfolio IM Requireme	nt:				36,700.00
4	Total Maintenance Margin:					36,700.00
	Total Trades Entered:					7
	Total Trades Margined:					2
	Clearable Positions:					2
	Maintenance Margin Fac	tor Breakdown	Contributing Factor		Contributing Factor Breakdown	
	1: Systematic Op	-11,549.12	11 672 78			12: Liquidity Margin
	2: Systematic Down	1 217 21	11,073.78			(14.20%)
	4: Divergence	1 319 19	1 319 19	2: Systematic Down (31.81 %)		10: Jump to Health (3.59%)
	5: Curve	15.000.00	15.000.00			8: Sector
	7: Sector Shift Up	0.00				(5.93 %) C
	8: Sector Shift Down	2,177.91	2,177.91			~
Ľ	9: Jump to Default	0.00		4: Divergence		
	10: Jump to Health	1,317.25	1,317.25 📃	(3.59%)		
	12: Liquidity Margin	5,212.36	5,212.36 📒			5: Curve (40.87 %)
	Total	Maintenance Margin	36,700.00			
	Defaulted Entity: Single Name	/Index Constituent	Contributing Factor			

The Credit Default Swap Report consists of:

- A. Account Information: Identifying account information.
- B. **Maintenance Margin Factor Breakdown**: Addresses six risk factors including the overall risk of credit market, portfolio risk, idiosyncratic risk and liquidity risk. Includes total maintenance margin requirement.
- C. Contributing Factor Breakdown: Shows contributing factors in pie chart.

Net Positions Breakdown

The Net Positions Breakdown report shows positions used to generate the report, in addition to the information provided above.

To view the Net Position Breakdown report:

Click the Net Positions tab.

Interest Rate Swap Margin Results

The result set for IRS and Portfolio Margining generates the following reports:

- IRS Margin Report
- IRS Margin Details Scenario Analysis

IRS Margin Details

IRS Margin Report

The Portfolio Margin report provides summary trade information, incuding Total Gross Notional for each currency.

IRS – Margin Contribution Breakdow	n
Account:	1234
Total Gross Notional (GBP)	10,000,000.00
Total Gross Notional (JPY)	10,000,000.00
Total Gross Notional (AUD)	20,000,000.00
Initial Base Margin Requirement:	750,561.55
Concentration Margin Requirement:	0.00
Total Portfolio IM Requirement:	750,562
Total Number of Trades Entered:	4

The Profit and Loss Vector Histogram shows the profit and loss distribution of the 1260 profit and loss vectors. Each bar represents a quarter of a standard deviation.



IRS Margin Details Scenario Analysis

The scenario based chart shows the Historical P/L vectors across all trades within the portfolio over the past 5 years.

D To view the IRS Margin Details Scenario Analysis:

Click the IRS Margin Details Scenario Analysis tab.



Termination Reports (IRS only)

Running a Termination generates two reports:

- Termination Summary
- Termination Details

Additionally, the following reports may be downloaded:

- PDF: Summary and Detail reports
- CSV: Details and Terminated Trade Register

Note: Access the Termination report by clicking the state icon in the Termination Target Portfolio row.

Termination Summary

The Termination Summary Report contains two main sections. The top section summarizes the results of termination analysis. The bottom section shows the DV01 of terminated trades bucketed by tenor.



Termination Details

The Termination Details Report shows Tenor details, and target, terminated and Remnant DVO1 quantities for the portfolio.

Tenor (years)	Tenor (days)	Min	Мах	Target DV01	Terminated DV01	Remnant DV01
	Global	-1,000.00	1,000.00	277,150.27	-136.74	277,287.01
ЗМ	91D	-1,000.00	1,000.00	-40,667.50	-329.11	-40,338.39
6M	183D	-1,000.00	1,000.00	-15,914.87	-43.65	-15,871.22
9M	274D	-1,000.00	1,000.00	217,450.52	281.30	217,169.22
12M	365D	-1,000.00	1,000.00	40,983.96	-241.67	41,225.63
15M	457D	-1,000.00	1,000.00	20,260.30	-3.93	20,264.24
18M	548D	-1,000.00	1,000.00	-8,387.44	142.84	-8,530.28
21M	639D	-1,000.00	1,000.00	-488,471.49	-176.68	-488,294.80
2Y	731D	-1,000.00	1,000.00	384,439.66	146.33	384,293.33
3Y	1096D	-1,000.00	1,000.00	71,337.80	-133.70	71,471.50
4Y	1461D	-1,000.00	1,000.00	-100,973.30	52.42	-101,025.71
5Y	1826D	-1,000.00	1,000.00	-8,245.46	-838.74	-7,406.73
6Y	2192D	-1,000.00	1,000.00	20,440.18	253.87	20,186.31
7Y	2557D	-1,000.00	1,000.00	65,056.68	-165.29	65,221.96
8Y	2922D	-1,000.00	1,000.00	4,866.16	110.21	4,755.96
9Y	3287D	-1,000.00	1,000.00	197,394.81	-788.97	198,183.78
10Y	3653D	-1,000.00	1,000.00	121,225.59	-27.30	121,252.89
12Y	4383D	-1,000.00	1,000.00	-39,970.86	184.91	-40,155.77
15Y	5479D	-1,000.00	1,000.00	-15,467.03	327.60	-15,794.63
20Y	7305D	-1,000.00	1,000.00	-55,688.00	472.01	-56,160.01
25Y	9131D	-1,000.00	1,000.00	12,139.51	982.14	11,157.38
30Y	10958D	-1,000.00	1,000.00	-104,516.76	-339.90	-104,176.86
40Y	14610D	-1,000.00	1,000.00	0.00	0.00	0.00
50Y	18263D	-1,000.00	1,000.00	0.00	0.00	0.00

