Nasdaq Calypso

Pricing Sheet User Guide

Version 18

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Approved

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Document History

Revision	Published	Summary of Changes
1.0	February 2024	First revision for version 18.
2.0	June 2024	Second revision for version 18 - Added Commodity Forward to Spot Migration details.
3.0	October 2024	Third revision for version 18 - Updates related to 'DLY - Future Contract Delivery Period' for Commodity Swap, Commodity OTC Option trades and Commodity Swaption trades.
4.0	December 2024	Fourth revision for version 18 - Added Capturing Structured Product Trades.

This document guides you to use the Pricing Sheet.

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1. Pricing Sheet User Guide Overview

The Pricing Sheet window allows capturing and pricing trades using predefined strategies.

The Pricing Sheet window may contain multiple pricing sheets. Each pricing sheet may contain multiple trades based on the selected strategy. Pricing Sheets are created on-the-fly, however the configuration is stored by profile for a set of users or user groups.

[NOTE: The configuration of profiles is completely independent from the actual trade capture, and needs to be performed prior to capturing and pricing trades]

▶ Refer to Calypso Pricing Sheet Configuration documentation for details.

2. Out-of-the-box Strategies

The following table describes strategies that you can capture out-of-the-box using the Pricing Sheet window. All pre-configured strategy attribute and persistence can be modified using the Strategy Builder to suit business needs.

▶ Refer to Calypso documentation Building Custom Strategies for details.

Strategy behavior upon saving can also be controlled with default settings.

Commodities and Commodity Option Trades

Strategies	Description
Commodity Forward	A contract to buy or sell a fixed quantity and quality of a particular commodity for delivery at a fixed date in the future at a fixed price.
Commodity Option	A strip of Cash settled Asian or Average Rate Options. The payoff depends on an average of Reference Prices relative to a fixed Strike.
Commodity Swap	An exchange of payments between two parties.
Commodity Swaption	An option on an underlying commodity swap

Credit Derivatives

Strategies	Description
CDS SNAC (single name)	Swap protection over credit events against premium.
CDS Index	CDS on an index.
CDS Index Option	Option that makes a payoff in the event a default occurs on the index.
CDS Index Option Tranche	Option that makes a payoff in the event a default occurs on the index tranche.
Asset Swap	Swap bond coupons against interest rate payments.

Equities and Equity Option Trades

Strategies	Description
Equity	Trade equities.
Equity Forward	An OTC trade between two parties to buy or sell an asset at a specified price on a forward date. The underlying can be an equity, an equity index, or a basket.
Equity Swap	The Equity Swap strategy in the Pricing Sheet defines a performance leg with an equity or equity index and the funding leg with a floating rate index or a fixed rate.
Portfolio Swap	A Portfolio Swap helps standardize the handling of equity swaps. The underlying specifics of the agreement are defined by the Portfolio Swap Contract.

Strategies	Description
Equity Structured Options	An Option is an agreement between two parties to exchange one or more cash flows based on a Payout. The Payout formula typically refers to Underlyings. Equity Structured Options as a whole includes the individual strategies Equity Vanilla, Equity Barrier, Equity Digital, Equity Asian/Lookback, Equity Cliquet, Equity Chooser, Equity Compound, Equity FwdStart, Equity Variance Swap, and Equity Variance Option.
Correlation Swap	An OTC transaction between two parties to exchange the difference between a "Strike Correlation" and the "Realized Correlation".

Exchange Traded Fund (ETF)

Strategies	Description
ETF	ETF trade.

Fixed Income

Strategies	Description
Bond	G10 Government bonds. Inflation bonds (excluding BRL).
Treasury Lock	A Treasury Lock is a customized agreement that fixes the yield, clean price, or dirty price of a specific treasury bond on a specific date in the future.
Inflation Lock	An inflation lock is a customized agreement that fixes the yield or price on a specified inflation bond at a specific date in the future. Inflation locks are only supported for the Israeli CPI market.

FX

Strategies	Description
FX	FX spot and forwards. Non deliverable FX forwards.
Simple Transfer	Simple transfer.

FX Options

Strategies	Description
Accrual	Accruals are products for which the holder will receive a fraction of forwards (physical), or a fraction of currency amount (cash). Accruals also allow defining Fader options where the notional of the vanilla is determined on the expiry date rather than by a predefined value.
Asian	The payout is based on the average price of the underlying currency during the specified period.
Barrier	A Barrier Option is similar to Vanilla, but it has one or two barrier prices: • Single Barrier - Greater than or less than the strike. • Double Barrier - One price is greater than the strike; the other is less. There are two types of barriers: • Knock-In - The price of the underlying currency reaching the barrier activates this option. • Knock-Out - Starts as a Vanilla option, but terminates at any time during the option period if the price of the underlying currency reaches the barrier. Payout is an FX Spot deal. The option pays out if it is knocked-out.
Broker Butterfly Broker Strangle	"Broker" strategies are quoted with the same volatility on all legs, giving them different strikes for a given delta.
Butterfly	Simultaneous purchase or sale of an at-the-money Straddle against an opposite Strangle.
Compound	FX option on a vanilla FX option.
Condor	Simultaneous purchase or sale of one Strangle and the opposite of another Strangle.
Digital	The payout is pre-determined at the beginning of the contract, and is paid according to whether the spot rate touches (or does not touch) the trigger level. ***Digital*** • One Touch (OT) - If at any time before expiration spot trades at or beyond the trigger, then the payout is generated, else the option expires worthless. • Double One Touch (DOT) - If at any time on or before expiration spot trades at or below the low trigger or if at any time on or before expiration spot trades at or above the high trigger, then the payout is generated, else the option expires worthless. • No touch (NT) - If at any time on or before expiration spot trades at or beyond the trigger the option expires worthless else the payout is generated • Double No Touch (DNT) - If at any time on or before expiration spot trades at or

Strategies	Description
	below the low trigger or if at any time on or before expiration spot trades at or above the high trigger, then the option expires worthless, else the payout is generated • One Touch No Touch (OTNT) - If at any time on or before expiration spot trades at or through the knockout trigger the option expires worthless, else if at any time on or before expiration spot trades at or through the knock in trigger a Digital No Touch is generated. ***Partial Digital*** • One Touch (OT) - If at any time during the observation period spot trades at or beyond the trigger, then the payout is generated, else the option expires worthless. • Double One Touch (DOT) - If at any time during the observation period spot trades at or below the low trigger or if at any time during the observation period spot trades at or above the high trigger, then the payout is generated, else the option expires worthless. • No touch (NT) - If at any time during the observation period spot trades at or beyond the trigger the option expires worthless else the payout is generated. • Double No Touch (DNT) - If at any time during the observation period spot trades at or below the low trigger or if at any time during the observation period spot trades at or above the high trigger, then the option expires worthless, else the payout is generated
Digital (at Expiry)	Trigger is active only on the day of Expiry. Payout is generated based on the Spot on Expiry date and Trigger Type: • ABOVE – If spot trades above the trigger level • BELOW – If spot trades below the trigger level • IN – If the spot trades within the two trigger levels • OUT – If the spot trades outside the two trigger levels
Digital with Barrier	A digital with barrier is a digital at expiry (or European binary) with barrier. NOTE: Underlying Digital at expiry only supports ABOVE and BELOW as trigger type.
Forward Starting	The strike is determined at a later date. Like a standard option, a Forward Start option is paid for in the present; however the strike price is not fully determined until an intermediate date before expiration. This date is called the fixing date. The fixing process is done using the scheduled task FXOPTION_RATE_RESET.
Lookback	The payout is based on either a fixed or floating strike: • Fixed Strike — Call pays the maximum of the rate during the option life, minus the strike; put pays the strike minus the minimum rate during the option life.

Strategies	Description
	- Floating Strike — Call pays the rate at expiry minus the minimum of the rate during the option life; put pays the maximum rate during the option life, minus the rate at expiry.
Reversal	Simultaneous purchase of a call and sale of a put (or the opposite), both of which are out-of-the-money.
Spread	Simultaneous purchase of one call and sale of another with the same expiration and different strikes (the same strategy applies to puts).
Straddle	Simultaneous purchase or sale of both a call and a put, with the same expiration date and strike.
Strangle	Simultaneous purchase or sale of both a call and a put with the same expiration date but different strikes, both of which will be out-of-the-money.
Vanilla	A Vanilla option is a usual option with no special features. The option can be either European or American.
Volatility Forward	Forward contract in which the buyer agrees to pay an ATM straddle at a pre-specified date in the future at the current forward price, which is the price at which the market believes would prevail at maturity.
FX Averaging Forward	Forward contract for currencies. The amount is based on the difference between the strike price and the calculated average price of the underlying FX spot rate within an agreed time period and multiplied by an agreed amount. Reset dates are generated in regular intervals, or can be customized, and different weights can be assigned to the prices on each reset date.
FX Swap	FX swap.
FX Variance Swap	Agreement between counterparties to swap a fixed rate of FX variance and a realized rate of FX variance over a set period of time
FX Variance Option	Capture options on swaps that reference realized FX variance. Captured the same way as FX Variance Swaps with the addition of the Put/Call property.

IRD Trades

Strategies	Description
Cap	Borrower and lender agree that the borrower will pay no more than a specified maximum interest rate to the lender with respect to floating interest rate funds.
Collar	A simultaneous purchase of a cap with the sale of a floor, or a simultaneous purchase of a floor with the sale of a cap.
Corridor	Combination of two caps, one purchased by a borrower at a set strike and the other sold by the borrower at a higher strike to, in effect, offset part of the premium of the first cap.

Strategies	Description
Fixed Rate Floating Rate	Structured flow, can be fixed or floating.
Islamic MM	Islamic Money Market.
FRA	Interest rate Forward Rate Agreements.
SpreadCap	A Cap having a floating rate index which is the difference (spread) between two floating indices.
SpreadCollar	A Collar having a floating rate index which is the difference (spread) between two floating indices.
Swap	Vanilla Interest Rate swap and Inflation swap. Non-deliverable swaps - An agreement between two parties to exchange a stream of interest payments and the notional principal in one major currency for another non-deliverable currency. Cancelable swaps - Contains an underlying interest rate swap with the option to cancel it on one or more cancellation dates. Quanto swaps - The Quanto swap is an interest rate swap where the currency of the notional on the floating leg differs from the currency of the reference index. Brazilian swaps - Swap trade with Brazilian conventions. Brazilian Inflation swaps - Inflation swaps are based on inflation indices with Brazilian conventions. Capped swaps. Islamic swaps. Swap Butterfly. Swap Steepener. Exotic Swap. Fixed Payment Swap - Provides a property for entering a fixed amount on the fixed leg to be paid at the end of the period, rather than using a rate and notional to calculate payments. Performance Swap - A set of future cash flows are exchanged between two counterparties. The primary leg can be a single asset only, with a bond or market index underlying. The secondary leg is currently limited to swaps.
Swaption	Vanilla interest rate swaption.
Listed FRA	A Forward Rate Agreement with a standardized contract that allows it to be listed on and cleared by an exchange.

Listed Derivatives

Strategies	Description
Future Bond	Listed futures based on Future contracts.
FRC	Brazilian Structured Flows.
Future FX	Simultaneous exchange of a spot for futures at an agreed upon price.
Future MM	Future Money Market trade.
Future Equity	Listed futures based on Future contracts.
Future Equity Index	Listed futures based on Future contracts.
Future Commodity	Listed futures based on Future contracts.
Future Swap	A listed future that uses a swap for its underlying.
Future Option Bond	Option on a Future Bond.
Future Option FX	Listed futures based on Future contracts.
Future Option MM	Option on a Future Money Market.
Future Option Equity	Option on Future Equity.
Future Option Equity Index	Option on an Future Equity Index.
Future Option Commodity	Option on a Future Commodity.
ETO Equity	Option on cash Equity
ETO Equity Index	Option on a cash Equity Index.
ETO FX	Option on FX.
Listed FRA	A Forward Rate Agreement with a standardized contract that allows it to be listed on and cleared by an exchange.
Future Forward Start FX	Involves the trading of the first available maturity date of US Dollar Contract (basis month) and adding or subtracting a number of points from the FX spot rate, represented by the Central Bank of Brazil's PTAX rate.

3. Using the Pricing Sheet

The Pricing Sheet window allows capturing and pricing trades using predefined strategies based on your profile.

The Pricing Sheet window may contain multiple pricing sheets by currency pair. Each pricing sheet may contain multiple trades based on the selected strategy. Pricing Sheets are created on-the-fly, however the configuration is stored by the user.

[NOTE: The configuration of profiles and strategies is completely independent from the actual trade capture, and needs to be performed prior to capturing and pricing trade]

▶ Please refer to Calypso Configuring Profiles documentation for details.

Contents

- Tour of the Pricing Sheet
- Capturing Trades
- Bid/Ask Volatility Pricing
- Using Workspaces
- Applying Trade Lifecycle Actions
- Running on-the-fly Risk Analyses
- Using the Payoff Chart

3.1 Tour of the Pricing Sheet

When you first open the pricing sheet, both the Tools Panel and Deal Entry Panel are empty of content. Before adding trades, certain user preferences need to be configured.

To get started, point to **Configuration > Profile Configuration** to configure profiles and strategies.

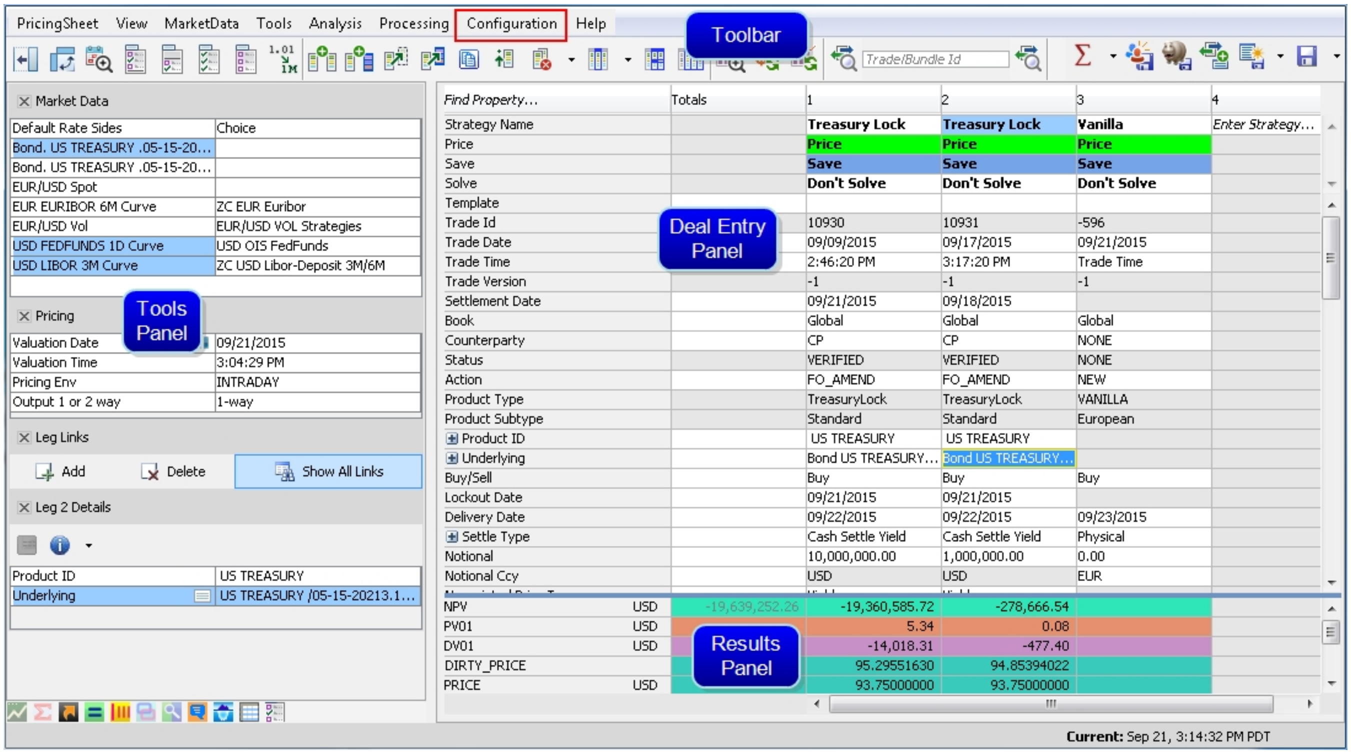
▶ Please refer to Calypso Configuring Profiles documentation for details.

Then choose **Configuration > User Preferences** to set general default values, select which pricer measures you wish to compute, and select which trade events columns you want to display.

▶ Please refer to Calypso Setting User Preferences documentation for details.

Once the Pricing Sheet is configured, you are ready to select a strategy to capture and price trades.

You can check which profile you are currently using by pointing to **Configuration > Active Profile** - Or you can select a different profile if one is available.


PricingSheet
View
MarketData
Tools
Analysis
Processing
Configuration
Help
Toolbar
Trade/Bundle Id
Tools Panel
Deal Entry Panel
Results Panel
Market Data
Pricing
Leg Links
Add
Delete
Show All Links
Leg 2 Details
Find Property...

Market Data	
Default Rate Sides	Choice
Bond. US TREASURY .05-15-20...	
Bond. US TREASURY .05-15-20...	
EUR/USD Spot	
EUR EURIBOR 6M Curve	ZC EUR Euribor
EUR/USD Vol	EUR/USD VOL Strategies
USD FEDFUNDS 1D Curve	USD OIS FedFunds
USD LIBOR 3M Curve	ZC USD Libor-Deposit 3M/6M

Pricing	
Valuation Date	09/21/2015
Valuation Time	3:04:29 PM
Pricing Env	INTRADAY
Output 1 or 2 way	1-way

Leg 2 Details	
Product ID	US TREASURY
Underlying	US TREASURY /05-15-20213.1...

Find Property...	Totals	1	2	3	4
Strategy Name		Treasury Lock	Treasury Lock	Vanilla	Enter Strategy...
Price		Price	Price	Price	
Save		Save	Save	Save	
Solve		Don't Solve	Don't Solve	Don't Solve	
Template					
Trade Id		10930	10931	-596	
Trade Date		09/09/2015	09/17/2015	09/21/2015	
Trade Time		2:46:20 PM	3:17:20 PM	Trade Time	
Trade Version		-1	-1	-1	
Settlement Date		09/21/2015	09/18/2015		
Book		Global	Global	Global	
Counterparty		CP	CP	NONE	
Status		VERIFIED	VERIFIED	NONE	
Action		FO_AMEND	FO_AMEND	NEW	
Product Type		TreasuryLock	TreasuryLock	VANILLA	
Product Subtype		Standard	Standard	European	
⊞ Product ID		US TREASURY	US TREASURY		
⊞ Underlying		Bond US TREASURY...	Bond US TREASURY...		
Buy/Sell		Buy	Buy	Buy	
Lockout Date		09/21/2015	09/21/2015		
Delivery Date		09/22/2015	09/22/2015	09/23/2015	
⊞ Settle Type		Cash Settle Yield	Cash Settle Yield	Physical	
Notional		10,000,000.00	1,000,000.00	0.00	
Notional Ccy		USD	USD	EUR	

		Totals	1	2	3
NPV	USD	-19,639,252.26	-19,360,585.72	-278,666.54	
PV01	USD		5.34	0.08	
DV01	USD		-14,018.31	-477.40	
DIRTY_PRICE			95.29551630	94.85394022	
PRICE	USD		93.75000000	93.75000000	

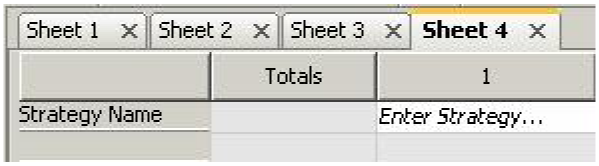
Current: Sep 21, 3:14:32 PM PDT

Pricing Sheet (Tour)

Adding Pricing Sheets

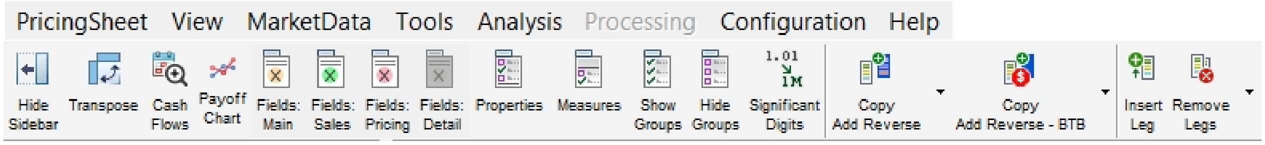
Aside from the ability to have several legs on one pricing sheet, you can also have multiple pricing sheets open in the Pricing Sheet window.

- Choose **Pricing Sheet > New Sheet** to add another pricing sheet panel. Click X to close the sheet.


Sheet 1
Sheet 2
Sheet 3
Sheet 4
Totals
1
Strategy Name
Enter Strategy...

3.1.1 The Toolbar

A number of icons represent functions available directly from the Toolbar, most of which are also available in the menu items above. Right-click on the Toolbar to toggle on/off viewing of tool names.


PricingSheet
View
MarketData
Tools
Analysis
Processing
Configuration
Help
Hide Sidebar
Transpose
Cash Flows
Payoff Chart
Fields: Main
Fields: Sales
Fields: Pricing
Fields: Detail
Properties
Measures
Show Groups
Hide Groups
Significant Digits
Copy Add Reverse
Copy Add Reverse - BTB
Insert Leg
Remove Legs

To select which icons are displayed on the Toolbar, choose the Toolbar tab in User Preferences.

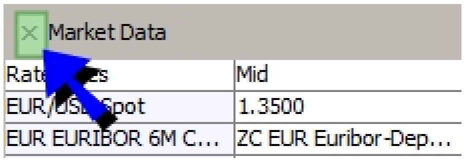
3.1.2 The Tools Panel

The Tools Panel fills the left side of the Pricing Sheet window and provides a number of tools for working with trades. Certain default value settings can be found on the Defaults tab in the User Preferences window (**Configuration > User Preferences**).

» To open one of the tools, click the associated icon at the bottom of the panel.

The tool's pane opens in the Tool Panel.

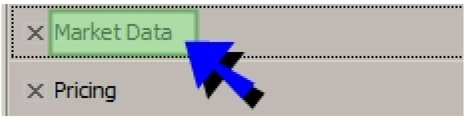
» To close the tool, click the icon again or use the X in the top left corner of the tool.



Rat es	Mid
EUR/USD Spot	1.3500
EUR EURIBOR 6M C...	ZC EUR Euribor-Dep...

Close window

» To simply hide the tool's content without closing the tool, click the name. Data fields are hidden while the tool's header remains on the panel. Click the tool name again to show content.



Hide tool content

The following tools are available on the Tools Panel.

Market Data

The Market Data tool shows market information used for pricing strategy legs in the Deal Entry Panel, such as spot rates, curves, and volatility surfaces.

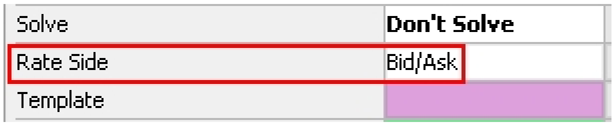
- Click an item in the Market Data pane to open its definition window. You can also choose **Market Data > Display in Market Data Manager** to view all market data - click Help in the Market Data Manager's menu bar for more information. If you modify any market data in the Market Data Manager and wish to revert those changes, you can choose **Market Data > Revert Pricing Env** from the Pricing Sheet menu bar.

TIP: To easily revert a market data value that was manually overridden in the Market Data tool, you can highlight the field and press the Delete key. The original value is restored.

- The "Default Rate Sides" setting at the top of the tool pane controls whether a leg of a structure should be priced at mid or spread. This setting defaults to "Choice", however, the recommended setting is Bid/Ask. You can change the default setting on the Defaults tab in User Preferences. The following settings are available, with some variation among different strategies.

- Choice - No spread is applied.
- Closing Price - Pricing sheet uses the close sides of the quote set and the volatility surface to price deals.
- Bid/Ask - Pricing sheet uses the bid and ask sides of the quote set and the volatility surface to price deals.
- Bid/Ask Vol - Pricing sheet uses the bid and ask sides of the volatility surface and only the mid value of the quote set to price deals.
- Bid/Ask Spot - Pricing sheet uses the bid and ask sides of the quote set and only the mid value of the volatility surface to price deals.
- Bid/Ask Spot/Fwd - Pricing sheet uses the bid and ask sides of the quote set and will set spot, pips and other fields with bid/ask spread. The final price will be given as bid/ask spread calculated from the same choice Vol.

This setting can also be set at the leg level. Use the Strategy Builder to add it to a custom strategy or add the "Rate Side" property to an out-of-the-box strategy in the Profile Configuration window.



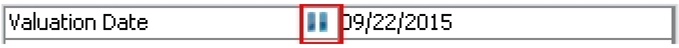
Solve	**Don't Solve**
Rate Side	Bid/Ask
Template	

If a two-way quote is used, the side of the quote used to generate the price will be boldfaced in the display.

Pricing Σ

The Pricing tool displays the valuation date, valuation time, the current pricing environment, and the pricing output.

- The Valuation Date defaults to the current day. Click the field to show the down arrow, and then click the arrow to display the calendar used to change the date. Using the pause-and-play icon beside Valuation Date, you can pause the Valuation Date and Time to keep market data at a certain date and time for pricing, and then restart date and time.



Valuation Date 09/22/2015

- Click the Pricing Env field to change the pricing environment, and click the "Output 1 or 2 way" field to choose between 1-way and 2-way output for Bid/Ask pricing.

  Associated pricing functions.

  - Click Σ in the Toolbar to price trades in the pricing sheet.
  - Click to refresh spot rates, and to refresh market data.
  - Choose **Market Data > Check Pricing Env** to check that all required market data are available in the pricing environment, and **Market Data > Check Past Resets** to check that all required fixings are available.

ODA Shortcuts

The ODA Shortcuts icon provides quick access to the On Demand Analysis window.

- With the ODA Shortcuts tool open in the Tools Panel, click to open the On Demand Analysis window.

Solver

The Solver provides users with an analytics solver tool to solve for certain target values for a selected trade. For example, for an FX Option, you can solve for the strike value for a targeted customer premium.

Strip Generator

The Strip Generator allows you to generate a "strip", or new trade (or trades), based on the parameters of a reference single- or multi-leg trade.

- The reference trade is named the "Driver", and all trades generated from it are "strips".

Leg Links

Leg Links allows you to link properties between individual legs and shows the relationships between them.

- Click Add to open settings and configure links between the leg used for driving properties and the leg that is driven by those properties.

Leg Details

Leg Details provides information on a highlighted strategy leg. The information fields vary from strategy to strategy.

- Click ⓘ to display a list of menu options that support the trade. When available, click to open the strategy's supplemental panel on the right-hand side of the window. The content of this panel depends on the selected strategy.
- Click beside Underlying to open an asset's definition window
- You can also right-click anywhere in the leg's properties and choose ⓘ Trade Details to show trade details menu options (See *Right-Click Trade Menu* below for other menu items). The following options are available for Trade Details:
  - Advanced Comments
  - Show Comments
  - Add Generic Comment
  - Trade Attributes (Trade Keywords)
  - Trade Fees
  - Trade Audit
  - Counterparty Info
  - BO Browser

  - BO Bundle Browser

Comments

The Comment icon allows for adding and attaching comments to a trade leg.

- A user can also view a document attached to this comment. Click to open the Add Generic Comment window. From there, you can run a report, view comments, and open trades back to the Pricing Sheet based on attached comments.

Underlying Details

Underlying Details provides details on assets underlying the trade.

- Click beside Product ID to open an asset's definition window.

Rate Delta

Rate Delta displays Rate Delta sensitivity.

- Select the "Run Analysis" checkbox for sensitivity analysis. Click "X Cancel" to cancel analysis.

Property Shortcuts

Property Shortcuts provide the ability to quickly show or hide groups of properties and pricer measures in strategy legs.

- Click to show the Properties display group checkbox list.
- Click to show the Measures display group checkbox list.

▶ Refer to Calypso Configuring Profiles documentation for Properties Display Group details.

▶ Refer to Calypso Setting User Preferences documentation for Pricer Measure Display Group details.

3.1.3 Keyboard Shortcuts

The following keyboard shortcuts can be used:

F Keys

- F3: Advanced Save
- F5: Save
- F6 (or Ctrl + T): New Sheet
- F7: Add to Blotter Workspace

- F8: Save/Update Workspace
- F9: Solve
- F10: Reserved for Pre-Deal Limit Check
- F11: Strip
- F12: Price

Ctrl + Keys

- Ctrl + W: Close current sheet
- Ctrl + K: Clear current sheet
- Ctrl + F8: Open workspace
- Ctrl + L: Remove current strategy
- Ctrl + N: Advance cursor to Enter Strategy field in blank leg.
- Ctrl + Tab/Shift: Move to previous/next sheet/tab
- Ctrl + Space bar: Select current strategy
- Ctrl + Home key: Go to cell "A1" and scroll back
- Ctrl + Y: Exit Pricing Sheet
- Ctrl + E: Toggle Events panel (See *Viewing Trade Events* below)
- Ctrl + O: Open Trade in Excel (See Exporting Trade Strategies to Excel below)
- Ctrl + T: New Sheet

Alt + Keys

- Alt + Down/up Arrow: Open the drop down of the selected cell
- Alt + F8: Save As New Workspace
- Alt + T: Trade Details
- Alt + K: Trade Attributes (Keywords)
- Alt + F: Trade Fees Details
- Alt + A: Audit
- Alt + S: Counterparty Search
- Alt + I: Counterparty Info
- Alt + B: BO Browser
- Alt + C: Generic Comment Report
- Alt + R: Trade Tree

- Alt + V: Add Generic Comment
- Alt + X: BO Bundle Browser

Others

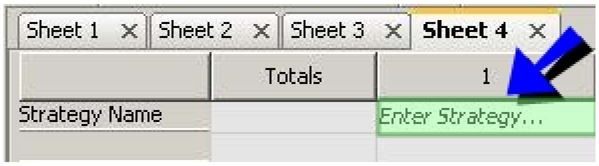
- Home button: Go to top of current column
- End: Go to bottom of current column

3.2 Capturing Trades

Open or select a pricing sheet.

In the pricing sheet panel, select a strategy from the "Strategy Name" property - You can select out-of-the-box strategies, or custom strategies.

[NOTE: The list of strategies available for selection depends on your profile - See Configuration > Profile Configuration for details]



Pricing sheet (select strategy)

A strategy can contain multiple trades that will appear as multiple columns in the pricing sheet panel. You can click to display the strategies as rows rather than columns.

Once you select a strategy, all properties defined for that strategy appear, and are ready for capture.

[NOTE: If the properties do not appear, they may belong to a display group that is not selected for display - Display groups are defined as part of your profile - You can click to select which groups you want to display. Display groups are defined using Configuration > Profile Configuration]

You can also capture additional information on trades like cash settlement info, rate schedules, amortization schedules, exercise schedules, etc. Right-click a trade and choose "Supplemental" to display supplemental details.

▶ Click here for a complete description of all properties and supplemental details.

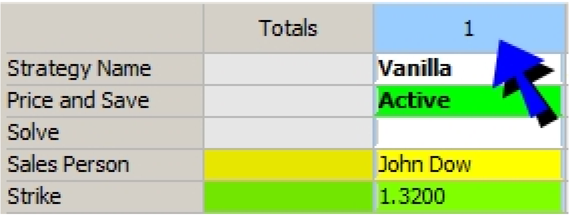
Once the properties are set, you can perform any of the following functions:

- Selecting Trades
- Adding and Removing Trades
- Pricing Trades

- Solving
- Saving Trades
- Viewing Trade Details
- Viewing Trade Events
- Loading Saved Trades
- Applying Trade Lifecycle Actions
- Running on-the-fly Risk Analyses

3.2.1 Selecting Trades

To select a trade in a pricing sheet, you can click the trade heading. A light blue frame appears around the trade to indicate that it is selected.



	Totals	1
Strategy Name		**Vanilla**
Price and Save		**Active**
Solve		
Sales Person		John Dow
Strike		1.3200

Pricing sheet (select trade)

You can also click ▥ to select trades in bulk - Multiple options are available.

Cell Selection

You can also select the trade where your cell selection is - Click ▦ to select the trade where the cell selection is.

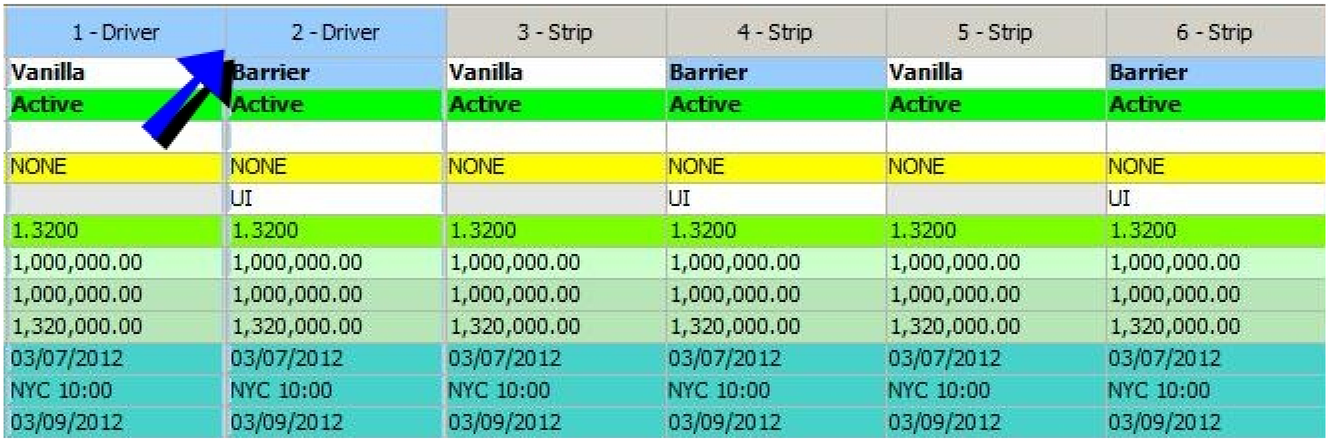
Pattern Selection

When you have a strip of options or a strategy with multiple legs, you may want to select all the legs that have the same pattern.

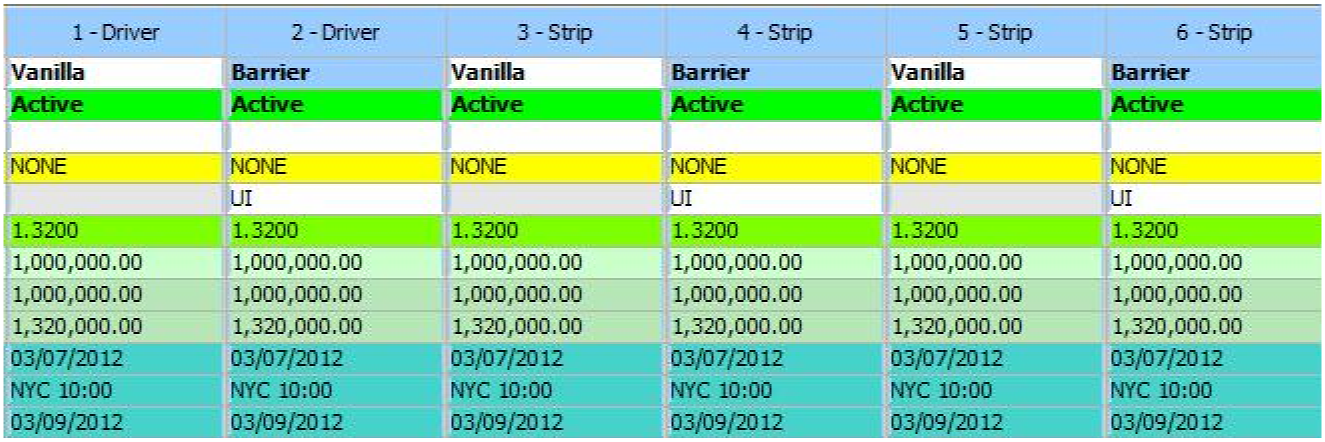
First, you select the columns that determine the pattern.

Then you click ▥ to select any other column that fits the pattern.

Here is an example - Select columns 1 and 2 to determine a pattern. When clicking ▥ it also selects the other columns because they fit the same pattern.



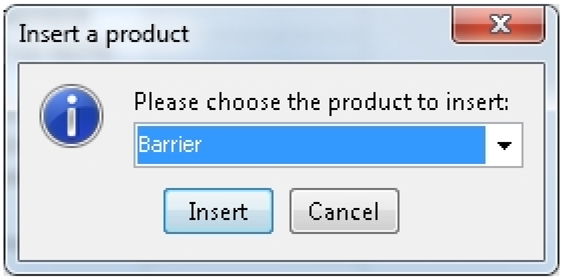
1 - Driver	2 - Driver	3 - Strip	4 - Strip	5 - Strip	6 - Strip
Vanilla	**Barrier**	**Vanilla**	**Barrier**	**Vanilla**	**Barrier**
Active	**Active**	**Active**	**Active**	**Active**	**Active**
NONE	NONE	NONE	NONE	NONE	NONE
	UI		UI		UI
1.3200	1.3200	1.3200	1.3200	1.3200	1.3200
1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00
03/07/2012	03/07/2012	03/07/2012	03/07/2012	03/07/2012	03/07/2012
NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00
03/09/2012	03/09/2012	03/09/2012	03/09/2012	03/09/2012	03/09/2012



1 - Driver	2 - Driver	3 - Strip	4 - Strip	5 - Strip	6 - Strip
Vanilla	**Barrier**	**Vanilla**	**Barrier**	**Vanilla**	**Barrier**
Active	**Active**	**Active**	**Active**	**Active**	**Active**
NONE	NONE	NONE	NONE	NONE	NONE
	UI		UI		UI
1.3200	1.3200	1.3200	1.3200	1.3200	1.3200
1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00	1,320,000.00
03/07/2012	03/07/2012	03/07/2012	03/07/2012	03/07/2012	03/07/2012
NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00
03/09/2012	03/09/2012	03/09/2012	03/09/2012	03/09/2012	03/09/2012

3.2.2 Adding and Removing Trades

When you select a strategy, it comes with a default number of trades (also referred to as legs). You can add and remove trades as needed. The following functions are available.

Functions	Description
Insert Leg	Clicking opens the Insert a product window, where you are prompted to select a strategy.  Insert a product Please choose the product to insert: Barrier Using the down arrow, select a strategy and click **Insert**. A new column is added for the strategy.

Functions	Description
	Alternatively, you can right-click any active trade heading and select **Insert Strategy**. Remove Strategy and Reload Strategy options are also available. The Insert Leg command is also available under View in the menu bar.
Copy Add	• Copy Add Reverse - Copies the trade, adds it, reverses buy to sell and vise versa. • Copy Add - Copies and adds the trade. The reconvention that exists in the original trade will not be copied to the new trade. • Copy Replace - Copies over a saved trade in the same column and removes the trade ID and resets the Action property to NEW. Consequently, it is treated as a new trade. • Copy Reverse - Copies over the trade in the same manner as above, and reverses buy to sell and vice versa. • Copy To New Sheet - Copies the trade to a new pricing sheet. • Copy Reverse To New Sheet - Copies the trade to a new sheet, and reverses buy to sell and vise versa. • Copy Selected To Clipboard - Copies the selected parts of a trade to the clipboard. • Copy Add Reverse - BTB - Copies the trade, adds it, reverses buy to sell and vise versa, without resetting the premium. • Copy Add - BTB- Copies and adds the trade without resetting the premium. • Copy Replace - BTB - Copies over a saved trade in the same column and removes the trade ID and resets the Action property to NEW, without resetting the premium. Consequently, it is treated as a new trade. • Copy Reverse - BTB - Copies over the trade in the same manner as above, and reverses buy to sell and vice versa, without resetting the premium. • Copy To New Sheet - BTB - Copies the trade to a new pricing sheet without resetting the premium. • Copy Reverse To New Sheet - BTB - Copies the trade to a new sheet, and reverses buy to sell and vise versa, without resetting the premium. These commands can also be accessed from the menu bar by selecting **Tools > Copy**. **TIP:** To prevent certain trade keywords from being copied to a new leg, list those

Functions	Description
	keywords under the domain name PricingSheetKeywordsToClearUponCopy.
Remove Legs	Select one or multiple trades, and click . You can choose to: • Remove the selected legs. • Remove all legs in the Pricing Sheet. • Removed saved trades. The Remove Legs command is also available under View in the menu bar.

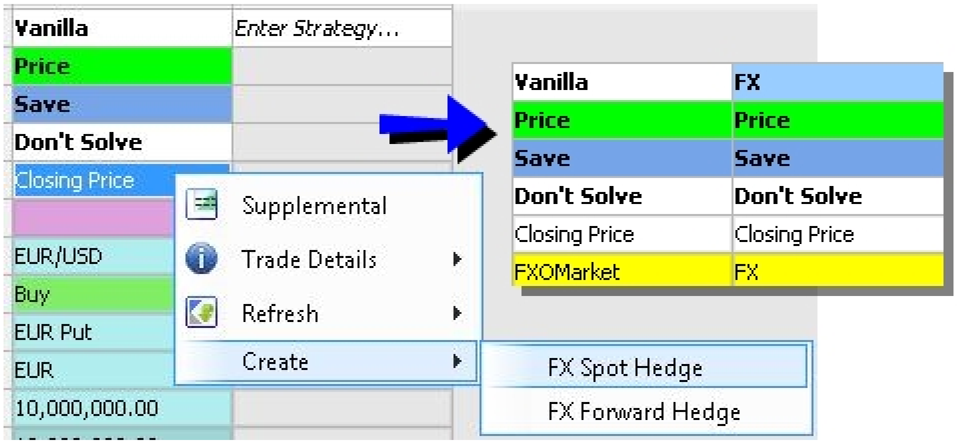
3.2.3 One-Click Shortcut Actions for Adding and Opening Trades

The features below provide shortcuts for various trade related actions in the Pricing Sheet.

Creating FX Spot/Forward Hedge Trades

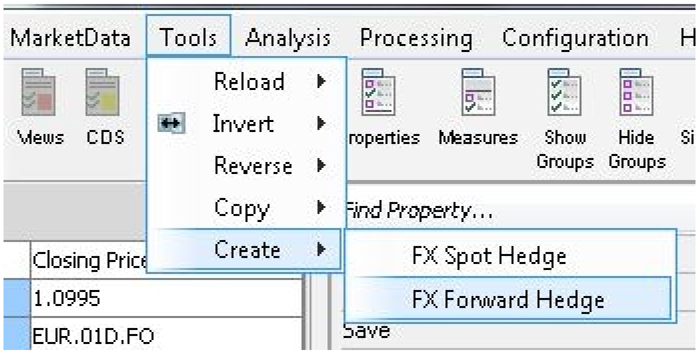
You can create one-click FX Spot Hedge and FX Forward Hedge trades on an individual option or on multiple options at once. The options must be priced before creating a hedge.

» To create an FX Spot Hedge or FX Forward hedge on an individual option, you can right-click the trade leg, point to Create, and select the preferred type of hedge from the menu.


Vanilla
Enter Strategy...
Price
Save
Don't Solve
Closing Price
EUR/USD
Buy
EUR Put
EUR
10,000,000.00
Supplemental
Trade Details
Refresh
Create
FX Spot Hedge
FX Forward Hedge
Vanilla
FX
Price
Price
Save
Save
Don't Solve
Don't Solve
Closing Price
Closing Price
FXOMarket
FX

A new leg is added on the Pricing Sheet for the hedge.

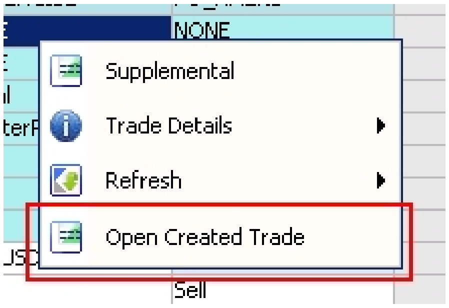
» To create multiple hedges on multiple trades, highlight all relevant trades in the Pricing Sheet, select the Tools menu, point to Create, and select the preferred type of hedge from the menu.


MarketData
Tools
Analysis
Processing
Configuration
Views
CDS
Reload
Invert
Reverse
Copy
Create
roperties
Measures
Show Groups
Hide Groups
Find Property...
FX Spot Hedge
FX Forward Hedge
Closing Price
1.0995
EUR.01D.FO
Save

▶ For details on making FX Hedge user default settings, see "Defaults Panel" in the *Setting User Preferences* documentation.

Feature for Opening FX Option Parent/Child Trades

For quick access to related trades associated with a barrier trade knock-in or an exercised spot trade, You can right-click a trade and directly open the associated trade in the Pricing Sheet.


NONE
Supplemental
Trade Details
Refresh
Open Created Trade
Sell

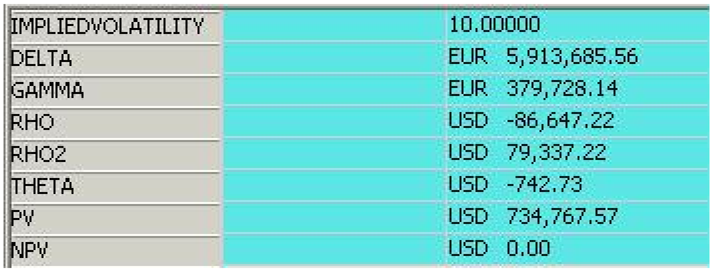
This feature is made available in the following two scenarios.

- For a barrier option that’s been knocked in, or a vanilla option that’s been exercised, you can right-click the trade to open its "child" trade.
- For a vanilla option created when a barrier was knocked in, or a spot trade that was created when an option was exercised, you can right-click the trade to open its "parent" trade.

3.2.4 Pricing Trades

» Click Σ to price the trades. Trades with the "Price " property set to "Don't Price" are not priced.

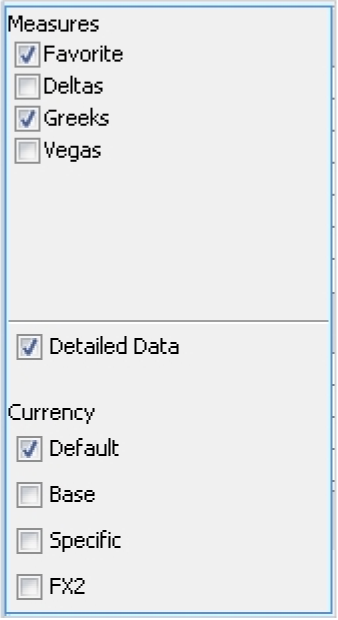
The pricer measures selected under **Configuration > User Preferences** are computed and displayed in the Results Panel.



IMPLIEDVOLATILITY		10.00000
DELTA		EUR 5,913,685.56
GAMMA		EUR 379,728.14
RHO		USD -86,647.22
RHO2		USD 79,337.22
THETA		USD -742.73
PV		USD 734,767.57
NPV		USD 0.00

Pricing sheet (pricing results)

» You can select "Display Pricer Measures" in the Pricing Sheet's View menu, or click in the Toolbar to choose the following options:



Measures
☑ Favorite
☐ Deltas
☑ Greeks
☐ Vegas

☑ Detailed Data

Currency
☑ Default
☐ Base
☐ Specific
☐ FX2

Select the checkboxes that apply to the measures you want added.

Measures

By default, only favorite pricer measures are displayed.

- Check other display groups as needed.
- Check "Detailed Data" to display pricing results per leg.

Currency

By default, the pricer measures are displayed in the currency selected under **Configuration > User Preferences**.

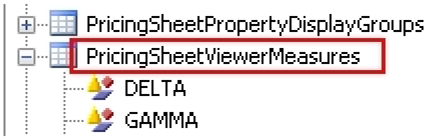
- Check "Default" to display the pricer measures in the risky currency set in the currency pair definition.

- Check "Base" to display the pricer measures in the base currency of the pricing environment.
- Check "FX2" to display the pricer measures in the other currency of the currency pair.

The following option is also available in the Pricing window:

Option	Description
Output 1 or 2 Way	By default, the pricer measures are computed using mid quotes. You can select: • "1-way" to display pricer measures for mid quotes and close quotes. • "2-way" to display pricer measures for bid and ask rates, provided you select the Rate Sides "Bid/Ask," "Bid/Ask-Vol," ""Bid/Ask-Spot," or "Bid/Ask-Spot/Fwd" in the Market Data window.

» Depending on the pricer model and strategy, double-clicking certain pricer measures will display more pricing details on that measure. To enable this feature for a supported pricer measure, you can add the pricer measure to the domain name PricingSheetViewerMeasures.



PricingSheetPropertyDisplayGroups
PricingSheetViewerMeasures
DELTA
GAMMA

▶ For details on adding domain values, see Defining Domain Data in Calypso *Getting Started* documentation.

Calculating Initial Margin

Optional module Margin Engine.

If you have enabled IM calculation in the User Preferences, you can choose Σ **> Price & Calc IM** to calculate initial margin requirements.

▶ Please refer to Calypso Margin Engine documentation for complete setup and usage details.

Calculating XVA and MCPFE

Optional module Monte Carlo XVA.

If you have enabled XVA calculations in the User Preferences, you can choose Σ **> Price & Calc XVA** or Σ **> Calc XVA** to calculate XVA and MC PFE.

After calculating XVA, double-clicking the XVA measures reveals a panel that displays supplementary results, including a profile chart and graph. (This panel contains identical output as compared to the CCR Viewer panel.)

▶ Please refer to Calypso Monte Carlo XVA documentation for complete XVA setup and usage details.

▶ Please refer to Calypso Monte Carlo PFE documentation for complete MC PFE setup and usage details.

Calculating SA-CCR

Optional module Regulatory Risk.

If you have enabled SA-CCR calculations in the User Preferences, you can choose Σ**> Price & Calc SA-CCR** to instantiate the SA-CCR result integration.