Coupon Blending (IRS only)

Selective Coupon Blending report

Coupon Blending Reg Portfolio: Portfolio 262 Test123 (Blend Type: Selective Coupon Blend Created: Thu Aug 28 18:54:05 GMT 20									Coupon Blending Report to 262 Test123 (Blended) elective Coupon Blending g 28 18:54:05 GMT 2014
Total Trades Before Blending	After Blending	Reduction	Total Notional USDE Before Blending			After Blending			tion
11	6	45%	711,400,000.00			711,400,000.00			
Trades by ID									
Client ID	Blending ID		Trades Before Blending	Trades After Blending		Notional Currency	Notional Before Blenc	ding	Notional After Blending
123ABC	987654321		3	3	2	USD		303,900,000.00	303,900,000.00
234ABC	987654321		4	l .	2	USD		98,700,000.00	98,700,000.00
567ABC	987654321		4	l .	2	USD		308,800,000.00	308,800,000.00

All-in Coupon Blending report

()) CME Gro	OUP CORE								Portfolio Created	Coupon Blending Report o: Portfolio 262 Test123 (Blended) Type: All-In Coupon Blending : Tue Sep 02 17:43:32 GMT 2014
Total Trades Before Blending	otal Trades Jefore Blending After Blending Reduction			Total Notional USDE Before Blending			After Blending		Reducti	on
11	2	82%		1,9	59,400,000.00		547,385,620.	.90	72%	
Trades by ID										
Blending ID		Trades Before Blending	Trades After Blending		Notional Currency	Notiona Before E	l Blending	Notional After Blending		
987654321		11		2	USD	1	1,959,400,000.00	547,3	85,620.90	

OTC FX Margin Results

The OTC FX Report consists of:

- Account Information: Account, Initial Margin Requirement, Number of Trades Entered
- PNL Vector Histogram: Initial margins calculated utilizing historical VaR, using a 99%, 5-day loss coverage assumption.


Delta Ladder Report

The result set for Delta Ladder generates the following reports:

- Delta Ladder Margin Details
- Delta Ladder Margin Details Scenario Analysis

Delta Ladder Margin Details

	Delta Ladder – Margin Contribution Breakdown	
Account:		A1
Maintenance Margin Requirement:		136,553.31
Concentration Margin Requirement:		0.00
Total Portfolio IM Requirement:		136,553.31
Total Number of Currency Tenor Curves:		6



The Delta Ladders Histogram Report consists of:

- Account Information: Account, Maintenance, Concentration and Initial Margin Requirements, Number of Tenor Curves
- PNL Vector Histogram: Initial margins calculated utilizing historical VaR, using a 99%, 5-day loss coverage assumption.

Delta Ladder Margin Details Scenario Analysis

The scenario based chart shows P/L vectors across curves within the portfolio over the past 5 years.



Interest Rate Futures and Options Results

The Futures and Options Margin Report displays:

- Total Portfolio Initial Margin Margin market participants must pay when meeting a margin call (applies to Speculator accounts only, does not apply to Hedge/Member
- accounts)
- Total Maintenance Margin Minimum margin amount market participants must keep in their account to prevent having a margin call
- Long Option Value (LOV) Total value of options purchased
- Short Option Value (SOV) Total value of options sold
- Net Option Value (NOV)- Net Value of Option Premium Paid/Received

CME Group CORE	Test Future/Option Margin Report April 09, 2014 Environment: PROD
Future/Option - Margin	Contribution Breakdown
Account:	123
Total Portfolio Initial Margin:	2,328,375
Total Maintenance Margin:	2,116,250
Long Option Value (LOV)	5,000
Short Option Value (SOV)	0
Net Option Value (NOV)	5,000
Total Trades Margined	4

Portfolio Margin Details Report

The Portfolio Margin Details Report provides a comparison of the costs saved or incurred between margining the IRS trades and/or Delta Ladder curves and Futures and Options portfolios separately, and margining the IRS portfolio and/or Delta Ladder and Futures and Options portfolios together.

The Portfolio Margin Details Report may be generated for the following portfolio types:

- IRS Trades & Futures (SEQ) Portfolio Margin Details
- DL & Futures (SEQ) Portfolio Margin Details
- IRS Trades & DL & Futures (SEQ) Portfolio Margin Details

When the Cross Margin option in the Futures and Options grid is checked, the trade will be margined against the IRS trades and/ or Delta Ladder and HVAR is used to calculate results. Margins for unchecked Futures and Options are calculated using CME SPAN.

Margin Amounts without Portfolio Margining

Margin Amounts without Portfolio Margining	=	Interest Rate Swap AND / OR Delta Ladder	+ (plus)	Portfolio Margin Futures (FUT)	+ (plus)	IR Futures and Options (OPT)
--	---	--	-------------	-----------------------------------	-------------	------------------------------

Note: The Portfolio Margin Futures do NOT have the Cross Margin box checked. The Margin Type field will fill with FUT when the portfolio is saved. Interest Rate Futures and Options are cross-margined with the Interest Rate Swaps, and the Cross Margin box is checked. When the portfolio is saved, the Margin Type field will show OPT.

Margin Amounts with Portfolio Margining (Cross-margining)

Margin Amou with Portfolio Margining	nts	=	Cross-margined O OR Delta Ladder a Margin Futures (IF and/or DL + OPT) Reduce the total r payment required transferring excess from one account	TC IRS AND / and Portfolio RS + OPT margin d by ss margin t to another.	+ (plus)	Residual IR Futures and Options (FUT) Interest Rate Futures and Options not cross-margined with Interest Rate Swaps.
Savings						
Savings	=	Margin A Portfolic	Amounts without Margining	- (minus)	Ma Por	rgin Amounts with tfolio Margining

Portfolio Margin Results Breakdown

Portfolio Margining in CME CORE approaches initial margin calculation from a total cost savings perspective.

Comparison Breakdown	l .	
IRS IM Requirement:	5,246,410.20	
All IR Futures & Options IM Requirement:	260,000.00	OTC IRS +Portfolio Margin Futures
Total Margin:	5,506,410.20	+ IR Futures and Options
Portfolio Margin IM Requirement: Futures & Options Residual Requirement: Portfolio Total Margin:	5,351,772.58 0.00 5,351,772.58	OTC IRS and Portfolio Margin Futures + Residual IR Futures and Options
Portfolio Margin Savings:	154,637.62	- Savings
Portfolio Margin Savings Percentage:	2.808%	

This example shows OTC IRS, the comparison is the same for Delta Ladder or IRS and Delta Ladder.

Portfolio Margin Results Comparison Breakdown

- The first set of totals represents the margins for OTC IRS and/or Delta Ladder, Portfolio Margin Futures and Futures and Options initial margin calculated as separate portfolios.
- The second set of totals represents the calculated margin with the OTC IRS and/or Delta Ladder and Portfolio Margin Futures calculated together, and the Residual Futures and Options calculated separately.
- The Portfolio Margin Savings (in green) is the difference between the totals of the two calculations.

Portfolio Margin Details Report

The Portfolio Margin Details report is a Profit and Loss Vector Histogram.



This example shows OTC IRS. the report is the same for Delta Ladder or IRS and Delta Ladder.

Portfolio Margin Optimization Details Report

The Portfolio Margin Optimization Details Report performs portfolio margining of all IRS Swaps and/or Delta Ladder curves with Eurodollar Treasury and Futures to mimize initial margin requirements.

When the Cross Margin option in the Futures and Options grid is checked, the trade will be margined against the Delta Ladder curves and/ or IRS trades, and HVAR is used to calculate results. Margins for unchecked Futures and Options are calculated using CME SPAN.

An Ideal Optimization analysis is also generated when a portfolio that contains IRS and/or delta ladders is optimized.

Margin Amounts without Margin Optimization

Margin Amounts = without Margin Optimization	Delta Ladders AND/OR IRS Trades	+ (plus)	Portfolio Margin Futures (FUT)	+ (plus)	IR Futures and Options (OPT)
--	---------------------------------------	-------------	-----------------------------------	-------------	------------------------------

Note: The Margin Optimization Futures do NOT have the Cross Margin box checked. The Margin Type field will fill with FUT when the portfolio is saved. Interest Rate Futures and Options are cross-margined with the Interest Rate Swaps, and the Cross Margin box is checked. When the portfolio is saved, the Margin Type field will show OPT.

Margin Amounts with Margin Optimization (Cross-margining)

Margin Amou with Margin Optimization	ints	=	Cross-margined Da and/or OTC IRS an Margin Futures (D OTC IRS + OPT) Reduce the total m payment required transferring optim positions from one another.	elta Ladder d Portfolio L and/or nargin l by ized e account to	+ (plus)	Residual IR Futures and Options (FUT) Interest Rate Futures and Options not cross-margined with Interest Rate Swaps.
Savings						
Savings	=	Margin A Opimiza	Amounts without tion	- (minus)	Mar Opti	gin Amounts with mization

Portfolio Margin Optimization Detail Report Breakdown

Portfolio Margining in CME CORE approaches initial margin calculation from a total cost savings perspective.