▶ Please refer to the Regulatory Risk SA-CCR documentation for complete SA-CCR setup and usage details.

3.2.5 Saving Trades and Hypothetical Trades

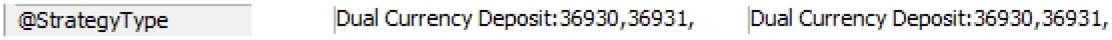
You can only save trades where the "Price and Save" property is set to "Active".

Click to save trades, or to save hypothetical trades.

If you click the down arrow next to the Save button, you can select Advanced Save - See details below.

You can click the button to add the trade to the Trade Blotter. You will be prompted to select a blotter workspace.

The trade keyword StrategyType contains the name of the strategy and the IDs of the trades in the strategy, as in the example shown below:



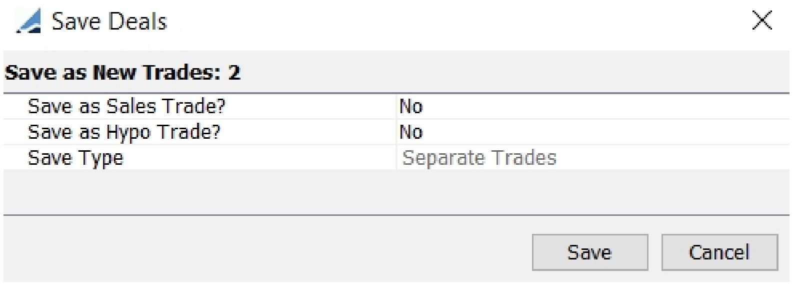
@StrategyType	Dual Currency Deposit:36930,36931,	Dual Currency Deposit:36930,36931,

Upon saving out-of-the-box strategies, separate trades are saved by default, and no bundle is created.

Upon saving custom strategies, the default behavior comes from the Strategy Builder.

[NOTE: To change the default values for both out-of-the-box strategies and custom strategies, you need to use the Advanced Save, provided the fields are configured in the Strategy Builder as available and user editable for that strategy - Please refer to the Calypso Pricing Sheet Setup Guide for details]

Advanced Save - New Trades

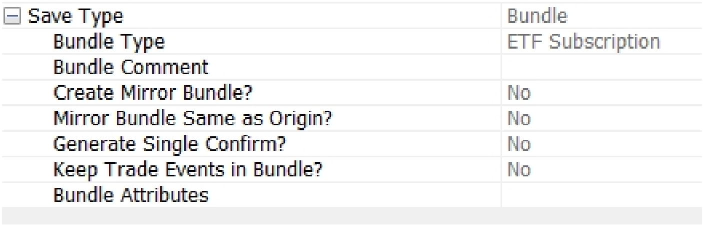


Save as New Trades: 2

Save as Sales Trade?	No
Save as Hypo Trade?	No
Save Type	Separate Trades

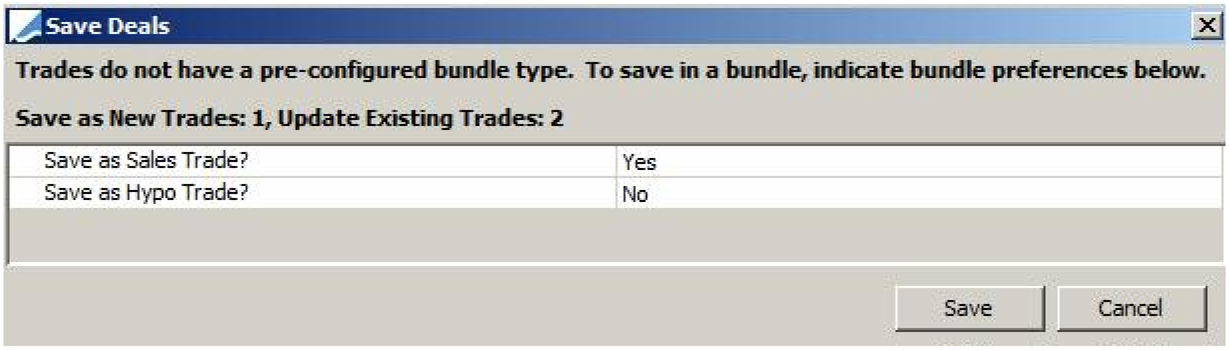
Advanced Save - New trades

» Review the fields described below and click **Save**.

Fields	Description
Save as Sales Trade?	Defaults to the "Sales Mode" parameter set in the Defaults panel under **Configuration > User Preferences**. If Yes, the trade keyword "ScratchPadTrade" is set to true - This keyword can be used in the workflow configuration to set a specific workflow status. Otherwise, the system assigns the trade status based on the default workflow.
Save as Hypo Trade?	If Yes, the trade keyword "HypotheticalTrade" is set to true - This keyword can be used in the workflow configuration to set a specific workflow status. Otherwise, the system assigns the trade status based on the default workflow.
Save Trades in a Bundle?	The Save Type is set by default to "Separate Trades" for out-of-the-box strategies, or comes from the Strategy Builder for custom strategies. It can be modified if you have configured persistence settings in the Strategy Builder for that strategy, and if it is available and user editable. • "Separate Trades" saves each trade separately and does not add the trades to a bundle. • "Bundle" adds the trades to a bundle based on the following additional parameters. The bundle name will be created by the system as "<bundle type>-<bundle number>" - The bundle number is given by the system. ***Bundle Parameters*** Save Type Bundle Bundle Type ETF Subscription Bundle Comment Create Mirror Bundle? No Mirror Bundle Same as Origin? No Generate Single Confirm? No Keep Trade Events in Bundle? No Bundle Attributes • Bundle Comment - Enter a comment as needed. • Create Mirror Bundle? - If Yes, a mirror trade bundle of specified type will be automatically created, and the mirror trades will be added to that bundle. The name of the mirror bundle will be created by the system as "Mirror Bundle <bundle name>". This only applies if all the trades/legs are internal trades/legs. • Mirror Bundle Same as Origin - Only applies if "Create Mirror Bundle" is Yes. Select Yes to add the mirror trades to the same bundle as the original trades instead of the mirror trade bundle. You also need to add the value “MirrorBundle to the domain "TradeBundleAttributes".

Fields	Description
	- **Generate Single Confirm?** - If Yes, a single confirmation is generated for all the trades in the bundle. ▶ Refer to Calypso Trade Bundle documentation for complete setup details. - **Keep Trade Events in Bundle?** - If Yes, the trades issued from trade lifecycle actions will be added to the same bundle as the original trades (like an option trade and a physical exercise). - **Bundle Attributes** - If bundle attributes are defined for the selected bundle type, you can enter their value. **[NOTE: If the trade cache contains more than 20000 trades, we do not scan the cache when saving a trade bundle, but perform a SQL request to get the identifiers of the trades belonging to the trade bundle. This limit can be overridden using the domain "TradeCacheLimitSizeForBundleSearch"]**

Advanced Save - Existing Trades



Trades do not have a pre-configured bundle type. To save in a bundle, indicate bundle preferences below.

Save as New Trades: 1, Update Existing Trades: 2

Save as Sales Trade?	Yes
Save as Hypo Trade?	No

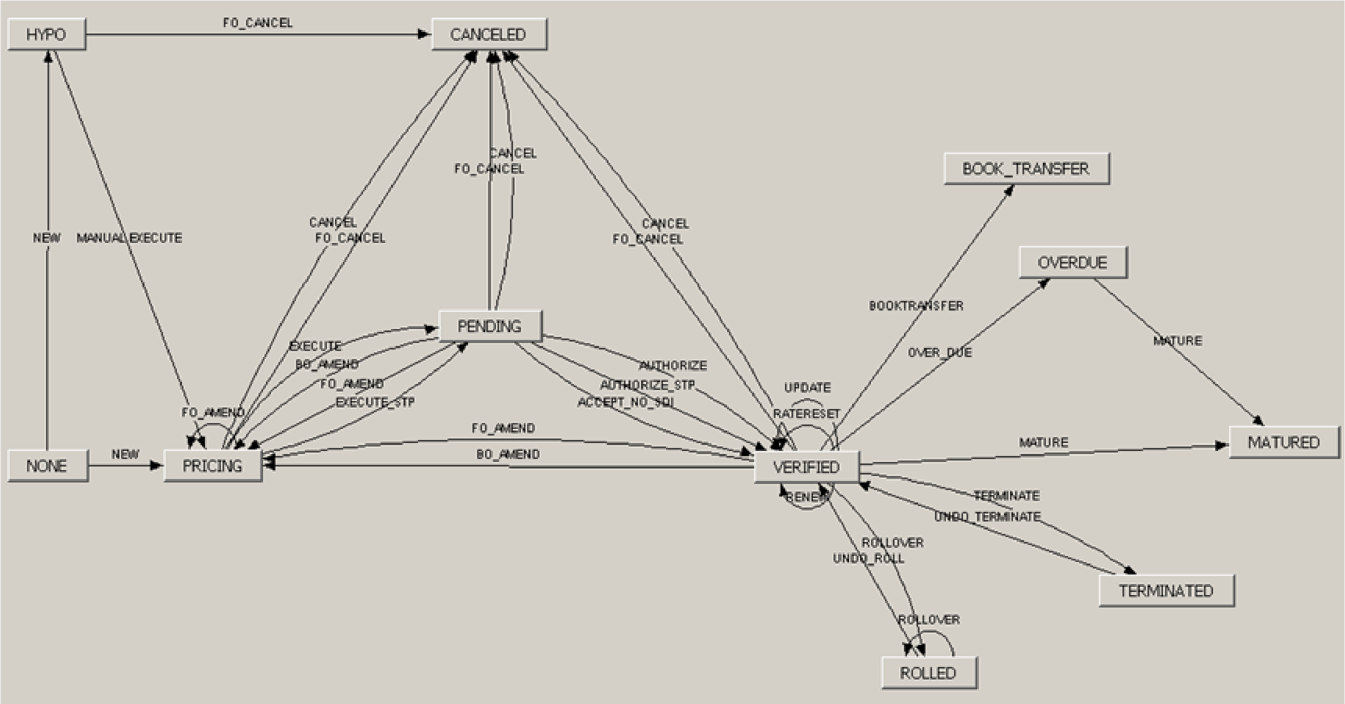
Advanced Save - Existing trades

» Review the fields below and click **Save**.

For custom strategies, the fields default to the settings of the Strategy Persistence settings.

Fields	Description
Save as Sales Trade?	Defaults to the "Sales Mode" parameter set in the Defaults panel under **Configuration > User Preferences**. If Yes, the trade keyword "ScratchPadTrade" is set to true - This keyword can be used in the workflow configuration to set a specific workflow status. Otherwise, the system assigns the trade status based on the default workflow.
Save as Hypo Trade?	If Yes, the trade keyword "HypotheticalTrade" is set to true - This keyword can be used in the workflow configuration to set a specific workflow status. Otherwise, the system assigns the trade status based on the default workflow.

Sample Workflow

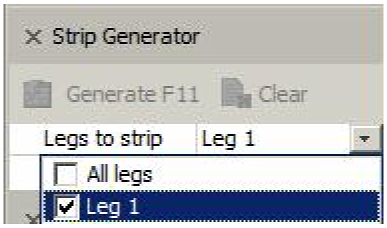

HYPO
FO_CANCEL
CANCELED
CANCEL
FO_CANCEL
BOOK_TRANSFER
NEW
MANUAL_EXECUTE
CANCEL
FO_CANCEL
CANCEL
FO_CANCEL
OVERDUE
BOOKTRANSFER
PENDING
OVER_DUE
MATURE
EXECUTE
BO_AMEND
FO_AMEND
EXECUTE_STP
AUTHORIZE
AUTHORIZE_STP
ACCEPT_NO_SDI
UPDATE
RATERESET
FO_AMEND
FO_AMEND
BO_AMEND
MATURE
MATURED
NONE
NEW
PRICING
VERIFIED
RENEW
TERMINATE
UNDO_TERMINATE
ROLLOVER
UNDO_ROLL
TERMINATED
ROLLOVER
ROLLED

3.2.6 Generating Trade Strips

The strip of Pricing Sheet trades is built from one or several driver trades by simple repetition or using a schedule. Any link or shortcut defined on the driver trades can be copied to the strip. In addition, links can be defined on the strip on-the-fly.

Following is an example of how to capture a strip of FX options in the Pricing Sheet.

- Capture a trade in the Pricing Sheet.
- In the Strip Generator window, click a leg, or "All legs". These are the driver trades.


Strip Generator
Generate F11
Clear

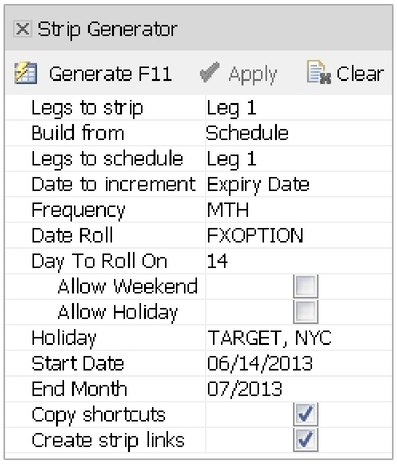
Legs to strip: Leg 1

☐ All legs

☑ Leg 1

- Then click **OK**.

  The Strip Generator window will show the following options:



Legs to strip	Leg 1
Build from	Schedule
Legs to schedule	Leg 1
Date to increment	Expiry Date
Frequency	MTH
Date Roll	FXOPTION
Day To Roll On	14
Allow Weekend	☐
Allow Holiday	☐
Holiday	TARGET, NYC
Start Date	06/14/2013
End Month	07/2013
Copy shortcuts	☑
Create strip links	☑

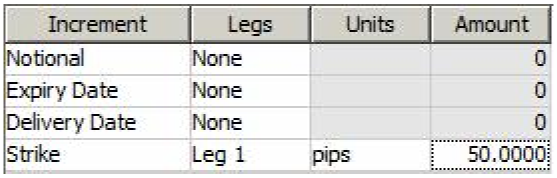
- » Select Repetitions or Schedule.
  - For Repetitions, enter the number of trades you want to add to the strip.
  - For schedule, define the schedule.

Check or clear "Copy shortcuts" to copy any solving shortcuts to the strip.

▶ See Solving Shortcuts for details.

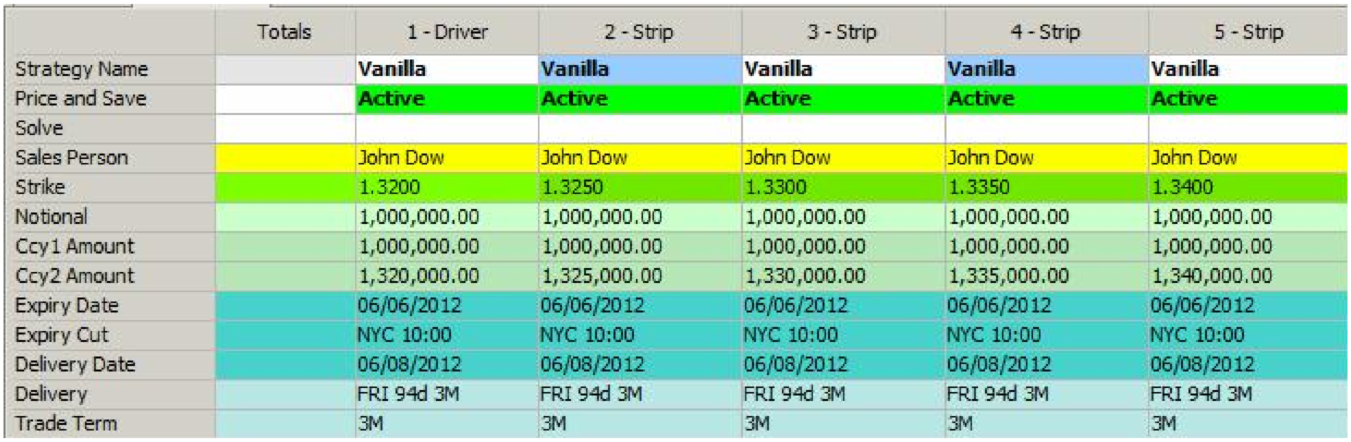
Check or clear "Create strip links" to create links on-the-fly - You can setup the links in the "Increment" table.

For example, you can increment the strike of the strip legs by 50 pips from the first leg.



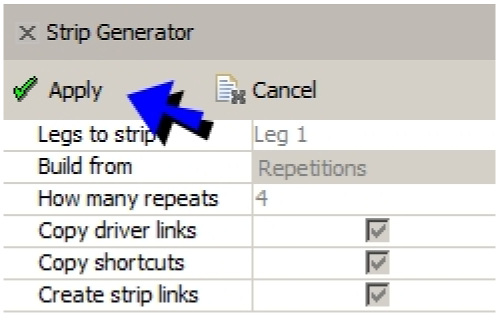
Increment	Legs	Units	Amount
Notional	None		0
Expiry Date	None		0
Delivery Date	None		0
Strike	Leg 1	pips	50.0000

- » Click **Generate** when your strip definition is ready - The trades are generated accordingly.



	Totals	1 - Driver	2 - Strip	3 - Strip	4 - Strip	5 - Strip
Strategy Name		**Vanilla**	**Vanilla**	**Vanilla**	**Vanilla**	**Vanilla**
Price and Save		**Active**	**Active**	**Active**	**Active**	**Active**
Solve						
Sales Person		John Dow	John Dow	John Dow	John Dow	John Dow
Strike		1.3200	1.3250	1.3300	1.3350	1.3400
Notional		1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Ccy1 Amount		1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00	1,000,000.00
Ccy2 Amount		1,320,000.00	1,325,000.00	1,330,000.00	1,335,000.00	1,340,000.00
Expiry Date		06/06/2012	06/06/2012	06/06/2012	06/06/2012	06/06/2012
Expiry Cut		NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00	NYC 10:00
Delivery Date		06/08/2012	06/08/2012	06/08/2012	06/08/2012	06/08/2012
Delivery		FRI 94d 3M	FRI 94d 3M	FRI 94d 3M	FRI 94d 3M	FRI 94d 3M
Trade Term		3M	3M	3M	3M	3M

- » Once the trades have been generated, click **Apply** for the generated trades to take effect.



Strip Generator

Legs to strip	Leg 1
Build from	Repetitions
How many repeats	4
Copy driver links	☑
Copy shortcuts	☑
Create strip links	☑

Apply
Cancel

3.2.7 Viewing Trade Details

Click 🔍 to display the Leg Details window.

Supplemental Information

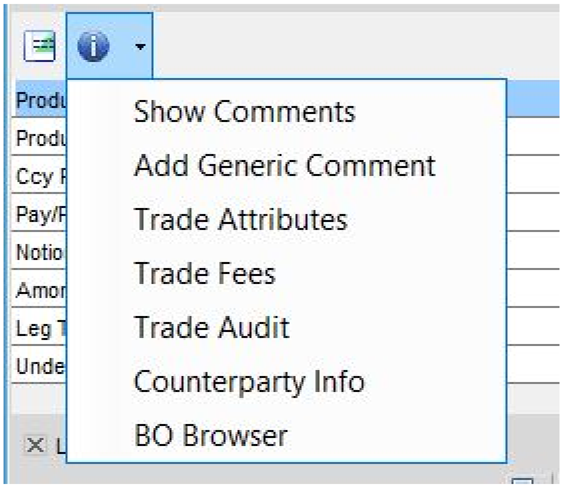
Click ☰ to display supplemental information like cash settlement info, rate schedules, amortization schedules, exercise schedules, etc.

This is described as part of the trade capture.

▶ Click here for details.

Trade Details

Select one or multiple trades and click ⓘ in the Leg Details window.



Show Comments
Add Generic Comment
Trade Attributes
Trade Fees
Trade Audit
Counterparty Info
BO Browser

You can choose to display:

- **Show Comments** - Selecting this menu item opens the Generic Comment Report.

  ▶ For details on this report, see "Generic Comment Report" in Calypso *Front Office Tools* documentation.

- **Add Generic Comment** - Opens the "Add generic comment" window.

  ▶ For details on this window, see "Add Generic Comment" in the File Menu section of *Front Office Tools* documentation.

- **Trade Attributes** - (Also called trade keywords) Opens the Trade Attributes pop-up window, where you can assign values to trade attributes.

  ▶ For details, see "Defining Trade Keywords" in Calypso *Front Office Tools* documentation.

- **Trade Fees** - Opens the Trade Fees Details window.

  ▶ For details, see "Capturing Trade Fees" in Calypso *Front Office Tools* documentation.

- **Trade Audit** - Opens the Trade Audits window.

  ▶ For details on this window, see "Trade Audit" in the File Menu section of *Front Office Tools* documentation.

- **Counterparty Info** - Opens the "Counter Party" window, which corresponds to the Legal Entity window.

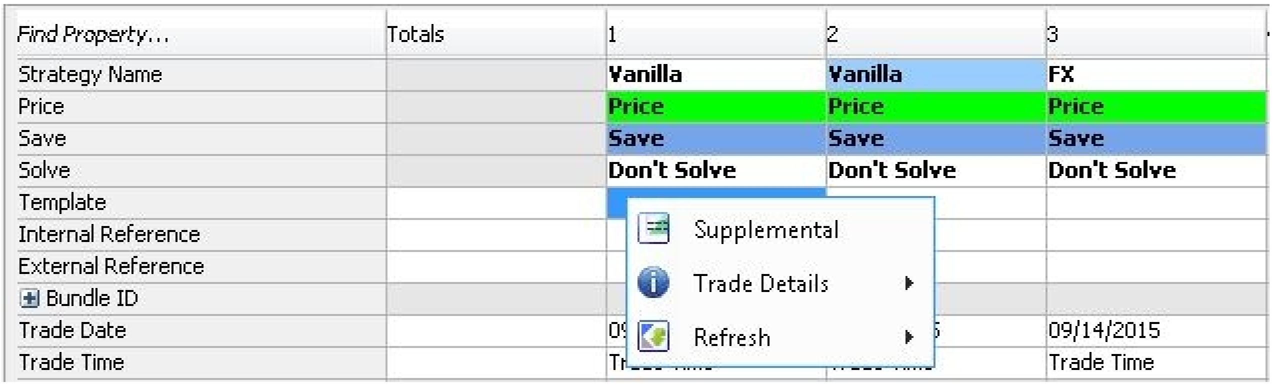
  ▶ For details, see "Defining Legal Entities" in the Calypso *Getting Started* documentation.

- **BO Browser** - Opens the Back Office Browser, which is used for viewing back office activity and applying actions to trades.

  ▶ For details, see "Back Office Browser" in Calypso *Front Office Tools* documentation.

Right-Click Menu

Right-click a trade in the Pricing Sheet to open the Trade Shortcuts menu.



Find Property...	Totals	1	2	3
Strategy Name		**Vanilla**	**Vanilla**	**FX**
Price		**Price**	**Price**	**Price**
Save		**Save**	**Save**	**Save**
Solve		**Don't Solve**	**Don't Solve**	**Don't Solve**
Template				
Internal Reference				
External Reference				
⊞ Bundle ID				
Trade Date		09	5	09/14/2015
Trade Time		Tr		Trade Time

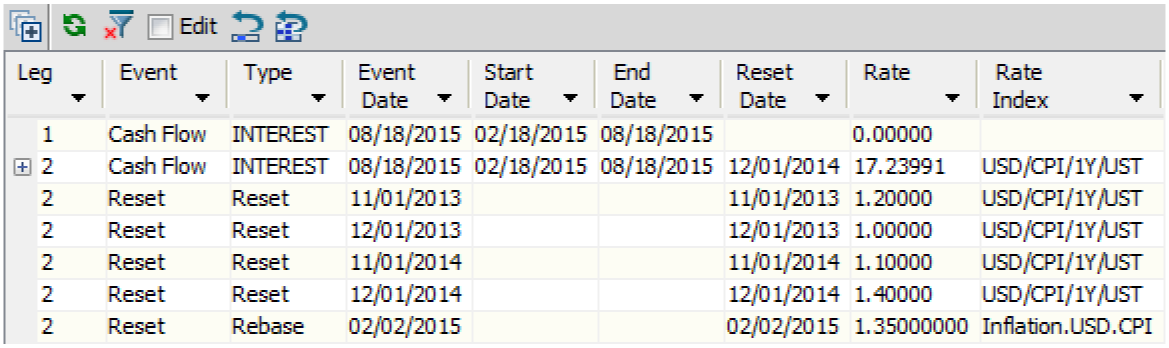
The menu provides quick access to Supplemental Information, Trade Details, and Refresh options (**View > Refresh**) for a specific trade.

- **Supplemental**: provides access to the same supplemental information as described above.
- **Trade Details menu**: provides access to the same Trade Details items as described above.
- **Refresh menu**: includes Refresh Quotes, Refresh Market Data, Refresh All Market Data (refreshes both quotes and market data), Refresh Price, and Freeze Price.

3.2.8 Viewing Trade Cash Flows

Click to display the Trade Cash Flows panel, or choose **View > Cash Flows**.

It displays cashflows and fees.



Leg	Event	Type	Event Date	Start Date	End Date	Reset Date	Rate	Rate Index
1	Cash Flow	INTEREST	08/18/2015	02/18/2015	08/18/2015		0.00000	
⊞ 2	Cash Flow	INTEREST	08/18/2015	02/18/2015	08/18/2015	12/01/2014	17.23991	USD/CPI/1Y/UST
2	Reset	Reset	11/01/2013			11/01/2013	1.20000	USD/CPI/1Y/UST
2	Reset	Reset	12/01/2013			12/01/2013	1.00000	USD/CPI/1Y/UST
2	Reset	Reset	11/01/2014			11/01/2014	1.10000	USD/CPI/1Y/UST
2	Reset	Reset	12/01/2014			12/01/2014	1.40000	USD/CPI/1Y/UST
2	Reset	Rebase	02/02/2015			02/02/2015	1.35000000	Inflation.USD.CPI

Trade Events panel

You can choose the columns to be displayed in the Cash Flows panel under **Configuration > User Preferences**.

- You can select the column headings and set filters as needed to filter the trade events.

  You can click to clear all the filters.
- You can click to refresh the list of trade events and regenerate the cashflows.
- You can check the Edit checkbox to customize the cashflows. The property "Custom Cashflows" will be set to "true".

  You can use the and icons to undo edits for selected columns or all edits, as needed.
- You can right-click to Export to Excel.
- You can view Sample Values for any "Cash Flow" Event with the Type "INTEREST" for any float swap leg. If available, click the expand button to the left of the cashflow to view the known and forecasted rates that went into the final calculated rates shown on the cashflows. The following columns are displayed:
  - Sample Type - Averaging, Compounding, or Inflation.
  - Sample Date - Observation Date of the Fixing, equivalent to the Reset Date of the Fixing.
  - Rate - The Known Rate from Quote Set, if Val Date is earlier than Sample Date and Quote Value exists in Quote Set.
  - Weight - [Percentage Weight of Period End - Period End] for Averaging and Compounding. For Inflation, it is always 1.
  - Period Start - The Accrual Period Start associated with this Fixing.
  - Period End - The Accrual Period End associated with this Fixing.
  - Proj. Rate - The Project Rate from the Forecast Curve, if Val Date is later than Sample Date. Not valid for Inflation.
  - Rate Index - The Rate Index of the Fixing.

- Total Rebase Factor - The product of all rebase factors that apply to the given Inflation Fixing. Only valid for Inflation.
- Rebase Rate - [Rate / Total Rebase Factor] for the given Inflation Fixing.

3.2.9 Viewing Strategy Attributes

You can add strategy attributes to a pricing sheet provided you have defined them.

▶ Please refer to the Calypso Pricing Sheet Setup Guide for information on defining strategy attributes.

Once defined, you can add them to a strategy in the Profile Configuration window.

3.2.10 Loading Saved Trades

You can load saved trades and bundles into the pricing sheet using one of the following methods.

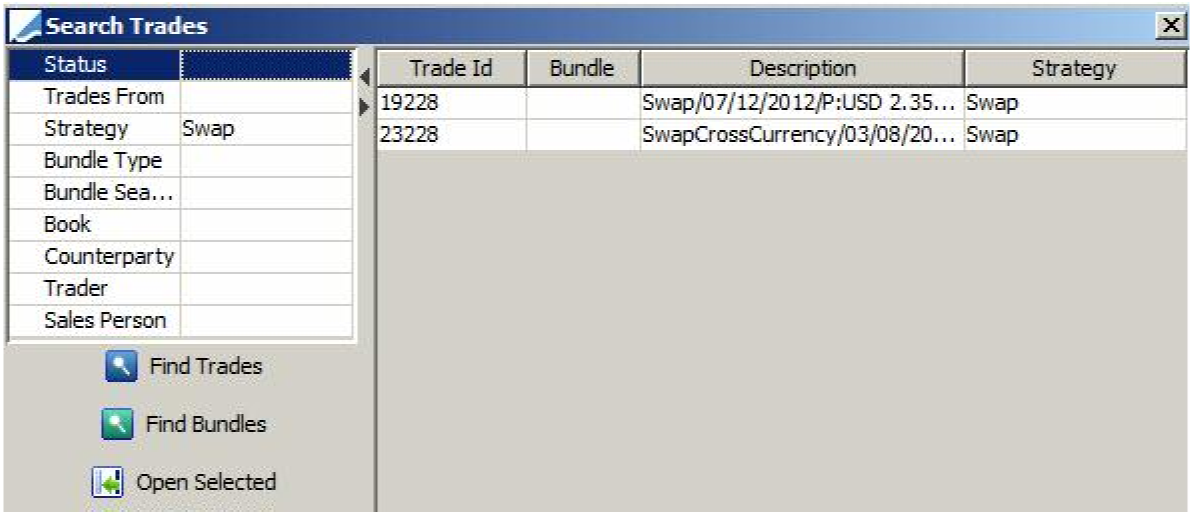
[NOTE: Entering and saving a trade on today's date and entering the trade Id in the "Trades From" field will not include the target trade in the search results. Search datetime is set to 1 second after midnight of the "Trades From" date]

Loading a saved or bundle ID and modifying the trade or bundle will add a ***** to the leg number. This indicates a value has been changed on the leg.

Trade/Bundle Id

Loading Saved Trades

- You can enter a trade ID or a bundle ID in the "Trade/Bundle Id" field at the top of the pricing sheet, and the corresponding trade / bundle will be loaded in the pricing sheet.
- Or you can click . You will be prompted to enter search criteria.



Status	
Trades From	
Strategy	Swap
Bundle Type	
Bundle Sea...	
Book	
Counterparty	
Trader	
Sales Person	

Trade Id	Bundle	Description	Strategy
19228		Swap/07/12/2012/P:USD 2.35...	Swap
23228		SwapCrossCurrency/03/08/20...	Swap

Open Trades window

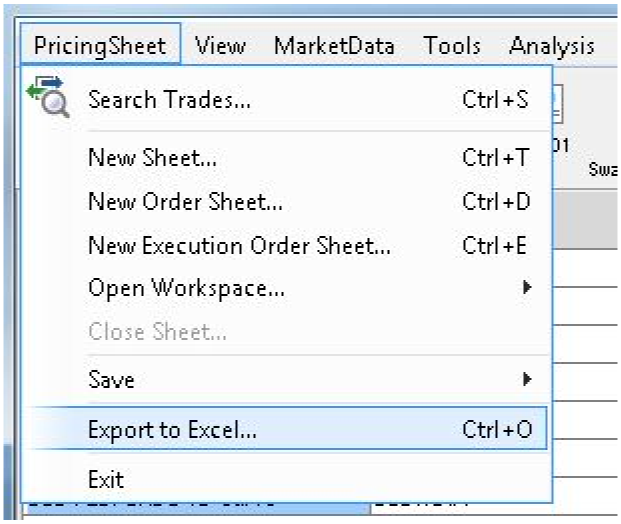
Enter search criteria and click **Find Trades** or **Find Bundles**.

Then select the trades or bundles you want to load, and click **Open Selected**. The trades will be loaded in the pricing sheet.

3.2.11 Exporting Trade Strategies to Excel

You can export strategies into an Excel file by either selecting the option in the PricingSheet menu or using a keyboard shortcut. This feature exports all strategies open in the active Pricing Sheet, launches the Excel file, and saves a copy of the file in the user's directory.

To export strategies in the active Pricing Sheet, select "Export to Excel" in the PricingSheet menu, or press Ctrl+O.

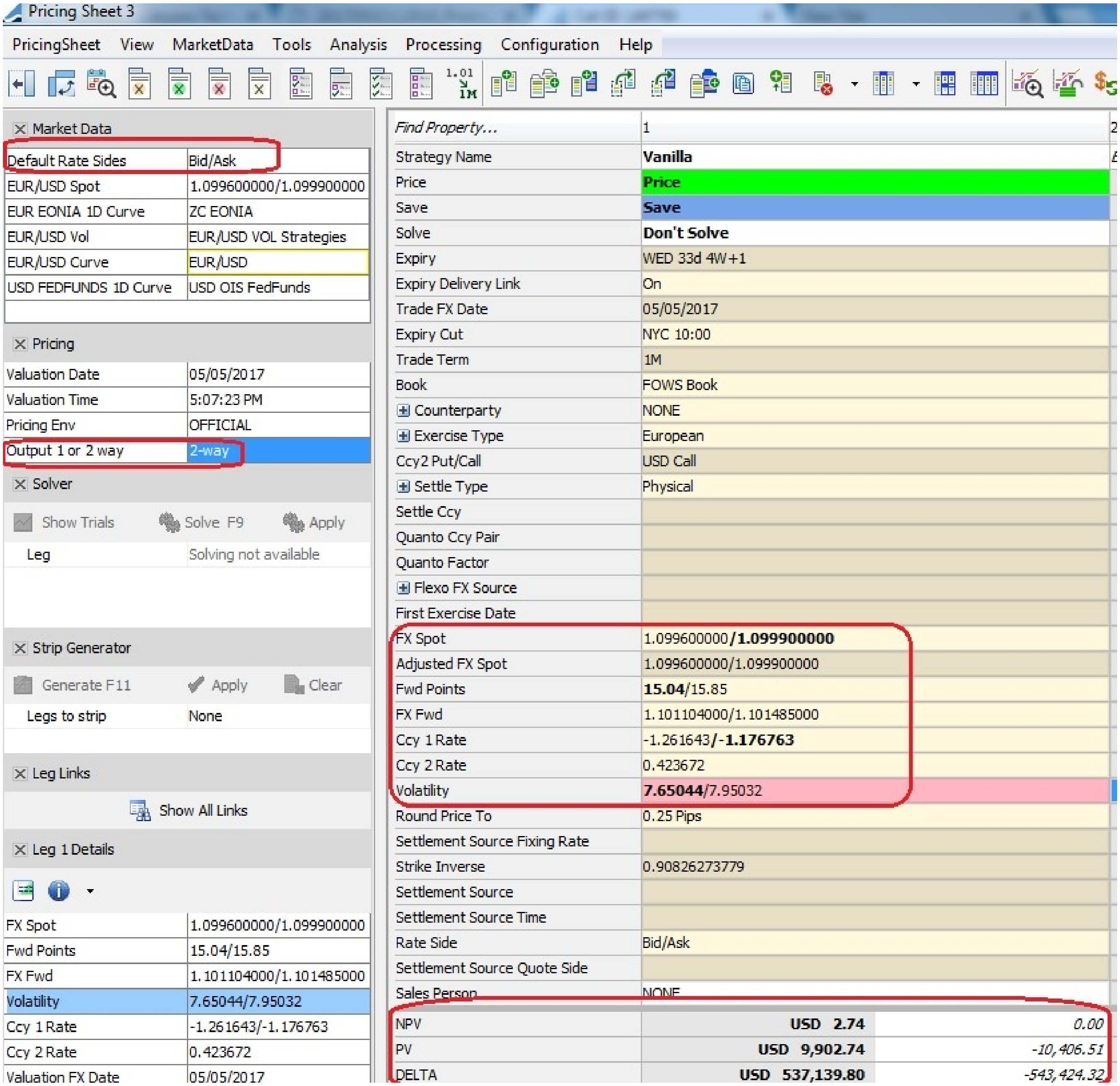

PricingSheet
View
MarketData
Tools
Analysis
Search Trades... Ctrl+S
New Sheet... Ctrl+T
New Order Sheet... Ctrl+D
New Execution Order Sheet... Ctrl+E
Open Workspace...
Close Sheet...
Save
Export to Excel... Ctrl+O
Exit

- The Excel file is opened and includes trade properties, pricer measures, and trade details.
- A copy of the Excel file is also saved to the user's directory.
  - Click the File menu in Excel to see information about the file path where the file is saved.
  - Multiple exports are not overridden but saved individually in the directory.
  - Files are saved with the following file name format:

    PricingSheet_Table_TradeEntry_Sheet_1_yyyyMMDD_HHMMSS.xls (H=hour; M=minute; S=second)

3.3 Bid/Ask Volatility Pricing

The Pricing Sheet can be configured to enable bid/ask pricing with an option to display two-way output for pricing measures. Two-way output requires market data that provides information for both bid and ask quotes.


Pricing Sheet 3
PricingSheet
View
MarketData
Tools
Analysis
Processing
Configuration
Help
Market Data
Pricing
Solver
Show Trials
Solve F9
Apply
Strip Generator
Generate F11
Apply
Clear
Leg Links
Show All Links
Leg 1 Details

Default Rate Sides	Bid/Ask
EUR/USD Spot	1.099600000/1.099900000
EUR EONIA 1D Curve	ZC EONIA
EUR/USD Vol	EUR/USD VOL Strategies
EUR/USD Curve	EUR/USD
USD FEDFUNDS 1D Curve	USD OIS FedFunds

Valuation Date	05/05/2017
Valuation Time	5:07:23 PM
Pricing Env	OFFICIAL
Output 1 or 2 way	2-way

Leg	Solving not available

Legs to strip	None

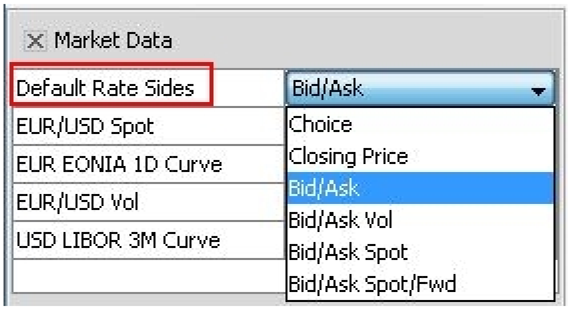
FX Spot	1.099600000/1.099900000
Fwd Points	15.04/15.85
FX Fwd	1.101104000/1.101485000
Volatility	7.65044/7.95032
Ccy 1 Rate	-1.261643/-1.176763
Ccy 2 Rate	0.423672
Valuation FX Date	05/05/2017

Find Property...	1	
Strategy Name	**Vanilla**	
Price	**Price**	
Save	**Save**	
Solve	**Don't Solve**	
Expiry	WED 33d 4W+1	
Expiry Delivery Link	On	
Trade FX Date	05/05/2017	
Expiry Cut	NYC 10:00	
Trade Term	1M	
Book	FOWS Book	
⊞ Counterparty	NONE	
⊞ Exercise Type	European	
Ccy2 Put/Call	USD Call	
⊞ Settle Type	Physical	
Settle Ccy		
Quanto Ccy Pair		
Quanto Factor		
⊞ Flexo FX Source		
First Exercise Date		
FX Spot	1.099600000/**1.099900000**	
Adjusted FX Spot	1.099600000/1.099900000	
Fwd Points	**15.04**/15.85	
FX Fwd	1.101104000/1.101485000	
Ccy 1 Rate	-1.261643/**-1.176763**	
Ccy 2 Rate	0.423672	
Volatility	**7.65044**/7.95032	
Round Price To	0.25 Pips	
Settlement Source Fixing Rate		
Strike Inverse	0.90826273779	
Settlement Source		
Settlement Source Time		
Rate Side	Bid/Ask	
Settlement Source Quote Side		
Sales Person	NONE	
NPV	**USD 2.74**	*0.00*
PV	**USD 9,902.74**	*-10,406.51*
DELTA	**USD 537,139.80**	*-543,424.32*

Example of Bid/Ask pricing for an FX Vanilla strategy

3.3.1 Settings

Bid/Ask pricing is specified on the Market Data tools panel for the "Default Rate Sides" property.

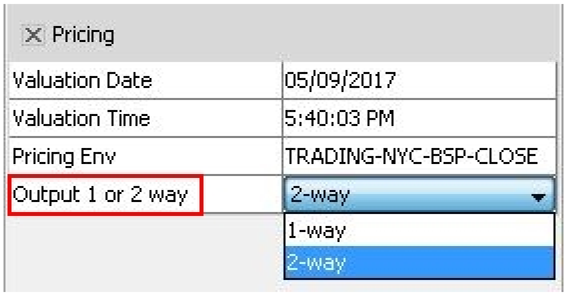

Market Data
Default Rate Sides
EUR/USD Spot
EUR EONIA 1D Curve
EUR/USD Vol
USD LIBOR 3M Curve
Bid/Ask
Choice
Closing Price
Bid/Ask
Bid/Ask Vol
Bid/Ask Spot
Bid/Ask Spot/Fwd

You can also apply bid/ask pricing to an individual leg by adding the "Rate Side" property to the strategy in the Pricing Sheet Profiles window.

Settings for Bid/Ask pricing are as follows:

- Choice - No spread is applied.
- Closing Price - Pricing sheet uses the Close quote set and the volatility surface to price deals.
- Bid/Ask - uses market data for spot, forwards, interest rates, and volatility.
- Bid/Ask Vol - uses bid/ask market data for volatility. All other types use the Mid quote.
- Bid/Ask Spot - uses bid/ask market data for spot. All other types use the Mid quote.
- Bid/Ask Spot/Fwd - uses bid/ask market data for spot and forwards. All other types use the Mid quote.

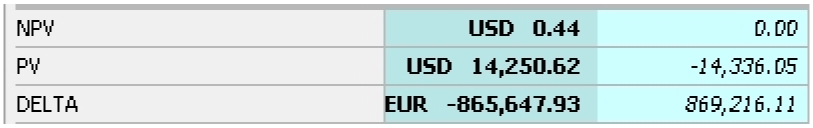
To select between one-way and two-way pricing output, use the "Output 1 or 2 way" setting in the Pricing panel.



Pricing

Valuation Date	05/09/2017
Valuation Time	5:40:03 PM
Pricing Env	TRADING-NYC-BSP-CLOSE
Output 1 or 2 way	2-way

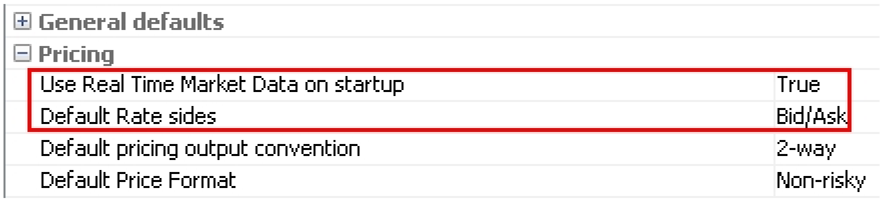
- 1-way - displays pricing from the mid quote.
- 2-way - displays pricing using the bid and ask quote.



NPV	USD 0.44	0.00
PV	USD 14,250.62	-14,336.05
DELTA	EUR -865,647.93	869,216.11

Sample output for two-way pricing

To make either of these settings the default setting, point to **Configuration > User Preferences** in the Pricing Sheet menu bar to open the Configure window. On the Defaults tab go to the Pricing settings, where you can configure the "Default Rate Sides" and "Default output pricing convention" settings according to preference.



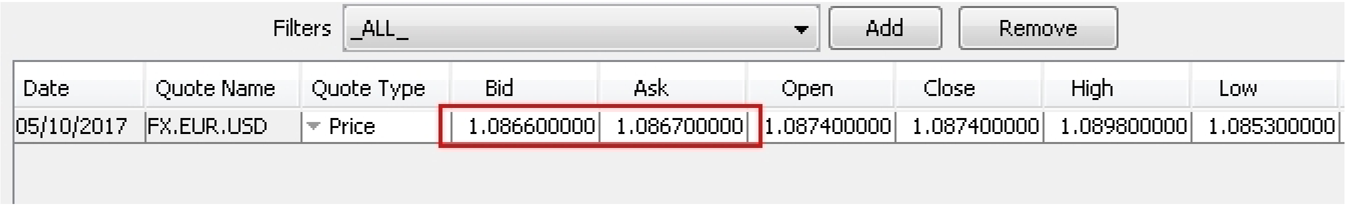
Use Real Time Market Data on startup	True
Default Rate sides	Bid/Ask
Default pricing output convention	2-way
Default Price Format	Non-risky

3.3.2 Required Market Data

The following market data items are needed to fulfill requirements for the "Default Rate Sides" settings in the Pricing Sheet's Market Data panel when using Bid/Ask pricing.

Spot Quotes

Both bid and ask quotes are required in the Quotes window.



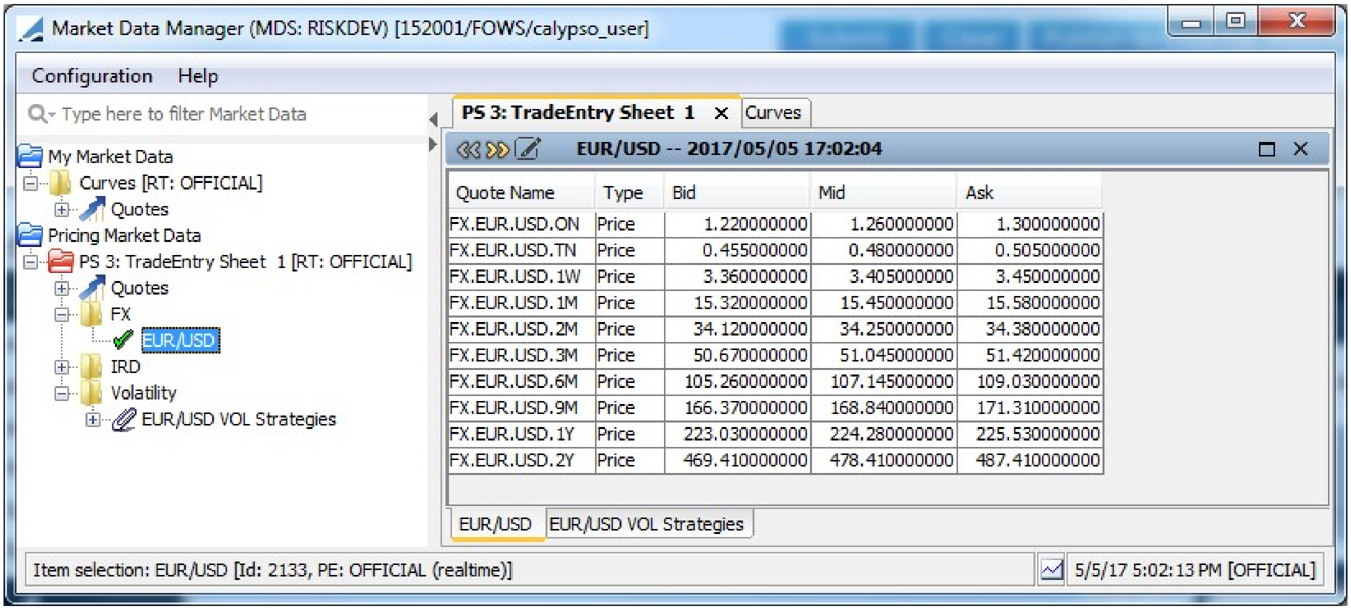
Date	Quote Name	Quote Type	Bid	Ask	Open	Close	High	Low
05/10/2017	FX.EUR.USD	Price	1.086600000	1.086700000	1.087400000	1.087400000	1.089800000	1.085300000

To open the Quotes window from the Pricing Sheet, point to **MarketData > Quotes**. Make sure Bid and Ask quotes are both populated.

▶ For details on working in the Quotes window, see "Quotes Window" in the Calypso *Analytics and Pricing Environment* documentation.

Forwards and Volatility

To check for bid/ask rates in curves and vol surfaces, you can open the Market Data Manager by pointing to **Market Data > Display in Market Data Manager** in the Pricing Sheet menu bar.


Market Data Manager (MDS: RISKDEV) [152001/FOWS/calypso_user]
Configuration
Help
Type here to filter Market Data
My Market Data
Curves [RT: OFFICIAL]
Quotes
Pricing Market Data
PS 3: TradeEntry Sheet 1 [RT: OFFICIAL]
Quotes
FX
EUR/USD
IRD
Volatility
EUR/USD VOL Strategies
PS 3: TradeEntry Sheet 1
Curves
EUR/USD -- 2017/05/05 17:02:04
EUR/USD
EUR/USD VOL Strategies

Quote Name	Type	Bid	Mid	Ask
FX.EUR.USD.ON	Price	1.220000000	1.260000000	1.300000000
FX.EUR.USD.TN	Price	0.455000000	0.480000000	0.505000000
FX.EUR.USD.1W	Price	3.360000000	3.405000000	3.450000000
FX.EUR.USD.1M	Price	15.320000000	15.450000000	15.580000000
FX.EUR.USD.2M	Price	34.120000000	34.250000000	34.380000000
FX.EUR.USD.3M	Price	50.670000000	51.045000000	51.420000000
FX.EUR.USD.6M	Price	105.260000000	107.145000000	109.030000000
FX.EUR.USD.9M	Price	166.370000000	168.840000000	171.310000000
FX.EUR.USD.1Y	Price	223.030000000	224.280000000	225.530000000
FX.EUR.USD.2Y	Price	469.410000000	478.410000000	487.410000000

Item selection: EUR/USD [Id: 2133, PE: OFFICIAL (realtime)]

5/5/17 5:02:13 PM [OFFICIAL]

▶ For details on working in the Market Data Manager, see "Market Data Manager" in the Calypso *Analytics and Pricing Environment* documentation.

3.3.3 Recommendations for FX Options

- For most liquid vanilla options, up to 1 year, using Bid/Ask Vol will suffice for two-way pricing given Delta is exchanged with the counterparty at the inception. Otherwise, use Bid/Ask for all market data.
- For longer tenor Options, use Bid/Ask for all market data (since Forward and Interest rates have a bigger impact on the pricing of long dated Options and substantial premium bid/ask spread will come from Forward/Interest rate bid/ask spread).
- For exotics, use Bid/Ask for all market data.

3.4 Using Workspaces

You can save all trade IDs currently in the Pricing Sheet as a workspace. Saving a workspace keeps the current view of the trades and their order. When you close and re-open the Pricing Sheet, you can open a saved workspace with all its trades in place.

» To save as a new workspace, click the down arrow next to the button, then select **Save as new Workspace**.

» To save /update an existing workspace, click the button.

» To open a workspace, select **PricingSheet > Open Workspace > Choose**.

Select the desired workspace and click **OK**.

Or you can select from a list of recently opened workspaces under **PricingSheet > Open Workspace**.

To clear the list, select **PricingSheet > Clear Recent**.

Saved workspaces are automatically added to the Trade Blotter as a blotter workspace.

▶ Please refer to Calypso Trade Blotter documentation for details.

3.5 Applying Trade Lifecycle Actions

You can view upcoming lifecycle activity from the Calypso Navigator using **Reports > Trade Diary**.

Once a trade is saved and reaches a back office status, you can apply the following actions to the trade.

Select a trade, and choose one of the following from the Processing menu:

- **Processing > Allocate** - To allocate the trade to set of books or a set of legal entities - It brings up the Allocation window - Help is available from that window.
- **Processing > Exercise** - To exercise the trade - It brings up the Exercise window - Help is available from that window.
- **Processing > Terminate** - To terminate the trade - It brings up the Termination Action report - Help is available from that window.
- **Processing > Trigger** - To exercise the trade - It brings up the Exercise window - Help is available from that window.

Other trade lifecycle actions are applied as follows:

- You can reset floating rates from the Calypso Navigator using **Trade Lifecycle > Reset > Rate Reset**, or using the RATE_RESET scheduled task.
- You can set the fixing between currencies from the Calypso Navigator using **Trade Lifecycle > Reset > FX Rate Reset**.
- You can expire futures from the Calypso Navigator using **Trade Lifecycle > Expiration & Exercise > Future Expiry** or the FUTURE_POSITION_EXPIRY scheduled task.
- You can exercise future options and ETO FX from the Calypso Navigator using **Trade Lifecycle > Expiration & Exercise > Fut Opt / ETO Exercise**.
- You can compute margin calls on the clearing accounts for Futures and Future Options using the EOD_BROKER_STATEMENT scheduled task.

3.6 Running Risk Analyses on-the-fly

You can run risk analyses on-the-fly on the strategies, using one of the following methods:

- Choose **Analysis > On Demand Analysis**, and select the Ad Hoc panel - Select the input parameters and the analysis parameters, and click **Run**.
- Choose **Analysis > On Demand Analysis**, and select the On Demand panel - Select the input parameters and click a predefined analysis, and click **Run**.

- Choose **Analysis > On Demand Analysis Shortcuts**, and select a risk speed button, provided you have defined risk speed buttons for the pricing sheet - Risk speed buttons can be defined using **Analysis > On Demand Analysis Speed Buttons**.

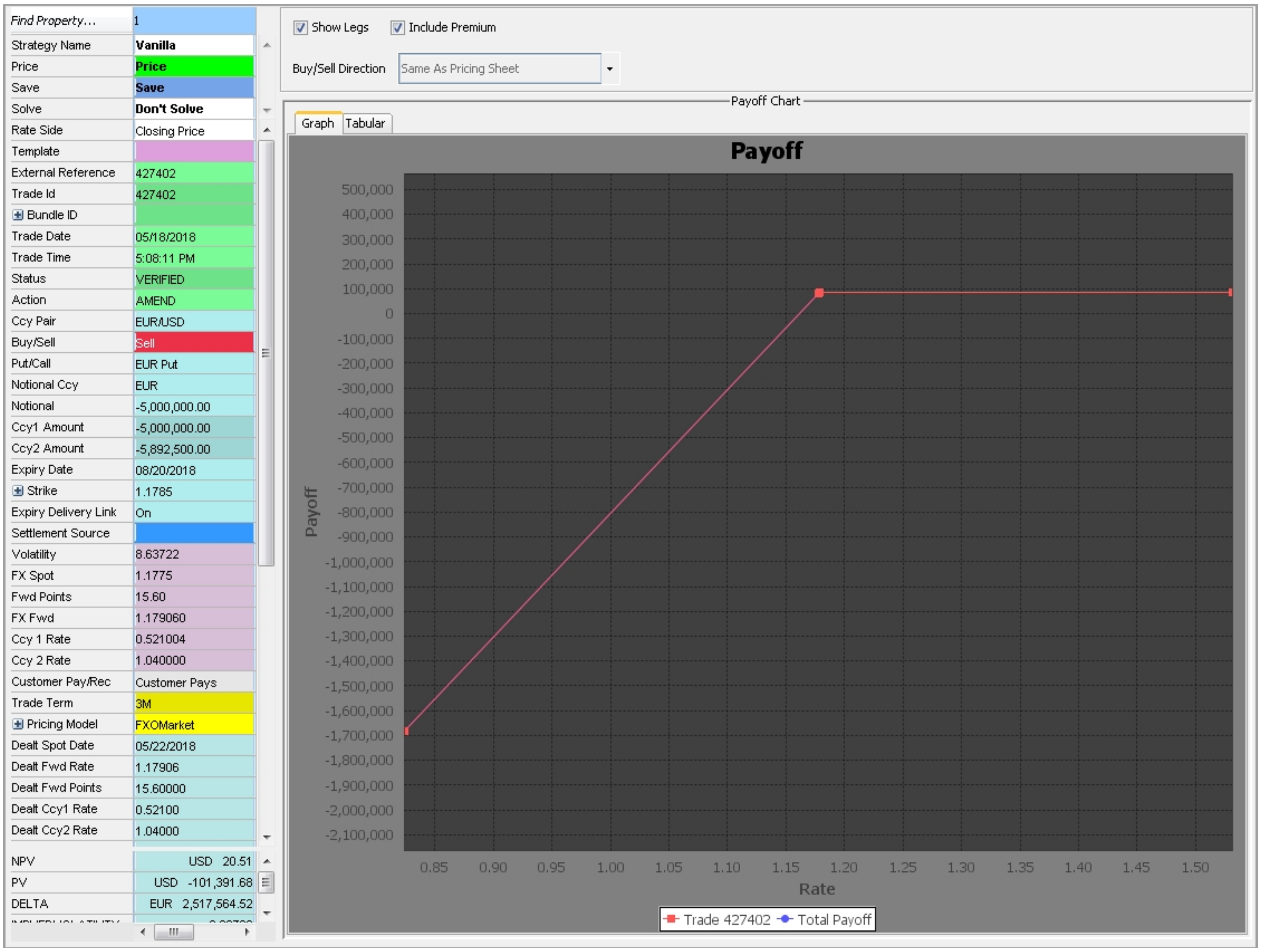
The results will be displayed in the Calypso Workstation or saved to a file, based on the selected parameters.

▶ Refer to Calypso On Demand Analysis documentation for complete details on using the On Demand Analysis window and defining risk shortcuts.

3.7 Using the Payoff Chart

For FX Options trades - including vanilla and exotics - the Payoff Chart provides both a graphical and tabular representation of payoff based on the underlying. To open the chart, click 📈 on the Toolbar. The chart is automatically populated with information from the leg or legs on the active pricing sheet.

ⓘ **[NOTE: Only the legs that are active for "Price" will be included in the Payoff Chart. Any legs with the Price property set to "Don't Price" will not be included in chart output.]**



Find Property...	1
Strategy Name	Vanilla
Price	Price
Save	Save
Solve	Don't Solve
Rate Side	Closing Price
Template	
External Reference	427402
Trade Id	427402
Bundle ID	
Trade Date	05/18/2018
Trade Time	5:08:11 PM
Status	VERIFIED
Action	AMEND
Ccy Pair	EUR/USD
Buy/Sell	Sell
Put/Call	EUR Put
Notional Ccy	EUR
Notional	-5,000,000.00
Ccy1 Amount	-5,000,000.00
Ccy2 Amount	-5,892,500.00
Expiry Date	08/20/2018
Strike	1.1785
Expiry Delivery Link	On
Settlement Source	
Volatility	8.63722
FX Spot	1.1775
Fwd Points	15.60
FX Fwd	1.179060
Ccy 1 Rate	0.521004
Ccy 2 Rate	1.040000
Customer Pay/Rec	Customer Pays
Trade Term	3M
Pricing Model	FXOMarket
Dealt Spot Date	05/22/2018
Dealt Fwd Rate	1.17906
Dealt Fwd Points	15.60000
Dealt Ccy1 Rate	0.52100
Dealt Ccy2 Rate	1.04000

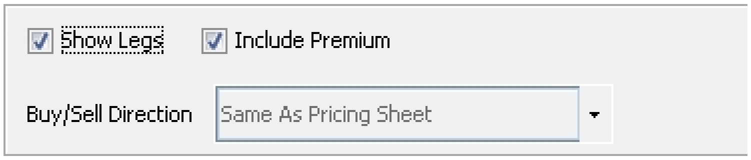
NPV	USD 20.51
PV	USD -101,391.68
DELTA	EUR 2,517,564.52

☑ Show Legs ☑ Include Premium

Buy/Sell Direction: Same As Pricing Sheet

Payoff Chart
Graph
Tabular
Payoff
Payoff
500,000
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
-700,000
-800,000
-900,000
-1,000,000
-1,100,000
-1,200,000
-1,300,000
-1,400,000
-1,500,000
-1,600,000
-1,700,000
-1,800,000
-1,900,000
-2,000,000
-2,100,000
0.85
0.90
0.95
1.00
1.05
1.10
1.15
1.20
1.25
1.30
1.35
1.40
1.45
1.50
Rate
Trade 427402
Total Payoff

3.7.1 Chart Settings



☑ Show Legs ☑ Include Premium

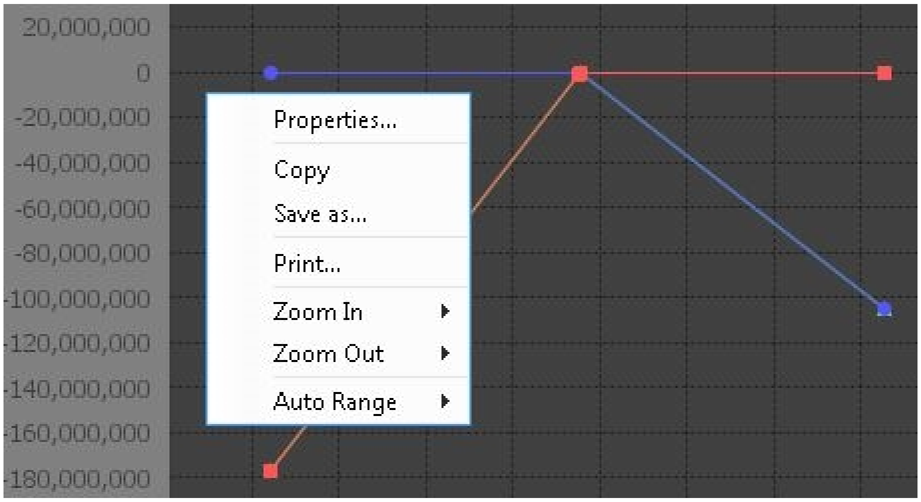
Buy/Sell Direction: Same As Pricing Sheet

- Select the "Show Legs" checkbox to display legs separately when there are more than one. When the checkbox is cleared, the chart displays the Total Payoff.
- Select the "Include Premium" checkbox to include the premium or fees in the chart output.
- You can use the "Buy/Sell Direction" drop-down to determine whether the chart output is the same or the opposite direction of the Pricing Sheet.

▶ For details on making default settings for these options, see "Payoff Graph" under Defaults Panel in the *Setting User Preferences* documentation.

3.7.2 Graph Properties and Controls

» Right-click anywhere in the graph to open the properties and controls menu.



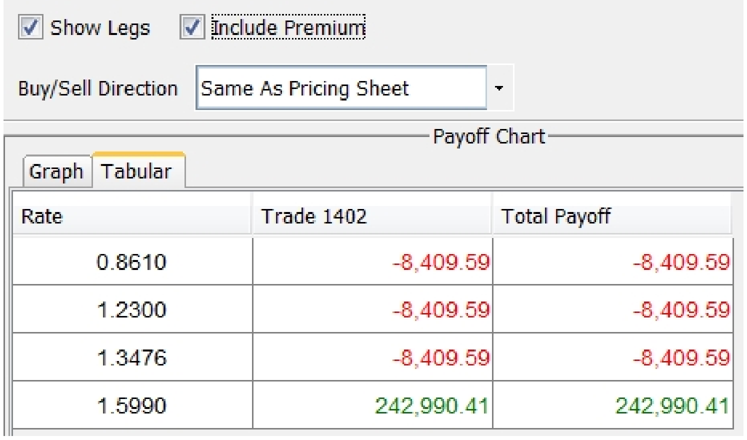
Menu item	Description
Properties	Select Properties to open the Chart Properties window where you can edit the chart's title, design how information is plotted on the chart's axes, and make other changes to appearance.
Copy / Save as... / Print	Select Copy to copy the graph to the system clipboard, which then allows you to paste the image using standard keyboard or mouse controls. You can also save the graph as an image (.png file format) or print the graph by selecting Print, which opens the Page Setup then Print dialog box.
Zoom In / Zoom Out	You can zoom in or zoom out on the graph to see either more or less detail. This feature also allows you to zoom in or out by individual axis, thereby preserving the scale of the opposite axis.
Auto Range	Select Auto Range to stretch the scale so that the plot fills the entire range of the graph. You can stretch the plot points to the full range by individual axis as well.

» You can manually zoom in and out using the scrolling wheel on your mouse device.

» Hovering over the plot points displays a tooltip that includes the trade ID and specific values for both axes where the plot falls on the graph.

3.7.3 Tabular Display

Select the 'Tabular' tab to view the same output as the graph in a table format. The same chart settings apply, such as "Show Legs" and "Include Premium."



☑ Show Legs ☑ Include Premium

Buy/Sell Direction: Same As Pricing Sheet

Rate	Trade 1402	Total Payoff
0.8610	-8,409.59	-8,409.59
1.2300	-8,409.59	-8,409.59
1.3476	-8,409.59	-8,409.59
1.5990	242,990.41	242,990.41

4. Capturing Trades

This document describes all strategy properties based on their category (filter category in Profile Configuration), and how to capture trades using these properties.

Some properties are common to all types of strategies, they are described below.

Some properties depend on the type of strategy:

- See Capturing CRD Trades for details on CRD properties.
- See Capturing CMD Trades for details on CMD properties.
- See Capturing EQD Trades for details on EQD properties.
- See Capturing ETF Trades for details on ETF properties.
- See Capturing Fixed Income Trades for details on Fixed Income properties.
- See Capturing FX Trades for details on FX properties.
- See Capturing FX Option Trades for details on FX Option properties.
- See Capturing IRD Trades for details on IRD properties.
- See Capturing Listed Derivatives Trades for details on Listed Derivatives properties.

Contents

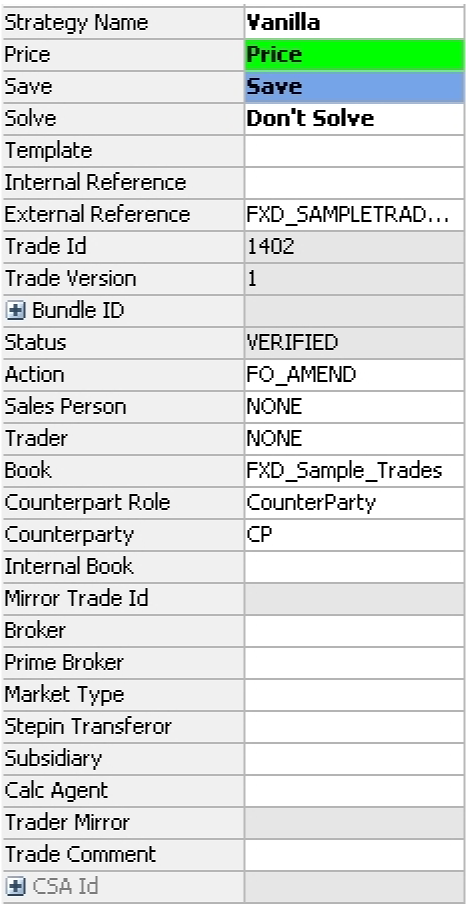
- Trade Properties
- Manipulating Strategy Templates
- Product: Amount Properties
- Product: Style Properties
- Product: Info Properties
- Product: Rate Properties
- Product: Barrier Properties
- Product: Trigger Properties
- Product: Payment Properties
- Product: Settlement Properties
- Date Properties
- Market Data Properties
- Price Properties
- Solver Properties
- Dealt Data Properties
- Keyword Properties

- Pricer Properties
- Product: Cliquet Properties
- Product: Chooser Properties
- Product: Commodity Properties
- Cash Settle Info
- Trade Drilldown

4.1 "Trade" Properties

"Trade" properties apply to all types of strategies. They allow the trades to be saved in the system with the minimum required information.

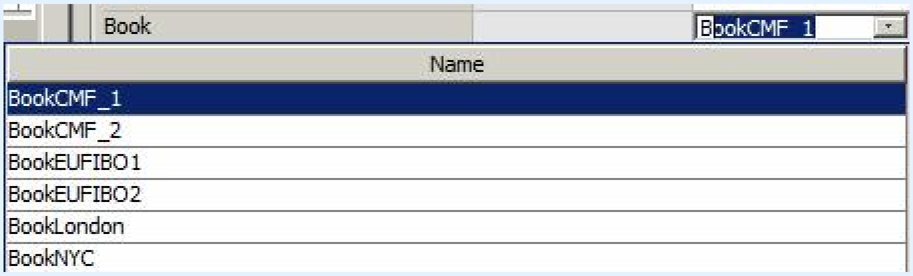
They can be made visible under "Common" if you want to display them for all strategies.

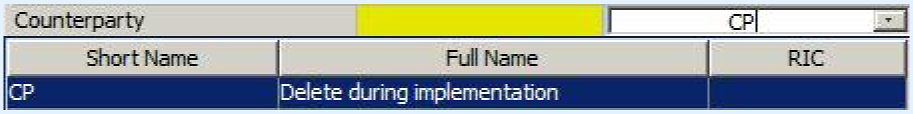
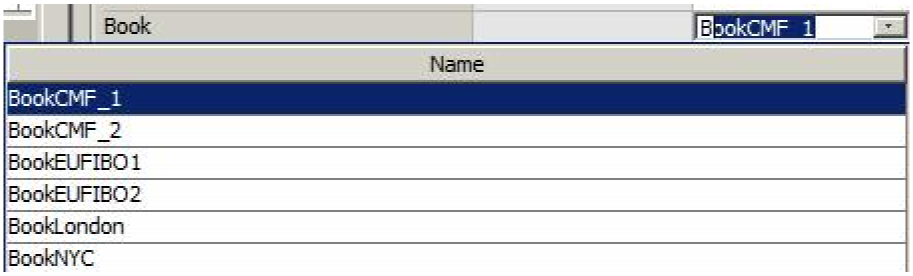


Strategy Name	**Vanilla**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Template	
Internal Reference	
External Reference	FXD_SAMPLETRAD...
Trade Id	1402
Trade Version	1
⊞ Bundle ID	
Status	VERIFIED
Action	FO_AMEND
Sales Person	NONE
Trader	NONE
Book	FXD_Sample_Trades
Counterpart Role	CounterParty
Counterparty	CP
Internal Book	
Mirror Trade Id	
Broker	
Prime Broker	
Market Type	
Stepin Transferor	
Subsidiary	
Calc Agent	
Trader Mirror	
Trade Comment	
⊞ CSA Id	

Sample Trade properties

Properties	Description
Strategy Name	This property is always displayed. Select an out-of-the-box strategy or a custom strategy to capture the corresponding trade.
Price	This property is common to all trades and set to Price by default. The settings are as follows: • Price - Allows the trade to be priced. • Don't Price - Prevents the trade from being priced.
Save	This property is common to all trades. Its default behavior can be configured on the Defaults tab in **Configuration > User Preferences** with the "Default behavior for Save field on executed trades" option. The settings on the pricing sheet are as follows: • Save - Allows the trade to be saved. • Don't Save - Prevents the trade from being saved.
Solve	This property is always displayed, and is not set by default. To activate the solving capability, set it to Solve. It can only be set to Solve on Active trades.
Reserve	This property is always displayed, and it is set to Don't Reserve by default. The property provides support for trade reservation in the case of a single trade or multiple trades. • "Reserve" - Allows a trader to put a trade in a certain status that impacts the limit even though the trade is in pre-deal status. When a trade is saved, the trade keyword "LimitReserved" is set to Yes. • "Don't Reserve" - When a trade is saved, the trade keyword "LimitReserved" is set to No. The trade keyword "LimitReserved" is utilized with this feature so that the Limits engines can determine whether or not to process a trade.
Template	Select a strategy template as needed to populate default values into the strategy. You can only select templates created for this type of strategy. You can create strategy templates using **Configuration > Manage Strategy Template**. ▶ See Manipulating Strategy Templates for details. **[NOTE: The selected template is not stored with the trade, it is only selected to populate default values]**
Internal Reference	Enter a user-defined trade identifier as needed, for tracking purposes.
External Reference	Enter a user-defined trade identifier as needed, for tracking purposes.
Trade Id	Displays the unique ID given by the system upon saving.
Trade Version	Displays the trade version given by the system upon saving, "0" is the first version of the trade. The trade version is incremented when data are amended on the trade provided the Audit mode is enabled.

Properties	Description
	▶ Refer to Calypso Trade Version documentation for details.
Bundle ID	Displays the bundle ID created upon saving if any. You can also display the following properties: • Bundle Type - Displays the bundle type selected upon saving if any. You can also select a bundle type to associate the trade with an existing bundle. • Bundle Name - Displays the bundle name create upon saving if any. You can also select a bundle name to associate the trade with an existing bundle.
Status	Displays the workflow status of the trade.
Action	Displays the action currently performed on the trade based on the workflow configuration. You can select a different action as needed, it will be applied to the trade upon saving. Note that actions related to trade lifecycle processes are prevented by default. The actions Allocate, Terminate, Exercise, and Trigger can be applied from the Processing menu. Other trade lifecycle actions have to be applied from their dedicated windows and processes.
Sales Person	Select a sales representative. Sales representatives are created in the "salesPerson" domain. It defaults to the sales representative selected in the User Defaults. This is mandatory for capturing sales fees.
Trader	Select a trader - Traders are created in the "trader" domain. It defaults to the trader selected in the User Defaults.
Book	The default trading book can be set in the User Defaults attribute "Pricing Sheet Default Book". You can select another book as needed. Type in a few letters, and all books that start with those letters will appear. You can select a book from the list.  Book: BookCMF_1 Name BookCMF_1 BookCMF_2 BookEUFIBO1 BookEUFIBO2 BookLondon BookNYC The Search can be configured from the Calypso Navigator using **Configuration > User Access Control > User Settings** under Preferences > Trade Capture > Book Search: • Favorites Only • Favorites Then All • All (default)

Properties	Description
	For reference, favorite books are set from the Calypso Navigator under **Configuration > Favorites > Books**.
Counterpart Role	The counterparty role defaults to CounterParty but you can double-click to select another role as needed. For External trades, the role set will be the role set in the for the Premium in Trade Details > Trade Fess.
Counterparty	Type in a few letters, and all counterparties that start with those letters will appear. You can select a counterparty from the list.  Counterparty: CP Short Name | Full Name | RIC CP | Delete during implementation | The Search can be configured from the Calypso Navigator using **Configuration > User Access Control > User Settings** under Preferences > Trade Capture > Counterparty Search.
Internal Book	Type in a few letters, and all books that start with those letters will appear. You can select an internal book from the list to capture an internal mirror trade.  Book: BookCMF_1 Name BookCMF_1 BookCMF_2 BookEUFIBO1 BookEUFIBO2 BookLondon BookNYC The Search can be configured from the Calypso Navigator using **Configuration > User Access Control > User Settings** under Preferences > Trade Capture > Book Search: • Favorites Only • Favorites Then All • All (default) For Internal Trades (trades with an internal book), the trade counterparty is set to the processing org of the internal book for the role CounterParty. Therefore, the processing org must have the role CounterParty. For reference, favorite books are set from the Calypso Navigator using **Configuration > Favorites > Internal Books**.
Mirror Trade ID	Displays the mirror trade ID.
Broker	Select a broker as needed. A broker is a legal entity of role Broker. Only favorite brokers can be selected. Favorite brokers are selected from the Calypso Navigator using **Configuration > Favorites > Brokers**.

Properties	Description
Prime Broker	Select a prime broker as needed. A prime broker is a legal entity of role PrimeBroker. Only prime brokers associated with the selected counterparty in the legal entity attribute PrimeBrokerList can be selected. You can define multiple prime brokers in the legal entity PrimeBrokerList separated by ";" (semicolons).
Market Type	Select a Market Type as needed: None, Primary, Re-Issue, Secondary, When-Issued.
Stepin Transferor	Type in a few letters, and legal entities that start with those letters will appear. You can select a legal entity of role step-in transferor from the list. The step-in transferor is a transferor from a Step-In Novation done through DTCC.
Subsidiary	Type in a few letters, and legal entities that start with those letters will appear. You can select a legal entity of role subsidiary from the list.
Calc Agent	Type in a few letters, and legal entities that start with those letters will appear. You can select a legal entity of role calculation agent from the list. The calculation agent is the party who acts as the referee in the event of a disagreement about a deal's rate reset or other payment detail. The calculation agent will be designated in a legal agreement such as an ISDA agreement.
Trader Mirror	Displays the name of the trader associated with the mirror trade book.
Trade Comment	Enter a comment as applicable.
Reset Swap	For details on Reset Swap properties, see ""Reset Swap" Properties" on page 274. For details on Reset Swap properties, see "Reset Swap" Properties in Pricing Sheet *Capturing IRD Trades* documentation.
Fwd Start Notional Adjustment	For details on Fwd Start Notional Adjustment properties, see ""Fwd Start Notional Adjustment" Properties" on page 275. For details on Fwd Start Notional Adjustment properties, see "Fwd Start Notional Adjustment" Properties in Pricing Sheet *Capturing IRD Trades* documentation.
CSA Id	Displays the ID of the collateral agreement associated with the selected counterparty and book's processing org, if any. Collateral agreements are created from the Calypso Navigator using **Configuration > Fees, Haircuts, & Margin Calls > Margin Call**. You can also display the following properties: • Collateral Policy - Displays the currency policy of the collateral agreement. • Eligible Currencies - Displays the list of eligible currencies of the collateral agreement. Discount curves can be associated with trades based on the collateral currency. ▶ Refer to Calypso CSA Details documentation for setup details.
Manual Reset	Used for equity resets. Provides a field for manually entering a value for the initial fixing.

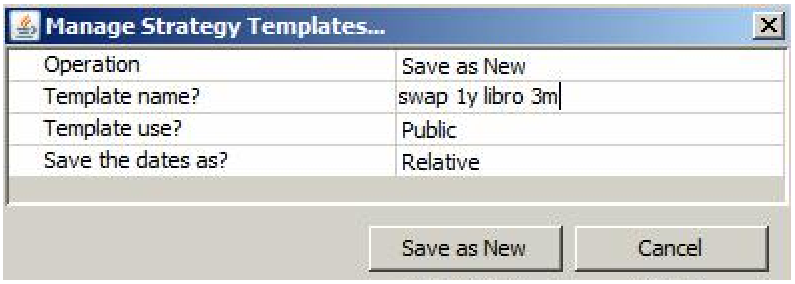
Properties	Description
Initial Reset	Used for equity resets. Allows you to choose an observation source for the initial fixing.
Equity Reset	Used for equity resets. Allows you to choose an observation source for the final fixing. For the equity ScriptableOTCProduct, this property alone is used for choosing the observation source for the multiple resets that are used.
CCP/Clearing Broker Combos	Enter a list of clearing brokers, separated by commas.
CCP/Clearing Broker	Enter the clearing broker.
Product Code	You can enter product code values for OTC trades, provided you have defined "OTC" product codes, like MiFID codes for example. "OTC" product codes are created using **Configuration > Product > Code** (menu action `product.ProductCodeWindow`) with "OTC" checked. Note that this property does not display non OTC product codes. Non OTC product codes are defined and displayed at the product level (Bond products for example).
Negotiated Price	Negotiated Price is a sub-property under the expandable Notional property. Used for Swap trades that use ZC for the payment frequency. To enable this property so that the user can enter a negotiated price, the payment frequency for the swap must be ZC, and the parameter "Discount" in Default configurations (Configuration > User Preferences > Defaults > Swap) must be set to True. See "Defaults Panel" in *Setting User Preferences* documentaiton.
Fixed Amount	Used with Fixed Payment Swap to indicate a payment amount for the fixed leg that will be paid at the end of the period.
Reset Date Rule	Reset Date Rule
Rate Factor Rounding/Rate Factor Decimals	Both properties are sub-properties of Rate. They can be used on both fixed and float legs of a Swap. The Rate Factor Rounding property provides standard rounding methods found in Calypso: NONE, NEAREST, UP, DOWN. The Rate Factor Decimals property allows for specifying decimal precision for the first setting. • Fixed Leg - When Calc Method is EXP, rounding = (1+fixed rate)^daycount fraction, then taken to the number of decimal places specified. When Calc Method is NONE, rounding = fixed rate*daycount fraction, then taken to the number of decimal places specified. • Floating Leg - Uses multiplicative spread factor rounding. This is available under the following conditions: compounding = true, compounding method = Flat, Calc Methond = EXP, multiplicative spread = true. Rounding = (1+spread)^daycount fraction, then taken to the number of decimal places specified.
Reset Date Rule Payment Date Rule	These properties allow for using date rules to determine a period. • Reset Date Rule - Determines the reset dates of the cashflows. A sub-property under

Properties	Description
Coupon Date Rule	the expandable Reset Frequency property. • Payment Date Rule - Determines the payment dates of the cashflows. A sub-property under the expandable Payment Date Roll property. • Coupon Date Rule - Determines the interest dates of the cashflows. These properties correspond to those found on the Date Rules tab of the product details window accessed from the trade window.
Average Price	Supported for Future and Future Option trades. Select the Average Price checkbox to preserve the trade price without rounding, regardless of the Quote Type or Quote Decimals specified on the given Future Option contract. Any trade price based calculations, including Nominal and relevant pricer measures, will use the full decimals of the trade price.
Standard Fixed Coupon	Used in CDS Index Tranche trades. When selected, the associated "Spread" property becomes a drop-down listing standard SNAC coupon values. These values can be defined using the domain *CreditDefaultSwapCoupon.SNAC*. ▶ For details on using domains, see "Defining Domain Data" in Calypso *Getting Started* documentation. When the checkbox is cleared, the "Spread" property becomes a text field that allows the user to enter any value for the spread.

4.2 Manipulating Strategy Templates

To create a strategy template, select a strategy in the Pricing Sheet and set the properties as needed.

Then choose **Configuration > Manage Strategy Template**.



Operation	Save as New
Template name?	swap 1y libro 3m
Template use?	Public
Save the dates as?	Relative

Sample Strategy Template

» Enter a template name and select whether the template is private or public.

Other users will not be able to use your private templates.

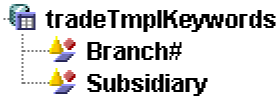
» Select whether the dates should be saved as absolute dates or relative dates (they are relative to the valuation date).

- Then click **Save as New** to save the template.

  The property values will be used as default values when the template is selected in the Pricing Sheet.

  To store trade keywords with the template, add the keyword names to the domain "tradeTmplKeywords".

  Example:

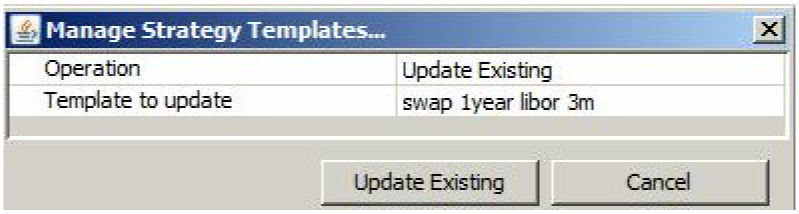


tradeTmplKeywords
  Branch#
  Subsidiary

  You can select the template from the Template field for the same type of strategy used to create the template.

To modify an existing template, select a template in the pricing sheet, and modify the values of the properties as needed.

Then choose **Configuration > Manage Strategy Template**.



Operation	Update Existing
Template to update	swap 1year libor 3m

Sample template modification

- Select "Update Existing" from the Operation field and click **Update Existing**.

To delete an existing template, choose **Configuration > Manage Strategy Template**.

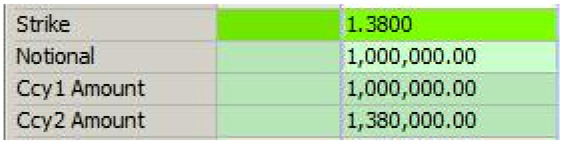
- Select "Delete" from the Operation field and select a template.
- Then click **Delete**.

  Only the user who created a template (whether it is public or private) can delete it.

4.3 "Product: Amount" Properties

"Product: Amount" properties apply to all types of strategies.

They can be made visible under "Common" if you want to display them for all strategies.



Strike		1.3800
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,380,000.00

Sample Product Amount properties

Properties	Description
Notional	Enter the notional amount.
Ccy1 Amount	Enter / displays the notional in primary currency if applicable.
Ccy2 Amount	Displays / enter the notional in quoting currency if applicable.
Settle Amount	Displays the trade settlement amount computed by the system.

4.4 "Product: Style" Properties

"Product: Style" properties apply to all types of strategies.

Properties	Description
Trade Type	The trade type: "On Market" or "Off Market". • Off Market allows the addition of Sales Margin in terms of bp or a dollar amount, which will be represented as a Sales Margin fee. • On Market includes the use of an off-market-rate swap, indicated by [om] in the Rate property.
Product Type	Displays the product type based on the selected strategy.
Product Subtype	The product subtype is set by the system based on the type of trade being captured. You can however define product subtypes as needed in the domain “<product type>.subtype”. You can set pricers and market data by product subtype.
Constants	Displays any value used in solving that is entered manually like Strike, etc.
Ccy Pair	Displays the currency pair when each leg is in a different currency. The default currency pair is set in **Configuration > User Preferences**. You can select another currency pair as needed.
Notional Ccy	Select the currency of the notional.
Strike Ccy	Enter the strike currency.
Quanto Ccy Pair	Only applies to "Self Quanto" or "Quanto" set as a Settle Type. Displays the currency pair used in the Quanto. This is Settlement Ccy/Secondary Ccy in the defined currency pair. The currency pair is defined from the Calypso Navigator in **Configuration > Definitions > Currency Definitions**.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Put/Call	Displays /select the option direction for the primary currency.
Ccy2 Put/Call	Displays / select the option direction for the quoting currency.
Compound Put/Call	Select the direction of the compound option for the primary currency.
Pay/Receive	Select the direction of the trade leg from the book's perspective.

Properties	Description
Notional Exchange	Select Initial, Final, Amortization or any combination of the three to indicate that the notional amount will be exchanged, otherwise there is no exchange of notional.
Amortization	The amortization of the notional defaults to Bullet.
Option Type	Select the option type: Cap, Floor, Collar, Corridor.
Exercise Type	Select the exercise type.
Settle Type	Select the settlement type at exercise. The application may automatically select it based on the product type. • Cash - For cash settlement (exercise against a fee). • Physical - For physical settlement (exercise against the underlying product) - A trade on the underlying product is automatically created. • Cleared Physical Settlement You can also set the following properties: • End Settlement Date - The end settlement date. • Settlement Lag - A number of lag days, months or years, and Business or Calendar. This is the offset between the expiration date and the delivery date. Examples: 3D Business, 2M Calendar, 1Y Business, etc. • Settlement Holidays - The holiday calendar. • Settlement Date Roll - The date roll convention. • Expiration Time Zone - The timezone of the expiration times. • Expiration Time - The expiration time. • Earliest Exercise Time - The earliest exercise time. • Latest Exercise Time - The latest exercise time. • Automatic Exercise - A checkbox to allow automatic exercise. • Threshold - User-specified threshold in percentage to trigger the automatic exercise. • Partial/Multiple Exercise (European swaptions only) - A checkbox to allow partial exercise. • Min Notional - User-specified minimum notional that can be partially exercised. • Max Notional - User-specified maximum notional that can be partially exercised.
Leg Type	Select the leg type: Fixed or Float.
Fixed Swap Tenor	Enter the fixed tenor of the swap for Fixed Tenor Swaptions. The swap starts on the option's delivery date and ends on the option's delivery date + fixed tenor. The system currently only supports the pricing of European Fixed Tenor Swaptions.

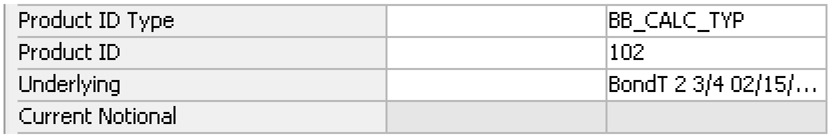
Properties	Description
Location	Select the location for commodities.
Allocated	Displays "Allocated" if the trade has been allocated using the Allocation process, or "Unallocated" otherwise.
Observation Type	For Accrual and Accumulator options, the choices are: • Cash Accrual • FX Accrual • Vanilla Fade In - Each time the spot condition is met on a fixing date, a portion of the notional is paid. That is, on expiry date the notional is: "n/N" x "notional amount". • Vanilla Fade Out - Each time the spot condition is met on a fixing date, a portion of the notional is deducted from the maximum that can be used. That is, on expiry date the notional is: "notional amount" - ("n/N" x "notional amount"). Where: • "notional amount" is the notional amount • n is how many times the spot satisfies the predefined condition (whether it is meant to be above/below a predetermined trigger, or inside/outside a predetermined range) on the predefined fixing dates • N is the number of fixings dates over the life of the option
Strike Type	Select the strike type: Fixed, Forward Start, Average or Lookback.
Rate Type	Select the rate type: Market, Average or Lookback.
Range Style	Select Single for single range, or Multiple for multiple ranges. • For Single range, you can capture the range in the Trigger properties. • For Multiple range, right-click the trade and choose "Supplemental" to define the ranges.
Known 1st Range	Select Yes if the first range is known for a resetting range, or No otherwise. If Yes, you can specify the first range in Trigger and Trigger2.
Flexo FX Source	Only applies to the "Flexo" Settle Type. Choose the FX rate source for Flexo type trades.
Initial FX Spot	Enter the FX spot trade between the two currencies.
Principal Adjustment	If there is notional exchange, you can also specify notional adjustments at every coupon period based on FX rates. Select None, Pay (adjustments on the Pay leg), or Rec (adjustments on the rec leg). You can also set the following properties: • FX Reset - Select the FX rate reset to determine the FX rates for the adjustments. FX rate resets are defined from the Calypso Navigator using **Configuration > Foreign**

Properties	Description
	Exchange > FX Rate Definitions. • Adjust First - Check to adjust the first cashflow. • FX Reset Use Index Reset Date - Check to set the FX reset date to the index reset date. It is the payment begin date otherwise. If "FX Reset Use Index Reset Date" is not checked, you can set the FX Reset Lag and FX Reset Holidays as needed.
Call Type	Select "Cancellable" for a cancellable swap, or select "None". For a Cancellable swap, you can set the following properties: • Buy/Sell - Select Buy or Sell, the direction of the trade from the book's perspective. • Exercise Type - European or American • Expiry Date - The expiration date. If a non-business day is entered, it will automatically move to the previous business day. For European, the trade can only be canceled on the expiration date. • First Exercise Date - The first exercise date. For American, the trade can be canceled between the First Exercise Date and the Expiry Date. • Delivery Date - The delivery date defaults to the spot date for the selected currency. It can be modified as needed. • Settlement Lag - The number of lag days. Whether the lag days are business days or calendar days can also be selected. • Settlement Holidays - User selects from the holiday calendar. • Expiry Time - The expiration time. • Earliest Exercise Time - The earliest exercise time. • Latest Exercise Time - The latest exercise time. • Expiry Timezone - The corresponding timezone and holiday calendars to the Expiry Time. • Fee Type - A fee type • Fee Currency - The fee currency • Fee - The fee amount / percentage
Custom Cashflows	Displays "true" if the cashflows have been customized, or "false" otherwise.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays he contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.

Properties	Description
Contract Underlying	Select the expiration date of the underlying future contract.
Contract Date	Select the expiration date.
Payout	Displays the Pricing Script payout selected in the strategy.

4.5 "Product: Info" Properties

"Product: Info" properties apply to all types of strategies.



Product ID Type		BB_CALC_TYP
Product ID		102
Underlying		BondT 2 3/4 02/15/...
Current Notional		

Sample Product Info properties

Properties	Description
Product ID Type	Select the product ID type to choose from when entering values in the Product ID field. A default search type can be configured in **Configuration > User Preferences** under the Defaults tab. Select the default search type form the Default Bond Product ID type drop down. Setting this in the trade leg specifically will override the value set in the defaults.
Product ID	Enter the bond product identifier.
Underlying	Displays the Bond Product details for the selected bond product. To select a bond product double-click in this field to bring up the Search Bonds window.
Current Notional	Displays the current nominal.

4.6 "Product: Rate" Properties

"Product: Rate" properties apply to all types of strategies.

Properties	Description
Quanto Factor	Only applies to "Self Quanto" or "Quanto" set as a Settle Type. Not available with Digital and Digital with Barrier strategies. Enter the rate between the quoting currency and the primary currency if the settlement currency is the primary currency. You can enter "k" to populate it with the strike rate, "s" for spot rate, or enter a fixed rate. The trade keyword "QuantoSource" will be populated accordingly.
Strike	Enter the strike.

Properties	Description
	The following FX Delta shortcuts are also available. Add the shortcut to the Strike property field and press Enter. • You can enter "atm" to solve for an at-the-money forward. This gives the at-the-money strike for the given currency pair and tenor. The premium in Delta convention and the Delta-neutral-or-atm-forward convention are taken from the vol surface. This is the most commonly used shortcut because it produces the "at-the-money" strike whether it's Delta neutral or ATMF. • You can enter "atms" to solve for an at-the-money spot. This gives the strike equal to the current spot rate. • You can enter "atmf" to get the strike equal to the current outright forward. • You can enter "dn" to set the strike to the ATM delta neutral strike generated from the supplied vol surface and expiry date. • You can use the strike to solve for a Delta by entering "<delta value>d", for example "25d". • When "<delta value>s" is entered (e.g., 10s), this gives the 25-spot-delta strike, with premium-in-delta coming from the vol surface. • When "<delta value>f" is entered (e.g., 10f), this gives the 25-forward-delta strike, with premium-in-delta coming from the vol surface. • One percentage strike shortcut: "<delta value>%s" gives the strike equal to spot plus <delta value>%. Also, "-<delta value>%s" gives the strike equal to spot minus <delta value>%. ***Rounding*** Any system generated strike (solver, shortcut entry) will respect the currency pair rounding settings. If the user manually enters a strike, it will only be rounded based on the constraints of the currency rounding of the amounts that the strike generates. Example: Ccy1 amount is 10,000.00 and a strike is entered as 1.234567. • If ccy rounding of Ccy2 is 2dp then Ccy2 amount would be 12345.67. The strike does not need to be rounded. • If ccy rounding of Ccy2 is 0dp (JPY for example) then Ccy2 amount would be 12346 and the strike would need to be rounded to 1.2346. The shortcut used will not be persisted if the trade is saved. ***EX:*** Entering "atms" in this field will calculate the at-the-money-strike and will appear as "<strike value> [atms] when pricing. If the trade is saved, the value is saved, but the shortcut used will not be saved.
Strike %	Displays the percentage of strike with respect to "in-the-money" forward: [(FX Fwd - Strike)/ FX Fwd]*100.
Strike Inverse	Displays 1/Strike for an inverted trade.
Compound Strike	Enter/displays the price of the underlying option as a percentage of the underlying primary

Properties	Description
	amount.
Compound Strike Amount	Compound Strike Amount = Compound Strike * Ccy 1 Amount / 100. You can also enter a compound strike amount and the Compound Strike will be updated accordingly. When exercising the compound option, the compound strike amount will be passed to the created plain vanilla as PREMIUM fee.
Formula Strike	Displays the formula captured in the Strike property.
Vega	Displays what the Vega would be in a Vanilla option from the trade date to the number of days calculated from the difference of the Expiry Date and the Fixing Date of the Volatility Forward option.
VF Vol at Trade Expiry	Displays the volatility at trade expiration (from the market data).
VF Vol at Straddle Expiry	Displays the volatility at underlying expiration (from the market data).
VF Implied Forward Vol	Displays the implied forward volatility.
Agreed Forward Volatility	Enter the forward volatility agreed to on the trade date. The price that is agreed upon to buy the ATM straddle. It defaults to the calculated implied forward volatility. However, you can modify the value.
Rate	Enter the fixed rate for fixed rates, or the spread over the rate value for floating rates as needed.
Fixed Coupon Rate	For a fixed trade, enter the fixed rate.
Settlement Source	Only applies if Settle Type is Physical NDF, Self Quanto, Quanto, or Flexo. Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.
Settlement Source Time	Displays the fixing time of the selected fixing source.
Settlement Source Quote Side	Displays the quote side of the selected fixing source.
Settlement Source Fixing Rate	Displays the fixing rate of the selected fixing source, if any on the fixing date and if there is only one fixing date.
Observation Source	Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. Then right-click the FX Rate Definition and choose "Supplemental" to define the accrual details.
Observation Source Time	Displays the fixing time of the selected fixing source.

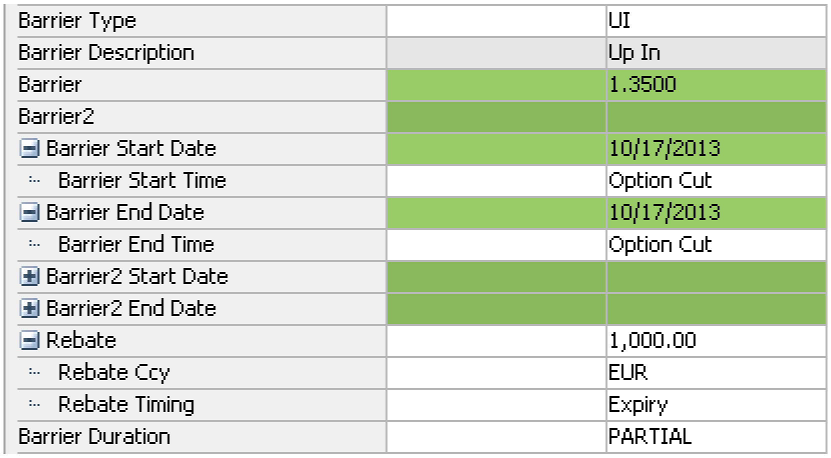
Properties	Description
Observation Source Quote Side	Displays the quote side of the selected fixing source.
Observation Fixing Rate	Displays the fixing rate of the selected fixing source, if any on the fixing date and if there is only one fixing date.
Reset Source	Select "Not resetting" for non-resetting ranges, or select the FX Rate Definition that will be used to fix the rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. Then right-click the FX Rate Definition and choose "Supplemental" to define the fixing schedule.
Reset Source Time	Displays the fixing time of the selected fixing source.
Reset Source Quote Side	Displays the quote side of the selected fixing source.
Reset Fixing Rate	Displays the fixing rate of the selected fixing source, if any on the fixing date and if there is only one fixing date.
Rate Index Factor	Enter the index factor as needed for floating rates to multiply the rate value.
Rate Index	Select the rate index for floating rates. You can set additional properties: • Reset Timing - Select "At Start" or "In Arrears". • Reset Lag - Enter the number of days between the actual reset date and the reset date as defined by the reset timing, and specify Business or Calendar. The Reset Lag will persist is terms of days. Entering "30D" and saving will be displayed as "1M" on retrieval. Entering "d" for days, "w" for weeks, "m" for months and "y" for years as a tenor (EX: 1m b = -1M Business) will be saved as days. If not tenor is entered, the system will use days by default. • Reset Holidays - Select the reset calendars. • Reset Date Roll - Select the reset date roll. • Spread as Multiplier - Check this checkbox to have a multiplicative spread rather than an additive spread. • Manual First Rate - Enter the first reset rate, if any. • Specify Initial Inflation - Select "None", "Initial Level Date" or "Initial Level". • Initial Level Date - Enter the initial level date. • Initial Level - Enter the initial level. • Inflation Calculation Method - Select the calculation method: – IndexLevel - Index levels are not interpolated between publication dates.