Optimization Breakdow	wn	
Initial Portfolio Margin IM Requirement:	263,659.71	Dolta Laddor + Portfolio Margin Futuros
Initial Futures & Options Residual	100,925.00	+ IR Futures and Options Residual
Total Margin:	364,584.71	
Optimized Portfolio Margin IM Requirement:	189,732.46	
Optimized Futures & Options Residual	0.00	Delta Ladder
Optimized Portfolio Total Margin:	189,732.46	+ Optimized Futures and Options
Portfolio Margin Savings:	174,852.26	Savings
Portfolio Margin Savings Percentage:	47.959%	

This example shows Delta Ladder, the same is true for IRS trades, or IRS and Delta Ladder.

Margin Optimizer Results Comparison Breakdown

- The first set of totals represents the margins for Delta Ladder (or IRS or both), Portfolio Margin Futures and IR Futures and Options initial margin calculated as separate portfolios.
- The second set of totals represents the calculated margin with Delta Ladder (or IRS or both) and assuming the recommened transfer of Futures into Swap Portfolios.
- The **Portfolio Margin Savings** is the difference between the totals of the two calculations.

Portfolio Margin Optimization Detail Report

The Portfolio Margin Optimization Detail report is a Profit and Loss Vector Histogram.



Postion Optimization Report

The Postion Optimization Report breaks down CME Cleared OTC IRS to receive savings as described in the initial report. These are the future positions that are transfered to the IRS portfolio.

()) CM	EGroup	CORE									Positions Optin Enviro	Aggregate nization Report April 09, 2014 onment: PROD
Firm Id	Acct Id	Exchange	Ticker	Product Name	CC Code	Period Code	Put/Call	Strike	Und. Period Code	Before Net Positions (FUT)	Before Net Positions Optimized Future Net (OTC) Positions	Optimized Irs Net Positions
Aggregate	Aggregate	CME	GEZ8	EURODOLLAR FUTURES	ED	201812				-500.00	-500.00	0.00
Aggregate	Aggregate	CME	GEZ5	EURODOLLAR FUTURES	ED	201512				-500.00	-500.00	0.00
Aggregate	Aggregate	CME	GEZ4	EURODOLLAR FUTURES	ED	201412				-500.00	0.00	-500.00
Aggregate	Aggregate	CME	GEZ7	EURODOLLAR FUTURES	ED	201712				-500.00	-500.00	0.00

Ideal Optimization Report

Ideal Optimization calculates the ideal allocation of treasury and Eurodollar futures to hedge the OTC account and minimize portfolio risk. The report provides the list of proposed futures positions to gain the greatest savings based on the IRS/ delta ladder portfolio. It also provides a breakdown of DV01 associated with the Swaps and futures portfolios.

Note: The report will only display DV01 data associated with the Delta Ladder that was submitted and will not contain DV01 portfolio information on IRS trades.



Layout Reference

Each product has different field requirements. Click to see product layout requirements:

- <u>Credit Default Swaps</u>
- Interest Rate Swaps
- Foreign Exchange
- Futures and Options

Layout Reference for Credit Default Swaps

Field	Description	Req / Opt	Sample Values
Firm ID	ID of the firm	Optional	
Account ID	The account the trade belongs to	Optional	
Trade ID	ID of the trade	Optional	
Currency	Standard Currency Code	Required	USD - US Dollar (day 1).
Ticker	Ticker associated with the product	Required; filled in conjunction with Reference Entity Name and CC Code	
Reference Entity Name	Name of Entity	Required; filled in conjunction with Ticker and CC Code	
RED ID	An identifier issued by Markit to uniquely identify a Credit Default Swap (CDS).	Optional	
Seniority	Seniority of debt rating	required	SR=Senior SD=Senior secured SB=Subordinated
Restructuring	Restructuring code.	required	XR=No Restructuring MM=Modified modified MR=Modified Restructuring
Maturity	Maturity Date of CDS	Required	
Buy / Sell	Buy or sell.	required	
Notional	Represents the notional amount	required	
Coupon	The interest rate stated on a bond when it's issued.	required	
CC Code	Combined Commodity Code.	required; filled in conjunction with Reference Entity Name and ticker.	
CC Code Description	Combined Commodity Code description.	required; automatically filled in when CC Code is	

CMF	CORE
CIVIL	CONL

Field	Description	Req / Opt	Sample Values
		entered.	
Clearable	Is trade clearable?	required; automatically filled in as 'Y' when all required information has been entered and validated.	

Layout Reference for IRS

Reference layouts contain name, description, and required/optional values for Interest Rate Swaps.

- Basic Layout provides the mimimal number of fields required for an IRS swap.
- Simple Layout provides a simple layout for an IRS swap.
- Extended Layout provides a layout for all fields that can be displayed for any type of IRS.

Reference for Basic Layout (Interest Rate Swaps)

This file is a subset of the <u>Trade Register (Extended) Template</u> and <u>Simple Template</u> reference files. Index, Index Tenor, Pay Frequency and Spread values are generated based on industry standards for most OTC IRS product types.

Field	Description	Req / Opt	Sample Values
Firm ID	ID of the firm	Required	
Account ID	The account the trade belongs to	Required	
Cleared Trade ID	CME Group assigned Trade ID for the trade	Optional	
Product Type	Product Type	Required	Vanilla, OIS, Zero Coupon, Basis, FRA
Currency	Standard Currency Code	Required	USD - US Dollar (day 1).
Effective Date	Start (Effective) Date of the swap. This is the date when the accruals begin	Required	US format 8/2/2010
Maturity Date	Maturity Date of the swap. This is the last day of the swap, usually the last coupon payment for the types of swaps supported day 1	Required	US format 8/2/2010.
Direction	Direction of the swap from the position accounts perspective.	required	P - Payer of the Fixed Rate R - Receiver of the Fixed Rate
Notional	Represents the notional amount of the swap	Required.	
Leg 1 Fixed Rate	The fixed rate assigned to swap	Required	

Reference for Simple Layout (Interest Rate Swaps)

This file is a subset of the <u>Trade Register (Extended)</u> reference file. Additional Leg One and Leg Two information is populated on trade validation. Applies to Vanilla, OIS and Zero Coupon product types. There is also a <u>Basic Layout Reference</u>, which shows the minimal required fields.

Field	Description	Req / Opt	Sample Values
Firm ID	ID of the firm	Required	
Account ID	The account the trade belongs to	Required	
Cleared Trade ID	CME Group assigned Trade ID for the trade	Optional	
Product Type	Product Type	Required	Vanilla, OIS, Zero Coupon
Currency	Standard Currency Code	Required	USD - US Dollar (day 1).
Effective Date	Start (Effective) Date of the swap. This is the date when the accruals begin	Required	US format 8/2/2010
Maturity Date	Maturity Date of the swap. This is the last day of the swap, usually the last coupon payment for the types of swaps supported day 1	Required	US format 8/2/2010.
Direction	Direction of the swap from the position accounts perspective.	required	P - Payer of the Fixed Rate R - Receiver of the Fixed Rate
Notional	Represents the notional amount of the swap	Required.	
Leg 1 Fixed Rate	The fixed rate assigned to swap	Required	
Leg1 KnownAmount	Current value of a sum to be paid / received on a future date.	Applicable to Zero Coupon products	
	Note: Displays for Zero Coupon and Extended View only.		
Leg 2 Index	The index of the floating leg	Required	
Leg2 IndexTenor	How frequently the rate for the floating leg is reset.	Required	1 M 3 M 6 M
Leg1 PayFreq	Frequency at which interest is paid	Required	1 M

Field	Description	Req / Opt	Sample Values
	on the fixed leg.		1 Y
			3 M
			6 M

Layout Reference for Trade Register (Extended) View

Complete list of OTC IRS fields. Required fields vary by product. Also reference <u>Basic Layout Reference</u>, which shows the minimal required fields, or <u>Simple Layout Reference</u> for fields that correspond to the IRS Simple Template.

Field	Description	Req / Opt	Sample Values
Firm ID	ID of the firm	Required	
Account ID	The account the trade belongs to	Required	
Portfolio ID	The portfolio name	Optional	
Cleared Trade ID	CME Group assigned Trade ID for the trade	Optional	
Product Type	Product Type	Required	Vanilla, OIS, Zero Coupon
Currency	Standard Currency Code	Required	USD - US Dollar (day 1).
Start Date	Start (Effective) Date of the swap. Date when accruals begin	Required	US format 8/2/2010
Maturity Date	Maturity Date of the swap. Last day of the swap, usually the last coupon payment for the types of swaps supported day 1	Required	US format 8/2/2010.
Direction	Direction of the swap from the position accounts perspective.	required	P - Payer of the Fixed Rate R - Receiver of the Fixed Rate
Notional	Represents the notional amount of the swap	Required.	
Fixed Rate	The fixed rate assigned to swap	Required	
Floating Index	The index of the floating leg	Required	1M LIBOR 3M LIBOR 6M LIBOR
Floating Index Tenor	How frequently the rate for the floating leg is reset.	Required	1 M 3 M 6 M
Fixed Pay Frequency	Frequency at which interest is paid on the fixed leg.	Required	-2 D 0 D 1 W 2 W 1- 11 M