Properties	Description
	– Interpolated - Daily index levels are interpolated between reference dates. Select the interpolation method from the Inflation Interpolated Method field. • Inflation Interpolated Method - Only appears for the Interpolated calculation method. The only option is "Weighted". • Rate Rounding - Select the rate’s rounding method to override the default value from the rate index. • Rate Decimals - Enter the number of decimal places to override the default value from the rate index. • Sample Timing - Select the sample timing: "At Start" or "In Arrears". • Convert Basis - Check this checkbox to check whether the reference index and the trade have the same daycount convention. If not, the rate’s daycount convention is converted to the trade’s daycount convention. • Rate Interpolation - Select "Interpolate" to interpolate the fixing rate. The rate is interpolated using the tenors specified in "Interpolate Tenor 1" and "Interpolate Tenor 2". • Manual Initial Fixing - Provides options to manually control the behavior of the initial rate reset. Use the drop-down to select either 1st Rate or Init Fixing Date. – 1st Rate - When selected, this enables the Manual First Rate property. You can then manually enter a rate for the first fixing. – Init Fixing Date - When selected, this enables the Initial Fixing Date Roll, Initial Fixing Holidays, and Initial Fixing Lag properties. These properties allow you to specify the date roll convention, the holiday schedule for the fixing, and lag settings. When NONE is selected (default), the system uses the normal reset process for fixings.
Reset Frequency	Select the reset frequency to sample resets at a frequency different from the payment frequency. Otherwise, the resets are sampled at the payment frequency. When the sampling frequency is more frequent that the payment frequency, you can define the weight of the resets, and the duration of the sampling period. • Reset Weighting - Select "Equal", "Weighted" or "Simple". • Reset Day of Week - For Weekly, you can set the Reset Day of Week. • Reset Day of Month - For Monthly, you can set the Reset Day of Month. • Reset Cutoff Lag - The cutoff lag. • Reset Duration: – Match - Rates are sampled over the entire averaging period. – Custom - Rates are sampled over a user-defined period. • Custom Sample Period - Define the number of days of the sampling period.

Properties	Description
	• Reset Stub - Select "Start" or "End".
Reset Date	Only applies to Physical NDF settle type. Displays "Delivery Date - Number of lag days defined in the FX Rate Definition". It is based on the FX Rate Definition selected in Settlement Source. It can be modified as needed.

4.7 "Product: Barrier" Properties

"Product: Barrier" properties apply to all types of strategies.



Barrier Type		UI
Barrier Description		Up In
Barrier		1.3500
Barrier2		
⊟ Barrier Start Date		10/17/2013
Barrier Start Time		Option Cut
⊟ Barrier End Date		10/17/2013
Barrier End Time		Option Cut
⊞ Barrier2 Start Date		
⊞ Barrier2 End Date		
⊟ Rebate		1,000.00
Rebate Ccy		EUR
Rebate Timing		Expiry
Barrier Duration		PARTIAL

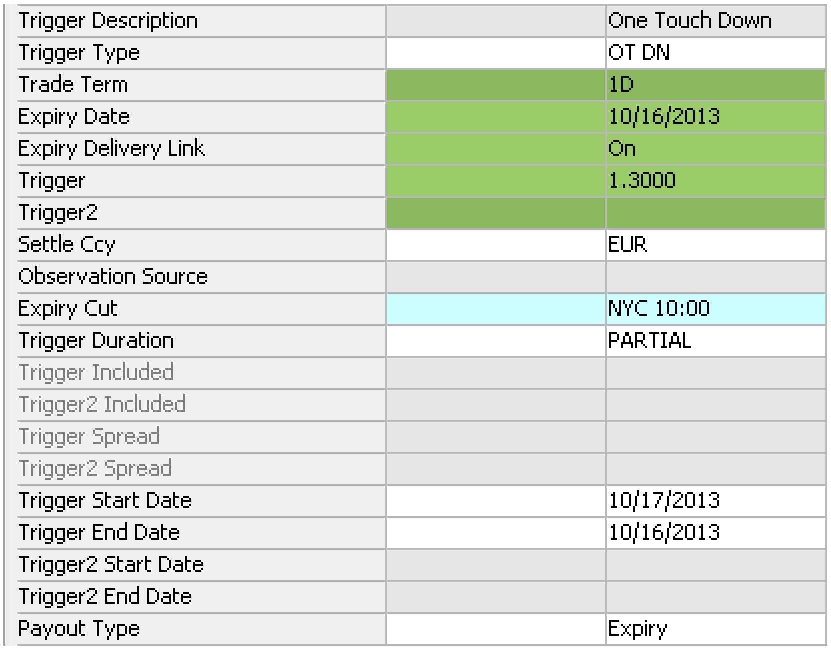
Sample Product Barrier properties

Properties	Description
Barrier Duration	Select the duration type: • EXPIRY - The barrier is only observed on the expiry date. You can define multiple volatilities. The VOLATILITY1 and VOLATILITY2 pricing parameters correspond to the volatilities for the upper and lower barriers. Enter the volatility for the barrier if desired. Otherwise, the pricer uses the volatility from the surface if you do not specify one in the pricing parameters. To use the same volatility as the strike, manually enter that value in the pricing parameters. • FULL - The barrier is observed throughout the life of the option. The start date of the observation is the trade date; the end date of the observation is the expiry date. • PARTIAL - Enter the start and end dates for the observation, which can be less than the life of the option. Enter values for Barrier/Barrier2 Start and Barrier/Barrier2 End dates. • MULTI_PERIOD - The barrier is observed over multiple periods. Right-click a barrier trade and choose "Supplemental" from the popup menu.

Properties	Description
Barrier Description	Displays the description of the barrier type.
Barrier Type	Select the type of barrier: • UI - Up In • DI - Down In • UO - Up Out • DO - Down Out • DKI – Up In Down In • DKO - Up Out Down Out • KIKO (UI) – KIKO Up In Down Out - Knock into a UI barrier option • KIKO (DI) - KIKO Up Out Down In - Knock into a DI barrier option
Barrier	Strike rate for the single barrier, or upper barrier for a double barrier.
Barrier Start Date	For a partial barrier: the start date of the barrier observation. You can also set the Barrier Start Time.
Barrier End Date	For a partial barrier: the end date of the barrier observation. You can also set the Barrier End Time.
Barrier2	Strike rate for the lower barrier.
Barrier2 Start Date	For a partial double barrier: the start date of the second barrier observation. You can also enter the Barrier2 Start Date.
Barrier2 End Date	For a partial double barrier: the end date of the second barrier observation. You can also set the Barrier2 End Time.
Rebate	Enter a rebate amount, if applicable. You can also set the following properties: • Rebate Ccy - Select the currency for the rebate. – Primary Currency - Asset-or-Nothing – Secondary Currency - Cash-or-Nothing – Quanto Currency - When Settle Type is specified as Quanto and the Settle Ccy property is populated with a third currency, the Rebate Ccy can also be set as the Quanto currency. • Rebate Timing - Select Expiry (rebate at expiration), or INSTANT (rebate when the barrier is hit).
Barrier Monitoring	Enter the barrier monitoring type, CONTINUOUS or CLOSING.

4.8 "Product: Trigger" Properties

"Product: Trigger" properties apply to all types of strategies.



Trigger Description		One Touch Down
Trigger Type		OT DN
Trade Term		1D
Expiry Date		10/16/2013
Expiry Delivery Link		On
Trigger		1.3000
Trigger2		
Settle Ccy		EUR
Observation Source		
Expiry Cut		NYC 10:00
Trigger Duration		PARTIAL
Trigger Included		
Trigger2 Included		
Trigger Spread		
Trigger2 Spread		
Trigger Start Date		10/17/2013
Trigger End Date		10/16/2013
Trigger2 Start Date		
Trigger2 End Date		
Payout Type		Expiry

Sample Product Trigger properties

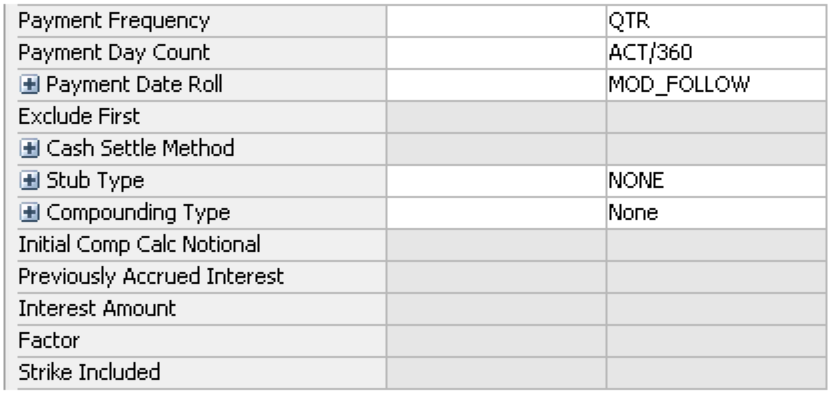
Properties	Description
Trigger Duration	Select the duration type: • EXPIRY — The trigger is only observed on the expiry date. You can define multiple volatilities. The VOLATILITY1 and VOLATILITY2 pricing parameters correspond to the volatilities for the upper and lower triggers. Enter the volatility for the digital if desired. Otherwise, the pricer uses the volatility from the surface if you do not specify one in the pricing parameter. To use the same volatility as the strike, manually enter that value in the pricing parameter(s). • FULL — The trigger is observed throughout the life of the option. The start date of the observation is the trade date; the end date of the observation is the expiry date. • PARTIAL — Enter the start and end dates for the observation, which can be less than the life of the option. Enter values for Trigger/Trigger2 Start and Trigger/Trigger2 End dates.
Trigger Description	Displays the description of the trigger type.
Trigger Type	Select the trigger type. ***For Digital options, the choices are:*** • OT UP - One Touch Up • OT DN - One Touch Down

Properties	Description
	• NT UP - No Touch Up • NT DN - No Touch Down • DOT - Double One Touch • DNT - Double No Touch • OTNT (UI) - One Touch No Touch UI • OTNT (DI) - One Touch No Touch DI ***For Digital With Barrier options, the choices are ABOVE or BELOW.*** ***For Accrual options and Accumulator options, the choices are:*** • ABOVE - Payout occurs when the spot rate is above the trigger. • BELOW - Payout occurs when the spot rate is below the trigger. • IN - Payout occurs when the spot rate is within in the trigger range. • OUT - Payout occurs when the spot rate is out of the trigger range.
Payout Type	Select Instant (payout when the trigger is hit) or Expiry (payout at expiration).
Trigger	***Digital and European Binary options:*** Enter the strike rate for the single trigger, or upper trigger for a double digital. ***Accrual and Accumulator options:*** Enter the trigger for ABOVE and LOW options, or low trigger for a range.
Trigger Start Date	Enter the start date of observation for a partial digital.
Trigger End Date	Enter the end date of observation for a partial digital.
Trigger Spread	In case of resetting range, enter the upper spread for single range.
Trigger Included	***Accrual options:*** For ABOVE and BELOW accruals, select Yes to monitor the trigger, or No otherwise. ***Range Accruals:*** Select Yes to monitor the upper value of the range, or No otherwise.
Trigger2	***Digital and European Binary options:*** Enter the strike rate for the lower trigger. ***Accrual options and Accumulator options:*** Enter the high trigger for a range.
Trigger2 Start Date	Enter the start date of second trigger observation for a double partial digital.
Trigger2 End Date	Enter the end date of second trigger observation for a double partial digital.

Properties	Description
Trigger2 Spread	In case of resetting range, enter the lower spread for single range.
Trigger2 Included	***Range Accruals:*** Select Yes to monitor the lower value of the range, or No otherwise.

4.9 "Product: Payment" Properties

"Product: Payment" properties apply to all types of strategies.



Payment Frequency		QTR
Payment Day Count		ACT/360
⊞ Payment Date Roll		MOD_FOLLOW
Exclude First		
⊞ Cash Settle Method		
⊞ Stub Type		NONE
⊞ Compounding Type		None
Initial Comp Calc Notional		
Previously Accrued Interest		
Interest Amount		
Factor		
Strike Included		

Sample Product Payment properties

Properties	Description
Payment Frequency	Select the payment frequency.
Payment Day Count	Select the payment daycount.
Payment Date Roll	Select the payment date roll, when the payment date falls on a non business day. You can also set the following properties: • Payment Timing - Select "At Start" or "In Arrears". • Payment Interest Calculation – For payment timing "In Arrears", select EXP for an exponential interest calculation, or NONE otherwise. – For payment timing "At Start", select DISC for discounting, or NONE otherwise. • Payment Accrual - Select the adjustment method of the accrual period: – ADJUSTED - Adjusts the period's end date if it falls on a non-business day, according to the payment date roll convention. Rolling the end date adjusts the period length, so a rolled date changes the interest amount. – UNADJUSTED - Does not adjust the period's end date for non-business days. – MAT_UNADJUSTED - Adjusts the period's end date if it falls on a weekend unless it

Properties	Description
	is the last period (maturity), in which case it is not adjusted. Thus the adjustment method may affect intermediate interest amounts, but it does not change the maturity date. – FRN - Adjusts the period's end date for non-business days to the next business day unless the next business day is in the following month, in which case it uses the preceding business day. • Payment Holidays - Select the payment calendars to determine business days for the cashflow payment date (accrual start date). • Settle Holidays - Select the settlement calendars to determine business days for the cashflow settlement dates. • Payment Lag - Enter the number of days between the interest date and the payment date, and specify Business or Calendar. The Payment Lag will persist is terms of days. Entering "30D" and saving will be displayed as "1M" on retrieval. Entering "d" for days, "w" for weeks, "m" for months and "y" for years as a tenor (EX: 1m b = -1M Business) will be saved as days. • Payment Day - Select to enter payment details. This makes a field available next to the Day label where you can specify which day the payment should take place. For example, enter "5" to specify that the payment date occurs on the 5th of the month following the swap end date. • Payment Roll Day - Select a date roll adjustment to adjust the date, or none otherwise. – DAY - Enter a fixed day of the month to which the date will be rolled. For example, entering "5" forces the payment date to be on the fifth calendar day of the month. Entering "31" indicates the last day of the month, even for months with fewer than 31 days - The selection changes to EOM. – IMM - The payment date is rolled according to the IMM_WED date roll convention by default. If the date roll convention is IMM_MON, then the payment date is rolled according to the IMM_MON date roll convention. – EOM - The last day of the month, regardless of the number of days in the month. • Payment Rounding - Select the rounding method. • Payment Begin Date Roll - Select a date roll for the start date. • Payment Begin Holidays - Select a holiday calendar for the start date. • Payment End Date Roll - Select a date roll for the end date. • Payment End Holidays - Select a holiday calendar for the end date. • Extra Day in First Period - Check to add a day to the first payment period. The system uses the daycount (nominator+1)/denominator on the first cashflow - For example ACT+1/360. • Extra Day in Last Period - Check to add a day to the last payment period. The system

Properties	Description
	uses the daycount (nominator+1)/denominator on the last cashflow - For example ACT+1/360.
Exclude First	Check to exclude the first caplet from the cashflows.
Cash Settle Method	Only applies to cash settlement. Select the settlement method to compute the settlement amount. [**NOTE**: If you have defined cash settlement defaults (CSD), it will pick up the settlement method from the CSD defined for the agreement specified in domain "CashSettleDefaultsAgreements" / rate index / currency - It is ANY by default. For example, ANY is defined in domain "CashSettleDefaultsAgreements", and you have a CSD defined for ANY / LIBOR / USD. If the trade is LIBOR / USD and settles in Cash, then the settlement method from the CSD will be set on the trade by default] You can set additional properties: • Valuation Date - Defaults to the Expiration Date. • Valuation Lag - Enter the number of days between the valuation date and the cash settle payment date. • Valuation Holidays - Select the holiday calendar. • Cash Settle Payment Date - Defaults to the Delivery Date. • Cash Settle Currency - Select the currency of the settlement amount. • Rate Source - You can select a rate source or none (empty). Rate sources are defined in the "RateSource" domain. If you select none, you have to select a set of reference banks in Rek Bank 1, Ref Bank 2, Ref Bank 3, Ref Bank 4, Ref Bank 5 - Legal entities of role ReferenceBank. If you select OTHER_SOURCE, you need to select a rate index in Cash Settle Rate Index. • Quotation Rate - Select the instance of the quotation rate that you want to use: MID, BID, or ASK. • Settle Rate - Displays the settlement rate used to compute the settlement amount for the cash settlement methods “Par Yield Curve - Adj.” and “Par Yield Curve - Unadj.”. In the Option Exercise Window, there is a Settlement Rate field. You can get the value from the pricing environment by clicking **Price**, or you can enter a value. If you enter a rate, it will be displayed here. • Cash Settle Location - Select the ISDA location.
Stub Type	Select the stub period, if applicable, or none. You can also set the following properties: • Stub Tolerance - Enter the number of days of stub tolerance. • Stub First Date - Enter the end date of the first period for SPECIFIC FIRST and SPECIFIC

Properties	Description
	BOTH. • Stub Last Date - Enter the start date of the last period for SPECIFIC LAST and SPECIFIC BOTH. • Stub Full Coupon Date - Enter the full coupon date for FULL COUPON. • First Stub Interpolation - Select Interpolate to interpolate on the first period, or none otherwise. ▶ Choose **Help > View Help** for complete details. • First Stub Tenor 1 - Select the first index tenor for interpolation of the first period. • First Stub Tenor 2 - Select the second index tenor for interpolation of the first period. • Last Stub Interpolation - Select Interpolate to interpolate on the last period, or none otherwise. ▶ Choose **Help > View Help** for complete details. • Last Stub Tenor 1 - Select the first index tenor for interpolation of the last period. • Last Stub Tenor 2 - Select the first index tenor for interpolation of the last period. • Interpolated Rate Rounding - Select the stub rate’s rounding method. • Interpolated Rate Decimals - Enter the number of decimal places for interpolated rate rounding. • Interpolation Style - Select the interpolation style: – Index Based - The DateRoll, the holidays and the daycount are coming from the rate index. – Product Payment - The DateRoll, the holidays and the daycount are coming from the coupon panel. ▶ Choose **Help > View Help** for complete details.
Compounding Type	Select the compounding type, if applicable, or none. You can also set the following properties: • Compounding Frequency - Select the compounding frequency. The compounding frequency must be more frequent than the payment frequency. When you select a DLY compounding frequency for a rate index that is not setup for daily compounding, the DailyCompound calculator is used. • Compounding Spread - Enter the spread. • Compounding Stub - Enter the stub period on compounding period if any. Only applies to LUN(R), BIWK(R), WK(R) compounding frequencies. • Use Rest Period Dates - Check to compound trades based on the reset dates rather than the payment dates.

Properties	Description
Initial Comp Calc Notional	Compounding trades only. When doing a partial termination, the PRINCIPAL transfer takes into account the part of interest that is not capitalized. On the new trade, you can adjust the initial compounding notional as needed.
Previously Accrued Interest	Compounding trades only. Displays the amount of interest that is not capitalized on the new trade resulting from a partial termination.
Interest Amount	Displays the interest amount of a zero coupon Fixed Rate upon pricing.
Factor	Bond futures only. Displays the cheapest to deliver factor.
Strike Included	You can set the following properties: Physical Delivery Holidays - Select the calendar(s) the application uses to determine the business days. Physical Delivery Lag - Specify lag days from the end date of the payment period (in business or calendar days) for the actual payment to take place. By default, business days are used to calculate the payment date. To specify calendar days, double-click the Bus label to toggle to Cal. Physical Delivery Day - Number of delivery days.

4.10 "Product: Settlement" Properties

"Product: Settlement" properties apply to many types of strategies. Only relevant settlement fields will be editable for each property.

Properties	Description
Settle Ccy	Displays the settlement currency.
Calculation Ccy	Select the intermediate currency to convert notional currency to settle currency. Enter: • Calculation FX Rate • Calculation FX Source • Calculation FX Reset Lag • Calculation FX Reset Holidays
Next Coupon	Displays the date for the next coupon payment.
Settlement Amount	Displays the settlement amount in the settlement currency.
Settlement Principal	Displays the settlement principal.

Properties	Description
Settlement Accrual	Displays the settlement accrual.
Accrual Days	Accrual Days displays the number of days accrued in a bond's current coupon period (Settlement Date - current coupon Start Date). This property is used with strategies that include an underlying bond.

4.11 "Date" Properties

"Date" properties apply to all types of strategies. Only relevant date properties will be available for applicable strategies.

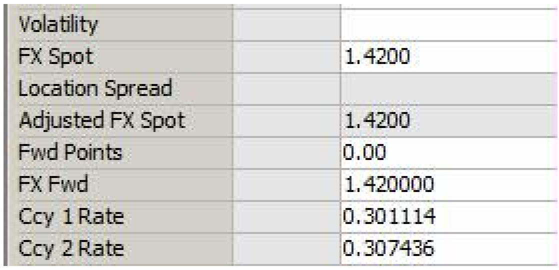
Properties	Description
Trade FX Date	Displays the trade date adjusted by the 5pm rule if set.
Trade Date	Displays the valuation date set in the Pricing window of the pricing sheet by default. You can modify as needed. ▶ See *Using the Pricing Sheet* documentation for details.
Trade Time	Displays the valuation time set in the Pricing window of the pricing sheet. You can modify as needed. ▶ See *Using the Pricing Sheet* documentation for details.
Settlement Date	Select the settlement date.
Start Date	Enter the start date.
End Date	Enter the end date.
Expiry Date	Enter the expiration date.
Expiry	Displays expiration date details.
Expiry Cut	Displays the default expiry timezone. The default expiry timezone is set in the Defaults panel under **Configuration > User Preferences**.
Expiry Delivery Link	Select one of four options in the list: • On - Links the delivery date to the expiration date using the default set for the currency pair, so that when one is updated, the other one is updated accordingly. • Off - The delivery date and expiration are independent of each other. • Equal - The delivery date and expiration date are made to equal each other. • T+1 - The delivery date follows one day after the expiry date.
Compound Expiry Date	Enter the expiry date of the compound option.
Compound Expiry	Displays details about the "Compound Expiry Date".
Compound Expiry Cut	Displays the default expiry timezone for the compound option. The default expiry timezone

Properties	Description
	is set in the Defaults panel under **Configuration > User Preferences**.
Compound Term	Displays the "Compound Expiry Date" as a tenor.
Compound Delivery Date	Enter the delivery date of the compound option.
Compound Delivery	Displays details about the "Compound Delivery Date".
Delivery Date	The delivery date of the option. You can modify as needed.
Delivery	Displays details on the delivery date.
Alternate Delivery Date	Used for FX, FX Forward, and FX Swap strategies. The Alternate Delivery Date allows you to settle the secondary currency in an FX trade on a different date from the Trade Date. When a date is entered in this field, the secondary currency will be settled on the entered date and the primary currency is settled on the Trade Date. For a swap trade, the near leg Alternate Delivery Date should not be before the Trade Date, and the far leg Alternate Delivery Date shouldn't be before the near leg Delivery Date. ▶ For further details on this property, see "Alternate Settle Date" in the Calypso *Deal Station Trade Entry* documentation.
Trade Term	Displays the expiry date as a tenor.
First Exercise Date	Enter the first date the option can be exercised for American options.
Reset Effective Date	Enter the date at which the strike will be known.
VF Straddle Expiry Date	Enter the expiration date of the underlying option (straddle).
VF Straddle Term	Displays the "VF Straddle Expiry Date" as a tenor.
VF Straddle Cut	Select the expiry timezone for the expiration date of the underlying option (straddle). Expiry timezones are created from the Calypso Navigator using **Configuration > Definitions > Expiry Time Zone**.
Fixings	Displays the number of fixings for averaging the rate or strike. You can also view the following properties: • Schedule Start Date - The schedule start date. • Schedule End Date - The schedule end date. • Schedule 2 Start Date - The schedule start date. • Schedule 2 End Date - The schedule end date. • Payment Frequency Type - The payment frequency type. • Fixing Policy - The fixing policy. • Fixing Frequency - The fixing frequency.

Properties	Description
	• Fixing Calender - The fixing calendar. • Fixing Time Zone - The global time that the commodity reset is expected to be known. This can be, but doesn't have to be, the time zone of the actual exchange or publication. • Fixing Time - The global time that the commodity reset is expected to be known. • First Contract - Only available to payment frequency types FutureContractFND or FutureContractLTD. Displays the first underlying futures contracts that will be used as fixing references. • Last Contract - Only available to payment frequency types FutureContractFND or FutureContractLTD. Displays the last underlying futures contracts that will be used as fixing references. • Intraday Policy - The Intraday Policy to be used. • DST Name - The daylight savings.
Cash Date	Enter the cash date.
Effective Date	Enter the effective date.

4.12 "Market Data" Properties

"Market Data" properties apply to all types of strategies. Only relevant market data field will be editable for each property.



Volatility		
FX Spot		1.4200
Location Spread		
Adjusted FX Spot		1.4200
Fwd Points		0.00
FX Fwd		1.420000
Ccy 1 Rate		0.301114
Ccy 2 Rate		0.307436

Sample Market Data properties

Properties	Description
Credit Spread (5Y)	Enter a credit spread value for a 5 year tenor. • Recovery Rate - Enter the recovery rate. This value will be used if no recovery rate for the counterparty is found.
Volatility	Displays the volatility based on the market data associated with the selected pricing environment. You can modify this value.
FX Spot	Displays the spot rate from the quote set associated with the selected pricing environment. You can modify this value.

Properties	Description
Location Spread	Displays the commodities location spread.
Adjusted FX Spot	Displays the spot adjusted of location spread.
Fwd Points	Displays the forward points based on the market data associated with the selected pricing environment. You can modify this value. You can compute forward points on-the-fly based on "Ccy 1 Rate" or "Ccy 2 Rate". You can also compute "Ccy 1 Rate" based on forward points - Choose **Configuration > Rate Triangulation > Adjust Ccy 1 Rate**. It will keep "Ccy 2 Rate" constant. Or you can compute "Ccy 2 Rate" based on forward points - Choose **Configuration > Rate Triangulation > Adjust Ccy 2 Rate**. It will keep "Ccy 1 Rate" constant.
FX Fwd	Displays the forward rate based on FX Spot and Fwd Points.
Ccy 1 Rate	Displays the interest rate of the primary currency based on the market data associated with the selected pricing environment. You can modify this value.
Ccy 2 Rate	Displays the interest rate of the quoting currency based on the market data associated with the selected pricing environment. You can modify this value.
Spot	Fixing price. Displays the closing rate of the underlying.
Spot Reference	Displays the fixing price. Spot Rate as effective date.

4.13 "Price" Properties

Price properties apply to all types of strategies. Only relevant price properties will be available for applicable strategies.

Properties	Description
Exercise Fee Type	For Swaptions, select a premium fee type: Amount or %.
Exercise Fee	For Swaptions, enter the premium fee amount or %.
Premium Date	Displays the premium payment date. The system uses the spot date by default. You can change this to a forward date. If you use a forward date, the application adjusts the premium amount using the discount curve from the selected pricing environment.
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.

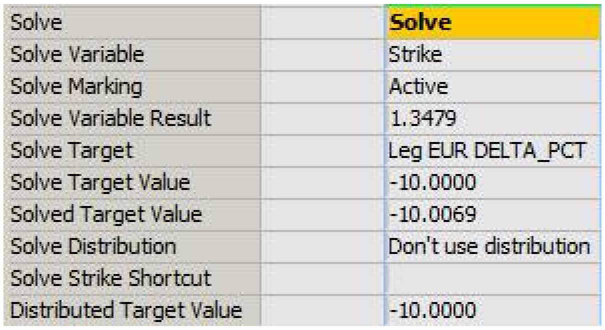
Properties	Description
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Price Format	Select the currency and unit amount of the prices. The unit amount defaults to the price format specified under **Configuration > User Preferences**.
Model Premium	Displays the theoretical premium computed by the pricer.
Model Price	Displays the unit amount of model premium based on the selected Price Format. You can also view the following properties: • Model Ccy1 % • Model Ccy1 Pips • Model Ccy2 % • Model Ccy2 Pips If the Rate Side is Bid/Ask, you will see Bid/Ask prices displayed instead of the mid price.
Trader Premium	Displays the theoretical premium computed by the pricer. You can modify its value.
Trader Price	Displays the unit amount of trader premium based on the selected Price Format. You can also view the following properties: • Trader Ccy1 % • Trader Ccy1 Pips • Trader Ccy2 % • Trader Ccy2 Pips If the Rate Side is Bid/Ask, you will see Bid/Ask prices displayed instead of the mid price.
Customer Premium	Displays the premium amount such that Customer Premium = Sales Premium + Trader Premium. Displays the customer premium such that: • Customer Premium = Trader Premium + Sales Premium (Sell) • Customer Premium = Trader Premium - Sales Premium (Buy) The customer premium is the actual fee that will be paid/received. ***Sub-properties for FX Options***

Properties	Description
	The Customer Premium property for FX Options includes two sub-properties for specifying a third-party legal entity, or beneficiary, as the recipient. This allows for successful generation of new transfers to the beneficiary from the Pricing Sheet strategy. **Premium Legal Entity** - Select a legal entity as the recipient for the premium. Legal entities are those defined in the Legal Entity window. **Premium Legal Entity Role** - Select a role for the legal entity. Legal entity roles are the same options provided in the "Role(s)" field of the Legal Entity window.
Customer Price	Displays the unit amount of customer premium based on the selected Price Format. You can also view the following properties: • Customer Ccy1 % • Customer Ccy1 Pips • Customer Ccy2 % • Customer Ccy2 Pips If the Rate Side is Bid/Ask, you will see Bid/Ask prices displayed instead of the mid price.
Customer Fee Ccy	Select the currency of the customer premium. It can be different from the primary and quoting currencies.
Customer Fee	Displays the customer premium in customer fee ccy. You can also display: • Customer Fee FX Rate - You can edit the FX rate between the fee currency and the currency of the Price Format as needed. • Customer Fee Ccy Pair - Displays the currency pair between the fee currency and the currency of the Price Format. • Customer Fee FX Spot Rate To Base - Displays the FX rate between the fee currency and the base currency of the pricing environment.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.
Sales Premium	Displays the Sales Fee in premium currency.
Sales Fee	This property is only enabled if a Sales Person is selected. Enter the sales fee amount. Upon saving, a fee is created. The fee type depends on the product types: FXOPT_MARGIN for FX options, SPOT_MARGIN and FAR_MARGIN for FX, and CA_SALES_MARGIN for all other product types. ▶ Please refer to Calypso Fees documentation for configuring sales margins. You can also display: • Sales Fee Date - The date of the sales fee. • Sales Fee Ccy - The default sales fee currency, if any. The default sales fee currency is

Properties	Description
	set in the Defaults panel under **Configuration > User Preferences**. Another sales fee currency can be entered as needed. • Sales Fee FX Rate - The FX rate between the premium currency and the sales fee currency in case they differ. It is automatically populated if a real-time feed is setup. If the FX rate between the premium currency and the sales currency changes, user can elect to recompute the premium or the sales fee using the parameter "On Sales Fee FX Rate change" in the Defaults panel under **Configuration > User Preferences**. The MarginFXRate trade keyword stores the rate used in the conversion.
Sales Location	You can select the location of the sales representative. The sales location is a legal entity of role SalesLocation. The sales fee is paid to that legal entity if selected. If the sales location is not selected, the sales fee is paid to the counterparty of the trade if the domain "DefaultSalesMarginFeeLE" contains the value "UseTradeCptyAsDefault". Otherwise, it is paid to the "NONE" counterparty.
Modified Strike	Displays the strike.
Negotiated Price Type	Displays the negotiated price type.
Clean Price	Enter the clean price (value of bond - accrued interest).
Dirty Price	Enter the dirty price (value of bond + accrued interest).
Gross Price	Displays inflation adjusted price. This value is for Inflation Bonds only.
Yield	Enter the yield to maturity based on bond inputs.

4.14 "Solver" Properties

"Solver" properties apply to all types of strategies. They are only populated when solving is applied, and are not editable.



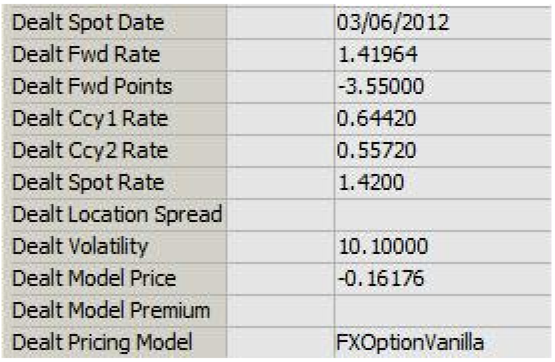
Solve		**Solve**
Solve Variable		Strike
Solve Marking		Active
Solve Variable Result		1.3479
Solve Target		Leg EUR DELTA_PCT
Solve Target Value		-10.0000
Solved Target Value		-10.0069
Solve Distribution		Don't use distribution
Solve Strike Shortcut		
Distributed Target Value		-10.0000

Sample Solver properties

Properties	Description
Solve Variable	Displays the property to solve for.
Solve Marking	Displays "Solve" for custom solving. ▶ Refer to Calypso Solving documentation for complete details on using the solving capabilities.
Solve Variable Result	Displays the value of the solved property.
Solve Target	Displays the target property.
Solve Target Value	Displays the target value that you want to obtain.
Solved Target Value	Displays the computed target value.
Solve Distribution	Displays the distribution method selected when solving for multiple trade.
Solve Strike Shortcut	Displays the solving shortcut applied to the Strike if any.
Solve Rate Shortcut	Displays the solving shortcut applied to the Rate if any.
Distributed Target Value	Displays the distributed target value when solving for multiple trades.

4.15 "Dealt Data" Properties

"Dealt Data" properties apply to all types of strategies. They are only populated on saved trades, and are not editable.



Dealt Spot Date		03/06/2012
Dealt Fwd Rate		1.41964
Dealt Fwd Points		-3.55000
Dealt Ccy1 Rate		0.64420
Dealt Ccy2 Rate		0.55720
Dealt Spot Rate		1.4200
Dealt Location Spread		
Dealt Volatility		10.10000
Dealt Model Price		-0.16176
Dealt Model Premium		
Dealt Pricing Model		FXOptionVanilla

Sample Dealt Data properties

Properties	Description
Deal Spot Date	Displays the spot date saved with the trade.
Dealt Fwd Rate	Displays the forward rate saved with the trade.
Dealt Fwd Points	Displays the forward points saved with the trade.
Dealt Ccy1 Rate	Displays the interest rate of the primary currency saved with the trade.
Dealt Ccy2 Rate	Displays the interest rate of the quoting currency saved with the trade.

Properties	Description
Dealt Spot Rate	Displays the spot rate saved with the trade.
Dealt Location Spread	Displays the commodities location spread.
Dealt Volatility	Displays the volatility saved with the trade.
Dealt Model Price	Displays the model price saved with the trade.
Dealt Model Premium	Displays the model premium saved with the trade.
Dealt Pricing Model	Displays the pricing model saved with the trade.

4.16 "Keyword" Properties

"Keyword" properties apply to all types of strategies.

Properties	Description
@<trade keywords>	These properties refer to trade keywords. The list of available keywords depends on which keywords are defined in your system. Enter values for trade keywords as needed. When you add a trade keyword to domain “PricingSheetKeyword.Boolean”, it will appear as a checkbox in the pricing sheet. When you add a trade keyword to domain “PricingSheetKeyword.Date”, it will allow selecting a date from a calendar. ▶ Refer to Calypso System Keywords documentation for a description of out-of-the-box keywords.

4.17 "Pricer" Properties

"Pricer" properties apply to FX Option strategies.

Properties	Description
Pricer.<property>	These properties display values computed by the pricers.
Pricer.Spot	Spot rate used for pricing the option.
Pricer.Pts	FX forward points for the Delivery Date from discount curves/FX curve. Is based on FX_POINTS=true/false.
Pricer.Fwd	FX forward rate for the Delivery Date.
Pricer.SpotDf1	Ccy1 df (Spot Date, Valuation Date).
Pricer.SpotDf2	Ccy2 df (Spot Date, Valuation Date).
Pricer.Df1	Ccy1 df (Delivery Date, Valuation Date).

Properties	Description
Pricer.Df2	Ccy2 df (Delivery Date, Valuation Date).
Pricer.SpotDate	Spot Date based on the currency pair, pricing environment, time zone, Day Change Rule, and system date/time.
Pricer.PrimDepoRt	Ccy1 forward rate (Spot Date to Delivery Date) with DCF as per currency default with no compounding up to one year - beyond one year, compounded annually.
Pricer.SecDepoRt	Ccy2 forward rate (Spot Date to Delivery Date) with DCF as per currency default with no compounding up to one year - beyond one year, compounded annually.
Pricer.ATMVol	ATM vol interpolated from the FX vol surface that respects the market conventions as defined in the surface. This is computed for display only and is not used in the pricer calculations.
Pricer.RRVol	The volatility of the 25 delta call minus the volatility of the 25 delta put of a RR: Vrr = Vcall – Vput.
Pricer.BFVol	The average of the volatility of the 25 delta call and the volatility of the 25 delta put minus the ATM vol: Vbf = 0.5*(Vcall + Vput) - Vatm.
Pricer.STVol	The average of the volatility of the 25 delta call and the volatility of the 25 delta put: Vst = 0.5*(Vcall + Vput).
Pricer.TimeToExp	(Expiry Date – Spot Date)
Pricer.FXDate	Valuation Date for the currency pair, taking into consideration the Valuation Date/Time and the Day Change Rule specified in the pricing environment.
Pricer.ValDatetime	The Valuation Date/Time based on the Time Zone specified in the pricing environment.

4.18 "Product: Cliquet" Properties

"Product: Cliquet" properties apply to all types of strategies.

Properties	Description
Participation	Enter the percentage of the return to return to the user.
Initial Coupon	Enter the Initial Coupon. It is used as a base coupon that period returns are added to.
Global Cap	The maximum return for the payoff.
Global Floor	The minimum return for the payoff.
Local Cap	The maximum return for any given reset period.
Local Floor	The minimum return for any given reset period.

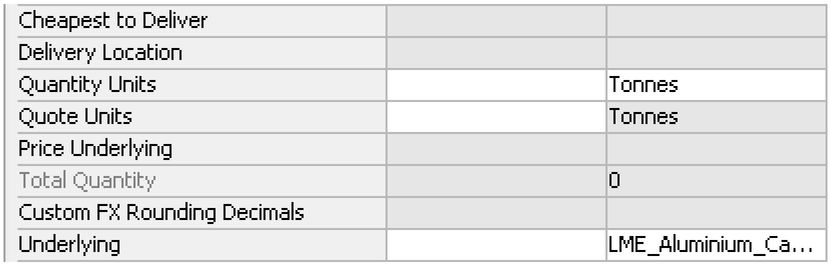
4.19 "Product: Chooser" Properties

"Product: Chooser" properties apply to all types of strategies.

Properties	Description
Compound Settlement Type	Enter Cash or Physical.

4.20 "Product: Commodity" Properties

"Product: Commodity" properties apply to all types of strategies.



Cheapest to Deliver		
Delivery Location		
Quantity Units		Tonnes
Quote Units		Tonnes
Price Underlying		
Total Quantity		0
Custom FX Rounding Decimals		
Underlying		LME_Aluminium_Ca...

Sample Product Commodity properties

Properties	Description
Averaging Method	Select a method for averaging the rates used in fixing. ▶ Please refer to Calypso Commodity Averaging Methods documentation for more details.
Averaging Rounding Method	Select the rounding method.
Cheapest to Deliver	Enter the cheapest to deliver amount.
Delivery Location	This is the delivery location for storage based commodities. It is populated from the CommodityLocation domain value. The pricer recognizes the delivery location and prices the forward according to the relevant location differentials.
Quantity Units	Unit of measure that the quantity represents. You can use a different unit type than the unit in the product definition. The quantity unit defaults to the unit defined in the commodity definition. If a unit other than the default unit is chosen, the application requires a conversion definition to correctly convert the units for the cashflows. Commodity positions are always kept in the default unit in the Position Keeper. Define the conversion definition in the Calypso Navigator using **Configuration > Commodites > Commodity Conversion**.
Quote Units	The commodity unit in which the reference price is quoted, i.e. USD/Barrel.
Price Underlying	Price of the underlying product.
Total Quantity	Displays the total quantity units over the life of the trade.

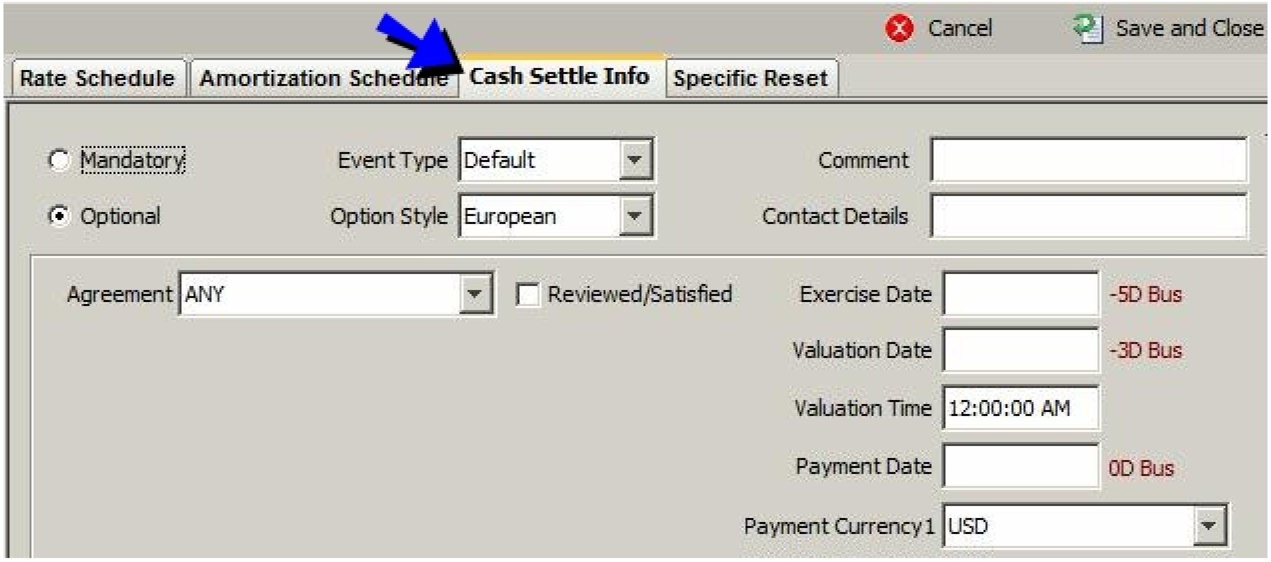
Properties	Description
Custom FX Rounding Decimals	When populated, FX rates will be rounded to a custom number of decimal points; otherwise, default rounding from the currency pair definition will be applied.
Custom Price Rounding	Enter the number of decimals to use when calculating the settlement price. Using this property at the trade level overrides the setting at the commodity level.

4.21 Cash Settle Info

Cash Settle Info allows defining a termination schedule (or break clauses) for a trade.

You can specify default cash settlement values by agreement / rate index / currency from the Calypso Navigator using **Configuration > Interest Rates > Cash Settlement Defaults**.

Right-click a trade and choose "Supplemental" to determine cash settle info.



○ Mandatory
● Optional
Event Type: Default
Option Style: European
Comment:
Contact Details:
Agreement: ANY
☐ Reviewed/Satisfied
Exercise Date: -5D Bus
Valuation Date: -3D Bus
Valuation Time: 12:00:00 AM
Payment Date: 0D Bus
Payment Currency1: USD

If cash settlement defaults have been created for the selected agreement / rate index / currency, the "Early Termination" section will be used as default values for Cash Settlement details.

» Enter the fields described below as needed then click **Save and Close**. You can define multiple settlement details for different dates.

Note that terminations are not enforced based on cash settlement details. The termination dates are for information purposes. However, if you terminate a trade at a specified date, the cash settlement details will be used to compute the settlement amount.

Fields	Description
Mandatory / Optional	Click the Mandatory or Optional radio button as needed.
Event Type	Select the event type that triggers the cash settlement.

Fields	Description
	The event type is populated for SwapsWire trades. Custom default values can be populated based on the event type. Refer to the *Calypso Developer's Guide* for details. You can register new event types in the domain "cashSettleEvent".
Comment	Enter a free form comment related to the event.
Option Style	Only applies to optional cash settlements. Select the option style: European, American, or Bermudan. • Exercise Date = Effective date of the exercise. • Valuation Date and Time = Valuation date and time used to determine the cash settlement amount. • Payment Date = Payment date of the cash settlement amount. ***European*** » Enter the exercise date, valuation date, valuation time, payment date, and payment currency. You can double-click the label that appears to the right of the dates to modify the lag. It brings up the OptionCalcDialog. See OptionCalcDialog below for details.
	American » Enter the first exercise date, valuation date, valuation time, payment date, payment currency, and last expiration date. You can double-click the label that appears to the right of the dates to modify the lag. It brings up the OptionCalcDialog. See OptionCalcDialog below for details.
	Bermudan » Generate a termination schedule by entering the From and To dates, selecting a frequency (Frq), holiday calendars, and clicking **Generate**. Note that the values for the dates default from the trade's start and end dates. If you enter a date shortcut (for example, 2y) in the To field, the application calculates the date from the value entered in the From field. See also legal agreement attribute "BermudanTradeDate" for defaults. The frequency and holiday calendars default to the payment details of the trade. The holiday calendars for the Exercise Date and Valuation Date also default to the payment details.
	OptionCalcDialog » Select the holiday calendar. » Enter a number of lag days, months or years in the Offset field. Days lag "D" can be business days or calendar days. Double-click the Bus label to switch to Cal as needed.

Fields	Description
	For months lag “M” and years lag “Y”, the system uses calendar days only. The “No Tenor” checkbox only applies to days lag, when you enter more than 31 days. If you check the “No Tenor” checkbox, the offset will be not be converted to a tenor. Otherwise it will be converted to a tenor. Note that the conversion is for display only. The system always stores 35D. » For European options only, enter the exercise fee. For American and Bermudan options, you can enter the exercise fee in the Ex Schedule panel. For Bermudan options, select the frequency of the exercise dates.
Contact Details	Enter free form contact information as needed.

Fields	Description
Agreement	You can select an agreement type, or ANY. It defaults to the agreement type defined in domain "CashSettleDefaultsAgreements". If cash settlement defaults exist for the selected agreement, rate index and currency, they will be loaded. If a legal agreement of specified type is defined between the counterparty and the processing organization for the specified currency and product type, it can also drive default values on the settlement details. **[NOTE: The legal agreement CANNOT be defined as "Master"]** ***Attribute TERMINATION_APPENDIX_MID*** The attribute TERMINATION_APPENDIX_MID drives the following default values: • Quotation Rate If TERMINATION_APPENDIX_MID = Yes or not set, it is set to MID. If TERMINATION_APPENDIX_MID = No, it is set to BID/ASK. • Exercise Party Pays If TERMINATION_APPENDIX_MID = Yes or not set, it is set to False (unchecked). If TERMINATION_APPENDIX_MID = No, it is set to True (checked). ***Attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL*** The attributes CASH_SETTLE_MANDATORY_DATEROLL (mandatory agreement) and CASH_SETTLE_OPTIONAL_DATEROLL (optional agreement) drive the default value of the Date Roll conventions (Ex Date and Pay Date). You can create domains “laAdditionalField.CASH_SETTLE_MANDATORY_DATEROLL” and “laAdditionalField.CASH_SETTLE_OPTIONAL_DATEROLL” to hold the possible values. ***Attribute BermudanTradeDate*** The attribute "BermudanTradeDate" controls the Bermudan “From Date”. If true, the From Date is the Trade Date, otherwise, it is the start date of the swap.
Reviewed / Satisfied	This checkbox appears checked when the trade has been reviewed from the Calypso Navigator in **Trade Lifecycle > Termination > Cash Settlement** (menu action `reporting.CashSettlementWindow`). For the Bermudan option style, the Reviewed/Satisfied checkbox can be set for each date.
Ex Date Convention	Select the date roll convention to be applied when the termination date falls on a non-business day. Date roll conventions are described in the Calypso Navigator under **Help > Date Roll Conventions**.

Fields	Description
	See legal agreement attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL for defaults.
Pay Date Convention	Select the date roll convention to be applied when the payment date falls on a non-business day. Date roll conventions are described in the Calypso Navigator under **Help > Date Roll Conventions**. See legal agreement attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL for defaults.
Earliest Exercise Time	Enter the earliest time on termination date when the option can be exercised. Defaults to Cash Settlement Defaults if any.
Expiration Time	Enter the time at which the trade is terminated. Defaults to Cash Settlement Defaults if any.
Cash Settle Method	Select a cash settlement method to compute the settlement amount. Defaults to Cash Settlement Defaults if any.
Rate Source	You can select a rate source or none (empty). You can add rate sources to the "RateSource" domain. If you select none, you have to select a set of reference banks. » You can select a legal entity of role ReferenceBank. If you select OTHER_SOURCE, you need to select a rate index from the Rate Index field.
Quotation Rate	Select the instance of the quotation rate that you want to use: MID, BID, or ASK. See legal agreement attribute TERMINATION_APPENDIX_MID for defaults.
Exercise Party Pays	Check to indicate that the exercising party pays the settlement amount, otherwise the exercising party receives the settlement amount. See legal agreement attribute TERMINATION_APPENDIX_MID for defaults.
Location	Select a location. Defaults to Cash Settlement Defaults if any, or to the currency’s location otherwise.

4.22 Trade Drilldown

Most types of trades that can be captured in the Pricing Sheet can also be captured in native trade windows. When drilling down to such a trade from a report, the native trade window will usually be invoked by default.

To invoke the Pricing Sheet by default instead, you need to define a Trade Window Configuration using **Configuration > User Access Control > Trade Window Configuration** (menu action `refdata.TradeWinConfigWindow`) from the Calypso Navigator.

You can modify an existing configuration or create a new configuration.

- Select the product type, the product subtype, and enter the class name `pricingSheet.PricingSheetWindow` to invoke the Pricing Sheet by default.
- Then associate the configuration with your Calypso user name under **Configuration > User Access Control > User Defaults** in the Trade Window Config field.

You need to restart the Calypso Navigator in order for the change to take effect.

5. Capturing Commodities Trades

To capture commodity trades in the Pricing Sheet, you first need to define Commodity products and resets.

▶ Please refer to Calypso Commodities Trading for details.

Then select a Commodity strategy and set the properties as needed. You can also select a strategy template to populate default values.

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to Commodity trades are described below.