Field	Description	Req / Opt	Sample Values
			1 Y
Source	Platform from which the trade was received	Required	BLOOMBERG, MARKIT_WIRE, TRADE_WEB, CME
LEG1_TYPE	Fixed or Float leg	Required	FIXED FLOAT
LEG1_CCY	Currency of the leg	Required	USD
LEG1_START_DATE_ ADJ_BUS_DAY_CONV	Adjustment to effective date. ALWAYS NONE	Required	NONE
LEG1_MAT_DATE_ ADJ_BUS_DAY_CONV	Adjustments to Maturity Date	R	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG1_MAT_DATE_ ADJ_CAL	Calendars to use for MAT DATE Adjustment	Required	USNY GBLO USNY,GBLO
LEG1_PAY_FREQ	Coupon Payment Frequency	R	1M 3M 6M 1Y
LEG1_PAY_REL_TO	Payment relative to the beginning or end of the period	R	BEG_PER END_PER
LEG1_PAY_ADJ_BUS_ DAY_CONV	Business day convention to use to adjust the payment date if the date falls on a holiday	R	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG1_PAY_ADJ_CAL	Calendars used to apply the business day convention for payments	R	USNY GBLO USNY,GBLO
LEG1_DAYCOUNT	Day count convention to use for calculation of periods	R	30/360 ACT/360 ACT/365.FIXED

Field	Description	Req / Opt	Sample Values
			ACT/ACT.ISDA 30E/360.ISDA
LEG1_CALC_PER_ADJ_ BUS_DAY_CONV	Business day convention for calculation Period date adjustements	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG1_CALC_PER_ADJ_ CAL	Calendars to use for calculation period date adjustment	O (Required only of this is a float leg) "	USNY GBLO USNY,GBLO
LEG1_CALC_FREQ	Calculation Frequency also known as the compounding frequency for compounded swaps	O (Required only of this is a float leg)	1W 2W 1M 2M 3M 6M 12M
LEG1_COMP_METHOD	Specify the method used for compounding if this is a compounded leg	O (Required only of this is a float leg and a compounded swap)	None Flat
LEG1_INDEX	Index specification	Required only if LEG1_TYPE = "FLOAT"	USD-LIBOR-BBA.
LEG1_INDEX_TENOR	Index Tenor	Required only if LEG1_TYPE = "FLOAT"	1M 3M 6M
LEG1_RESET_FREQ	Frequency of the rate reset	O (Required only of this is a float leg)	1M 3M 6M
LEG1_RESET_REL_TO	Specify if the reset is relative to the beginning of the period or end of the period	O (Required only of this is a float leg)	BEG_PER END_PER
LEG1_RESET_DATE_ ADJ_BUS_DAY_CONV	Date Adjustment on the reset dates	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING

Field	Description	Req / Opt	Sample Values
			PRECEDING MODPRECEDING
LEG1_RESET_DATE_ ADJ_CAL	Calendars to use for reset date adjustment	O (Required only of this is a float leg)	USNY GBLO USNY,GBLO
LEG1_FIXING_DATE_ OFFSET	Offset to use to come up with the fixing date	O (Required only of this is a float leg)	
LEG1_FIXING_DAY_ TYPE	The type of days to use to find the fixing date	O (Required only of this is a float leg)	Business Calendar
LEG1_FIXING_DATE_ BUS_DAY_CONV	Adjustment to use for fixing date	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG1_FIXING_DATE_ ADLJCAL	Calendars to use when adjusting the fixing date	Required only if LEG1_TYPE = "FLOAT"	USNY GBLO USNY,GBLO
LEG1_START_DATE	Effective Date of this leg	Required	US format 8/2/2010
LEG1_MAT_DATE	Maturity Date of this leg	Required	US format 8/2/2010
LEG1_NOTIONAL	Notional Amount	R	
LEG1_FIXED_RATE	FIXED Rate	Required only if LEG1_TYPE = "FIXED"	
LEG1_ROLL_CONV	Roll convention to end / start period on	R	1-30 IMM EOM
LEG1_SPREAD	Spread to apply on top of the index	O (Required only if this is float leg and a spread is applied)	
LEG1_STUB_TYPE	Type of Stub	O (Required only if there is a initial or final stub)	ShortFinal LongInitial LongFinal NONE SPECIFIC BOTH

Field	Description	Req / Opt	Sample Values
LEG1_FIRST_REG_ PERIOD_START_DATE	First regular period start date on this leg. This is when the stub period ends and regular periods begin	O (Required only if there is a initial stub)	US format 8/2/2010
LEG1_LAST_REG_ PERIOD_END_DATE	Last regular period start date on this leg. This is when the regular periods end and the stub period starts	O (Required only if there is a final stub)	US format 8/2/2010
LEG1_INITIAL_STUB_ RATE	Initial Stub Rate	O (Required only if there is a initial stub).	
LEG1_INITIAL_ STUBRATE_INDEX1	For Initial Stub specify the index and tenor to be used for this stub period	O (Only present if index and tenor is used for stub period rate on float leg)	1W - 2W 1M - 11M 1Y
LEG1_INITIAL_ STUBRATE_INDEX2	For Initial Stub specify the second index and tenor to be used for interpolating rate for this period	O (Only present if CME Group has to interpolate between two terms for stub period rate on float legs)	1W - 2W 1M - 11M 1Y
LEG1_FINAL_ STUBRATE_INDEX1	For Final Stub provide the index and tenor to be used for this stub period	O (Only present if index and tenor is used for stub per on float leg)	1W - 2W 1M - 11M 1Y
LEG1_FINAL_ STUBRATE_INDEX2	For Final Stub specify the second index and tenor to be used for interpolating rate for this period	O(Only present if CME Group has to interpolate between two terms for stub period rate on float legs)	1W - 2W 1M - 11M 1Y
LEG1_CURRENT_ PERIOD_RATE	Populated with the current floating period rate	O (Only present if this is the float leg).	
LEG1_FINAL_STUB_ INT_RATE	The actual rate to be used for the final stub period whether it is interpolated or based off an index	O (Present only in case of initial stub)	
LEG1_ACCRUED_INT	Accrued interest for the current leg as of the current valuation date	O (Not present if the accruals have not started)	
LEG1 KnownAmount	Current value of a sum to be paid / received on a future date.	Applies to Zero Coupon Trades.	
LEG2_TYPE	Fixed or Float leg	Rt or product.	fixed float

Field	Description	Req / Opt	Sample Values
LEG2_CCY	Currency of the leg	R	USD
LEG2_START_DATE_ ADJ_BUS_DAY_CONV	Adjustment to effective date. ALWAYS NONE.	R.	None
LEG2_MAT_DATE_ ADJ_BUS_DAY_CONV	Adjustments to Maturity Date	R	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG2_MAT_DATE_ ADJ_CAL	Calendars to use for MAT DATE Adjustment	Required	USNY GBLO USNY,GBLO
LEG2_PAY_FREQ	Coupon Payment Frequency	R	1M 3M 6M 1Y
LEG2_PAY_REL_TO	Payment relative to the beginning or end of the period	R	BEG_PER END_PER
LEG2_PAY_ADJ_BUS_ DAY_CONV	Business day convention to use to adjust the payment date if the date falls on a holiday	R	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG2_PAY_ADJ_CAL	Calendars used to apply the business day convention for payments	R	USNY GBLO USNY,GBLO
LEG2_DAYCOUNT	Day count convention to use for calculation of periods	R	30/360 ACT/360 ACT/365.FIXED ACT/ACT.ISDA 30E/360.ISDA
LEG2_CALC_PER_ADJ_ BUS_DAY_CONV	Business day convention for calculation Period date adjustements	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING

Field	Description	Req / Opt	Sample Values
			PRECEDING MODPRECEDING
LEG2_CALC_PER_ADJ_ CAL	Calendars to use for calculation period date adjustment	O (Required only of this is a float leg) "	USNY GBLO USNY,GBLO
LEG2_CALC_FREQ	Calculation Frequency also known as the compounding frequency for compounded swaps	O (Required only of this is a float leg)	1W 2W 1M 2M 3M 6M 12M
LEG2_COMP_METHOD	Specify the method used for compounding if this is a compounded leg	O (Required only of this is a float leg and a compounded swap)	None Flat
LEG2_INDEX	Index specification	Required only if LEG2_TYPE = "FLOAT"	USD-LIBOR-BBA.
LEG2_INDEX_TENOR	Index Tenor	Required only if LEG2_TYPE = "FLOAT"	1M 3M 6M
LEG2_RESET_FREQ	Frequency of the rate reset	O (Required only of this is a float leg)	1M 3M 6M
LEG2_RESET_REL_TO	Specify if the reset is relative to the beginning of the period or end of the period	O (Required only of this is a float leg)	BEG_PER END_PER
LEG2_RESET_DATE_ ADJ_BUS_DAY_CONV	Date Adjustment on the reset dates	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG2_RESET_DATE_ ADJ_CAL	Calendars to use for reset date adjustment	O (Required only of this is a float leg)	USNY GBLO USNY,GBLO