- Commodity Cap
- Commodity Forward
- Commodity Spot
- Commodity Option
- Commodity Swap
- Commodity Swaption
- Commodity Vanilla
- Commodity Barrier
- Commodity Digital
- Commodity FwdStart
- Quantity Schedule for Commodities
- Spread and Strike Schedule for Commodities

Fixing the Price of a Commodity

The price can be fixed in the Price Fixing window.

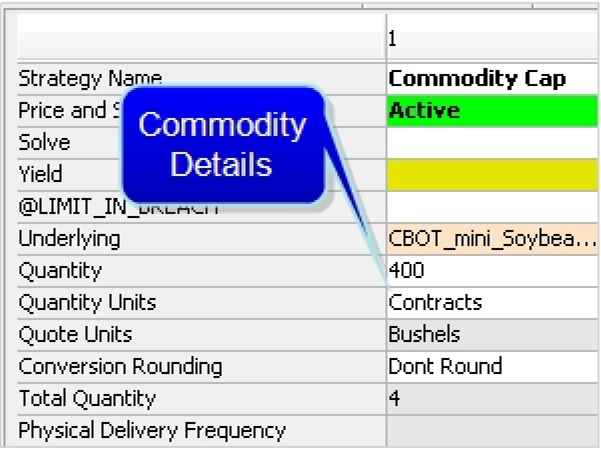
▶ For details on using the Price Fixing window, see "Price Fixing" in Calypso *Trade Lifecycle* documentation.

5.1 Commodity Cap

This strategy is no longer supported for new trade booking. Only existing trades can be opened in this strategy.

Properties

Put/Call - Date - Exercise type - Underlying details



	1
Strategy Name	Commodity Cap
Price and S	Active
Solve	
Yield	
@LIMIT_IN_	
Underlying	CBOT_mini_Soybea...
Quantity	400
Quantity Units	Contracts
Quote Units	Bushels
Conversion Rounding	Dont Round
Total Quantity	4
Physical Delivery Frequency	

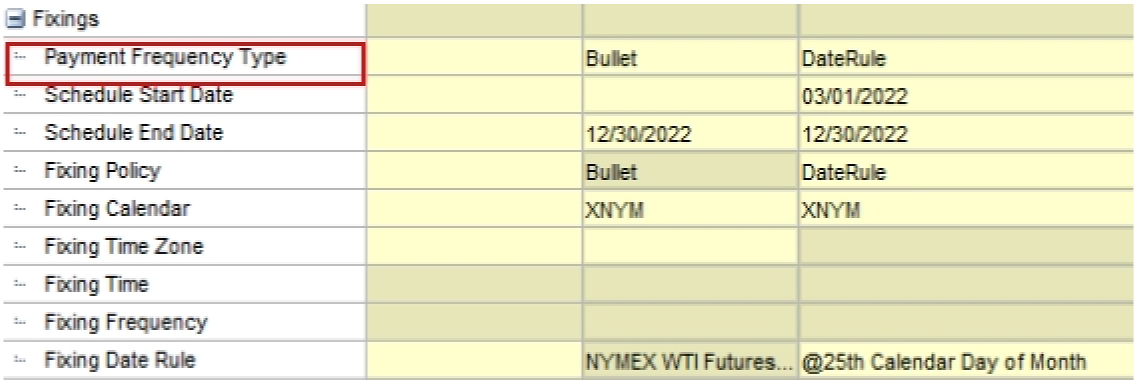
"Product: Style" Properties

Properties	Description
Buy/Sell	Select the direction of the trade leg from the book's perspective.
Settle Type	Select the settle type, Cash or Compo. Cash is set by default. When Compo is selected, Settle Ccy and other FX related properties will become editable.
Strike	Enter the strike price per unit. The input fields vary depending on the Option Type that you select.
Settlement Source	Select the source to be used as a pricing reference for settlement calculations.

"Product: Date" Properties

Properties	Description
Trade Date	Enter the start date and time of the trade. The trade date defaults to the current date.
Settle Date	Enter the maturity date for the trade. (For most emissions trades, the settle date is equal to the allowance delivery date.)

"Price Fixing" Properties



Fixings			
Payment Frequency Type		Bullet	DateRule
Schedule Start Date			03/01/2022
Schedule End Date		12/30/2022	12/30/2022
Fixing Policy		Bullet	DateRule
Fixing Calendar		XNYM	XNYM
Fixing Time Zone			
Fixing Time			
Fixing Frequency			
Fixing Date Rule		NYMEX WTI Futures...	@25th Calendar Day of Month

The several properties associated with Fixings in the Pricing Sheet are either editable or non-editable depending on the Payment Frequency Type setting. For example, the Averaging Method and Averaging Rounding Method properties are available for editing with all payment frequency types except for "Bullet," "Daily," and "ThirdWednesday."

Properties	Description
Payment Frequency Type	Select the payment frequency type. For the DateRule type, set the date rule in the Fixing Date Rule field. ▶ For details on Payment Frequency Type settings, see "Commodity Payment Frequencies" in the Calypso *Commodities* documentation.
Schedule Start Date	Enter the Schedule start date
Schedule End Date	Enter the Schedule end date
Fixing Policy	Select the Fixing Policy. ▶ Please refer to Calypso Commodity Fixing Policies documentation for more details.
Fixing Calendar	Select the fixing calendar.
Fixing Time Zone	The global time that the commodity reset is expected to be known. This can be, but doesn't have to be, the time zone of the actual exchange or publication.
Fixing Time	The global time that the commodity reset is expected to be known.
Fixing Date Rule	Select the date rule for the DataRule payment frequency type.
First Contract	Only available to payment frequency types FutureContractFND or FutureContractLTD. Displays the first underlying futures contracts that will be used as fixing references.
Last Contract	Only available to payment frequency types FutureContractFND or FutureContractLTD. Displays the last underlying futures contracts that will be used as fixing references.

Properties	Description
Intraday Policy	Select the Intraday Policy to be used. ▶ Please refer to Calypso Intraday Configuration documentation for more details.
DST Name	Displays the daylight savings.
Averaging Method	Select a method for averaging the rates used in fixing. ▶ Please refer to Calypso Commodity Averaging Methods documentation for more details.
Averaging Rounding Method	Select the rounding method.

"Product: Price" Properties

Properties	Description
Barrier	Enter the barrier count.
Barrier Type	Select the type of barrier: 'UI', 'UO', 'DI' or 'DO'.
Barrier Duration	Enter Full or NONE.
Rebate	The amount of the rebate per commodity unity. The rebate is entered in amount per strike unit. For example, a rebate may be entered as "0.35 per barrel" by entering 0.35 in this field.
Rebate Currency	The currency of the rebate. This should always be equal to the settlement currency of the option.
Rebate Timing	The payment schedule of the rebate. This can be paid at the original option maturity (At Maturity) or on a date relative to the knock out event (At Instant).

"Underlying Details" Properties

Properties	Description
Underlying	Select the commodity reset which will drive the forward. When the reset is selected, fields specific to the reset pre-fill with the appropriate information.
Quantity	The quantity of the certificate in commodity units.
Quantity Units	Unit of measure that the quantity represents. You can use a different unit type than the unit in the product definition. The quantity unit defaults to the unit defined in the commodity definition. If a unit other than the default unit is chosen, the application requires a conversion definition to correctly convert the units for the cashflows. Commodity positions are always kept in the default unit in the Position Keeper. Define the conversion definition in the Calypso Navigator under **Configuration > Commodites > Commodity Conversion**.
Conversion Rounding	Round: FX conversions will be rounded.

Properties	Description
	Don't round: FX conversions will not be rounded.
Total Quantity	Displays the total quantity units over the life of the trade.
Physical Delivery Frequency	Specify the frequency of the payment.
Custom FX Rounding Frequency	When populated, FX rates will be rounded to a custom number of decimal points; otherwise, default rounding from the currency pair definition will be applied.

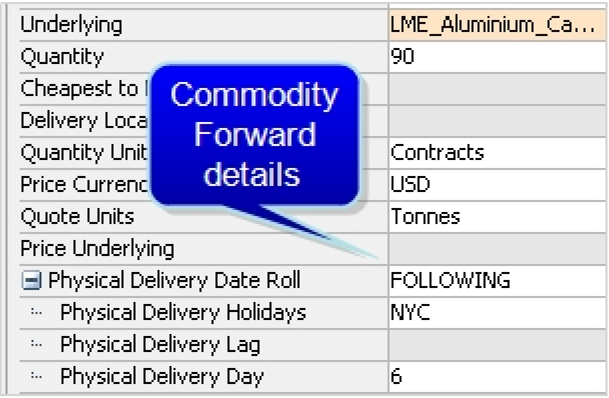
5.2 Commodity Forward

The commodity forward trade is based on the commodity reset, not the commodity itself. You must define a reset to construct a commodity forward trade.

Commodity forward trades without certificates do not update the position by default. You need to run the scheduled task CMD_FWD_SETTLE on the settlement date to terminate the commodity forward trade and create a commodity spot trade. If you want to update positions for commodity forward trades without certificates, you need to set the environment property NEW_CMD_FWD_NO_POSITION = false. See below.

Properties

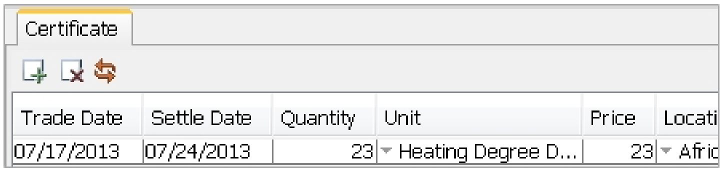
"Product: Style" Properties- Delivery Properties



Underlying	LME_Aluminium_Ca...
Quantity	90
Cheapest to	
Delivery Loca	
Quantity Unit	Contracts
Price Currenc	USD
Quote Units	Tonnes
Price Underlying	
Physical Delivery Date Roll	FOLLOWING
Physical Delivery Holidays	NYC
Physical Delivery Lag	
Physical Delivery Day	6

"Product: Style" Properties

Properties	Description
Buy/Sell	Select the direction of the trade leg from the book's perspective. To buy or sell a Certificate, right click and open the Supplemental panel. Select a certificate (sell trade) or define a certificate (buy trade).

Properties	Description
	 Certificate Trade Date, Settle Date, Quantity, Unit, Price, Locati 07/17/2013, 07/24/2013, 23, Heating Degree D..., 23, Afric Certificate details can be entered or a template can be used ▶ Please refer to Calypso Certificate Template documentation for more details.
Settle Type	Select the settle type, Cash or Compo. Cash is set by default. When Compo is selected, Settle Ccy and other FX related properties will become editable.
Strike	Enter the strike price per unit.

"Price Fixing" Properties

▶ See "Price Fixing" Properties for details.

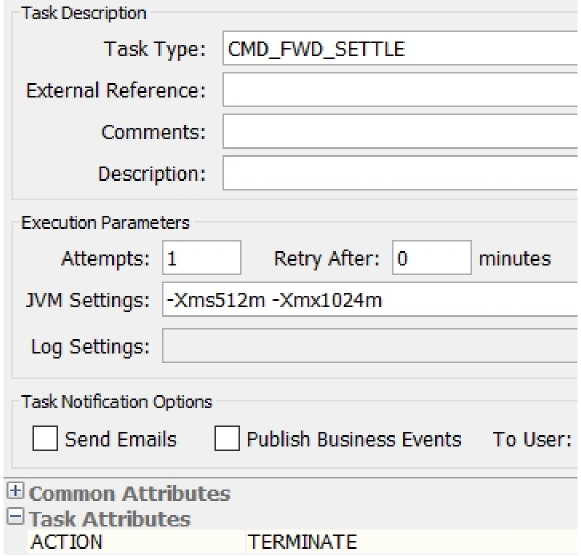
"Underlying Details" Properties

Properties	Description
Underlying	Select the commodity reset which will drive the forward. When the reset is selected, fields specific to the reset pre-fill with the appropriate information.
Quantity	The quantity of the certificate in commodity units.
Cheapest to Deliver	Enter the cheapest to deliver amount.
Quantity Units	Unit of measure that the quantity represents. You can use a different unit type than the unit in the product definition. The quantity unit defaults to the unit defined in the commodity definition. If a unit other than the default unit is chosen, the application requires a conversion definition to correctly convert the units for the cashflows. Commodity positions are always kept in the default unit in the Position Keeper. Define the conversion definition in the Calypso Navigator under **Configuration > Commodites > Commodity Conversion**.
Quote Units	The commodity unit in which the reference price is quoted, i.e. USD/Barrel.
Delivery Location	This is the delivery location for storage based commodities. It is populated from the CommodityLocation domain value. The pricer recognizes the delivery location and prices the forward according to the relevant location differentials.
Price Currency	Enter the currency for the price.
Physical Delivery Date Roll	Select the date roll convention to roll the payment dates when they fall on non-business days. The payment calendar is used to determine business days.

Properties	Description
	Date roll conventions are described in the Calypso Navigator under **Help > Date Roll Conventions**.
Physical Delivery Holidays	Click ... to select the calendar(s) the application uses to determine the business days.
Physical Delivery Lag	Specify lag days from the end date of the payment period (in business or calendar days) for the actual payment to take place. By default, business days are used to calculate the payment date. To specify calendar days, double-click the Bus label to toggle to Cal.
Physical Delivery Day	Number of delivery days.

Scheduled Task CMD_FWD_SETTLE

This scheduled task terminates commodity forward trades without certificates on the settlement date and creates commodity spot trades.



Task Description
Task Type: CMD_FWD_SETTLE
External Reference:
Comments:
Description:

Execution Parameters
Attempts: 1 Retry After: 0 minutes
JVM Settings: -Xms512m -Xmx1024m
Log Settings:

Task Notification Options
☐ Send Emails ☐ Publish Business Events To User:

⊞ Common Attributes
⊟ Task Attributes

ACTION	TERMINATE

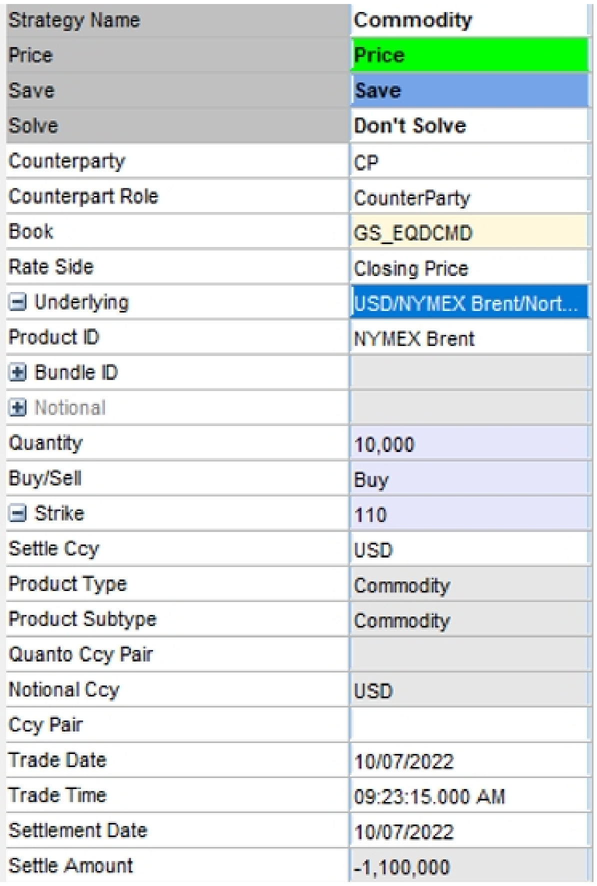
Select the action to be applied to the forward trade.

Commodity Forwards to Spot Migration

▶ See Commodity Forwards Migration for details.

5.3 Commodity Spot

Select the "Commodity" strategy to enter a commodity spot trade and set the properties as needed.



Strategy Name	Commodity
Price	Price
Save	Save
Solve	Don't Solve
Counterparty	CP
Counterpart Role	CounterParty
Book	GS_EQDCMD
Rate Side	Closing Price
⊟ Underlying	USD/NYMEX Brent/Nort...
Product ID	NYMEX Brent
⊞ Bundle ID	
⊞ Notional	
Quantity	10,000
Buy/Sell	Buy
⊟ Strike	110
Settle Ccy	USD
Product Type	Commodity
Product Subtype	Commodity
Quanto Ccy Pair	
Notional Ccy	USD
Ccy Pair	
Trade Date	10/07/2022
Trade Time	09:23:15.000 AM
Settlement Date	10/07/2022
Settle Amount	-1,100,000

"Underlying Details" Properties

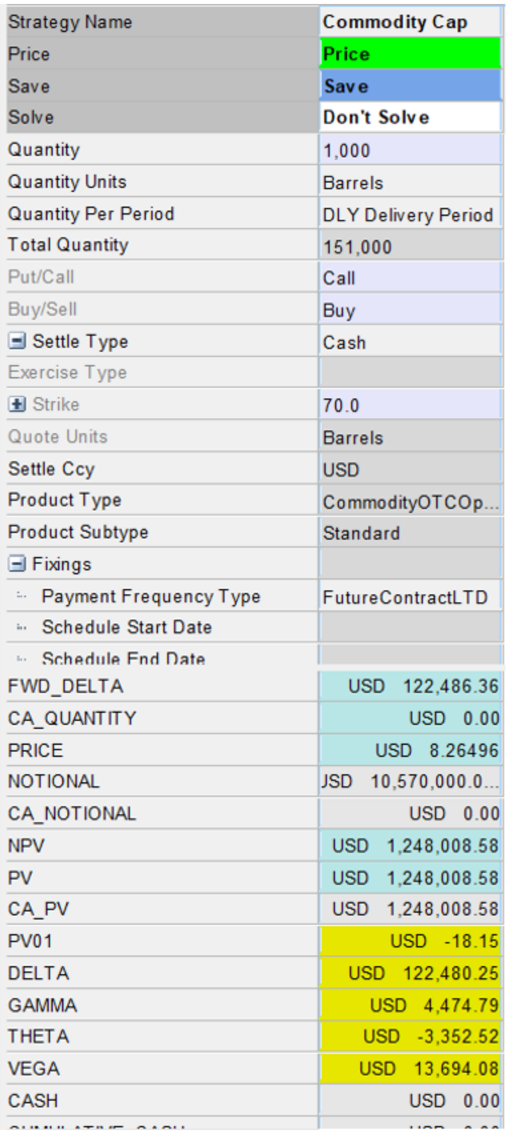
Properties	Description
Underlying	Select the commodity.
Quantity	Enter the quantity.
Strike	Enter the strike.

5.4 Commodity OTC Option

A Commodity OTC Option is a strip of Cash settled Asian or Average Rate Options. The payoff depends on an average of Reference Prices relative to a fixed Strike.

This strategy is no longer supported for new trade booking. Only existing trades can be opened in this strategy.

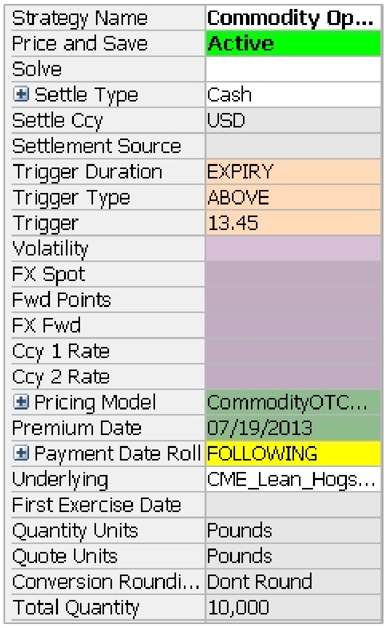
Select the "Commodity" strategy to enter a Commodity OTC Option trade and set the properties as needed.



Strategy Name	Commodity Cap
Price	Price
Save	Save
Solve	Don't Solve
Quantity	1,000
Quantity Units	Barrels
Quantity Per Period	DLY Delivery Period
Total Quantity	151,000
Put/Call	Call
Buy/Sell	Buy
⊟ Settle Type	Cash
Exercise Type	
⊞ Strike	70.0
Quote Units	Barrels
Settle Ccy	USD
Product Type	CommodityOTCOp...
Product Subtype	Standard
⊟ Fixings	
Payment Frequency Type	FutureContractLTD
Schedule Start Date	
Schedule End Date	
FWD_DELTA	USD 122,486.36
CA_QUANTITY	USD 0.00
PRICE	USD 8.26496
NOTIONAL	JSD 10,570,000.0...
CA_NOTIONAL	USD 0.00
NPV	USD 1,248,008.58
PV	USD 1,248,008.58
CA_PV	USD 1,248,008.58
PV01	USD -18.15
DELTA	USD 122,480.25
GAMMA	USD 4,474.79
THETA	USD -3,352.52
VEGA	USD 13,694.08
CASH	USD 0.00

Properties

Buy/Sell - Put/Call - Style Properties - Underlying Details - Price Fixing Details - Trigger Details



Strategy Name	**Commodity Op...**
Price and Save	**Active**
Solve	
⊞ Settle Type	Cash
Settle Ccy	USD
Settlement Source	
Trigger Duration	EXPIRY
Trigger Type	ABOVE
Trigger	13.45
Volatility	
FX Spot	
Fwd Points	
FX Fwd	
Ccy 1 Rate	
Ccy 2 Rate	
⊞ Pricing Model	CommodityOTC...
Premium Date	07/19/2013
⊞ Payment Date Roll	FOLLOWING
Underlying	CME_Lean_Hogs...
First Exercise Date	
Quantity Units	Pounds
Quote Units	Pounds
Conversion Roundi...	Dont Round
Total Quantity	10,000

"Product: Style" Properties

Properties	Description
Buy/Sell	Select the direction of the trade leg from the book's perspective.
Strike	Enter the strike price per unit.
Exercise Type	Select the exercise type.

"Price Fixing" Properties

- See "Price Fixing" Properties for details.

"Underlying Details" Properties

Properties	Description
Underlying	Select the commodity reset which will drive the forward. When the reset is selected, fields specific to the reset pre-fill with the appropriate information.
Quantity	The quantity of the certificate in commodity units.
Total Quantity	Displays the total quantity units over the life of the trade.
Quantity Units	Unit of measure that the quantity represents. You can use a different unit type than the unit in the product definition. The quantity unit defaults to the unit defined in the commodity definition. If a unit other than the default unit is chosen, the application requires a conversion definition to correctly convert the units for the cashflows. Commodity positions

Properties	Description
	are always kept in the default unit in the Position Keeper. Define the conversion definition in the Calypso Navigator under **Configuration > Commodites > Commodity Conversion**.
Quantity Per Period	Specify the frequency that the deal quantity is traded. For Pay Frequency – Future Contract LTD/FND, user can select below options for 'Per Period': • Future Contract Period - Specified Quantity is applied to each period. • DLY - Specified Quantity is applied to each day in a period. Total Quantity for the period will be Quantity * Number of Days in the period. • DLY Delivery Period - Specified Quantity is applied to each day of Delivery period of Contract. Total Quantity for the period will be Quantity * Number of Days in Delivery period of Future Contract.
Conversion Rounding	Set to 'Round' to indicate that the reference unit to deal unit conversion of the price should be rounded prior to calculating the amount for the cash flow. The default is 'Don't Round', which means the rounding occurs after the amount is calculated.

Trigger Properties

Properties	Description
Trigger Duration	Select None or EXPIRY.
Trigger Type	Select ABOVE or BELOW
Trigger	Enter the trigger amount.

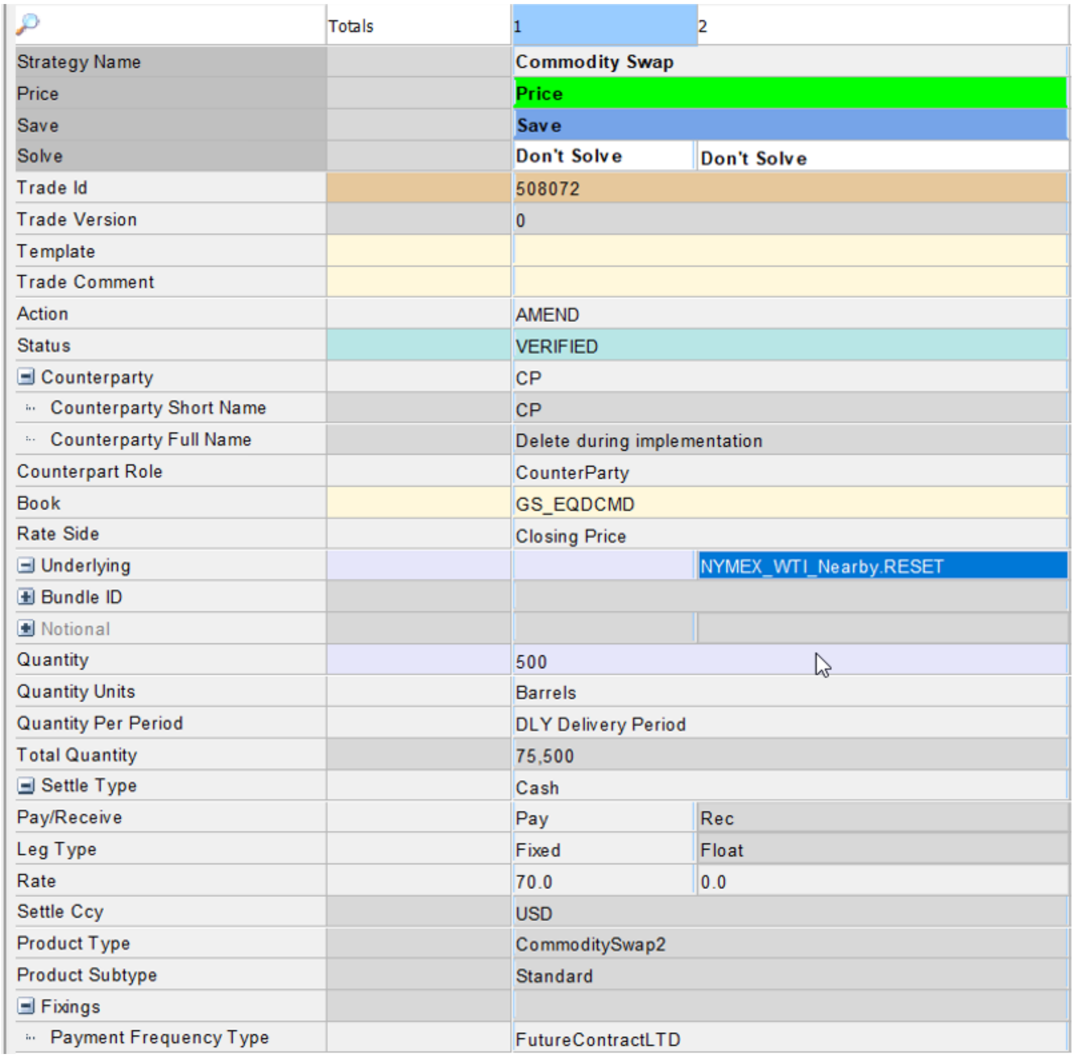
"Product: Payment" Properties

Properties	Description
Payment Date Roll	Select the date roll convention to roll the payment dates when they fall on business days. The payment calendar is used to determine business days. Date roll conventions are described in the Calypso Navigator under **Help > Date Roll Conventions**.
Payment Holidays	Click ... to select the holiday calendar(s) used to determine the business days when calculating the payment date.
Payment Day	Select to enter payment details. This makes a field available next to the Day label where you

Properties	Description
	can specify which day the payment should take place. For example, enter “5” to specify that the payment date occurs on the 5th of the month following the swap end date.
Payment Date Rule	Select a date rule for determining the payment date if required.
Payment Frequency Type	Select FutureContractLTD or FutureContractFND.

5.5 Commodity Swap

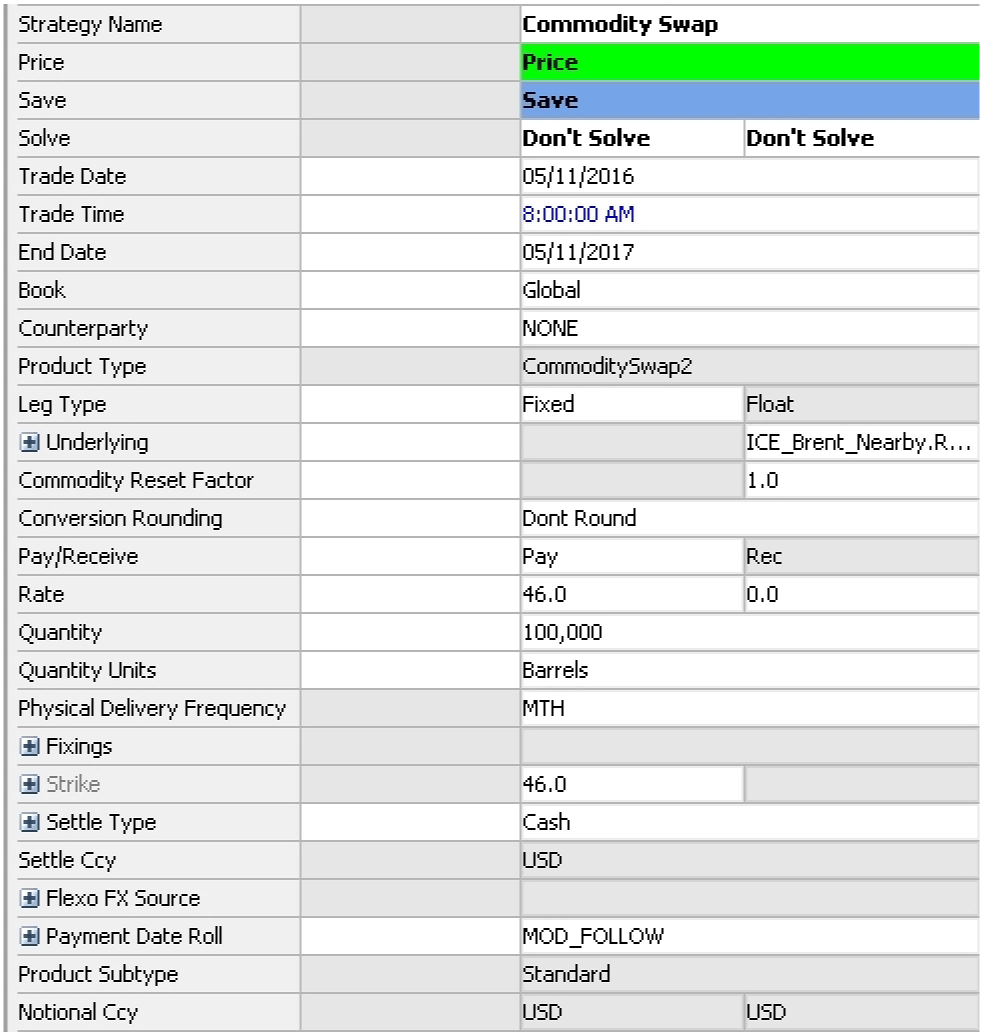
A Commodity Swap is an exchange of payments between two parties. It uses a Commodity Reset Definition to define values to use for both known and projected commodity amounts. Select the commodity reset during trade capture and define additional fixing details in the trade.



	Totals	1	2
Strategy Name		Commodity Swap	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
Trade Id		508072	
Trade Version		0	
Template			
Trade Comment			
Action		AMEND	
Status		VERIFIED	
⊟ Counterparty		CP	
Counterparty Short Name		CP	
Counterparty Full Name		Delete during implementation	
Counterpart Role		CounterParty	
Book		GS_EQDCMD	
Rate Side		Closing Price	
⊟ Underlying			NYMEX_WTI_Nearby.RESET
⊞ Bundle ID			
⊞ Notional			
Quantity		500	
Quantity Units		Barrels	
Quantity Per Period		DLY Delivery Period	
Total Quantity		75,500	
⊟ Settle Type		Cash	
Pay/Receive		Pay	Rec
Leg Type		Fixed	Float
Rate		70.0	0.0
Settle Ccy		USD	
Product Type		CommoditySwap2	
Product Subtype		Standard	
⊟ Fixings			
Payment Frequency Type		FutureContractLTD	

Key Properties

Strike - Leg Type - Settle Type - Pay/Receive - Underlying Details - Fixing Details - Payment Details



Strategy Name		**Commodity Swap**	
Price		**Price**	
Save		**Save**	
Solve		**Don't Solve**	**Don't Solve**
Trade Date		05/11/2016	
Trade Time		8:00:00 AM	
End Date		05/11/2017	
Book		Global	
Counterparty		NONE	
Product Type		CommoditySwap2	
Leg Type		Fixed	Float
⊞ Underlying			ICE_Brent_Nearby.R...
Commodity Reset Factor			1.0
Conversion Rounding		Dont Round	
Pay/Receive		Pay	Rec
Rate		46.0	0.0
Quantity		100,000	
Quantity Units		Barrels	
Physical Delivery Frequency		MTH	
⊞ Fixings			
⊞ Strike		46.0	
⊞ Settle Type		Cash	
Settle Ccy		USD	
⊞ Flexo FX Source			
⊞ Payment Date Roll		MOD_FOLLOW	
Product Subtype		Standard	
Notional Ccy		USD	USD

Basic Steps for Capturing a Commodity Swap

- Select the underlying Commodity Reset and a Quantity for the swap.
- Configure the Leg Type if other than Fixed and Float.
- Assign Pay and Receive properties to each leg.
- Enter a Strike for the commodity.
- Select the Settle Type.
- Make selections for Fixings properties.

- Define other basic properties such as Book and Counterparty.

"Underlying Details" Properties

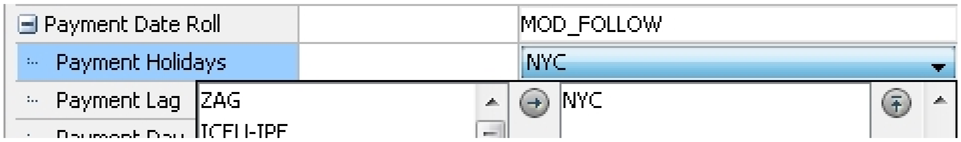
Properties	Description
Underlying	Select the commodity reset which will drive the forward. When the reset is selected, fields specific to the reset auto-populate with the appropriate information.
Quantity	The quantity of the certificate in commodity units.
Total Quantity	Displays the total quantity units over the life of the trade.
Quantity Units	The unit of measure that the quantity represents. You can use a different unit type than the unit in the product definition. The quantity unit defaults to the unit defined in the commodity definition. If a unit other than the default unit is chosen, the application requires a conversion definition to correctly convert the units for the cashflows. Commodity positions are always kept in the default unit in the Position Keeper. Define the conversion definition in the Calypso Navigator by pointing to **Configuration > Commodities > Commodity Conversion**. The "Contracts" unit represents the lot size. The conversion factor for each lot, or contract, can be configured in the Commodity Unit Conversion window referred to above.
Quantity Per Period	Specify the frequency that the deal quantity is traded. For Pay Frequency – Future Contract LTD/FND, user can select below options for 'Per Period': • Future Contract Period - Specified Quantity is applied to each period. • DLY - Specified Quantity is applied to each day in a period. Total Quantity for the period will be Quantity * Number of Days in the period. • DLY Delivery Period - Specified Quantity is applied to each day of Delivery period of Contract. Total Quantity for the period will be Quantity * Number of Days in Delivery period of Future Contract.
Rate	The Rate on the Fixed leg is auto-populated when you add the Strike. Enter the rate for the floating leg(s) where required.
Conversion Rounding	Set to "Round" to indicate that the reference unit to deal unit conversion of the price should be rounded prior to calculating the amount for the cash flow. The default is 'Don't Round', which means the rounding occurs after the amount is calculated.
Commodity Reset Factor	The factor is a multiplier representing the value of the actual commodity being used as the underlying compared to the reference commodity defined in the selected Commodity Reset. ▶ For details on the Commodity Reset Factor, see "Capturing Commodity Swap Trades" in

Properties	Description
	the Calypso *Commodities* documentation.

"Product: Style" Properties

Properties	Description
Strike	Enter the strike price per unit.
Settle Type	Select the settle type, Cash, Compo, Quanto or Flexo. Cash is set by default. When Compo is selected, Settle Ccy and other FX related properties will become editable. The FX rate source can be set in the Flexo FX Source property.
Leg Type	Select the leg type: Fixed or Float. The Commodity Swap allows for two floating legs.
Pay/Receive	Enter pay or receive for the legs. Selecting one in the first leg populates the other in the second leg.
End Date	Enter the trade's End Date.
Notional Ccy	Currencies for the legs are populated automatically after selecting the underlying.

"Product: Payment" Properties

Properties	Description
Payment Frequency Type	Select FutureContractLTD or FutureContractFND.
Payment Date Roll	Select the date roll convention to roll the payment dates when they fall on business days. The payment calendar is used to determine business days. Date roll conventions are described in the Calypso Navigator under **Help > Date Roll Conventions**.
Payment Holidays	Double-click in the Payment Holidays field to open the holidays list. Select the holiday calendar(s) used to determine the business days when calculating the payment date.  Payment Date Roll MOD_FOLLOW Payment Holidays NYC Payment Lag ZAG NYC
Payment Lag	Enter the number of business days for lag and press the Enter key to populate the field. Negative numbers are also acceptable.
Payment Day	Select to enter payment details. This makes a field available next to the Day label where you can specify which day the payment should take place. For example, enter “5” to specify that the payment date occurs on the 5th of the month following the swap End Date.

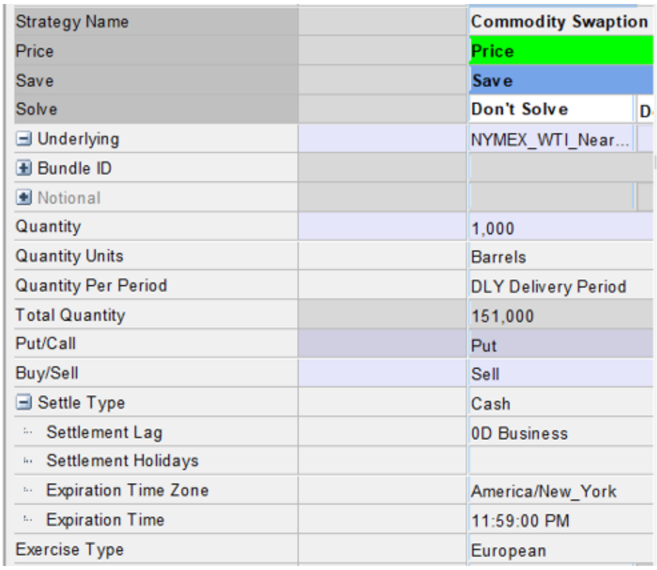
Properties	Description
Payment Date Rule	Select a date rule for determining the payment date, if required. ▶ For details on defining date rules, see "Defining Date Rules" in the Calypso *Getting Started* documentation.

"Price Fixing" Properties

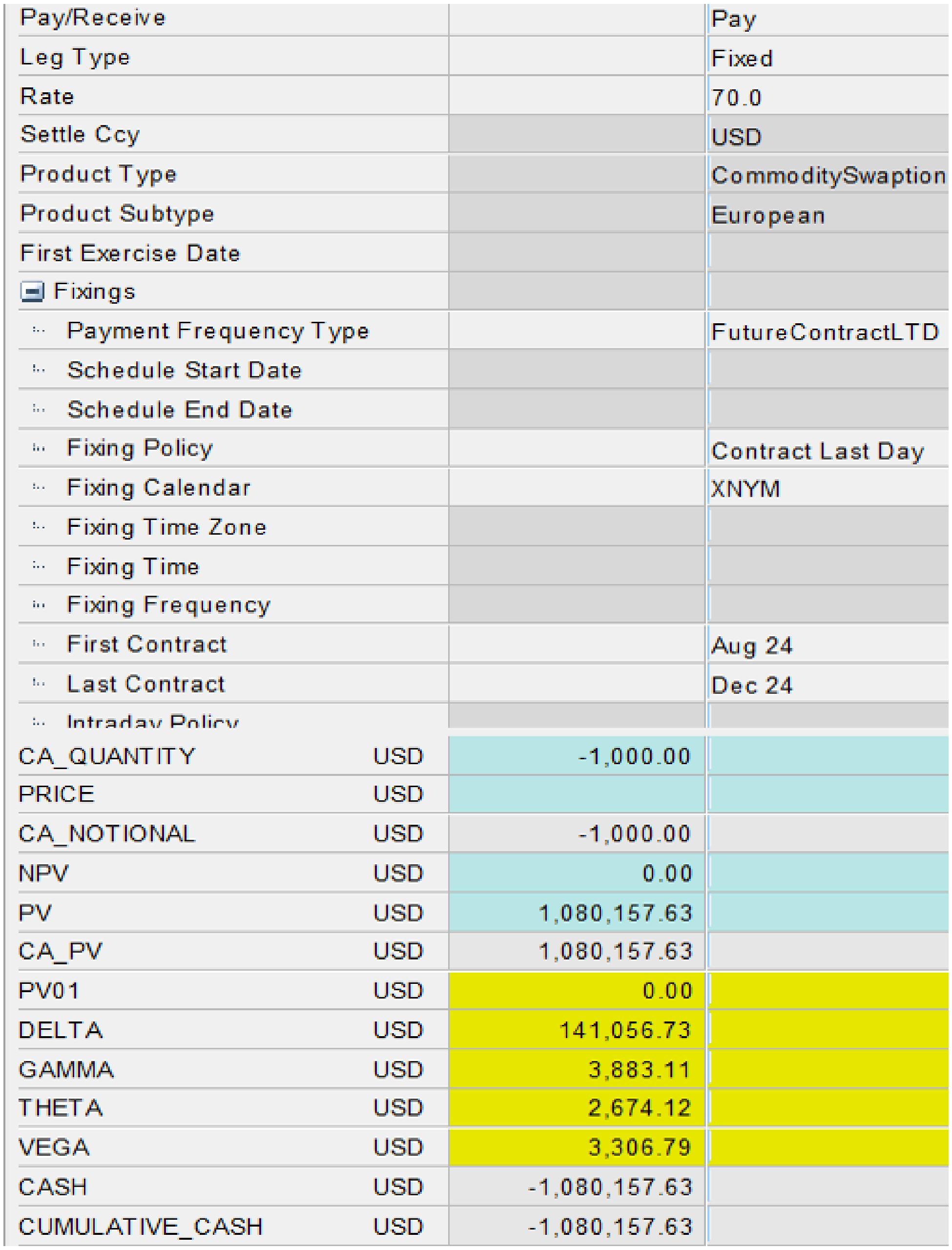
▶ See "Price Fixing" Properties for details.

5.6 Commodity Swaption

A commodity swaption is an option on an underlying commodity swap. The Commodity Swaption is captured from the processing organization's (PO) point of view. Therefore, when the PO buys the option on an underlying swap whose fixed leg is set to Pay, the PO is buying the right to pay the fixed rate. Alternatively, when the PO sells the option on an underlying swap whose fixed leg is set to Pay, the PO is selling the right for the option holder to receive the fixed rate.



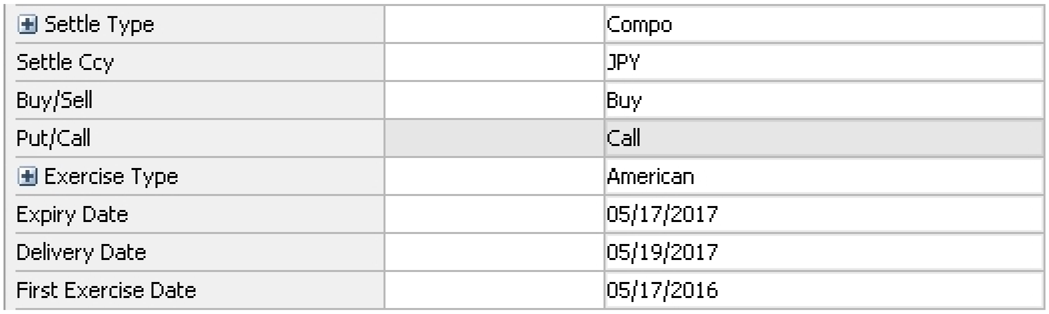
Strategy Name		**Commodity Swaption**
Price		**Price**
Save		**Save**
Solve		**Don't Solve**
⊟ Underlying		NYMEX_WTI_Near...
⊞ Bundle ID		
⊞ Notional		
Quantity		1,000
Quantity Units		Barrels
Quantity Per Period		DLY Delivery Period
Total Quantity		151,000
Put/Call		Put
Buy/Sell		Sell
⊟ Settle Type		Cash
Settlement Lag		0D Business
Settlement Holidays		
Expiration Time Zone		America/New_York
Expiration Time		11:59:00 PM
Exercise Type		European



Pay/Receive			Pay
Leg Type			Fixed
Rate			70.0
Settle Ccy			USD
Product Type			CommoditySwaption
Product Subtype			European
First Exercise Date			
⊟ Fixings			
Payment Frequency Type			FutureContractLTD
Schedule Start Date			
Schedule End Date			
Fixing Policy			Contract Last Day
Fixing Calendar			XNYM
Fixing Time Zone			
Fixing Time			
Fixing Frequency			
First Contract			Aug 24
Last Contract			Dec 24
Intraday Policy			
CA_QUANTITY	USD	-1,000.00	
PRICE	USD		
CA_NOTIONAL	USD	-1,000.00	
NPV	USD	0.00	
PV	USD	1,080,157.63	
CA_PV	USD	1,080,157.63	
PV01	USD	0.00	
DELTA	USD	141,056.73	
GAMMA	USD	3,883.11	
THETA	USD	2,674.12	
VEGA	USD	3,306.79	
CASH	USD	-1,080,157.63	
CUMULATIVE_CASH	USD	-1,080,157.63	

Properties

Commodity Swap Properties + Buy/Sell - Put/Call - Settle Type - Exercise Type



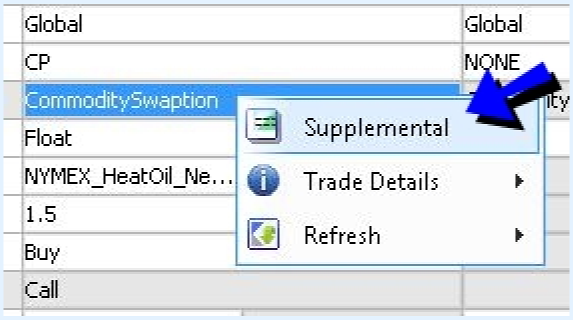
⊞ Settle Type		Compo
Settle Ccy		JPY
Buy/Sell		Buy
Put/Call		Call
⊞ Exercise Type		American
Expiry Date		05/17/2017
Delivery Date		05/19/2017
First Exercise Date		05/17/2016

Basic Steps for Capturing a Commodity Swaption

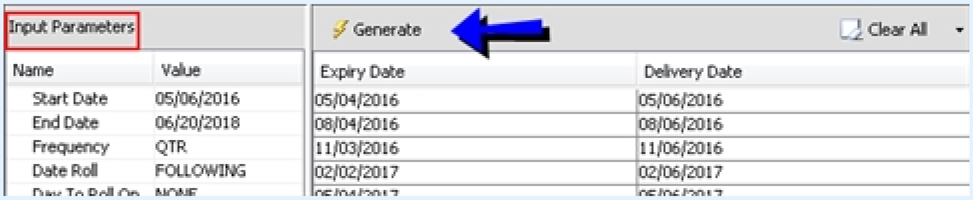
- Populate properties according to Commodity Swap trade capture.
- Select Buy or Sell for the swaption.
- Choose the Settlement Type.
- Choose the Exercise Type. If the type is Bermudan with multiple expiry and delivery dates, generate an exercise schedule.

Swaption Properties

Properties	Description
Buy/Sell	Select whether the Processing Organization (PO) is the buyer or seller of the option.
Settle Type	Select Cash, Compo, or Physical. The value of the option on expiry equals the NPV of the underlying swap • Cash - For cash settlement (exercise against a fee). • Compo- For use on swaptions that require FX conversion. The FX rate source can be set in the Flexo FX Source property. • Physical - For physical settlement (exercise against the underlying product) - A swap trade on the underlying product is automatically created after exercising the option.
Put/Call	This field is auto-populated and not editable. If the underlying swap has the PO paying fixed, then the swaption is a call option. If the underlying swap has the PO receiving fixed, then the swaption is a put option.
Exercise Type	Select European, American, or Bermudan. • European: requires an Expiry Date and Delivery Date. • American: requires an Expiry Date, Delivery Date, and First Expiry Date. • Bermudan: multiple sets of expiry and delivery dates can be configured in the Exercise Schedule on the Supplemental panel. To open the Supplemental panel, right-click anywhere in the trade and select Supplemental in the menu.

<table>
<tr><th>Properties</th><th>Description</th></tr>
<tr><td></td><td>


– In the Supplemental panel, select the Exercise Schedule tab, fill in the Input Parameters, and click **Generate**. Expiry and delivery dates are populated in the schedule.



<table>
<tr><th>Name</th><th>Value</th></tr>
<tr><td>Start Date</td><td>05/06/2016</td></tr>
<tr><td>End Date</td><td>06/20/2018</td></tr>
<tr><td>Frequency</td><td>QTR</td></tr>
<tr><td>Date Roll</td><td>FOLLOWING</td></tr>
</table>
<table>
<tr><th>Expiry Date</th><th>Delivery Date</th></tr>
<tr><td>05/04/2016</td><td>05/06/2016</td></tr>
<tr><td>08/04/2016</td><td>08/06/2016</td></tr>
<tr><td>11/03/2016</td><td>11/06/2016</td></tr>
<tr><td>02/02/2017</td><td>02/06/2017</td></tr>
</table>

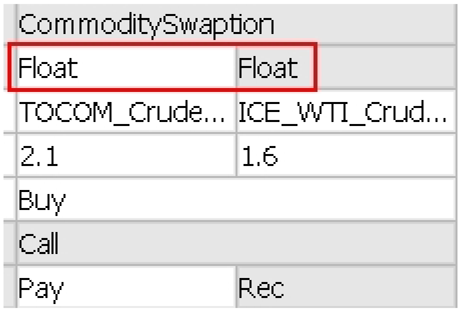
– Click **Clear All** to remove all dates from the schedule. To remove an individual row, highlight the row, click the down arrow to the right of the button, and select *Delete Row*. You can also highlight a row and select *Insert Row* to manually add dates to the schedule. New rows are added above the highlighted row.
</td></tr>
<tr><td>Quantity Per Period</td><td>
Specify the frequency that the deal quantity is traded.
For Pay Frequency – Future Contract LTD/FND, user can select below options for ‘Per Period’:
• Future Contract Period - Specified Quantity is applied to each period.
• DLY - Specified Quantity is applied to each day in a period. Total Quantity for the period will be
Quantity * Number of Days in the period.
• DLY Delivery Period - Specified Quantity is applied to each day of Delivery period of Contract. Total
Quantity for the period will be Quantity * Number of Days in Delivery period of Future Contract.
</td></tr>
</table>

Using Two Commodity Resets

The CommoditySwaption pricer supports the use of two commodity resets so that both legs are floating legs.

- The pricer considers two commodity curves and the correlation between them, as well as two volatility surfaces.
- Currently, the pricer only calculates for NPV.

- Greeks are not computed for float/float swap options.



CommoditySwaption	
Float	Float
TOCOM_Crude...	ICE_WTI_Crud...
2.1	1.6
Buy	
Call	
Pay	Rec

Commodity Swaption with two floating legs

"Price Fixing" Properties

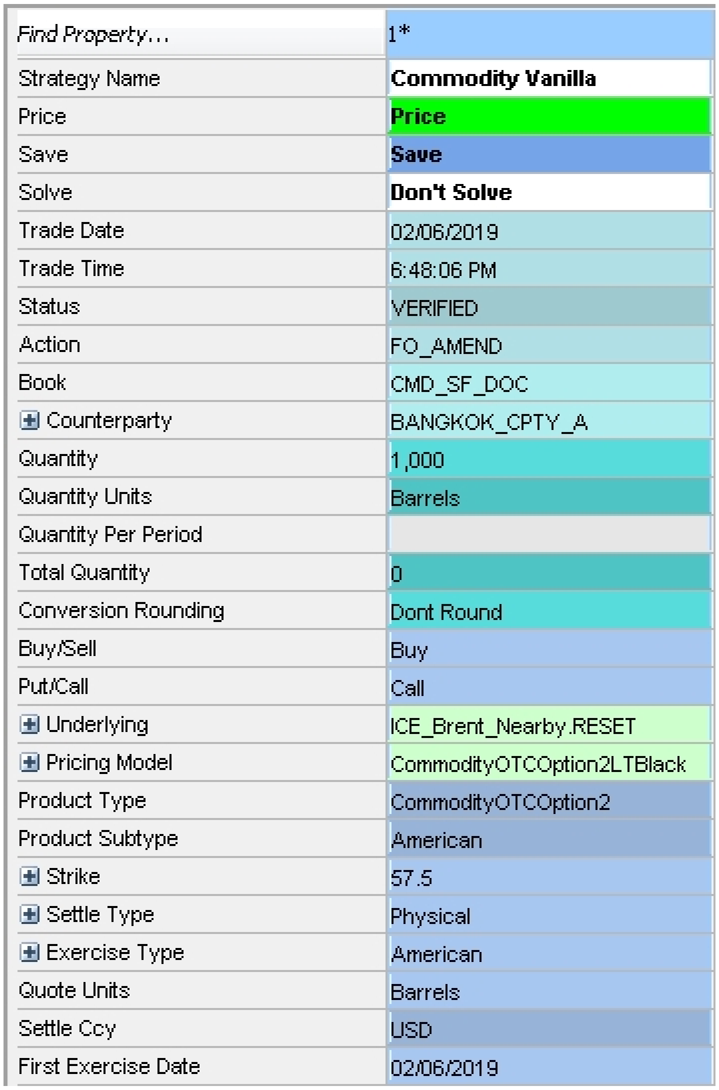
▶ See "Price Fixing" Properties for details.

5.7 Commodity Vanilla

The Commodity Vanilla strategy provides an option on a standard buy/sell commodity trade. Either a commodity reset or future commodity can be used for the underlying.

Key Properties

Underlying - Quantity - Strike - Exercise Type - Settle Type - Schedule Start/End Date



Find Property...	1*
Strategy Name	**Commodity Vanilla**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Date	02/06/2019
Trade Time	6:48:06 PM
Status	VERIFIED
Action	FO_AMEND
Book	CMD_SF_DOC
⊞ Counterparty	BANGKOK_CPTY_A
Quantity	1,000
Quantity Units	Barrels
Quantity Per Period	
Total Quantity	0
Conversion Rounding	Dont Round
Buy/Sell	Buy
Put/Call	Call
⊞ Underlying	ICE_Brent_Nearby.RESET
⊞ Pricing Model	CommodityOTCOption2LTBlack
Product Type	CommodityOTCOption2
Product Subtype	American
⊞ Strike	57.5
⊞ Settle Type	Physical
⊞ Exercise Type	American
Quote Units	Barrels
Settle Ccy	USD
First Exercise Date	02/06/2019

The future commodities used as underlyings for Commodity Vanilla are defined in the Future Contract Specification Window.

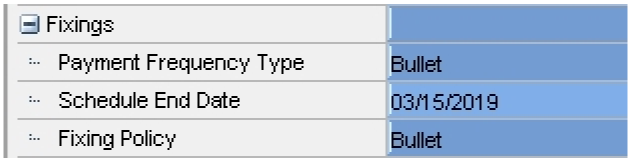
▶ For details on creating a future contract, see "Defining Future Contracts" in Calypso *Futures* documentation.

Basic Steps for Capturing a Commodity Vanilla Trade

- Select the underlying Commodity Reset or Future Commodity.
- Specify the Exercise Type, either American or European.
- Enter a Strike for the commodity.
- Select the Settle Type.

- Enter the option's maturity using the Schedule End Date property.
- Define other essential trade properties such as Put/Call, Buy/Sell, Book, Counterparty, and payment schedule properties.

Properties Description

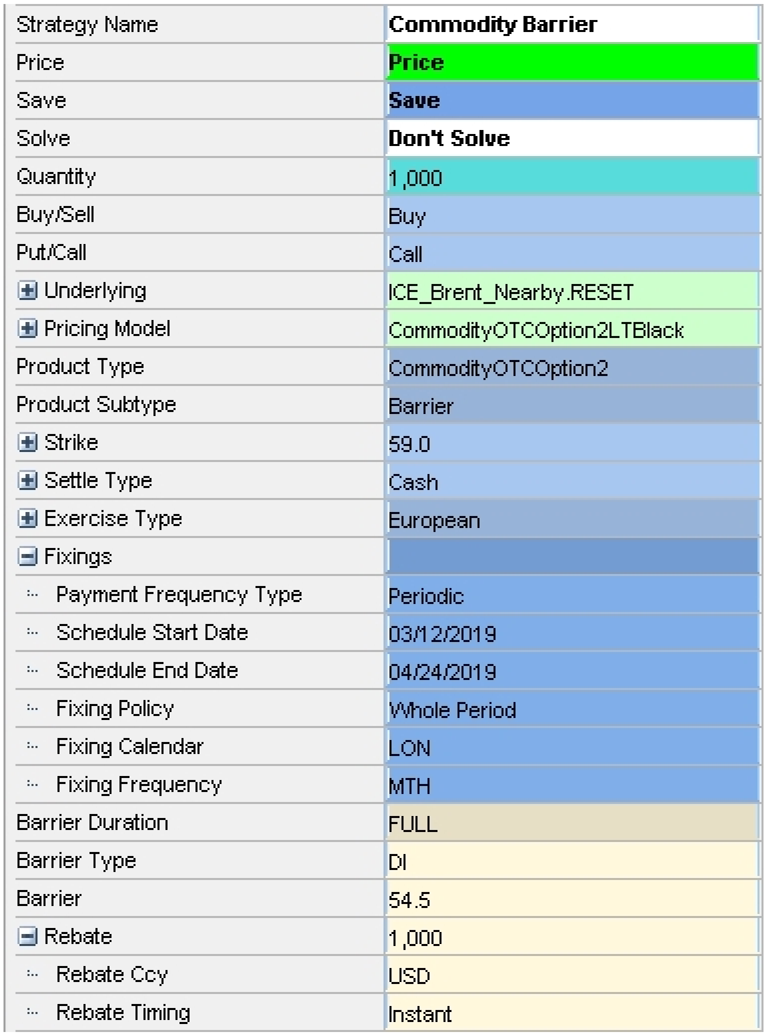
Properties	Description
Underlying	Select either a commodity reset or future commodity for the underlying. Click the drop-down arrow in the property field to open the Underlying Product Chooser window and then double-click one of the product types. The FutureCommodity or CommodityReset products available as underlyings are displayed in the Underlyings pane.
Quantity	Enter a value for the number of units corresponding to the commodity.
Strike	Enter the strike price per unit.
Exercise Type	Select American or European. • American - You can exercise the option anytime during the life of the option. • European - The option may only be exercised on the expiry date.
First Exercise Date	When Exercise Type is "American" and Settle Type is "Physical," enter a date for the first exercise date.
Settle Type	Select Cash, Compo, or Physical. • Cash - For cash settlement (exercise against a fee). Exercise Type is automatically set to European. • Compo- For use on an option that requires FX conversion. Exercise Type is automatically set to European. • Physical - For physical settlement (exercise against the underlying product). This settlement type applies to both American and European exercise types.
Fixings	When Settle Type is "Physical," only "Bullet" is supported for the Payment Frequency Type. Use the Schedule End Date property to set the option expiration.  Fixings Payment Frequency Type: Bullet Schedule End Date: 03/15/2019 Fixing Policy: Bullet When Settle Type is either "Cash" or "Compo," all sub-properties for the Fixings property are available. ▶ See "Date Properties" in Pricing Sheet *Strategy Properties* for details.

5.8 Commodity Barrier

The Commodity Barrier strategy allows for trade capture and pricing of a single barrier commodity option with a full duration.

Key Properties

Underlying - Quantity - Strike - Settle Type - Schedule Start/End Date - Barrier Type - Barrier - Rebate - Rebate Timing



Strategy Name	**Commodity Barrier**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Quantity	1,000
Buy/Sell	Buy
Put/Call	Call
⊞ Underlying	ICE_Brent_Nearby.RESET
⊞ Pricing Model	CommodityOTCOption2LTBlack
Product Type	CommodityOTCOption2
Product Subtype	Barrier
⊞ Strike	59.0
⊞ Settle Type	Cash
⊞ Exercise Type	European
⊟ Fixings	
Payment Frequency Type	Periodic
Schedule Start Date	03/12/2019
Schedule End Date	04/24/2019
Fixing Policy	Whole Period
Fixing Calendar	LON
Fixing Frequency	MTH
Barrier Duration	FULL
Barrier Type	DI
Barrier	54.5
⊟ Rebate	1,000
Rebate Ccy	USD
Rebate Timing	Instant

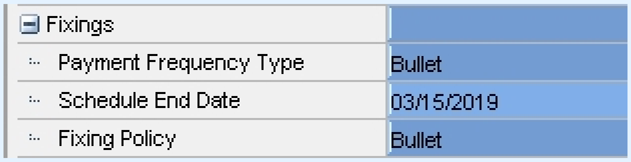
The future commodities used as underlyings for Commodity Barrier are defined in the Future Contract Specification Window.

▶ For details on creating a future contract, see "Defining Future Contracts" in Calypso *Futures* documentation.

Basic Steps for Capturing a Commodity Barrier Trade

- Select the underlying Commodity Reset or Future Commodity.
- Enter a Strike for the commodity.
- Select the Settle Type.
- Enter the Barrier Type and then a value for the barrier.
- If applicable, enter a rebate and select the Rebate Timing.
- Define other essential trade properties such as Put/Call, Buy/Sell, Book, Counterparty, and payment schedule properties.

Properties Description

Properties	Description
Underlying	Select either a commodity reset or future commodity for the underlying. Click the drop-down arrow in the property field to open the Underlying Product Chooser window and then double-click one of the product types. The FutureCommodity or CommodityReset products available as underlyings are displayed in the Underlyings pane.
Quantity	Enter a value for the number of units corresponding to the commodity.
Strike	Enter the strike price per unit.
Exercise Type	Only European is available for Commodity Barrier. The option is exercised on the expiry date.
Settle Type	Select Cash or Compo. • Cash - For cash settlement (exercise against a fee). • Compo - For use on an option that requires FX conversion.
Fixings	Use the "Fixings" sub-properties to specify trade details related to fixings, such as defining the option maturity using the Schedule End Date property, or setting the Payment Frequency Type.  Fixings Payment Frequency Type: Bullet Schedule End Date: 03/15/2019 Fixing Policy: Bullet All Fixings sub-properties are available for the Commodity Barrier strategy. ▶ See "Date Properties" in Pricing Sheet *Strategy Properties* for details.
Barrier Duration	Automatically set to Full. The barrier is observed throughout the life of the option.
Barrier Type	Select the type of barrier: • UI - Up In

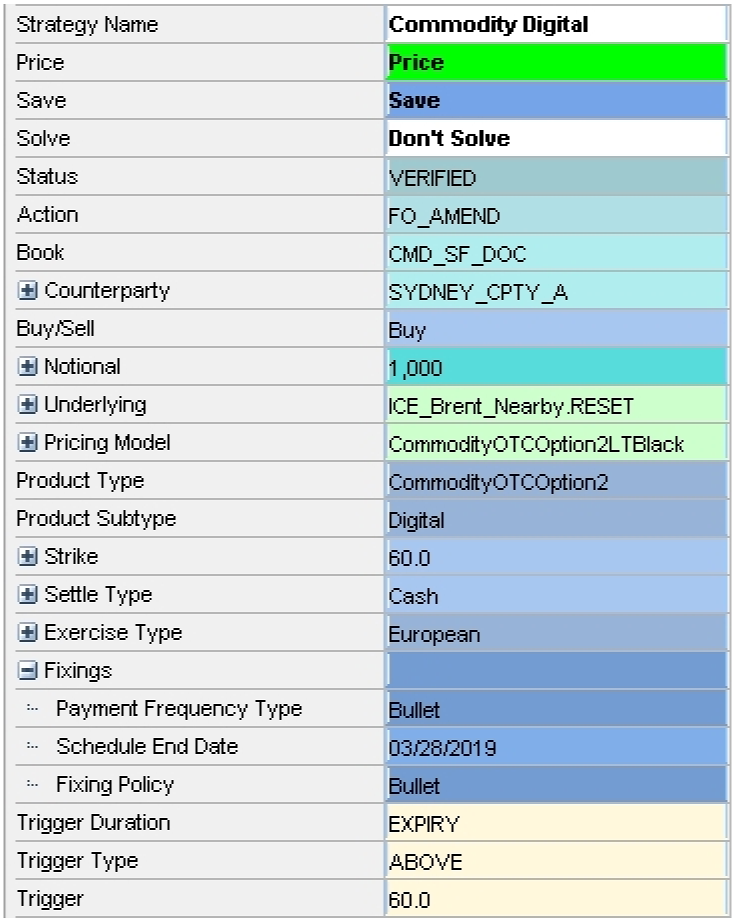
Properties	Description
	• DI - Down In • UO - Up Out • DO - Down Out
Barrier	Enter the barrier price used to either knock in or knock out the option.
Rebate / Rebate Ccy / Rebate Timing	Enter a rebate amount if applicable. You can also set the following properties: • **Rebate Ccy** - Select the currency for the rebate. • **Rebate Timing** - Select Expiry (rebate at expiration), or Instant (rebate when the barrier is hit).

5.9 Commodity Digital

The Commodity Digital strategy sets a trigger to determine whether the option settles in or out of the money and uses the Notional property to express the payout at expiration. The option is exercised at expiration, which is specified using the Schedule End Date property, and settles in cash or compo.

Key Properties

Underlying - Notional - Settle Type - Schedule End Date - Trigger Type - Trigger



Strategy Name	**Commodity Digital**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Status	VERIFIED
Action	FO_AMEND
Book	CMD_SF_DOC
⊞ Counterparty	SYDNEY_CPTY_A
Buy/Sell	Buy
⊞ Notional	1,000
⊞ Underlying	ICE_Brent_Nearby.RESET
⊞ Pricing Model	CommodityOTCOption2LTBlack
Product Type	CommodityOTCOption2
Product Subtype	Digital
⊞ Strike	60.0
⊞ Settle Type	Cash
⊞ Exercise Type	European
⊟ Fixings	
Payment Frequency Type	Bullet
Schedule End Date	03/28/2019
Fixing Policy	Bullet
Trigger Duration	EXPIRY
Trigger Type	ABOVE
Trigger	60.0

The future commodities used as underlyings for Commodity Digital are defined in the Future Contract Specification Window.

▶ For details on creating a future contract, see "Defining Future Contracts" in Calypso *Futures* documentation.

Basic Steps for Capturing a Commodity Digital Trade

- Select the underlying Commodity Reset or Future Commodity.
- Enter a Strike for the commodity.
- Select the Settle Type.
- Enter the Trigger Type and then a value for the trigger itself. (The value entered for either the Trigger or the Strike is propagated in kind to the second of the two properties.)
- Define other essential trade properties such as Buy/Sell, Book, Counterparty, and payment schedule properties.

Properties Description

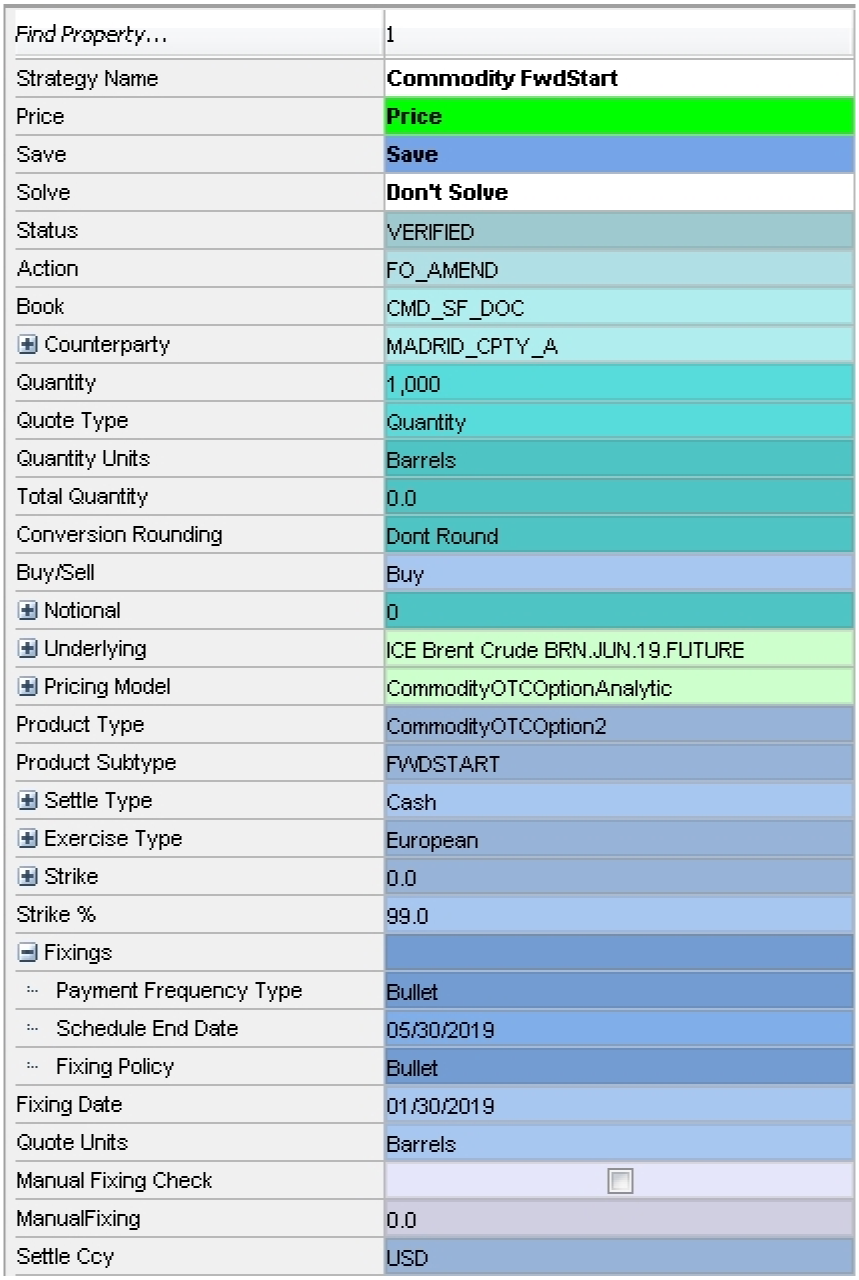
Properties	Description
Underlying	Select the future commodity underlying. (Only future underlyings are supported.) Click the drop-down arrow in the property field to open the Underlying Product Chooser window and then double-click FutureCommodity in the Product Type pane. The FutureCommodity products available as underlyings are displayed in the Underlyings pane.
Notional	Enter the settle amount for payout in the case where the option is exercised in the money.
Strike	Enter the strike for the trade. This will be reflected in the Trigger property.
Fixings	Three sub-properties for "Fixings" are valid for the Commodity Digital. • **Payment Frequency Type** - Bullet. Commodity FwdStart supports only this type. • **Fixing Policy** - Bullet. Commodity FwdStart supports only this type. • **Schedule End Date** - Enter the date for option maturity. This date must be the same as or come after the Fixing Date.
Settle Type	Select Cash or Compo. • Cash - For cash settlement (exercise against a fee). • Compo - For use on an option that requires FX conversion.
Exercise Type	Only European is available for Commodity Digital. The option is exercised on the expiry date.
Trigger Duration	The Commodity Digital strategy is exercised on the expiration date, and this property is automatically set to EXPIRY.
Trigger Type	Select either ABOVE or BELOW to set the criteria for whether the option expires in or out of the money. • ABOVE - Payout occurs when the spot rate is above the trigger at expiration. • BELOW - Payout occurs when the spot rate is below the trigger at expiration.
Trigger	Enter the trigger to set the threshold for determining whether the option is in or out of the money at expiration. The value for the trigger is reflected in the Strike property.

5.10 Commodity FwdStart

The Commodity FwdStart strategy is a vanilla commodity option that becomes active and fixes the strike price on a specified date in the future. This strategy supports only the exercise type "European" and the settle type "Cash." The Commodity FwdStart also provides a way to manually fix the strike rather than use the quote.

Key Properties

Underlying - Quote Type - Quantity - Notional - Strike % - Fixing Date - Schedule End Date - Manual Fixing Check / ManualFixing



Find Property...	1
Strategy Name	**Commodity FwdStart**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Status	VERIFIED
Action	FO_AMEND
Book	CMD_SF_DOC
Counterparty	MADRID_CPTY_A
Quantity	1,000
Quote Type	Quantity
Quantity Units	Barrels
Total Quantity	0.0
Conversion Rounding	Dont Round
Buy/Sell	Buy
Notional	0
Underlying	ICE Brent Crude BRN.JUN.19.FUTURE
Pricing Model	CommodityOTCOptionAnalytic
Product Type	CommodityOTCOption2
Product Subtype	FWDSTART
Settle Type	Cash
Exercise Type	European
Strike	0.0
Strike %	99.0
Fixings	
Payment Frequency Type	Bullet
Schedule End Date	05/30/2019
Fixing Policy	Bullet
Fixing Date	01/30/2019
Quote Units	Barrels
Manual Fixing Check	☐
ManualFixing	0.0
Settle Ccy	USD

The future commodities used as underlyings for Commodity FwdStart are defined in the Future Contract Specification Window.

▶ For details on creating a future contract, see "Defining Future Contracts" in Calypso *Futures* documentation.

Basic Steps for Capturing a Commodity Forward Start Trade

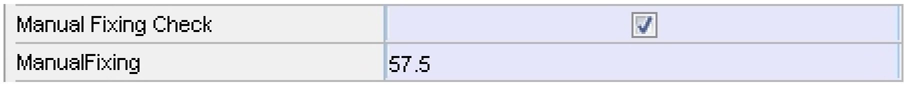
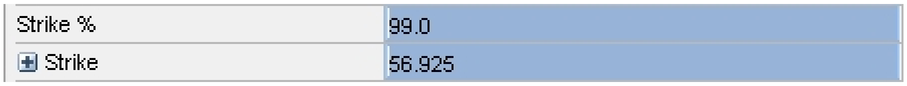
- Select the underlying Future Commodity.

- Select the Quote Type - either Notional or Quantity - and enter a value for the type selected.
- Specify the Strike %.
- Enter a Fixing Date for the strike price.

  (the price can be fixed either manually or in the Price Fixing window. See below.)
- Enter the Schedule End Date to determine when the option matures.
- Define other basic trade properties such as Book, Counterparty, Buy/Sell, payment schedule properties.

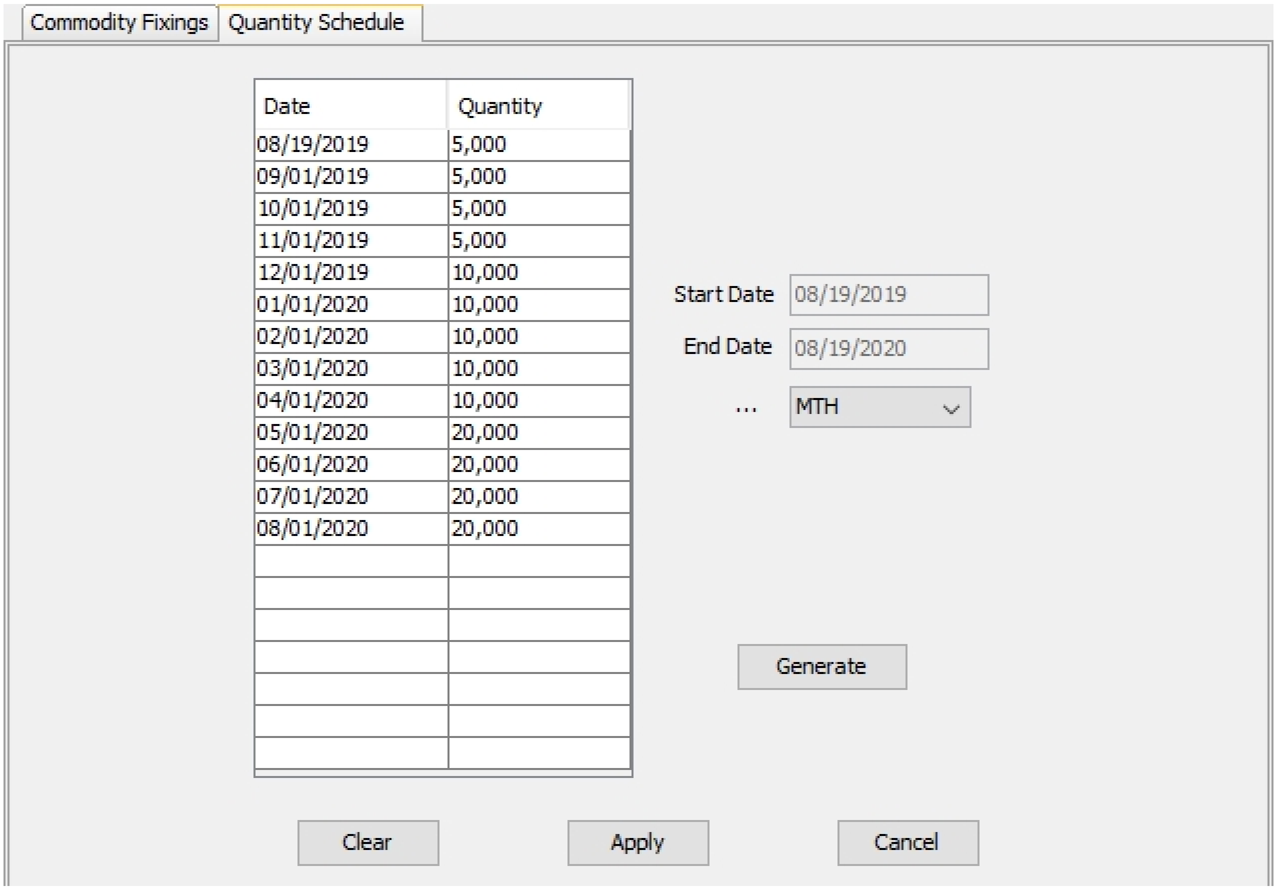
Properties Description

Properties	Description
Underlying	Select the future commodity underlying. (Only future underlyings are supported.) Click the drop-down arrow in the property field to open the Underlying Product Chooser window and then double-click FutureCommodity in the Product Type pane. The FutureCommodity products available as underlyings are displayed in the Underlyings pane.
Quote Type	Select the Quote Type for the trade, either Notional or Quantity.
Notional	When Quote Type is Notional, enter a notional value for the option. See also "Total Quantity" below on conversion to quantity.
Quantity	When Quote Type is Quantity, enter a value for the number of units corresponding to the commodity.
Quote Units	This property is used for display only. Displays the commodity unit that corresponds to the underlying once the underlying has been selected.
Total Quantity	This property is used for display only. For notional quoted options, the notional is converted into quantity on the strike fixing date and Total Quantity is populated based on the Quote Units specification. For quantity quoted options, the Total Quantity is populated as soon as the trade is priced.
Strike %	Enter a strike percentage that will be used to calculate the strike at the time of the fixing.
Strike	This property is used for display only. The Strike property is populated after the fixing. The exception is when manual fixing is used. In this case, the strike is populated once a strike is specified for the Manual Fixing property.
Fixing Date	Enter a date in the future for fixing the strike.
Fixings	Three sub-properties for "Fixings" are valid for the Commodity Forward Start. • **Payment Frequency Type** - Bullet. Commodity FwdStart supports only this type. • **Fixing Policy** - Bullet. Commodity FwdStart supports only this type. • **Schedule End Date** - Enter the date for option maturity. This date must be the same as

Properties	Description
	or come after the Fixing Date.
Settle Type	Select Cash or Compo. • Cash - For cash settlement (exercise against a fee). • Compo - For use on an option that requires FX conversion.
Exercise Type	Only European is available for Commodity FwdStart. The option is exercised on the expiry date.
Manual Fixing Check Manual Fixing	You have the option to select the Manual Fixing Check checkbox to enable manual fixing. You can then specify a strike in the ManualFixing property. This feature is enabled only after the trade has been saved.  Manual Fixing Check ☑ ManualFixing 57.5 The manual fixing is reflected in the Strike property.  Strike % 99.0 Strike 56.925

5.11 Quantity Schedule for Commodities

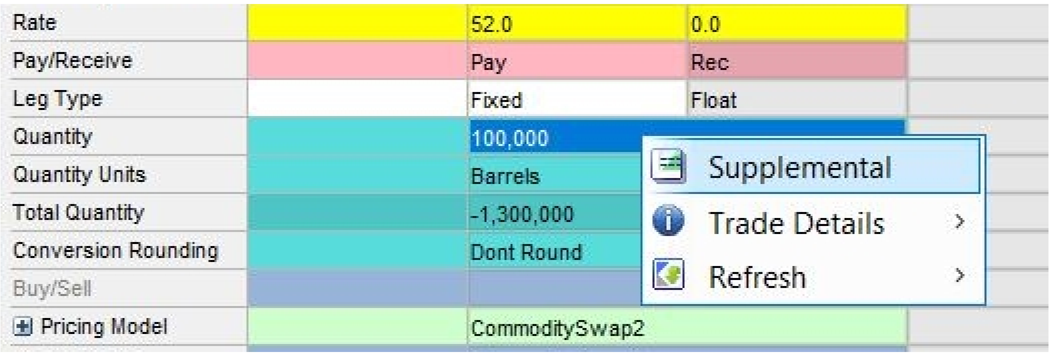
The Quantity Schedule is available for Commodity Swap, Commodity Options and Commodity Swaption strategies. The schedule provides a way to specify the deal quantity to be traded at intervals between the start and end date based on a set frequency, such as daily, monthly, or quarterly.


Commodity Fixings
Quantity Schedule
Generate
Clear
Apply
Cancel

Date	Quantity
08/19/2019	5,000
09/01/2019	5,000
10/01/2019	5,000
11/01/2019	5,000
12/01/2019	10,000
01/01/2020	10,000
02/01/2020	10,000
03/01/2020	10,000
04/01/2020	10,000
05/01/2020	20,000
06/01/2020	20,000
07/01/2020	20,000
08/01/2020	20,000

Start Date 08/19/2019
End Date 08/19/2020
... MTH

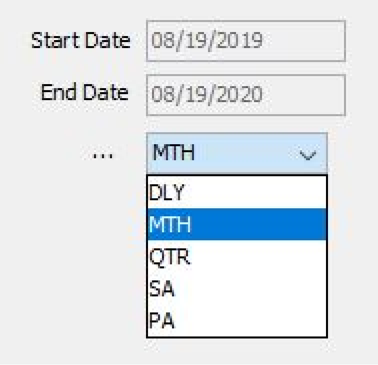
To open the Quantity Schedule, right-click a strategy leg and select "Supplemental" from the menu.


Supplemental
Trade Details
Refresh

Rate		52.0	0.0
Pay/Receive		Pay	Rec
Leg Type		Fixed	Float
Quantity		100,000	
Quantity Units		Barrels	
Total Quantity		-1,300,000	
Conversion Rounding		Dont Round	
Buy/Sell			
⊞ Pricing Model		CommoditySwap2	

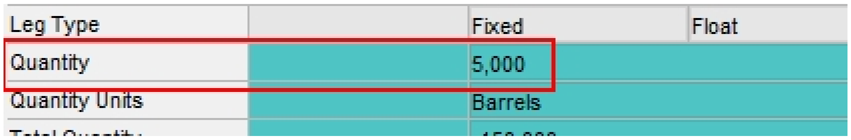
The Supplemental panel opens. Select the Quantity Schedule tab to begin.

» To set the time periods for the schedule, select a frequency from the drop-down list below the Start Date and End Date reference fields.



Start Date 08/19/2019
End Date 08/19/2020
... MTH

- Click **Generate** to generate the dates in the schedule and then enter quantity values in the Quantity field for each interval.
- Click **Apply** to apply the schedule to the trade, then click **Save and Close** in the top right corner of the Supplemental panel to see changes to the trade.
  - The Quantity property in the strategy changes to reflect the first period in the schedule.



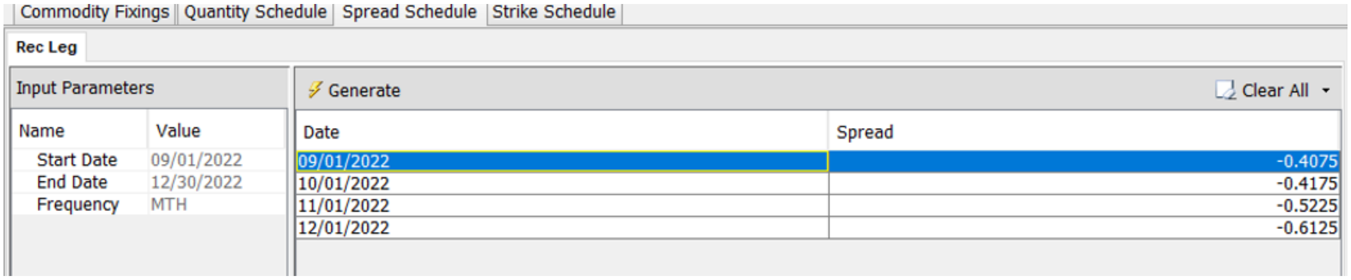
Leg Type		Fixed	Float
Quantity		5,000	
Quantity Units		Barrels	

  - Details about the deal quantity and the reference quantity can be viewed in the trade's cashflows when those columns are configured in User Preferences. Point to **View > Cash Flows** to open the Cashflows panel.

[NOTE: The Payment Frequency Type "Bullet" (found in the "Fixings" sub-properties) is not supported for this feature.]

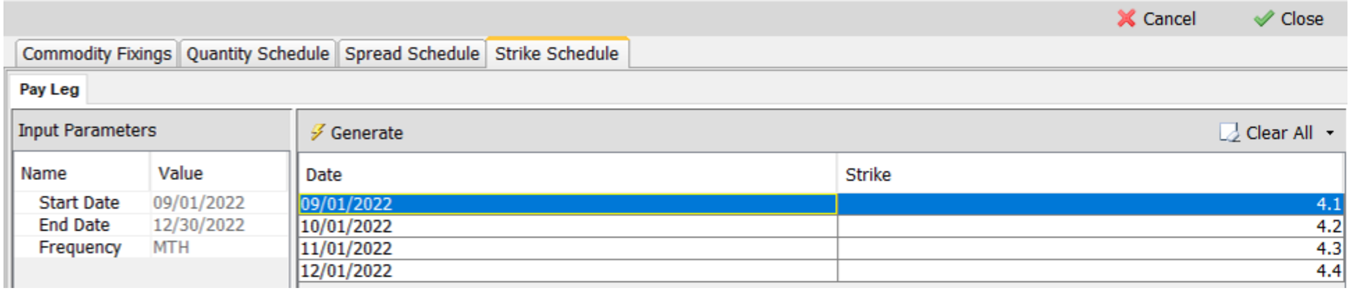
5.12 Spread and Strike Schedule for Commodities

The Spread and Strike Schedule is available for Commodity Swap, Commodity Options and Commodity Swaption strategies. The schedule provides a way to specify the spread and strike for each time period.



Name	Value
Start Date	09/01/2022
End Date	12/30/2022
Frequency	MTH

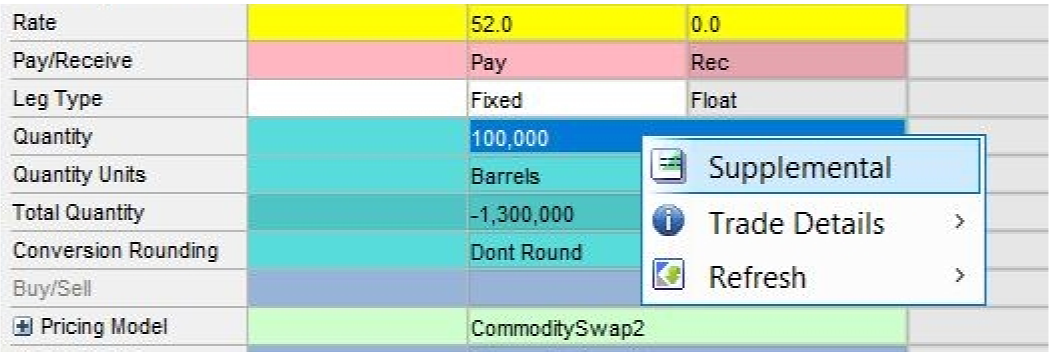
Date	Spread
09/01/2022	-0.4075
10/01/2022	-0.4175
11/01/2022	-0.5225
12/01/2022	-0.6125


Cancel
Close
Commodity Fixings
Quantity Schedule
Spread Schedule
Strike Schedule
Pay Leg
Input Parameters
Generate
Clear All

Name	Value
Start Date	09/01/2022
End Date	12/30/2022
Frequency	MTH

Date	Strike
09/01/2022	4.1
10/01/2022	4.2
11/01/2022	4.3
12/01/2022	4.4

- To open the Spread/Strike Schedule, right-click a strategy leg and select "Supplemental" from the menu.


Supplemental
Trade Details
Refresh

Rate		52.0	0.0
Pay/Receive		Pay	Rec
Leg Type		Fixed	Float
Quantity		100,000	
Quantity Units		Barrels	
Total Quantity		-1,300,000	
Conversion Rounding		Dont Round	
Buy/Sell			
⊞ Pricing Model		CommoditySwap2	

The Supplemental panel opens. Select the Spread/Strike Schedule tab to begin.

- Click **Generate** to generate the dates in the schedule and then enter Spread/Strike values for each period.
- Click **Apply** to apply the schedule to the trade, then click **Save and Close** in the top right corner of the Supplemental panel to see changes to the trade.
    - Details about the Spread/Strike can be viewed in the trade's cashflows when those columns are configured in User Preferences. Point to View > Cash Flows to open the Cashflows panel.

Note: Strike/Spread schedule is supported for Periodic, FutureContractFND, FutureContractLTD, Daily, Daily Rule and Third Wednesday Pay frequency only.

6. Capturing CRD Trades

To capture a Credit trade in the Pricing Sheet, select the Credit strategy and set the properties as needed.

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Credit trades can be opened to the Pricing Sheet from the Credit Market Data window.

▶ Please refer to Calypso Credit Derivatives Trading documentation for details.

Properties specific to Credit trades are described below.

- CDS SNAC
- CDS Index
- CDS Index Option
- CDS Index Tranche
- Asset Swap

6.1 CDS SNAC Trade

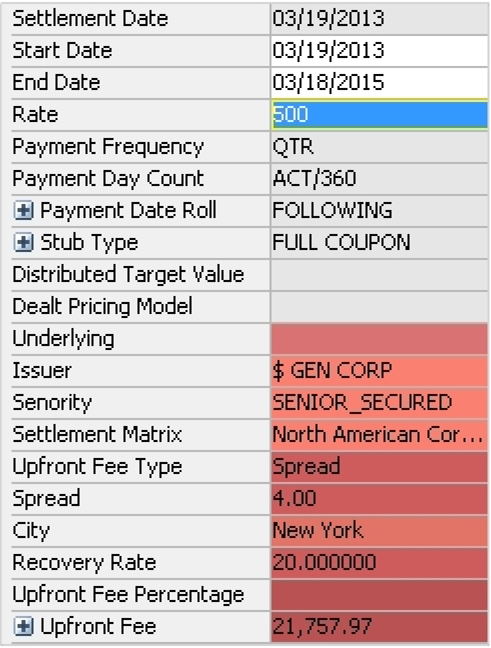
To capture CDS SNAC trades, a user enters details for the trade.

You can calculate upfront fees according to ISDA standards if you have the ISDA server configured.

▶ Refer to Calypso's CRD documentation for more information.

Properties

Pricing Details - Settlement Details - Fee Details



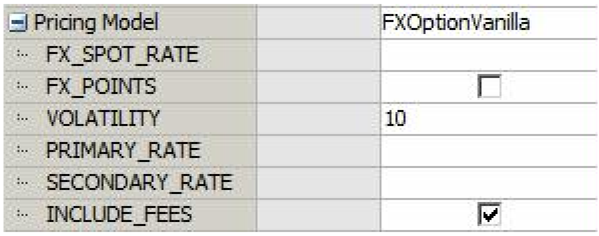
Settlement Date	03/19/2013
Start Date	03/19/2013
End Date	03/18/2015
Rate	500
Payment Frequency	QTR
Payment Day Count	ACT/360
⊞ Payment Date Roll	FOLLOWING
⊞ Stub Type	FULL COUPON
Distributed Target Value	
Dealt Pricing Model	
Underlying	
Issuer	$ GEN CORP
Senority	SENIOR_SECURED
Settlement Matrix	North American Cor…
Upfront Fee Type	Spread
Spread	4.00
City	New York
Recovery Rate	20.000000
Upfront Fee Percentage	
⊞ Upfront Fee	21,757.97

Single Name CDS trade

"Pricing" Properties

Property	Description
Buy/Sell	Enter Buy for buying credit protection or Sell for selling credit protection.
Notional	Enter the trade notional.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.  ⊟ Pricing Model FXOptionVanilla FX_SPOT_RATE FX_POINTS ☐ VOLATILITY 10 PRIMARY_RATE SECONDARY_RATE INCLUDE_FEES ☑ Sample pricing parameters
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration

Properties	Description
	in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Trader Price	Displays the unit amount of trader premium based on the selected Price Format.
Customer Price	Displays the unit amount of customer premium based on the selected Price Format.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.
Sales Premium	Displays the Sales Fee in premium currency.
Sales Fee	This property is only enabled if you have selected a Sales Person. Enter the sales fee. ▶ Please refer to Calypso Capturing Sales Margins documentation for setup details. You can also display: • Sales Fee Ccy - Displays the default sales fee currency if any. The default sales fee currency is set in the Defaults panel under **Configuration > User Preferences**. You can select another sales fee currency as needed. The MarginFXRate trade keyword stores the rate used in the conversion.

"Settlement" Properties

Property	Description
Issuer	Select an Issuer by clicking the cell and entering a name or by using the search box.
Seniority	Select the rating of the reference obligation.
Upfront Fee Type	Select Spread or Upfront Fee Percentage. If Spread is selected, enter the spread in basis points in the "Spread" cell. If Upfront Fee Percentage is selected, enter a fee as a percentage in the "Upfront Fee Percentage" cell.
Underlying	displays any applicable reference obligation on the legal entity.
City	The city of the Calc Agent. This is auto populated when selecting the Settlement Matrix. Calculation agent cities are defined in the calcAgentCityCode domain.
Recovery Rate	Enter the recovery rate (e.g. "40" for 40%). The recovery rate is the actual recovery which will be applied on the trade.

"Fee" Properties

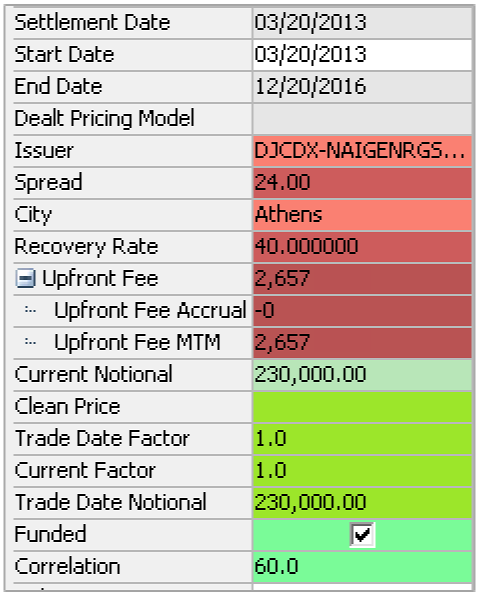
Property	Description
Upfront Fee	Displays the upfront fee based on the spread or percentage entered. Fee information is automatically attached to the trade and can be viewed by right-clicking in the trade and clicking **Trade Details > Trade Fees** or Alt + F. The ISDA model can be used to calculate the upfront fee if the ISDA module has been configured and a discount curve has been added to the pricer configuration.

6.2 CDS Index Trade

To capture CDS Index trades, a user enters details for the trade.

Properties

Pricing Details - Index Details - Fee Details



Settlement Date	03/20/2013
Start Date	03/20/2013
End Date	12/20/2016
Dealt Pricing Model	
Issuer	DJCDX-NAIGENRGS...
Spread	24.00
City	Athens
Recovery Rate	40.000000
⊟ Upfront Fee	2,657
Upfront Fee Accrual	-0
Upfront Fee MTM	2,657
Current Notional	230,000.00
Clean Price	
Trade Date Factor	1.0
Current Factor	1.0
Trade Date Notional	230,000.00
Funded	☑
Correlation	60.0

CDS Index trade

You can set the default RECOVERY_RATE from the Calypso Navigator using **Configuration > Credit Derivatives > Standard Recovery** for the "CDSIndexDefinition" type.

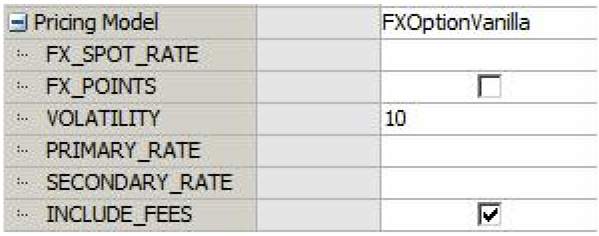
Pricing Properties

Property	Description
Buy/Sell	Enter Buy for buying credit protection or Sell for selling credit protection.
Notional	Enter the trade notional.

"Product: Info" Properties

Property	Description
Underlying	Displays the product details for the selected index. To select an index, double-click this field and begin typing any portion of the index name to show all available indexes that include the entered text. Click the preferred index from the list to populate the Underlying field.

Price Details

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.  Pricing Model FXOptionVanilla FX_SPOT_RATE FX_POINTS ☐ VOLATILITY 10 PRIMARY_RATE SECONDARY_RATE INCLUDE_FEES ☑ Sample pricing parameters
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Trader Price	Displays the unit amount of trader premium based on the selected Price Format.
Customer Price	Displays the unit amount of customer premium based on the selected Price Format.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.

Properties	Description
Sales Premium	Displays the Sales Fee in premium currency.
Sales Fee	This property is only enabled if you have selected a Sales Person. Enter the sales fee. ▶ Please refer to Capturing Sales Margins documentation for setup details. You can also display: • Sales Fee Date - Enter the date of the sales fee. • Sales Fee Ccy - Displays the default sales fee currency if any. The default sales fee currency is set in the Defaults panel under **Configuration > User Preferences**. You can select another sales fee currency as needed. • Sales Fee FX Rate - Enter the FX rate between the premium currency and the sales fee currency in case they differ. It is automatically populated if a real-time feed is setup. If the FX rate between the premium currency and the sales currency changes, you can elect to recompute the premium or the sales fee using the parameter "On Sales Fee FX Rate change" in the Defaults panel under **Configuration > User Preferences**. The MarginFXRate trade keyword stores the rate used in the conversion.
Trader Premium	Displays the theoretical premium computed by the pricer. You can modify its value. The Trader Premium can adjust the Sales Premium or the Customer Premium based on the configuration under **Configuration > User Preferences**.
Sale Premium	Displays the Sales Fee in premium currency.
Customer Premium	Displays the premium amount such that Customer Premium = Sales Premium + Trader Premium. Displays the customer premium such that: • Customer Premium = Trader Premium + Sales Premium (Sell) • Customer Premium = Trader Premium - Sales Premium (Buy) The customer premium is the actual fee that will be paid/received.