Field	Description	Req / Opt	Sample Values
LEG2_FIXING_DATE_ OFFSET	Offset to use to come up with the fixing date	O (Required only of this is a float leg)	
LEG2_FIXING_DAY_ TYPE	The type of days to use to find the fixing date	O (Required only of this is a float leg)	Business Calendar
LEG2_FIXING_DATE_ AdjBUS_DAY_CONV	Adjustment to use for fixing date	O (Required only of this is a float leg)	NONE FOLLOWING MODFOLLOWING PRECEDING MODPRECEDING
LEG2_FIXING_DATE_ AdjCal	Calendars to use when adjusting the fixing date	Required only if LEG2_TYPE = "FLOAT"	USNY GBLO USNY,GBLO
LEG2_START_DATE	Effective Date of this leg	Required	US format 8/2/2010
LEG2_MAT_DATE	Maturity Date of this leg	Required	US format 8/2/2010
LEG2_NOTIONAL	Notional Amount	R	
LEG2_FIXED_RATE	FIXED Rate	Required only if LEG2_TYPE = "FIXED"	
LEG2_ROLL_CONV	Roll convention to end / start period on	R	1-30 IMM EOM
LEG2_SPREAD	Spread to apply on top of the index	O (Required only if this is float leg and a spread is applied)	
LEG2_STUB_TYPE	Type of Stub	O (Required only if there is a initial or final stub)	ShortFinal LongInitial LongFinal NONE SPECIFIC BOTH
LEG2_FIRST_REG_PER_ START_DATE	First regular period start date on this leg. This is when the stub period ends and regular periods begin	O (Required only if there is a initial stub)	US format 8/2/2010
LEG2_LAST_REG_PER_ END_DATE	Last regular period start date on this leg. This is when the regular periods end and the stub period starts	O (Required only if there is a final stub)	US format 8/2/2010

Field	Description	Req / Opt	Sample Values
LEG2_INITIAL_STUB_ RATE	Initial Stub Rate	O (Required only if there is a initial stub).	
LEG2_INITIAL_ STUBRATE_INDEX1	For Initial Stub specify the index and tenor to be used for this stub period	O (Only present if index and tenor is used for stub per on float leg)	1W - 2W 1M - 11M 1Y
LEG2_INITIAL_ STUBRATE_INDEX2	For Initial Stub specify the second index and tenor to be used for interpolating rate for this period	O(Only present if CME Group has to interpolate between two terms for stub period rate on float legs)	1W - 2W 1M - 11M 1Y
LEG2_FINAL_ STUBRATE_INDEX1	For Final Stub provide the index and tenor to be used for this stub period	O (Only present if index and tenor is used for stub per on float leg)	1W - 2W 1M - 11M 1Y
LEG2_FINAL_ STUBRATE_INDEX2	For Final Stub specify the second index and tenor to be used for interpolating rate for this period	O(Only present if CME Group has to interpolate between two terms for stub period rate on float legs)	1W - 2W 1M - 11M 1Y
LEG2_CURRENT_ PERIOD_RATE	Populated with the current floating period rate	O (Only present if this is the float leg).	
LEG2_ACCRUED_INT	Accrued interest for the current leg as of the current valuation date	O (Not present if the accruals have not started)	
LEG2_FINAL_STUB_ INT_RATE	The actual rate to be used for the final stub period whether it is interpolated or based off an index	O (Present only in case of initial stub)	
LEG2_ACCRUED_INT	Accrued interest for the current leg as of the current valuation date. Next indicates that the interest accrual starts on the effective date instead of the following day.	O (Not present if the accruals have not started)	

Layout Reference for Foreign Exchange

Field	Description	Req / Opt	Sample Values
Firm	ID of the firm	Required	All values must be the same for a given portfolio
Account	The account the trade belongs to	Required	All values must be the same for a given portfolio
Ticker	Ticker associated with the product	Required; filled in conjunction with Short Currency, Long Currency, Exchange, CC Code	
Short Notional	Notional Amount for Short side.	Required	Any number value
Long Notional	Notional Amount for Long side.	Required	Any number value
Short Currency	Currency of the Short side.	Required; filled in conjunction with Ticker, Long Currency, Exchange, CC Code	
Long Currency	Currency of the Long side.	Required; filled in conjunction with Ticker, Short Currency, Exchange, CC Code	
Exchange	Exchange used for swap.	Required; filled in conjunction with Ticker, Short Currency, Long Currency, CC Code	
Maturity	Maturity Date of CDS	Required	
CC Code	Combined Commodity Code.	Required; filled in conjunction with Ticker, Short Currency, Long Currency, Exchange	

Layout Reference for Futures and Options

Field	Description	Req / Opt	Sample Values
Firm	ID of the firm	Required	
Account	The account the trade belongs to	Required	
Exchange	Name of Exchange	Required; must match Product Name and Combined Commodity Code	
Ticker Symbol	Ticker symbol associated with the product	Optional	
Product Name	Name of Product.	Required; must match Exchange and Combined Commodity Code	Eligible Futures: Eurodollars 2Y Treasury 5Y Treasury 10Y Treasury Treasury Bonds
CC Code	Combined Commodity Code.	Required; must match Exchange and product	
Period Code	Value date for consummating the forward transaction (contract date).	required	
Put / Call	Whether the trade is a put or call.	Optional	
Strike	Strike price for options	Optional	
Underlying Period Code	Period Code for the Underlying product.	Optional	
Net Positions	Net Positions' determines the direction: negative equals a short position, positive equals a long position.	required	