Index Properties

Property	Description
Issuer	Select an Issuer by clicking the cell and entering a name or by using the search box.
Seniority	Select the rating of the reference obligation.
Settlement Matrix	Displays default settlement instructions.
Upfront Fee Type	Select Spread or Upfront Fee Percentage. If Spread is selected, enter the spread in basis points in the "Spread" cell. If Upfront Fee Percentage is selected, enter a fee as a percentage in the "Upfront Fee Percentage" cell.

Property	Description
City	The city of the Calc Agent. This is auto populated when selecting the Settlement Matrix. Calculation agent cities are defined in the calcAgentCityCode domain.
Recovery Rate	Enter the recovery rate (e.g. "40" for 40%). The recovery rate is the actual recovery which will be applied on the trade.

Fee Details

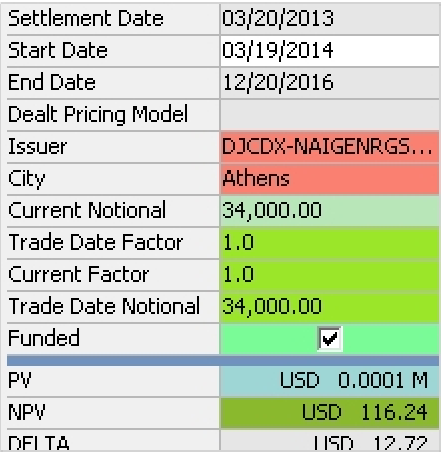
Property	Description
Upfront Fee	This is the upfront fee to account for the following (it is computed using the ISDA model): 1. Difference in current spread and inception spread. 2. Accrual. The upfront fee will be calculated for CDS Indices with "Price" as the quote type via Calypso, regardless of ISDA Server set up. Fee information is automatically attached to the trade and can be viewed by right-clicking in the trade and clicking **Trade Details > Trade Fees** or Alt + F.

6.3 CDS Index Option Trade

To capture CDS Index Option trades, a user enters details for the trade.

Properties

Option Details - Settlement Details - Premium Details - Index Details



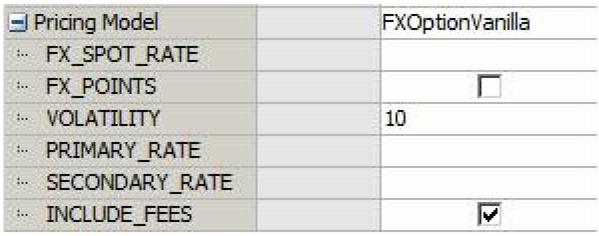
Settlement Date	03/20/2013
Start Date	03/19/2014
End Date	12/20/2016
Dealt Pricing Model	
Issuer	DJCDX-NAIGENRGS...
City	Athens
Current Notional	34,000.00
Trade Date Factor	1.0
Current Factor	1.0
Trade Date Notional	34,000.00
Funded	☑
PV	USD 0.0001 M
NPV	USD 116.24
DELTA	USD 12.72

CDS Index Option trade

Option Properties

Property	Description
Expiry Date	Enter the date for the option to expire.
Strike	Enter the spot rate.
Volatility	Enter the volatility.

Price Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.  Pricing Model FXOptionVanilla FX_SPOT_RATE FX_POINTS ☐ VOLATILITY 10 PRIMARY_RATE SECONDARY_RATE INCLUDE_FEES ☑ Sample pricing parameters
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Trader Premium	Displays the theoretical premium computed by the pricer. You can modify its value. The Trader Premium can adjust the Sales Premium or the Customer Premium based on the configuration under **Configuration > User Preferences**. ▶ See Premium Triangulation for details.
Trader Price	Displays the unit amount of trader premium based on the selected Price Format.
Customer Premium	Displays the premium amount such that Customer Premium = Sales Premium + Trader Premium. Displays the customer premium such that: • Customer Premium = Trader Premium + Sales Premium (Sell) • Customer Premium = Trader Premium - Sales Premium (Buy)

Properties	Description
	The customer premium is the actual fee that will be paid/received.
Customer Price	Displays the unit amount of customer premium based on the selected Price Format.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.
Sales Premium	Displays the Sales Fee in premium currency.
Sales Fee	This property is only enabled if you have selected a Sales Person. Enter the sales fee. ▶ See Capturing Sales Margins for setup details. You can also display: • Sales Fee Date - Enter the date of the sales fee. • Sales Fee Ccy - Displays the default sales fee currency if any. The default sales fee currency is set in the Defaults panel under **Configuration > User Preferences**. You can select another sales fee currency as needed. • Sales Fee FX Rate - Enter the FX rate between the premium currency and the sales fee currency in case they differ. It is automatically populated if a real-time feed is setup. If the FX rate between the premium currency and the sales currency changes, you can elect to recompute the premium or the sales fee using the parameter "On Sales Fee FX Rate change" in the Defaults panel under **Configuration > User Preferences**. The MarginFXRate trade keyword stores the rate used in the conversion.

"Product: Info" Properties

Property	Description
Underlying	Displays the product details for the selected index. To select an index, double-click this field and begin typing any portion of the index name to show all available indexes that include the entered text. Click the preferred index from the list to populate the Underlying field.

Settlement Properties

Property	Description
Settlement	Select Cash or Physical.
Settlement Lag	Enter the number of days between the delivery date and the expiration date.
Expiration Time Zone	Enter the expiration time zone.
Expiration Time	Enter the expiration time.

Premium Properties

Property	Description
Premium Date	Enter the payment date for the option's premium fee.
Customer Price	Displays the customer price such that: - Customer Price = Trader Price + Sales Price (Sell) - Customer Price = Trader Price - Sales Price (Buy)
Customer Premium	Enter the customer premium.

Index Properties

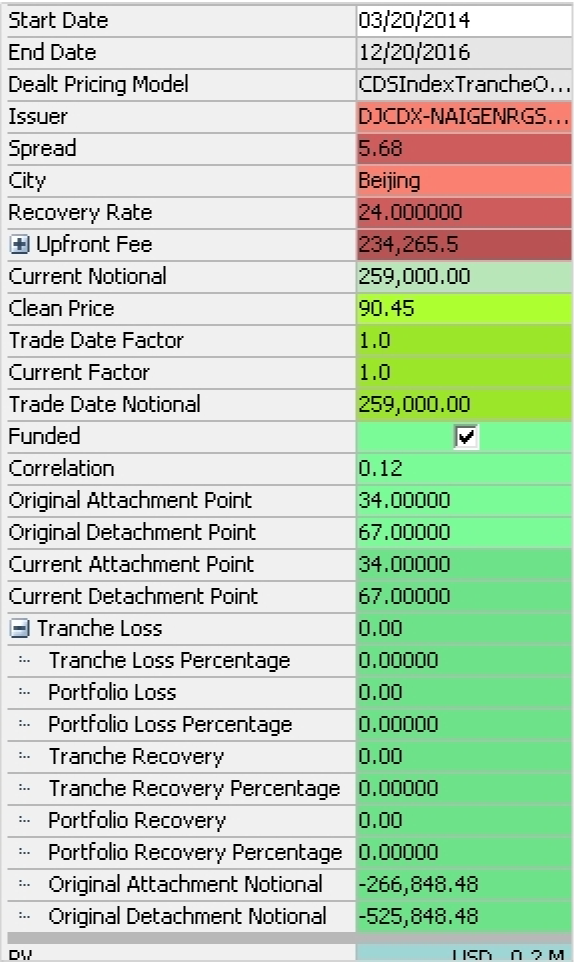
Property	Description
End Date	Displays the maturity date for the index.
Issuer	Select an index name. CDS Indices are defined from the Calypso Navigator using **Configuration > Credit Derivatives > CDS Index Definition**.
City	Select the city of the calculation agent. Calculation agent cities are defined in the calcAgentCityCode domain.
Current Notional	Displays the current notional value.
Clean Price	Displays the clean price.
Trade Date Factor	Displays original factor (the factor on the trade date of the index).
Current Factor	Displays current factor (the factor as of Val date of the index).
Trade Date Notional	displays the notional on the trade date.
Funded	When funded, there is a notional exchange. If a credit event occurs, we have two flows on the settlement date which offset each other: Seller Pays (1 - Recovery) * Notional, and receives Notional. The net cashflow is Recovery Rate * Notional. If no credit event occurs, the Notional is returned to the Seller of Protection at the maturity of the deal. The settlement is cash only.

6.4 CDS Index Tranche Trade

To capture CDS Index Tranche trades, a user enters details for the trade.

Properties

Pricing Details - Issuer Details - Fee Details - Tranche Details



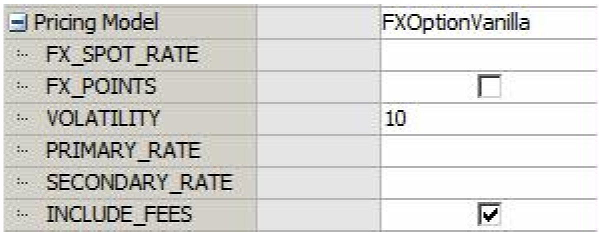
Start Date	03/20/2014
End Date	12/20/2016
Dealt Pricing Model	CDSIndexTrancheO...
Issuer	DJCDX-NAIGENRGS...
Spread	5.68
City	Beijing
Recovery Rate	24.000000
⊞ Upfront Fee	234,265.5
Current Notional	259,000.00
Clean Price	90.45
Trade Date Factor	1.0
Current Factor	1.0
Trade Date Notional	259,000.00
Funded	☑
Correlation	0.12
Original Attachment Point	34.00000
Original Detachment Point	67.00000
Current Attachment Point	34.00000
Current Detachment Point	67.00000
⊟ Tranche Loss	0.00
Tranche Loss Percentage	0.00000
Portfolio Loss	0.00
Portfolio Loss Percentage	0.00000
Tranche Recovery	0.00
Tranche Recovery Percentage	0.00000
Portfolio Recovery	0.00
Portfolio Recovery Percentage	0.00000
Original Attachment Notional	-266,848.48
Original Detachment Notional	-525,848.48
PV	USD 0.2 M

CDS Index Tranche trade

Pricing Properties

Property	Description
Buy/Sell	Direction of the trade from the book's perspective.
Notional	Enter the notional. The Notional follows the Bond market convention i.e. Buy Index means a positive notional. The factor is displayed in the Current Factor field - the factor is the total number of non-defaulted issuers / total number of original issuers.

Price Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.  Pricing Model FXOptionVanilla FX_SPOT_RATE FX_POINTS ☐ VOLATILITY 10 PRIMARY_RATE SECONDARY_RATE INCLUDE_FEES ☑ Sample pricing parameters
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Trader Price	Displays the unit amount of trader premium based on the selected Price Format.
Customer Price	Displays the unit amount of customer premium based on the selected Price Format.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.
Sales Premium	Displays the Sales Fee in premium currency.
Sales Fee	This property is only enabled if you have selected a Sales Person. Enter the sales fee. ▶ See Capturing Sales Margins for setup details. You can also display: • Sales Fee Date - Enter the date of the sales fee. • Sales Fee Ccy - Displays the default sales fee currency if any. The default sales fee currency is set in the Defaults panel under **Configuration > User Preferences**. You can select another sales fee currency as needed. • Sales Fee FX Rate - Enter the FX rate between the premium currency and the sales fee currency in case they differ. It is automatically populated if a real-time feed is setup. If the FX rate between the premium currency and the sales currency changes, you can elect to recompute the premium or the sales fee using the parameter "On Sales Fee FX

Properties	Description
	Rate change" in the Defaults panel under **Configuration > User Preferences**. The MarginFXRate trade keyword stores the rate used in the conversion.

"Product: Info" Properties

Property	Description
Underlying	Displays the product details for the selected index. To select an index, double-click this field and begin typing any portion of the index name to show all available indexes that include the entered text. Click the preferred index from the list to populate the Underlying field.

Issuer Properties

Property	Description
End Date	Displays the maturity date for the index.
Issuer	Select an index tranche. CDS index tranches are defined from the Calypso Navigator using **Configuration > Credit Derivatives > CDS Index Definition**.
Standard Fixed Coupon	When selected, the "Spread" property becomes a drop-down listing standard SNAC coupon values. These values can be defined using the domain *CreditDefaultSwapCoupon.SNAC*. ▶ For details on using domains, see "Defining Domain Data" in Calypso *Getting Started* documentation. When the checkbox is cleared, the "Spread" property becomes a text field that allows the user to enter any value for the spread.
Spread	Enter the spread in basis points.
City	Select the city of the calculation agent. Calculation agent cities are defined in the calcAgentCityCode domain.
Recovery Rate	Enter the recovery rate.

Fee Properties

Property	Description
Upfront Fee	Displays the upfront fee. Fee information is automatically attached to the trade and can be viewed by right-clicking in the trade and clicking **Trade Details > Trade Fees** or Alt + F.
Current	Displays the current notional.

Property	Description
Notional	
Clean Price	Enter the clean price.
Trade Date Factor	Displays the current factor on the trade date.
Current Factor	Total number of non-defaulted issuers / total number of original issuers. Total number of non-defaulted issuers / total number of original issuers.
Trade Date Notional	Displays the notional on the trade date.
Funded	When checked, the subtype of the CDS is FUNDED, otherwise it is UNFUNDED. When a credit event occurs, if the trade is funded, there is no settlement fee but there is a principal reduction for the amount of loss.

Tranche Properties

Property	Description
Correlation	Enter the correlation. If a correlation surface has been configured and mapped, the correlation value will be taken from there. Entering a value will override a previously configured correlation surface.
Original Attachment Point	Enter the tranche attachment point at trade inception.
Original Detachment Point	Enter the tranche detachment point at trade inception.
Trade Date Attachment Point	Displays the effective attachment point as of the entered trade date.
Trade Date Detachment Point	Displays the effective detachment point as of the entered trade date.
Current Attachment Point	The current attachment point as of the val date.
Current Detachment Point	The current detachment point as of the val date.
Tranche Loss	Displays the loss amount of the tranche.
Tranche Loss Percentage	Displays the percentage loss of the tranche.

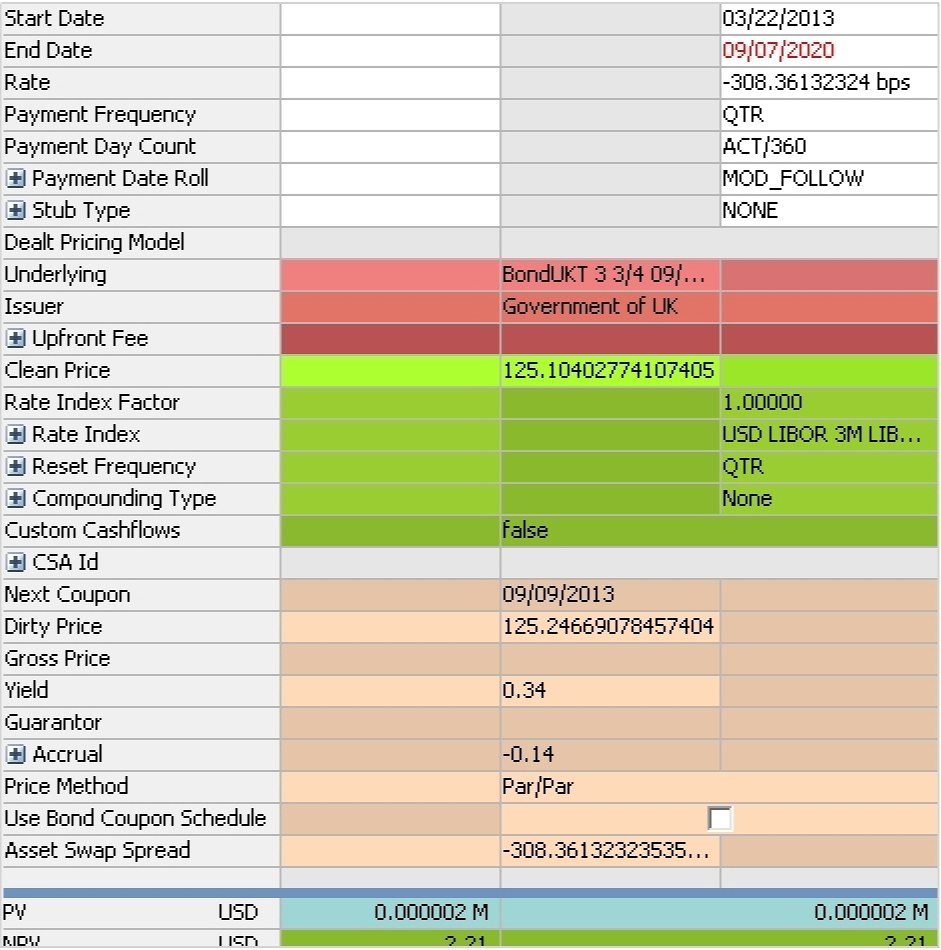
Property	Description
Portfolio Loss	Displays the loss amount on the portfolio.
Portfolio Loss Percentage	Displays the percentage loss on the portfolio.
Tranche Recovery	Displays the tranche recovery amount for the trade
Tranche Recovery Percentage	Displays the tranche recovery amount in terms of percentage.
Portfolio Recovery	Displays the portfolio recovery amount.
Portfolio Recovery Percentage	Displays the portfolio recovery amount in terms of percentage.
Original Attachment Notional	Displays the notional at the original attachment point for the trade.
Original Detachment Notional	Displays the notional at the original detachment point of the trade.

6.5 Asset Swap Trade

To capture Asset Swap trades, a user enters details for the trade.

Properties

Trade Details - Settlement Details - Payment Details - Swap Details - Asset Details - Coupon Details



Start Date			03/22/2013
End Date			09/07/2020
Rate			-308.36132324 bps
Payment Frequency			QTR
Payment Day Count			ACT/360
⊞ Payment Date Roll			MOD_FOLLOW
⊞ Stub Type			NONE
Dealt Pricing Model			
Underlying		BondUKT 3 3/4 09/...	
Issuer		Government of UK	
⊞ Upfront Fee			
Clean Price		125.10402774107405	
Rate Index Factor			1.00000
⊞ Rate Index			USD LIBOR 3M LIB...
⊞ Reset Frequency			QTR
⊞ Compounding Type			None
Custom Cashflows		false	
⊞ CSA Id			
Next Coupon		09/09/2013	
Dirty Price		125.24669078457404	
Gross Price			
Yield		0.34	
Guarantor			
⊞ Accrual		-0.14	
Price Method		Par/Par	
Use Bond Coupon Schedule		☐	
Asset Swap Spread		-308.36132323535...	
PV USD	0.000002 M		0.000002 M
NPV USD	2.21		2.21

Asset Swap trade

Trade Properties

Property	Description
Notional	Enter the notional amount for the reference leg.
Notional Ccy	Enter the notional currency type for the reference leg.
Pay/Receive	Enter the pay or receive for each leg in the strategy.
Leg Type	Displays the type for each leg in the strategy.

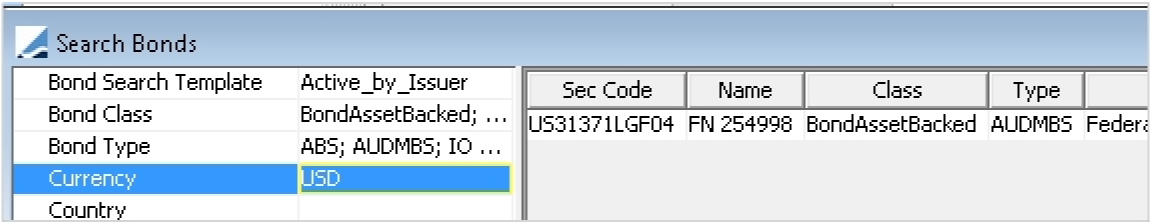
Swap Properties

Property	Description
Start Date	Trade start date.

Property	Description
End Date	Trade end date.
Rate	Enter the forward rate.
Rate Index Factor	Enter the index factor as needed for floating rates to multiply the rate value.
Rate Index	Select the rate index for floating rates. You can set additional properties: • Reset Timing - Select "At Start" or "In Arrears". • Reset Lag - Enter the number of days between the actual reset date and the reset date as defined by the reset timing, and specify Business or Calendar. • Reset Holidays - Select the reset calendars. • Reset Date Roll - Select the reset date roll. • Manual First Rate - Enter the first reset rate if any. • Convert Basis - Check the “Convert Basis” checkbox to check whether the reference index and the trade have the same daycount convention. If not, the rate’s daycount convention is converted to the trade’s daycount convention. ▶ Please refer to "Convert Basis" in Calypso Product Details documentation for more details. • Rate Rounding - Select the rate’s rounding method to override the default value from the rate index. • Rate Decimals - Enter the number of decimal places to override the default value from the rate index.
Reset Frequency	Select the reset frequency to sample resets at a frequency different from the payment frequency. Otherwise, the resets are sampled at the payment frequency.
Stub Type	Select the stub period, if applicable, or none. You can also set the following properties: • Stub First Date - Enter the end date of the first period for SPECIFIC FIRST and SPECIFIC BOTH. • Stub Last Date - Enter the start date of the last period for SPECIFIC LAST and SPECIFIC BOTH • Stub Full Coupon Date - Enter the full coupon date for FULL COUPON. • Stub Tolerance - Enter the number of days of stub tolerance. • First Stub Interpolation - Select Interpolate to interpolate on the first period, or none otherwise. • First Stub Tenor 1 - Select the first index tenor for interpolation of the first period. • First Stub Tenor 2 - Select the second index tenor for interpolation of the first period. • Last Stub Interpolation - Select Interpolate to interpolate on the last period, or none otherwise. ▶ Please refer to "Interp checkbox" in Calypso Product Details documentation for more details. • Last Stub Tenor 1 - Select the first index tenor for interpolation of the last period. • Last Stub Tenor 2 - Select the first index tenor for interpolation of the last period.

Property	Description
	- Interpolated Rate Rounding - Select the stub rate's rounding method. - Interpolated Rate Decimal - Enter the number of decimal places for interpolated rate rounding. - Interpolation Style - Select the interpolation style: Index Based - The DateRoll, the holidays and the daycount are coming from the rate index. Product Payment - The DateRoll, the holidays and the daycount are coming from the coupon panel.
Compounding Type	Select the compounding type, if applicable, or none. - Flat - Flat compounding - The spread is added after the compounding is computed if any. Current period interest is calculated using floating rate plus spread. But compound interest is calculated using floating rate only (and the spread is not added). - Spread - The interest compounds at the rate value plus spread. Enter the Spread in the Compounding Spread field. - SimpleSpr (Swaps only) - This involves compounding the Floating Rate but treating the spread as simple interest. In other words,the floating rate interest is earned at the end of a period but not the spread (only the floating rate is added back into the notional). The spread is then calculated on the notional for the entire calculation period without compounding. - NoCmp - A cashflow is created at the compounding period without actually compounding the interest. The daily rate resets for the floating rate are used to calculate the simple interest everyday and summed to find the total interest for the period. You can also set: - User Reset Period Dates - Check to compound trades based on the reset dates rather than the payment dates.

Bond Properties

<table>
<tr><th>Property</th><th>Description</th></tr>
<tr><td>Underlying</td><td>
<p>Select a Bond product.</p>
<p>Click the Arrow icon to open a "Search Bonds" window.</p>

<p>Search Bonds</p>
<table>
<tr><td>Bond Search Template</td><td>Active_by_Issuer</td></tr>
<tr><td>Bond Class</td><td>BondAssetBacked; ...</td></tr>
<tr><td>Bond Type</td><td>ABS; AUDMBS; IO ...</td></tr>
<tr><td>Currency</td><td>USD</td></tr>
<tr><td>Country</td><td></td></tr>
</table>
<table>
<tr><th>Sec Code</th><th>Name</th><th>Class</th><th>Type</th><th></th></tr>
<tr><td>US31371LGF04</td><td>FN 254998</td><td>BondAssetBacked</td><td>AUDMBS</td><td>Federa</td></tr>
</table>
<p>You can define a search for current assets. Double click the asset to load it to the Pricing Sheet.</p>
</td></tr>
</table>

Property	Description
Next Coupon	Displays the next coupon date.
Clean Price	Enter the clean price.
Dirty Price	Enter the dirty price. This includes the accrued interest.
Gross Price	Displays Clean Price * Inflation Factor when Inflation Bond is selected.
Yield	Enter the yield (rate of return).
Guarantor	If the selected bond is associated with a legal entity of role Guarantor, it will be displayed here. Legal entities can be associated with bonds in the Legal Entities panel of the Bond Product Window.
Accrual	Displays the amount of interest accrued as of the settlement date.

Fee Properties

Property	Description
Upfront Fee	Displays the Par Adjustment and Accrual fees. Fee information is automatically attached to the trade and can be viewed by right-clicking in the trade and clicking **Trade Details > Trade Fees** or Alt + F.

7. Capturing Equity Derivatives Trades

To capture Equity Derivatives trades in the Pricing Sheet, you first need t o define Equity products.

▶ Please refer to Calypso Equity Derivatives Trading for details.

Then select an Equity-related strategy and set the properties as needed.

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to Equity trades are described below.

- Equity Reset Properties
- Equity
- Equity Forward
- Equity Swap
- Portfolio Swap
- Equity Structured Options
- Correlation Swap
- Scriptable OTC Products

7.1 Equity Reset Properties

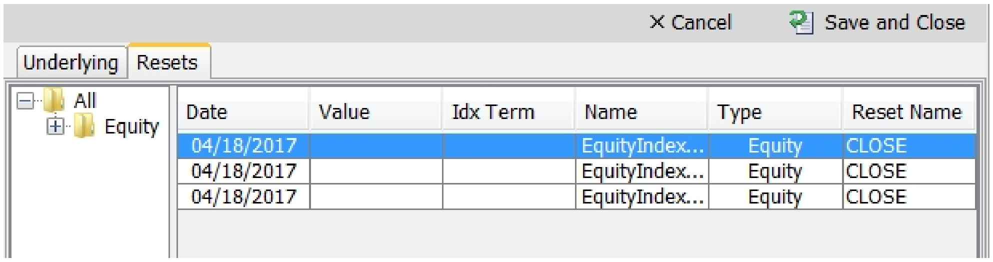
You can select an equity reset from the Equity Reset property for equity and equity index underlyings. The fixing quote should be set for the quote name in the form "EquityReset.<equity name>.<reset name>". If you do not select an Equity Reset, CLOSE is selected by default. The fixing quote is the spot quote in that case.

For basket underlyings, and / or to enter manual resets, you need to bring up the Supplemental panel to enter Equity Reset information.

Equity resets are defined in the Equity Definition or Equity Index Definition.

Supplemental Panel

You can select the Resets panel to display Resets details for the various legs.



Date	Value	Idx Term	Name	Type	Reset Name
04/18/2017			EquityIndex...	Equity	CLOSE
04/18/2017			EquityIndex...	Equity	CLOSE
04/18/2017			EquityIndex...	Equity	CLOSE

You can select an equity reset from the Reset Name field. The fixing quote should be set for the quote name in the form "EquityReset.<equity name>.<reset name>". If you do not select an equity reset, CLOSE is selected by default. The fixing quote is the spot quote in that case.

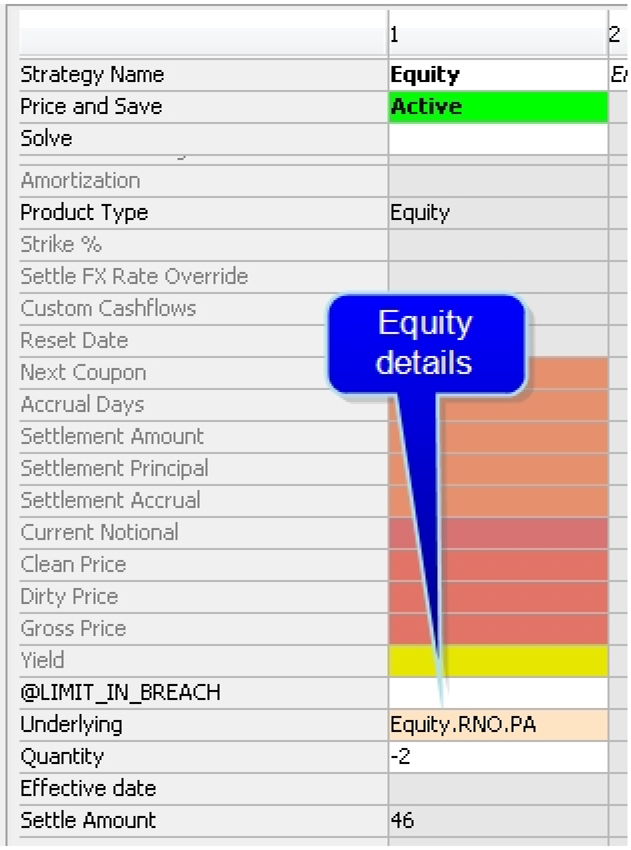
You can also select "Specific Reset" and enter a manual fixing quote in the Value field.

7.2 Equity

To capture equity trades, you must define an equity product in the system before it can be loaded to the Pricing Sheet.

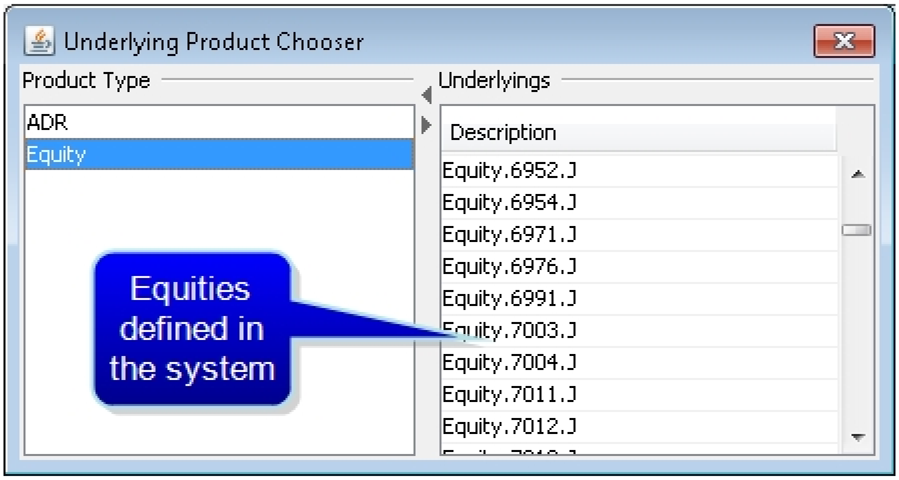
Key Properties

Trade Direction - Underlying - Quantity - Strike - Trade Dates - Price



	1	2
Strategy Name	**Equity**	E
Price and Save	**Active**	
Solve		
Amortization		
Product Type	Equity	
Strike %		
Settle FX Rate Override		
Custom Cashflows		
Reset Date		
Next Coupon		
Accrual Days		
Settlement Amount		
Settlement Principal		
Settlement Accrual		
Current Notional		
Clean Price		
Dirty Price		
Gross Price		
Yield		
@LIMIT_IN_BREACH		
Underlying	Equity.RNO.PA	
Quantity	-2	
Effective date		
Settle Amount	46	

Property	Description
Buy/Sell	Enter Buy or Sell.
Classification	Enter the classification for the trade from a dropdown. This classification is for information purposes only. It is stored in the trade keyword "TradeClassification", and available values can be set in domain "keyword.TradeClassification". It can be used in filters to filter trades for various processes, and can be viewed in reports throughout the system.
Underlying	Enter the Equity product for the strategy. To enter a product, define one in the system and click in the cell to bring up the Underlying Product Chooser window.

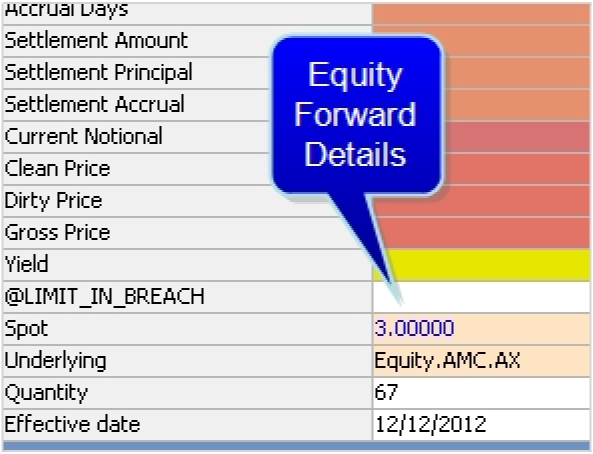
Property	Description
	 Underlying Product Chooser Product Type ADR Equity Underlyings Description Equity.6952.J Equity.6954.J Equity.6971.J Equity.6976.J Equity.6991.J Equity.7003.J Equity.7004.J Equity.7011.J Equity.7012.J Equities defined in the system A user can search Equity products or ADRs. ▶ See Calypso Equity Derivatives documentation for more details.
Quantity	Enter the equity product quantity to trade.
Strike	Enter the strike.
Strike Ccy	Enter the strike currency.
Settlement Date	Enter the settlement date. Defaults to the trade date.
Cash Date	Enter the cash date.
Negotiated Price Type	Enter the type of negotiated price.
Quanto Factor	Enter the rate between the underlying currency and the settlement currency. The trade keyword "EquityFXRate" will be populated accordingly.

7.3 Equity Forward

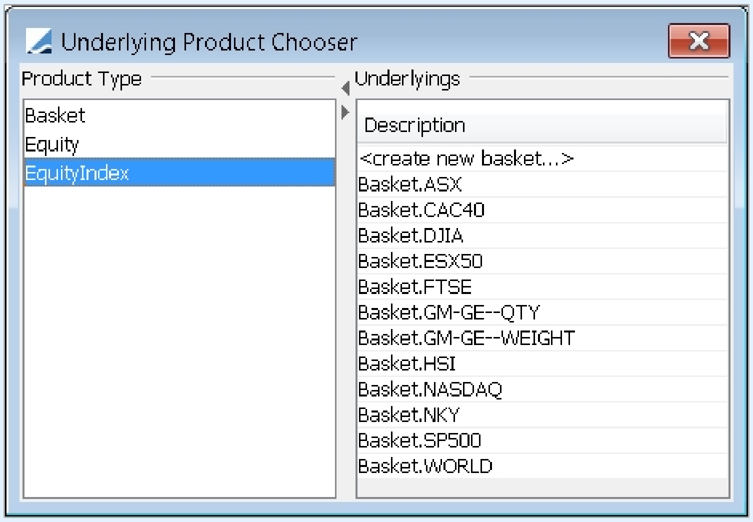
An Equity Forward can be settled in cash or physical. The cash settlement requires the user to specify a “fixing” to determine the settlement amount. The fixing is observed on the forward date.

Key Properties

Trade Direction - Product Type - Settlement Date - Fixing - FX Source


Equity
Forward
Details

Accrual Days	
Settlement Amount	
Settlement Principal	
Settlement Accrual	
Current Notional	
Clean Price	
Dirty Price	
Gross Price	
Yield	
@LIMIT_IN_BREACH	
Spot	3.00000
Underlying	Equity.AMC.AX
Quantity	67
Effective date	12/12/2012

Property	Description
Buy/Sell	Enter buy or sell.
Quantity	Enter the equity product quantity to trade.
Strike	Enter the strike. This is the forward price.
Effective Date	Enter the effective date.
Expiry Date	Enter the trade end date.
Underlying	Enter the Equity product for the strategy. To enter a product, define one in the system and click in the cell to bring up the Underlying Product Chooser window.  Underlying Product Chooser Product Type Basket Equity EquityIndex Underlyings Description <create new basket...> Basket.ASX Basket.CAC40 Basket.DJIA Basket.ESX50 Basket.FTSE Basket.GM-GE--QTY Basket.GM-GE--WEIGHT Basket.HSI Basket.NASDAQ Basket.NKY Basket.SP500 Basket.WORLD You can select a basket, and equity or an equity index. If you choose Basket > <create new basket...>, the Basket window will appear. You can define a basket to use. Transient baskets will appear in italics. If
Product Type	Displays the product type.

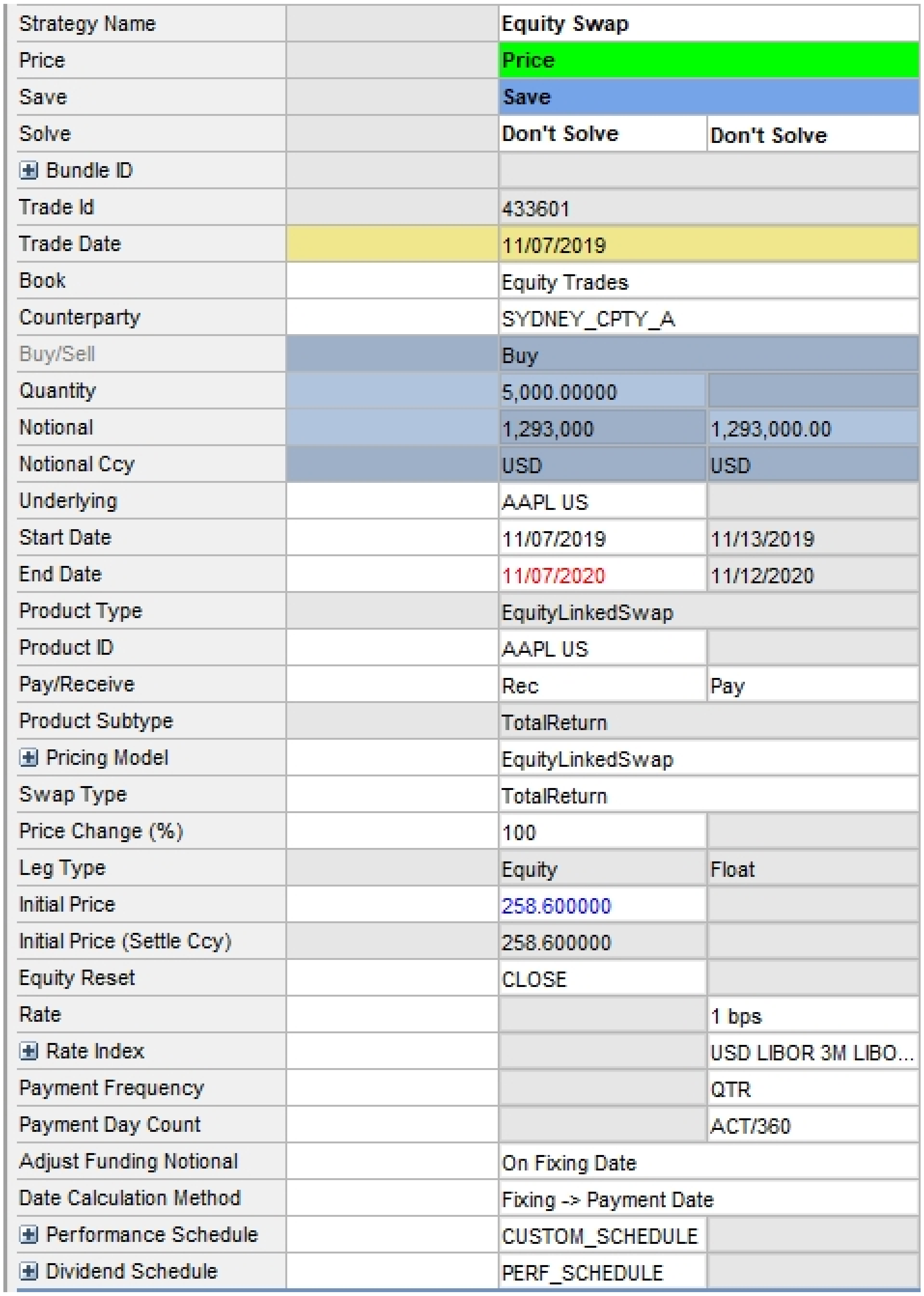
Property	Description
Notional Ccy	Select the currency of the notional.
Spot	Enter the spot.
Settle Type	Enter the settle type. Choose CASH, PHYSICAL, FLEXO or QUANTO from a drop down.
Settle Ccy	Defaults to the underlying's currency if cash or physical. If QUANTO or FLEXO, choose currency pair.
Settlement Lag	Enter the date lag.
Flexo FX Source	If FLEXO is chosen in the Settle Type, displays the FX Reset.
Quanto Factor	If QUANTO is chosen in the Settle Type, displays the FX Reset.

7.4 Equity Swap

The Equity Swap strategy in the Pricing Sheet defines the performance leg with an equity or equity index and the funding leg with a floating rate index or a fixed rate.

Key Properties

Underlying - Quantity - Initial Price - Start/End Date - Rate/Rate Index



Strategy Name		Equity Swap	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
⊞ Bundle ID			
Trade Id		433601	
Trade Date		11/07/2019	
Book		Equity Trades	
Counterparty		SYDNEY_CPTY_A	
Buy/Sell		Buy	
Quantity		5,000.00000	
Notional		1,293,000	1,293,000.00
Notional Ccy		USD	USD
Underlying		AAPL US	
Start Date		11/07/2019	11/13/2019
End Date		11/07/2020	11/12/2020
Product Type		EquityLinkedSwap	
Product ID		AAPL US	
Pay/Receive		Rec	Pay
Product Subtype		TotalReturn	
⊞ Pricing Model		EquityLinkedSwap	
Swap Type		TotalReturn	
Price Change (%)		100	
Leg Type		Equity	Float
Initial Price		258.600000	
Initial Price (Settle Ccy)		258.600000	
Equity Reset		CLOSE	
Rate			1 bps
⊞ Rate Index			USD LIBOR 3M LIBO...
Payment Frequency			QTR
Payment Day Count			ACT/360
Adjust Funding Notional		On Fixing Date	
Date Calculation Method		Fixing -> Payment Date	
⊞ Performance Schedule		CUSTOM_SCHEDULE	
⊞ Dividend Schedule		PERF_SCHEDULE	

Sample Equity Swap trade

Equities and equity indexes selected for the performance leg of the swap are defined in the equity and equity index product windows.

- For equities, see "Equity Product Definition" in the Calypso *Equity Derivatives* documentation.
- For equity indexes, see "Equity Index Product Definition" in the Calypso *Equity Derivatives* documentation.

Basic Steps for Capturing an Equity Swap Trade

- Select the underlying equity or equity index in the Underlying property.
- Enter the quantity.
- Enter the initial price.
- Select either Fixed or Float for the Leg Type on the funding leg, and then enter a fixed rate or the floating rate index details.
- Enter the Start Date and End Date.
- Enter details for the Performance Schedule
- Enter Book, Counterparty, and other essential details for the trade.

Properties Description

Property	Description
Book	Enter the trading book to which the trade belongs, owned by the processing organization, and which identifies the initiator's side of the trade. Books can be selected only after they have been added to Favorites in the Favorite Books Configuration window. From Calypso Navigator, choose **Configuration > Favorites > Books**.
Counterparty	Enter the legal entity that represents the opposite side of the trade. Counterparties can be selected only after they have been added to Favorites in the Configure Favorite Cptys window. From Calypso Navigator, choose **Configuration > Favorites > Counterparties**.
Trade Date	Date on which the trade is booked. The date initially defaults to the current date.
Start Date	Effective date of the trade.
End Date	End date of the trade.
Buy/Sell	Defaults to Buy.
Pay/Receive	Direction for each leg. Selecting one option for a leg sets the option to its opposite for the other leg.
Underlying	Double-click the Underlying field and click the down arrow to open the Underlying Product Chooser, where you can select either an underlying equity or equity index.
Quantity	Enter the number of shares.
Initial Price	Enter the initial price. This price will be used to calculate the first payoff. See Notional below.
Notional	The funding notional of the trade. The value is "read only" in the Pricing Sheet. • Notional equals Quantity multiplied by Initial Price when:

Property	Description
	The underlying equity's currency equals the settlement currency, or The underlying equity's currency is different from the contract's settlement currency, but the FX Conversion Method is Flexo. • Notional equals Quantity multiplied by Initial Price (Settle Ccy) when the underlying equity's currency is different from the settlement currency and the FX Conversion Method is Compo.
Rate	When the Leg Type is Fixed, enter a fixed rate. When the Leg Type is Float, you can enter an index factor in basis points.
Rate Index	When Leg Type is Float, select the reference index and make settings for associated secondary properties under the Rate Index property. ▶ See "Capturing IRD Trades" in the *Pricing Sheet* documentation for details on Rate Index properties.
Settle Type / Settle Ccy	When the settlement currency is different from the underlying currency, you can select the FX Conversion Method in the Settle Type property. The choices are Local, Quanto, and Compo.
Price Change %	Enter the percentage of performance that the equity leg receives or pays.
Swap Type	Currently, the only option available for the Pricing Sheet is TotalReturn.
Leg Type	Either Fixed or Float. When Fixed, the Rate Index property is disabled. When Float, associated Rate Index properties are enabled.
Performance Schedule	The performance payoff schedule. CUSTOM_SCHEDULE is the only option available in the Pricing Sheet. Expand the property to make selections for Frequency, Roll On Day, Performance Stub Type, and Period Rule.
Dividend Schedule	Select the payment schedule associated with the equity: • NONE – No dividend payment. • PERF_SCHEDULE – Dividend will be recognized upon recognition, i.e. in the period corresponding to the ex-div date of the dividend. The dividend, if any, follows the performance payoff schedule. If Dividend Pmt Date is after the Trade End Date, Dividend Pmt Date in the cashflow will be the same as Trade End Date. • UPON_RECEIPT – The dividend, if any, will be paid / received on the dividend date. ***Dividend Ownership*** Second Period is currently the only option. Second Period relies on the dividend's ex-div date and refers to each period from one fixing date to the next fixing date, excluding the first date and including the last. The initial dividend period, however, will commence on but exclude the trade date, and the final dividend period will end on and include the final fixing date.

Property	Description
Adjust Funding Notional	Select the notional adjustment method: • On Pay Date – The Notional of the funding leg equals the Fixing of the Prior Leg * Initial Quantity. The Notional will adjust on the payment date. • On Fixing Date – The Notional of the funding leg equals the Fixing of the Prior Leg * Initial Quantity. The Notional will adjust on the fixing date.
Date Calculation Method	Select the Date Calculation Method: • Fixing Date -> Payment Date - Funding payment dates are determined by Performance payment dates. Fixing date lag on Performance leg is non-editable. It is possible to define a Reset date lag on the Funding leg. • Payment Date -> Fixing Date - Performance payment dates are determined by Funding payment dates. It is possible to define a Fixing date lag on the Performance leg.

7.5 Portfolio Swap

A Portfolio Swap is an agreement between counterparties to swap cash flows on fixed dates in the future over a certain period of time, where one flow is based on the performance of a dynamic basket of equity assets and the other on a fixed or floating set interest rate whose amount is calculated using a predetermined notional value. The Portfolio Swap helps standardize the handling of equity swaps.

The underlying specifics of the agreement are defined by the Portfolio Swap Contract. For details on setting up a Portfolio Swap Contract, see Calypso *Portfolio Swap Definition* documentation.

Key Properties

Book - Counterparty - Trade Date - Start Date - Contract - Buy/Sell - Underlying - Quantity - Gross Price

Sample Portfolio Swap trade

Basic Steps for Capturing a Portfolio Swap Trade

- Enter a Book and Counterparty.
- Select the Portfolio Swap Contract that will define the trade.
- Enter the Trade Date.
- Specify Buy or Sell as the direction of the trade.
- Select the underlying equity and then enter the quantity.
- Enter a gross price for the equity.

Properties Description

Property	Description
Book	Enter the trading book to which the trade belongs, owned by the processing organization, and which identifies the initiator's side of the trade. Books can be selected only after they have been added to Favorites in the Favorite Books Configuration window. From Calypso Navigator, choose **Configuration > Favorites > Books**.
Counterparty	Enter the legal entity that represents the opposite side of the trade. Counterparties can be selected only after they have been added to Favorites in the Configure Favorite Cptys window. From Calypso Navigator, choose **Configuration > Favorites > Counterparties**.
Trade Date	Date on which the trade is booked. The date initially defaults to the current date.
Start Date	Effective date of the underlying contract.
Contract	Double-click the Contract property field to select a contract. The Portfolio Swap Contracts window allows you to search for the target contract. Once the Contract is entered for the trade it can be opened quickly from the Pricing Sheet by highlighting the contract in the strategy leg, opening the Leg Details tool (click 🔍 in the Tools Panel), and clicking ▤ in the Contract field. ⓘ **[NOTE: The processing organization's Book and the Counterparty selected in the Pricing Sheet must match the corresponding information in the contract before the contract is made available in the Portfolio Swap Contracts search window. Additionally, the Trade Date should be the same as or follow after the contract's Start Date and come before the End Date. When these requirements are met, a list of available contracts (if more than one exists) is displayed in the search window.]**
End Date	End date of the underlying Portfolio Swap Contract. The date is defined in the contract and "read only" in the Pricing Sheet.
Buy/Sell	Direction of the trade from the processing organization's perspective.
Underlying	Enter the underlying equity. Double-click the Underlying field and click the down arrow to open the Underlying Product Chooser.
Quantity	Enter the number of shares.
Gross Price	Enter the gross initial trade price of the equity.
Initial Price	Initial price is a net price calculated by the system and "read only" in the Pricing Sheet. When the contract specifies Commission Pay Method as either Upfront or Upfront Quantity, the Initial Price equals the Gross Price. When the Commission Pay Method is Embedded, The Initial Price is dependent on the direction of the trade. • Buy: Initial Price equals Gross Price minus Gross Price multiplied by the Commission

Property	Description
	(bps). - Sell: Initial Price equals Gross Price plus Gross Price multiplied by the Commission (bps).
Initial Price (Settle Ccy)	This field is "read only" on the Pricing Sheet. A value is provided only when the settlement currency is different from the contract currency and the FX Conversion Method is Compo. It is defined as the initial price converted into settlement currency using the Initial FX Reset of the trade.
Commission (bps)	The commission fee rate in bps. The value is automatically populated from information on the Country Grid tab of the contract. When the direction of the trade is Buy, the commission rate is taken from the Long Commission (bps) field. In the case of a Sell trade, this value comes from the Short Commission (bps) field. However, this value can be overridden at the trade level and entered manually in the Pricing Sheet. When the contract specifies the Commission Pay Method as Embedded, Commission (bps) is used to calculate the Initial Price. When the Commission Pay Method is either Upfront or Upfront Quantity, Commission (bps) is used to calculate the commission at the trade level.
Notional	The funding notional of the trade. The value is "read only" in the Pricing Sheet. - Notional equals Quantity multiplied by Initial Price when: The underlying equity's currency equals the contract's settlement currency, or The underlying equity's currency is different from the contract's settlement currency, but the FX Conversion Method is Flexo. - Notional equals Quantity multiplied by Initial Price (Settle Ccy) when the underlying equity's currency is different from the contract's settlement currency and the FX Conversion Method is Compo.
Leg Type	Either Fixed or Float. Defined in the Portfolio Swap Contract and "read only" in the Pricing Sheet.
FX Conversion Method	The FX conversion method used when the underlying currency is different from the settlement currency. The method is chosen in the contract, and this is a "read only" field in the Pricing Sheet. - Flexo: Pricing and P&L measures are calculated in the underlying equity's currency and then converted for Back Office settlements. - Compo: Pricing and P&L measures are calculated by converting each fixing into the settlement currency using the FX resets.

7.6 Equity Structured Options

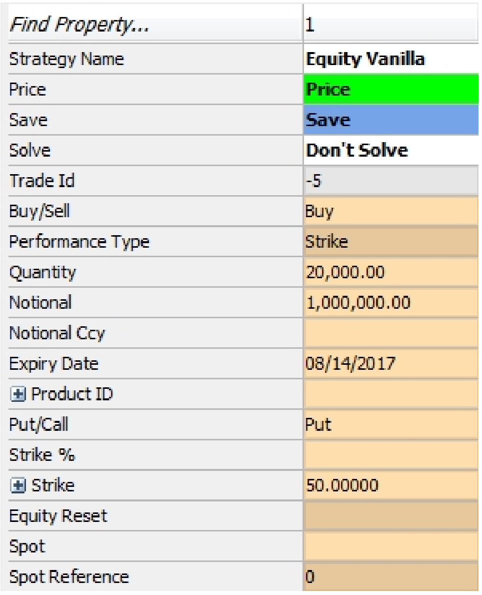
Equity Structured Option is a general term that describes an agreement between two parties to exchange one or more cash flows based on a payout. The payout formula typically refers to underlyings. The strategies listed in this section are specific instances of the equity structured option, although Calypso also provides a general Equity Option strategy, which provides the flexibility to configure any one of a variety of equity option strategies. However, Calypso recommends utilizing a specific strategy whenever possible.

7.6.1 Equity Vanilla

The Equity Vanilla option forms the basis for other specific options that follow. When capturing the latter, begin configuring the trade as though it were an Equity Vanilla then enter values for properties directly associated with the specific type of trade.

Key Properties

Underlying - Buy/Sell - Put/Call - Notional - Strike% - Strike - Quantity - Trade Date - Effective Date - Expiry Date - Settle Type - Exercise Type



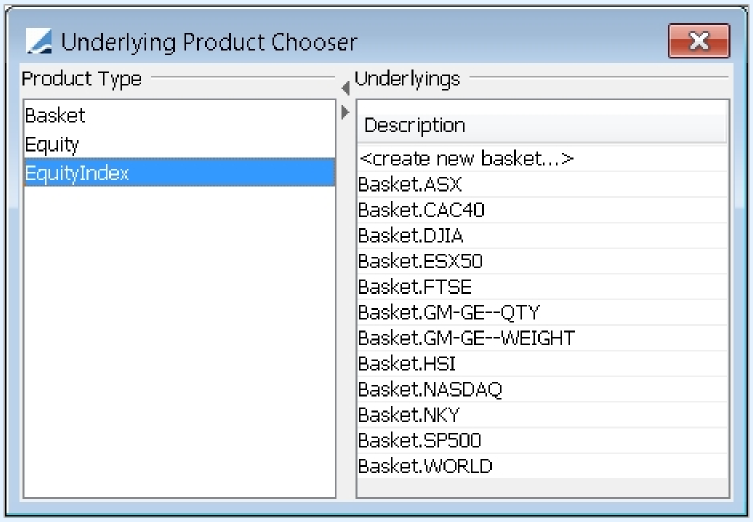
Find Property...	1
Strategy Name	**Equity Vanilla**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Id	-5
Buy/Sell	Buy
Performance Type	Strike
Quantity	20,000.00
Notional	1,000,000.00
Notional Ccy	
Expiry Date	08/14/2017
⊞ Product ID	
Put/Call	Put
Strike %	
⊞ Strike	50.00000
Equity Reset	
Spot	
Spot Reference	0

Sample Equity Vanilla trade

Basic Steps for Capturing an Equity Vanilla Option

- Select an underlying: equity, equity index, or basket.
- Enter the trade direction - buy or sell - and whether a put or call.
- Enter the strike for the underlying and the quantity. Or, if a notional trade, enter a notional and strike percentage.
- Enter the Trade Date, an Effective Date for the start of the trade, and an Expiry Date.
- Enter the Settle Type and Exercise Type.
- Enter basic trade properties such as Book and Counterparty.

Properties Description

Property	Description
Buy/Sell	Enter buy or sell.
Put/Call	Enter PUT or CALL.+
Performance Type	Automatically switches between Quantity, Notional, or Strike depending on the information entered in the Quantity, Notional, or Strike fields below. Defaults to Quantity.
Quantity	Enter the quantity. If quantity is entered, then the performance type of the trade is quantity-based. Strike, Price and other dependent properties will display amounts. If notional is entered, then Quantity is calculated as Notional / Spot reference.
Strike	Enter the strike. If strike is entered, then the performance type of the trade is strike-based, allowing the user to set the strike immediately. If strike is entered, then quantity is calculated as Notional/Strike.
Notional	Enter the notional. If notional is entered, then the performance type of the trade is notional-based. Strike, Price, and other dependent properties will display % amounts. If quantity is entered, then notional is calculated as Quantity * Spot reference.
Strike %	Enter the strike percentage. If the Strike % is entered, then Strike = Spot Reference * Strike %.
Underlying	Enter the Equity product for the strategy. To enter a product, define one in the system and click in the cell to bring up the Underlying Product Chooser window.  Underlying Product Chooser Product Type Basket Equity EquityIndex Underlyings Description <create new basket...> Basket.ASX Basket.CAC40 Basket.DJIA Basket.ESX50 Basket.FTSE Basket.GM-GE--QTY Basket.GM-GE--WEIGHT Basket.HSI Basket.NASDAQ Basket.NKY Basket.SP500 Basket.WORLD

Property	Description
	You can select a basket, and equity or an equity index. If you choose Basket > <create new basket...>, the Basket window will appear. You can define a basket to use. Transient baskets will appear in italics.
Trade Date	The date on which both parties agree on the terms of the trade.
Effective Date	Start date of the trade.
Expiry Date	Enter the expiration date.
Expiry	Displays Day/number of Weeks/Weeks or Years until expiration.
Product Type	Displays the product type.
Notional Ccy	Select the currency of the notional.
Exercise Type	Enter European, American, or Bermudan for the Exercise Type.
Settle Type	Enter the settle type. Choose Cash, Physical, Quanto, Flexo, or Compo from the drop-down list.
Settle Ccy	Displays the settlement currency. If CASH, then notional currency of underlying is displayed. If PHYSICAL, then blank. If QUANTO or FLEXO, then enter a currency.
Spot	Fixing price. Displays the closing rate of the underlying.
Spot Reference	Uneditable. Displays the fixing price. Spot Rate as effective date.
Price Format	Displays price in amount or %. If Quantity, then currency (e.g., EUR) is displayed. If Notional, then percent (e.g., EUR%) is displayed.
Delivery Date	Enter the delivery date.
Strike Type	Enter the strike type. Choose Fixed, Forward Start, Average or Lookback. • If Forward Start, then Strike = Strike % * Spot Reference. • If Average/Lookback, then Strike = Strike % * Spot Reference.
Notional FX Reset	Displays the FX rate reset for the notional. FX rate resets are defined from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.

7.6.2 Equity Barrier

To capture an Equity Barrier, select the Equity Barrier strategy and enable the following properties in the Pricing Sheet Profiles window along with the relevant Equity Vanilla properties discussed above.

Property	Description
Barrier Duration	Enter None, FULL, PARTIAL or EXPIRY.
Barrier Type	Enter the barrier type: UI, DI, UO, DO, DKI, DKO, KIKO (UI) or KIKO (DI).
Barrier	Enter the upper barrier. You can set the barrier levels as a percentage of the spot reference (Barrier %) when Barrier Monitoring = Closing, and Barrier Duration = FULL.
Barrier 2	Enter the lower barrier. You can set the barrier levels as a percentage of the spot reference (Barrier 2 %) when Barrier Monitoring = Closing, and Barrier Duration = FULL.
Barrier Monitoring	Enter the barrier monitoring type, Continuous or Closing. When Barrier Monitoring = Closing, and Barrier Duration = FULL, you can define an observation schedule in the Supplemental panel.
Barrier Start Date	Displays the start date.
Barrier End Date	Displays the end date.
Rebate	Displays the rebate amount.
Rebate Ccy	Displays the rebate currency type.
Rebate Timing	Displays the rebate timing.
Performance Type	Automatically switches between Quantity, Notional, or Strike depending on the information entered in the Quantity, Notional, or Strike fields below. Defaults to Quantity.

7.6.3 Equity Digital

To capture an Equity Digital, select the Equity Digital strategy and enable the following properties in the Pricing Sheet Profiles window along with the relevant Equity Vanilla properties discussed above.

Property	Description
Trigger Duration	Enter None, FULL or EXPIRY.
Trigger Type	Enter OT Up/Down or Above Below.
Payout Type	Displays the digital type.
Barrier Monitoring	Enter the barrier monitoring type, Continuous or Closing. When Barrier Monitoring = Closing, and Barrier Duration = FULL, you can define an observation schedule in the Supplemental panel. This applies only to DOT/DNT options.
Trigger	Enter the upper trigger. You can set the trigger levels as a percentage of the spot reference (Trigger %)

Property	Description
	when Barrier Monitoring = Closing, and Barrier Duration = FULL.
Trigger 2	Enter the lower trigger. You can set the trigger levels as a percentage of the spot reference (Trigger 2 %) when Barrier Monitoring = Closing, and Barrier Duration = FULL.
Digital Amount	Enter the payout quantity.

7.6.4 Equity Asian/Lookback

To capture an Equity Asian/Lookback, select the Equity Asian or Equity Lookback strategy and enable the following properties in the Pricing Sheet Profiles window along with the relevant Equity Vanilla properties discussed above.

Property	Description
Function	Select the averaging function for Asian options. This is done in the Supplemental panel. • Arithmetic — Arithmetic average options where the average is ∑xn, cannot be valued using a closed form solution. There are approximations (Turnbull and Wakeman 1991), that are fairly accurate, or Monte Carlo simulations can be applied. • Geometric — Geometric average options where the average is ((x1...xn)1/n), have a closed form solution, but are far less common in practice than arithmetic averages.
Strike %	Enter the strike percentage for strip generation.

7.6.5 Equity Cliquet

A Cliquet is a multi-period option with a single payoff at maturity. Select the Equity Cliquet strategy and enable the properties in the table below along with the relevant Equity Vanilla properties discussed above.

Each period has a return that can be floored and/or capped. The Cliquet schedule can be generated and viewed in the Supplemental panel.

Property	Description
Initial Coupon	Enter the Initial Coupon. It is used as a base coupon that period returns are added to.
Participation	Enter the percentage of the return to return to the user.
Global Cap	The maximum return for the payoff.
Global Floor	The minimum return for the payoff.
Local Cap	The maximum return for any given reset period.
Local Floor	The minimum return for any given reset period.

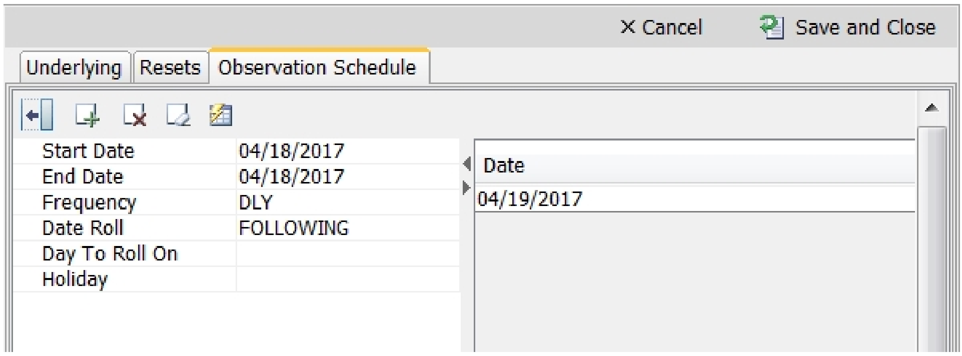
7.6.6 Equity Chooser

The Chooser Payoff allows the holder to choose whether to enter into one of two possible options on the Expiration Date. Each of the possible options has its own Strike, Put/Call and Maturity Date. All options are European. In addition to Equity Vanilla properties shown above, add the following properties to the Equity Chooser strategy.

Property	Description
Compound Settlement Type	Enter Cash or Physical.
Compound Put/Call	Enter the Put and Call for each leg.

7.6.7 Defining an Observation Schedule

For Equity Barrier options and Equity Digital options, you can define an observation schedule in the Supplemental panel when Barrier Monitoring = Closing. Right click the strategy and select Supplemental to access the Supplemental panel.



Start Date	04/18/2017
End Date	04/18/2017
Frequency	DLY
Date Roll	FOLLOWING
Day To Roll On	
Holiday	

Date
04/19/2017

The start date and end date default to the strategy's details.

Step 1 - Select the frequency, date roll convention, and holidays.

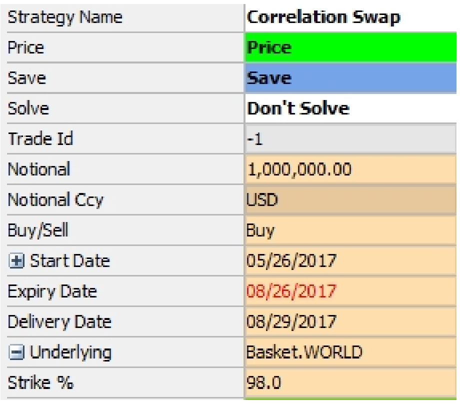
Step 2 - Click **Save and Close** to generate the schedule.

7.7 Correlation Swap

A Correlation Swap is an OTC transaction between two parties to exchange the difference between a “Strike Correlation” and the “Realized Correlation”.

Key Properties

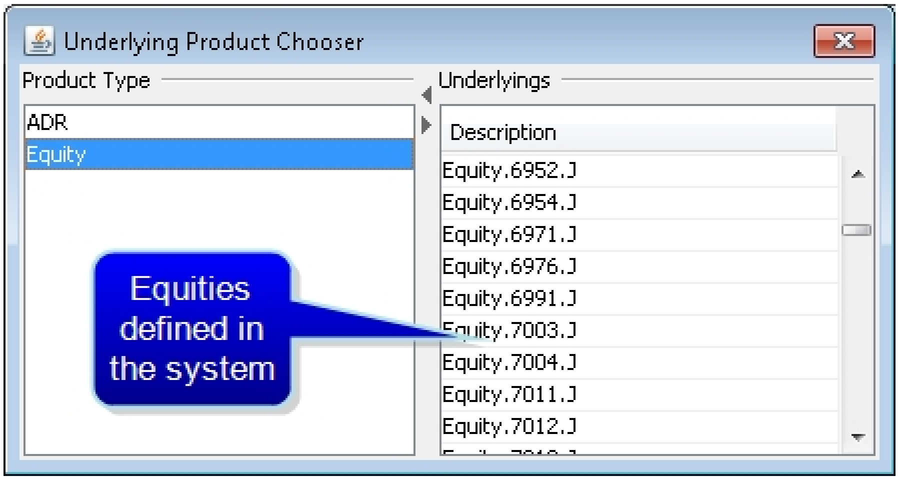
Notional - Notional Ccy - Buy/Sell - Start Date - Expiry Date - Delivery Date - Underlying - Strike %



Strategy Name	Correlation Swap
Price	Price
Save	Save
Solve	Don't Solve
Trade Id	-1
Notional	1,000,000.00
Notional Ccy	USD
Buy/Sell	Buy
⊞ Start Date	05/26/2017
Expiry Date	08/26/2017
Delivery Date	08/29/2017
⊟ Underlying	Basket.WORLD
Strike %	98.0

Properties Description

Property	Description
Notional	Enter the notional. If notional is entered, then the performance type of the trade is notional-based. Strike, Price, and other dependent properties will display % amounts. If quantity is entered, then notional is calculated as Quantity * Spot reference.
Notional Ccy	Select the currency of the notional.
Buy/Sell	Enter buy or sell.
Start Date	Enter the start date of the swap.
Expiry Date	Enter the expiry date of the swap.
Delivery Date	Enter the delivery date of the swap.
Underlying	Enter the Equity product for the strategy. To enter a product, define one in the system and click in the cell to bring up the Underlying Product Chooser window.

Property	Description
	 Underlying Product Chooser Product Type ADR Equity Underlyings Description Equity.6952.J Equity.6954.J Equity.6971.J Equity.6976.J Equity.6991.J Equity.7003.J Equity.7004.J Equity.7011.J Equity.7012.J Equities defined in the system A user can search Equity products or ADRs. » See Calypso Equity Derivatives documentation for more details.
Strike %	Enter the strike percentage. If the Strike % is entered, then Strike = Spot Reference * Strike %.

7.8 Scriptable OTC Products

In order to capture Scriptable OTC Product trades , you need create custom strategies that use a Pricing Script.

▶ Please refer to the Calypso Pricing Sheet Setup Guide for details on building custom strategies.

All the information regarding the pricing script associated with the trade can be found in the Supplemental panel.

You can right-click a SCOT trade in the Pricing sheet and choose:

- "Supplemental" - To display the pricing script details in the supplemental panels.
- "Export Script Data" - To export the pricing script details to an HTML file. You can also use the scheduled task EXPORT_SCRIPT_DATA.

8. Capturing ETF Trades

To capture an ETF trade in the Pricing Sheet, you first need t o define ETF products.

This is described below.

Then select the ETF strategy and set the properties as needed.

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

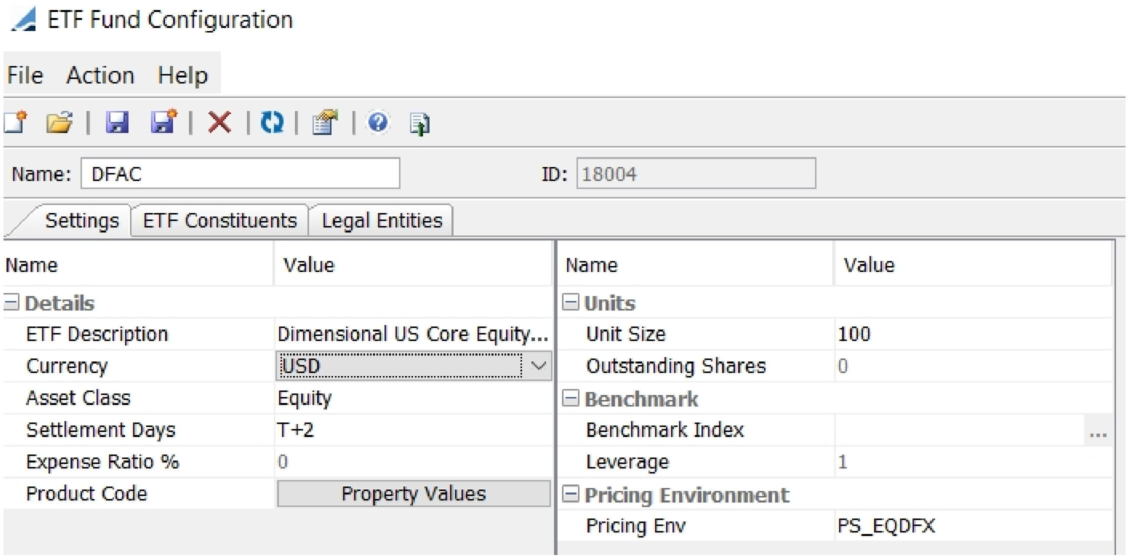
▶ Please refer to Calypso Strategy Properties documentation for details.

Prerequisite

Make sure that you add ETF to the domains "ProductType" and "PositionBasedProduct".

8.1 Defining ETF Products

ETF products are created using the ETF window (menu action `am.structure.etf.ETFFundWindow`).



Name: DFAC

ID: 18004

Name	Value
Details	
ETF Description	Dimensional US Core Equity...
Currency	USD
Asset Class	Equity
Settlement Days	T+2
Expense Ratio %	0
Product Code	Property Values

Name	Value
Units	
Unit Size	100
Outstanding Shares	0
Benchmark	
Benchmark Index	...
Leverage	1
Pricing Environment	
Pricing Env	PS_EQDFX

- To view an existing ETF, click 📂. You will be prompted to select an ETF. Modify as needed and click 💾 to save your changes.
- To create a new ETF, click 🗋. Enter the fields in the various panels as described below, and click 💾 to save the ETF.

  Note that if the Authorization mode is enabled, an authorized user must approve your entry.

  Upon saving, the ETF is given a unique id by the system.

8.1.1 Settings Panel

Select the Settings panel to enter the ETF's details.

Details

Fields	Description
Name	Enter a name to identify the ETF throughout the system.
ETF Description	Enter the ETF description.
Currency	Select the ETF's currency.
Asset Class	Select the asset class of the ETF. These values come from the domain *UnitizedFund.subtype*.
Settlement Days	Enter the number of days between the trade date and the settlement date in the form T+<number of days>.
Expense Ratio %	Not currently used.

Units

Fields	Description
Unit Size	Enter the unit size or ETF divisor.
Outstanding Shares	Number of ETF shares as of latest effective date of ETF constituents.

Benchmark

Benchmark Index and Leverage are not currently used.

Pricing Env

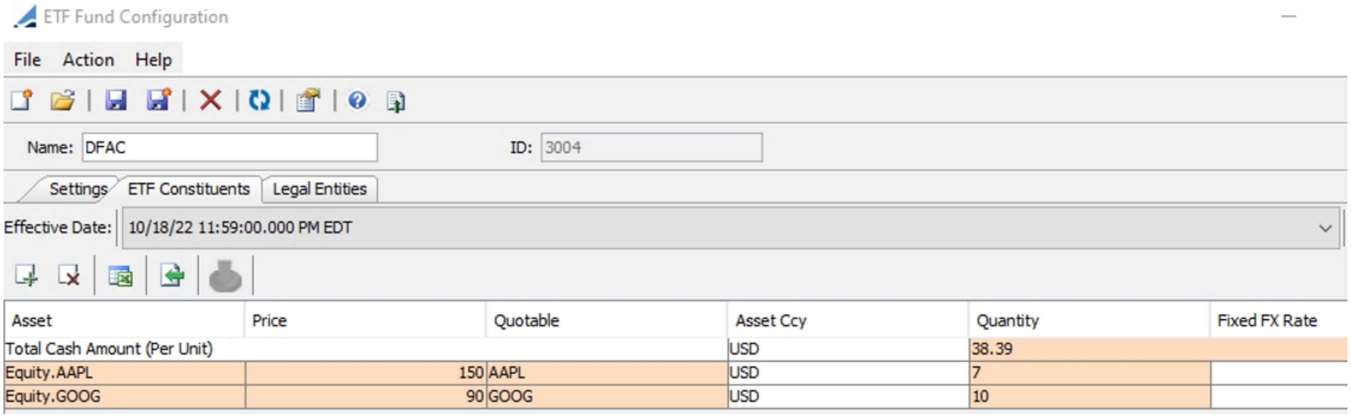
Fields	Description
Pricing Env	Not currently used.

8.1.2 ETF Constituents Panel

ETF Constituents can be uploaded using a Portfolio Composition File (PCF) or using the Data Uploader, and can also be copy pasted from an Excel Spreadsheet and Clipboard.

Currently Equity and Equity Index are supported as constituents.

You can also add constituents manually as needed.



Name: DFAC

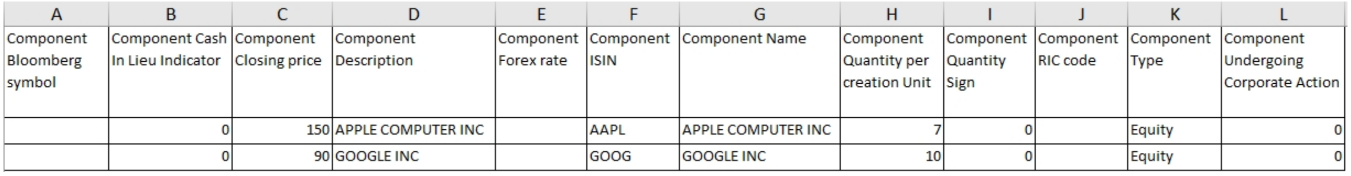
ID: 3004

Effective Date: 10/18/22 11:59:00.000 PM EDT

Asset	Price	Quotable	Asset Ccy	Quantity	Fixed FX Rate
Total Cash Amount (Per Unit)			USD	38.39	
Equity.AAPL	150	AAPL	USD	7	
Equity.GOOG	90	GOOG	USD	10	

NOTE: Theoretical pricing uses constituents with Effective Date <= Value Date.

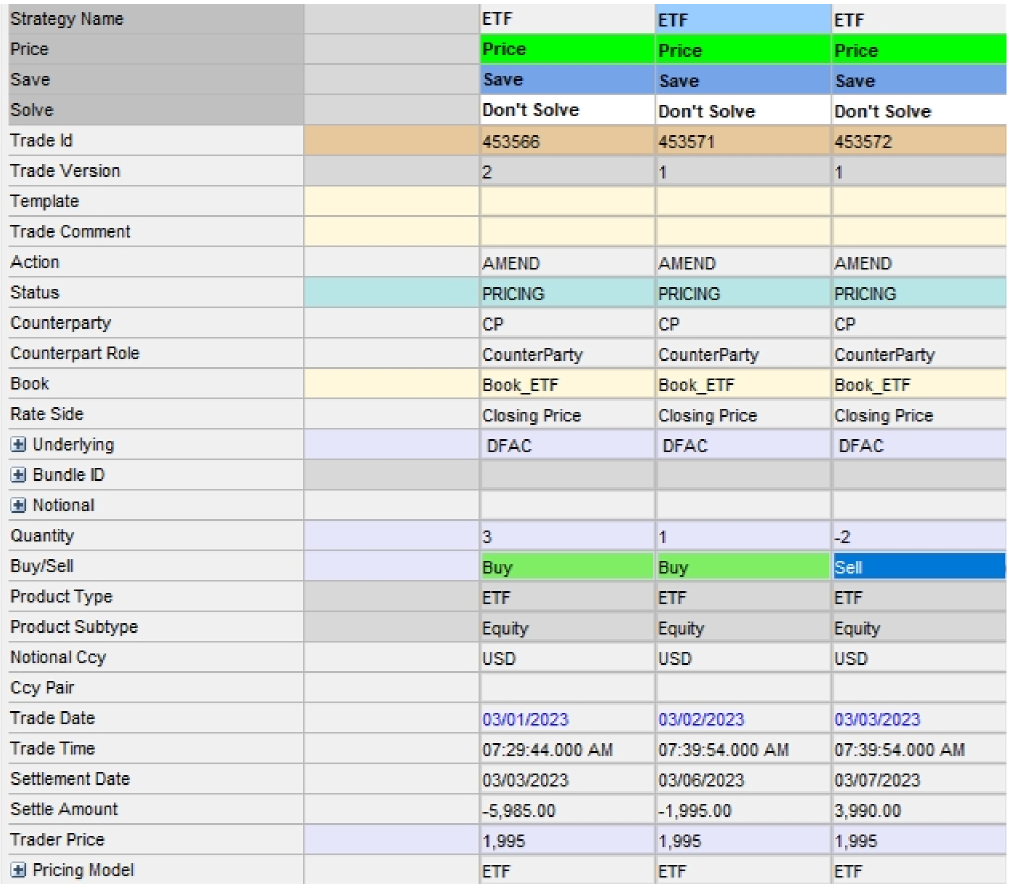
Sample PCF File



A	B	C	D	E	F	G	H	I	J	K	L
Component Bloomberg symbol	Component Cash In Lieu Indicator	Component Closing price	Component Description	Component Forex rate	Component ISIN	Component Name	Component Quantity per creation Unit	Component Quantity Sign	Component RIC code	Component Type	Component Undergoing Corporate Action
	0	150	APPLE COMPUTER INC		AAPL	APPLE COMPUTER INC	7	0		Equity	0
	0	90	GOOGLE INC		GOOG	GOOGLE INC	10	0		Equity	0

8.2 ETF Trades

You can capture ETF trades using the Pricing Sheet or using the Data Uploader.



Strategy Name		ETF	ETF	ETF
Price		Price	Price	Price
Save		Save	Save	Save
Solve		Don't Solve	Don't Solve	Don't Solve
Trade Id		453566	453571	453572
Trade Version		2	1	1
Template				
Trade Comment				
Action		AMEND	AMEND	AMEND
Status		PRICING	PRICING	PRICING
Counterparty		CP	CP	CP
Counterpart Role		CounterParty	CounterParty	CounterParty
Book		Book_ETF	Book_ETF	Book_ETF
Rate Side		Closing Price	Closing Price	Closing Price
⊞ Underlying		DFAC	DFAC	DFAC
⊞ Bundle ID				
⊞ Notional				
Quantity		3	1	-2
Buy/Sell		Buy	Buy	Sell
Product Type		ETF	ETF	ETF
Product Subtype		Equity	Equity	Equity
Notional Ccy		USD	USD	USD
Ccy Pair				
Trade Date		03/01/2023	03/02/2023	03/03/2023
Trade Time		07:29:44.000 AM	07:39:54.000 AM	07:39:54.000 AM
Settlement Date		03/03/2023	03/06/2023	03/07/2023
Settle Amount		-5,985.00	-1,995.00	3,990.00
Trader Price		1,995	1,995	1,995
⊞ Pricing Model		ETF	ETF	ETF

Pricing from Quote

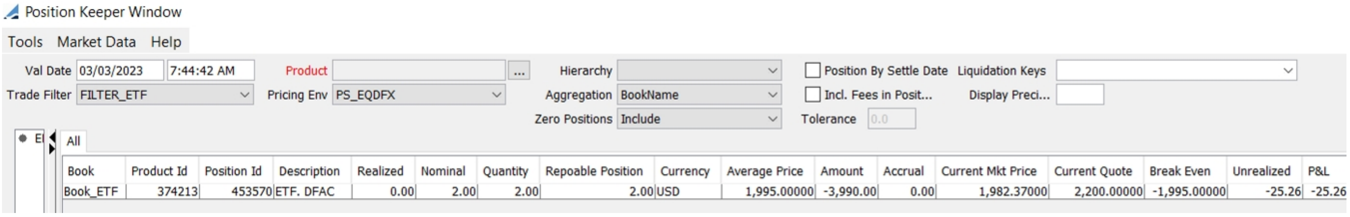
When pricing parameter NPV_FROM_QUOTE=TRUE, price is taken from ETF quote (market price).

Theoretical Pricing

When pricing parameter NPV_FROM_QUOTE=FALSE, price is calculated from constituents quotes (market prices). The theoretical price is the sum of cash component and weighted price (i.e., Price * Quantity) of each component.

8.3 Positions

Liquidation methods FIFO and AvgPrice are both supported with comparator method TradeDate.

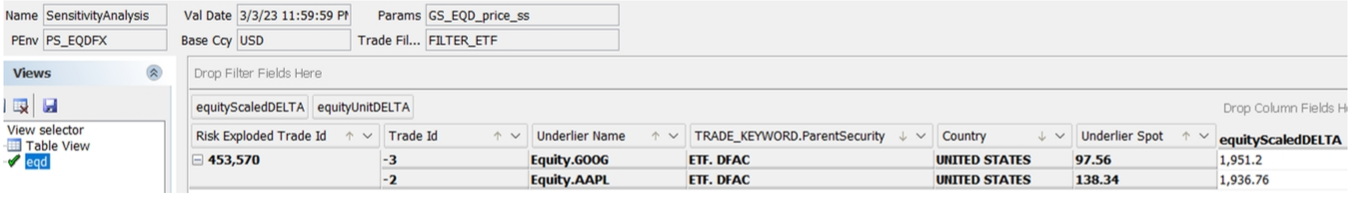


Val Date 03/03/2023 7:44:42 AM
Product
Hierarchy
☐ Position By Settle Date
Liquidation Keys
Trade Filter FILTER_ETF
Pricing Env PS_EQDFX
Aggregation BookName
☐ Incl. Fees in Posit...
Display Preci...
Zero Positions Include
Tolerance 0.0

Book	Product Id	Position Id	Description	Realized	Nominal	Quantity	Repoable Position	Currency	Average Price	Amount	Accrual	Current Mkt Price	Current Quote	Break Even	Unrealized	P&L
Book_ETF	374213	453570	ETF. DFAC	0.00	2.00	2.00	2.00	USD	1,995.00000	-3,990.00	0.00	1,982.37000	2,200.00000	-1,995.00000	-25.26	-25.26

8.4 Sensitivity Analysis

When Explode Trades is checked, sensitivities are shown at constituent level using "dummy" child trades.



Name SensitivityAnalysis
Val Date 3/3/23 11:59:59 PI
Params GS_EQD_price_ss
PEnv PS_EQDFX
Base Ccy USD
Trade Fil... FILTER_ETF

Views
View selector
Table View
eqd
Drop Filter Fields Here
equityScaledDELTA
equityUnitDELTA
Drop Column Fields H

Risk Exploded Trade Id	Trade Id	Underlier Name	TRADE_KEYWORD.ParentSecurity	Country	Underlier Spot	equityScaledDELTA
453,570	-3	Equity.GOOG	ETF. DFAC	UNITED STATES	97.56	1,951.2
	-2	Equity.AAPL	ETF. DFAC	UNITED STATES	138.34	1,936.76

8.5 Official P&L Report

Official P&L Explain by Greeks is supported.

In Intraday, change in quantity of constituents, is not expected. Hence OPL explain by Greeks is correct.

From T-1 to T, the PnL attribution due to rebalancing will be categorized as Unexplained or Residual.

9. Capturing Fixed Income Trades

To capture a Fixed Income trade in the Pricing Sheet, , you first need t o define Bond products.

▶ Please refer to Calypso Fixed Income Trading for details.

Then select the Bond strategy and set the properties as needed.

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to Fixed Income trades are described below.

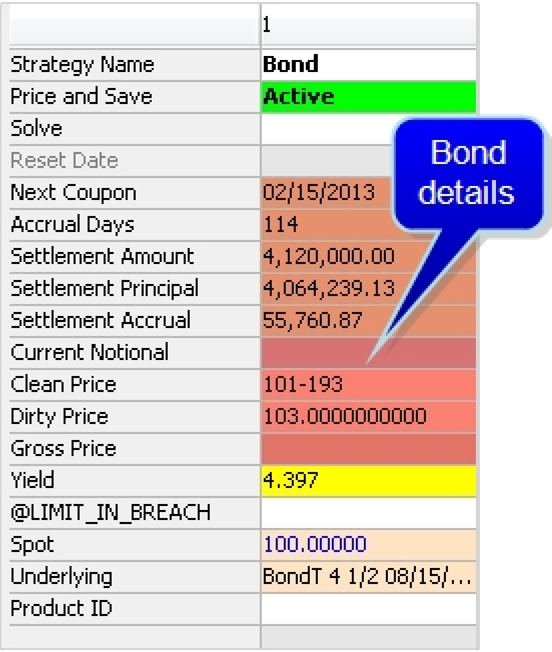
Contents

- Bond Trade
- Treasury Lock
- Inflation Lock
- Search Bonds Window

9.1 Bond Trade

Properties

Customer Price - Rate - Settlement Date - Next Coupon - Settlement - Notional - Yield - Spot - Underlying



Bond details

	1
Strategy Name	**Bond**
Price and Save	**Active**
Solve	
Reset Date	
Next Coupon	02/15/2013
Accrual Days	114
Settlement Amount	4,120,000.00
Settlement Principal	4,064,239.13
Settlement Accrual	55,760.87
Current Notional	
Clean Price	101-193
Dirty Price	103.0000000000
Gross Price	
Yield	4.397
@LIMIT_IN_BREACH	
Spot	100.00000
Underlying	BondT 4 1/2 08/15/...
Product ID	

Sample Bond Trade

"Trade" Properties

Properties	Description
Discount	Displays the discount.
Margin	For floating rate bonds, displays the DISC_MARGIN pricer measure, which calculates the spread added to current rates to equal the bond yield. You can enter a discounted margin to solve for the clean price.
Cash Rate	Displays the cash rate.
TM	Displays the traded margin.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Notional	Enter the Nominal in this field. It will update the Quantity accordingly.
Notional Ccy	Displays the nominal currency of the selected bond.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Settle Ccy	Displays the Proceed currency.

Properties	Description
Quantity	Enter the Quantity in this field. It will update the Notional accordingly.

"Product: Rate" Properties

Properties	Description
Rate	Displays the current coupon rate for the selected bond.

"Date" Properties

Properties	Description
Next Coupon	Displays the date for the next coupon payment.
Settlement Date	Select the settlement date. Defaults to the Trade Date + the number of Settle Days specified in the Bond Product Definition. The Settlement Date uses the holiday calendar of the bond product to identify business days. If the trade date is changed, user can enter "0D" to update the Settlement Date accordingly.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.
Trader Price	Enter the clean price for the bond.
Customer Price	Enter the clean price for the bond.
Sales Price	Displays the unit amount of sales premium based on the selected Price Format.
Sales Premium	Displays the Sales Fee in premium currency. Sales Premium for Bond allows you to enter a flat amount rather than enter the Sales Price. Alternatively, entering the Sales Price will automatically calculate the Sales Premium.
Negotiated Price Type	Displays the negotiated price type.
Settlement Amount	Displays the settlement amount in the settlement currency.
Settlement Principal	Displays the settlement principal.
Settlement Accrual	Displays the settlement accrual.

Properties	Description
Current Notional	Displays the current nominal.
Clean Price	Enter the clean price (value of bond - accrued interest).
Dirty Price	Enter the dirty price (value of bond + accrued interest).
Gross Price	Displays inflation adjusted price. This value is for Inflation Bonds only.
Yield	Enter the yield to maturity based on bond inputs.
Spot	Displays the market quote for the bond.
Underlying	Displays the Bond Product details for the selected bond product. To select a bond product double-click in this field to bring up the Search Bonds window. See below.
Product ID	Enter the bond product identifier.
Product ID Type	Select the product ID type to choose from when entering values in the Product ID field. A default search type can be configured in **Configuration > User Preferences** under the Defaults tab. Select the default search type form the Default Bond Product ID type drop down. Setting this in the trade leg specifically will override the value set in the defaults.

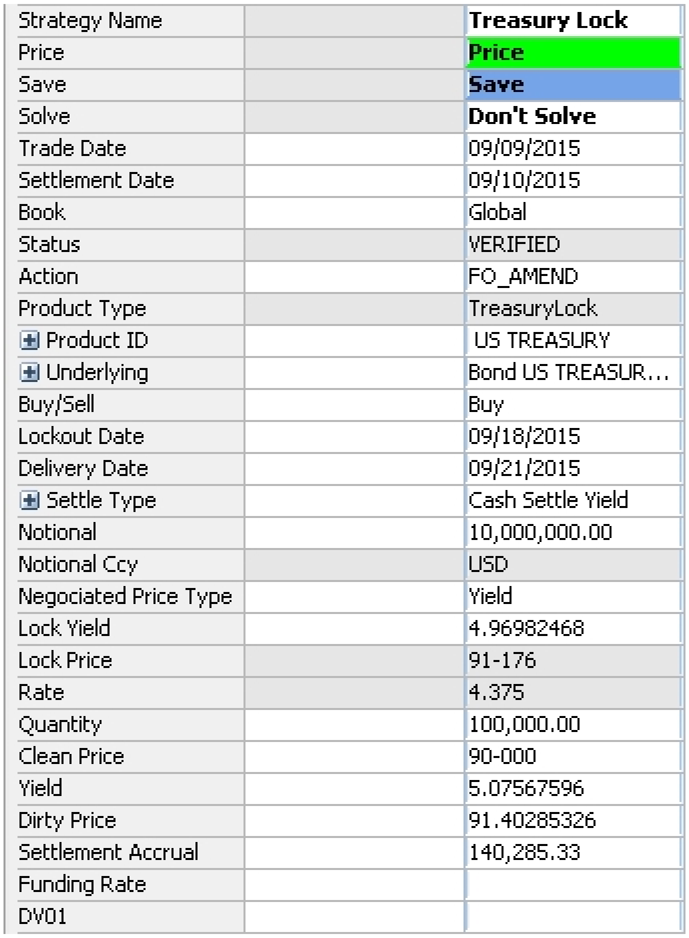
9.2 Treasury Lock

A Treasury Lock is a customized agreement that fixes the yield, clean price, or dirty price of a specific treasury bond on a specific date in the future. On that future date, or lockout date, you can exercise the Treasury Lock by choosing **Processing > Exercise**, which populates the trade keywords PriceAtLockout, Final DV01/Duration, and Settlement Amount once they are available as properties.

Descriptions of these keywords can be found below.

Key Properties

Product ID - Underlying - Lockout Date - Notional - Negotiated Price Type - Lock Yield - Lock Price - Funding Rate - DV01



Strategy Name		**Treasury Lock**
Price		**Price**
Save		**Save**
Solve		**Don't Solve**
Trade Date		09/09/2015
Settlement Date		09/10/2015
Book		Global
Status		VERIFIED
Action		FO_AMEND
Product Type		TreasuryLock
⊞ Product ID		US TREASURY
⊞ Underlying		Bond US TREASUR...
Buy/Sell		Buy
Lockout Date		09/18/2015
Delivery Date		09/21/2015
⊞ Settle Type		Cash Settle Yield
Notional		10,000,000.00
Notional Ccy		USD
Negociated Price Type		Yield
Lock Yield		4.96982468
Lock Price		91-176
Rate		4.375
Quantity		100,000.00
Clean Price		90-000
Yield		5.07567596
Dirty Price		91.40285326
Settlement Accrual		140,285.33
Funding Rate		
DV01		

Sample Treasury Lock trade

Basic Steps for Capturing a Treasury Lock Trade

- Choose the underlying bond for the trade in either the Product ID or Underlying field.
- Set the direction of the trade as either Buy or Sell.
- Enter a lockout date.
- Select the Negotiated Price Type: yield, clean price, or dirty price.
- Enter the Lock Yield or Lock-Price, depending on the Negotiated Price Type selection.
- Define the notional value for the trade in conjunction with quantity.

Properties Description

Properties	Description
Settlement Date	The settlement date defaults to the trade date plus the number of Settle Days specified in

Properties	Description
	the bond product's Bond Window. The settlement date uses the holiday calendar of the bond product to identify business days. If you change the trade date, double-click in the Settlement Date field to update the settlement date accordingly.
Product ID	Displays the Product ID for the bond underlying the trade. Double-click the field and enter the bond name or security code. Once you begin typing, a list of bonds matching the entered information is populated. Alternatively, you can search for a bond using the Search Bonds window. See the Underlying property below.
Underlying	Displays the Bond Product details for the selected treasury bond product. To select a bond product, double-click this field to open the Search Bonds window. **[NOTE: After selecting a bond, you can open the Bond Window by displaying either Leg Details or Underlying Details in the Tools Panel, and clicking ▤ beside the Underlying field or Product ID field, respectively. See Calypso Using the Pricing Sheet documentation for more details on Tools Panel features.]**
Buy/Sell	Direction of the trade from the book’s perspective. Double-click the Buy label to change to Sell as applicable.
Lockout Date	Enter a lockout date, which defines the end of the lockout period.
Delivery Date	The Delivery Date is based on Lockout Date plus Settlement Lag/Holidays. The date is populated automatically once the Lockout Date is entered, although it can be overridden manually in the Delivery Date field. See description of the Settle Type property below.
Settle Type	The system sets the value to Cash Settle Clean Price, Cash Settle Dirty Price, or Cash Settle Yield, depending on the Negotiated Price Type. The following properties can also be set by clicking the Settle Type label: • Settlement Lag - The number of lag days, months, or years. This is the offset between the expiration date and the delivery date. The lag will reflect Settle Days value in the Bond Window. Specify the lag as Business days or Calendar days. Examples: 3D Calendar, 1M Calendar, 1Y Business, etc. • Settlement Holidays - The holiday calendar.
Notional	Enter the notional amount after the underlying bond is selected. The system autopopulates the quantity, based on quantity being equal to notional divided by face value.
Negotiated Price Type	Select the negotiated price type: Clean Price, Dirty Price, or Yield. This selection determines the Settle Type.
Lock Yield	The yield for the locked period. Enter a value for Lock Yield when the Negotiated Price Type is set to Yield.

Properties	Description
	If the Negotiated Price Type is CleanPrice or DirtyPrice, the Lock Yield field value is a converted yield.
Lock Price	The price for the locked period. Enter a value for Lock Price when the Negotiated Price Type is set to either CleanPrice or DirtyPrice. If the Negotiated Price Type is Yield, the Lock Price field value is a converted price.
Rate	Displays the fixed coupon rate of the underlying bond.
Quantity	The quantity is linked to the Notional value and is calculated by the system once the Notional has been entered. The Quantity equals the Notional divided by the face value of the bond.
Clean Price Yield Dirty Price	**Clean Price**: Clean Price is the underlying bond's clean spot price based on the Settlement Date. **Yield**: Yield is the underlying bond's spot rate for yield based on the Settlement Date. **Dirty Price**: Dirty Price is calculated as the underlying bond's dirty spot price based on the Settlement Date. • The dirty price is clean price plus unit accrual. • For bonds quoted using Price32, the trade's price can have two, three, or four digits after the dash. The first two digits represent the number of thirty-seconds (between 1 and 31). If the price contains 3 digits, the third digit represents the number of eighths of a thirty second (or 1/256, between 1 and 7). A bond price entered as "99-022" will be read as [99 + 2/32 + 2/8(1/32)], or 99.0703125. The third digit can also be +, indicating 4/8 of a thirty second. If the price contains 4 digits, the last two digits represent the number of sixteenths of a thirty second (or 1/512, between 1 and 15). Note that the four-digit logic only applies to bonds with the tick size 512.
Next Coupon	Displays the date of the next coupon retrieved from the coupon schedule.
Settlement Accrual	Displays the settlement accrual for the underlying bond.
Funding Rate	Funding rate is the repo rate used to compute the forward bond price. It is calculated from the curve, or it can be entered manually (which overrides the repo rate from the curve).
DV01	The dollar value of a one-basis point change in the contract forward yield. When left blank, the system uses the DV01 pricer measure for pricing and settlement.
Trader Price	Displays the trader price: either Yield or Price type based on the selected Negotiated Price Type.

Related Trade Attributes (Keywords)

Keyword	Description
PriceAtLockout	Set at the exercise of the trade and captures price or yield on the lockout date.
Final DV01/Duration	Set at the exercise of the trade when Settle Type is Cash Settle Yield and captures DV01 on the lockout date.
Settlement Amount	Set at the exercise of the trade and captures the Settlement Amount.

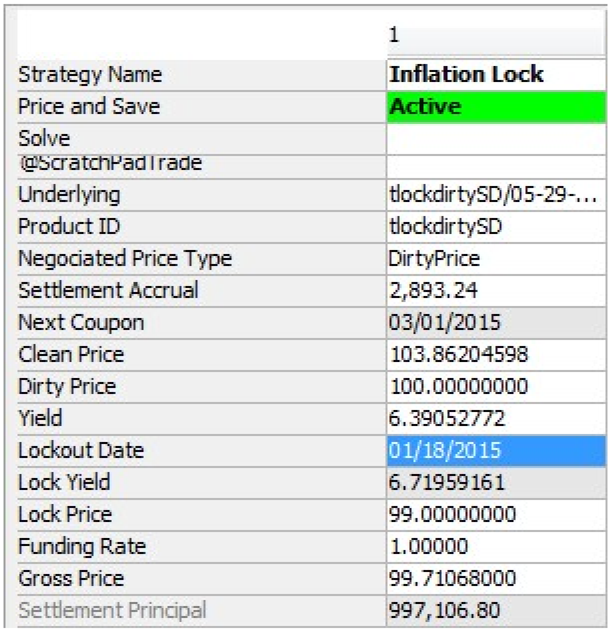
9.3 Inflation Lock

An inflation lock is a customized agreement that fixes the yield or price on a specified inflation bond at a specific date in the future. On the future date, you can exercise the Inflation Lock using **Processing > Exercise** which also populates the trade keyword "PriceAtLockout".

[NOTE: Inflation locks are only supported for the Israeli CPI market]

Properties

Lockout Date - Lock Yield - Lock Price - Duration - Funding Rate



	1
Strategy Name	**Inflation Lock**
Price and Save	**Active**
Solve	
@ScratchPadTrade	
Underlying	tlockdirtySD/05-29-...
Product ID	tlockdirtySD
Negociated Price Type	DirtyPrice
Settlement Accrual	2,893.24
Next Coupon	03/01/2015
Clean Price	103.86204598
Dirty Price	100.00000000
Yield	6.39052772
Lockout Date	01/18/2015
Lock Yield	6.71959161
Lock Price	99.00000000
Funding Rate	1.00000
Gross Price	99.71068000
Settlement Principal	997,106.80

Sample Inflation Lock trade

Properties

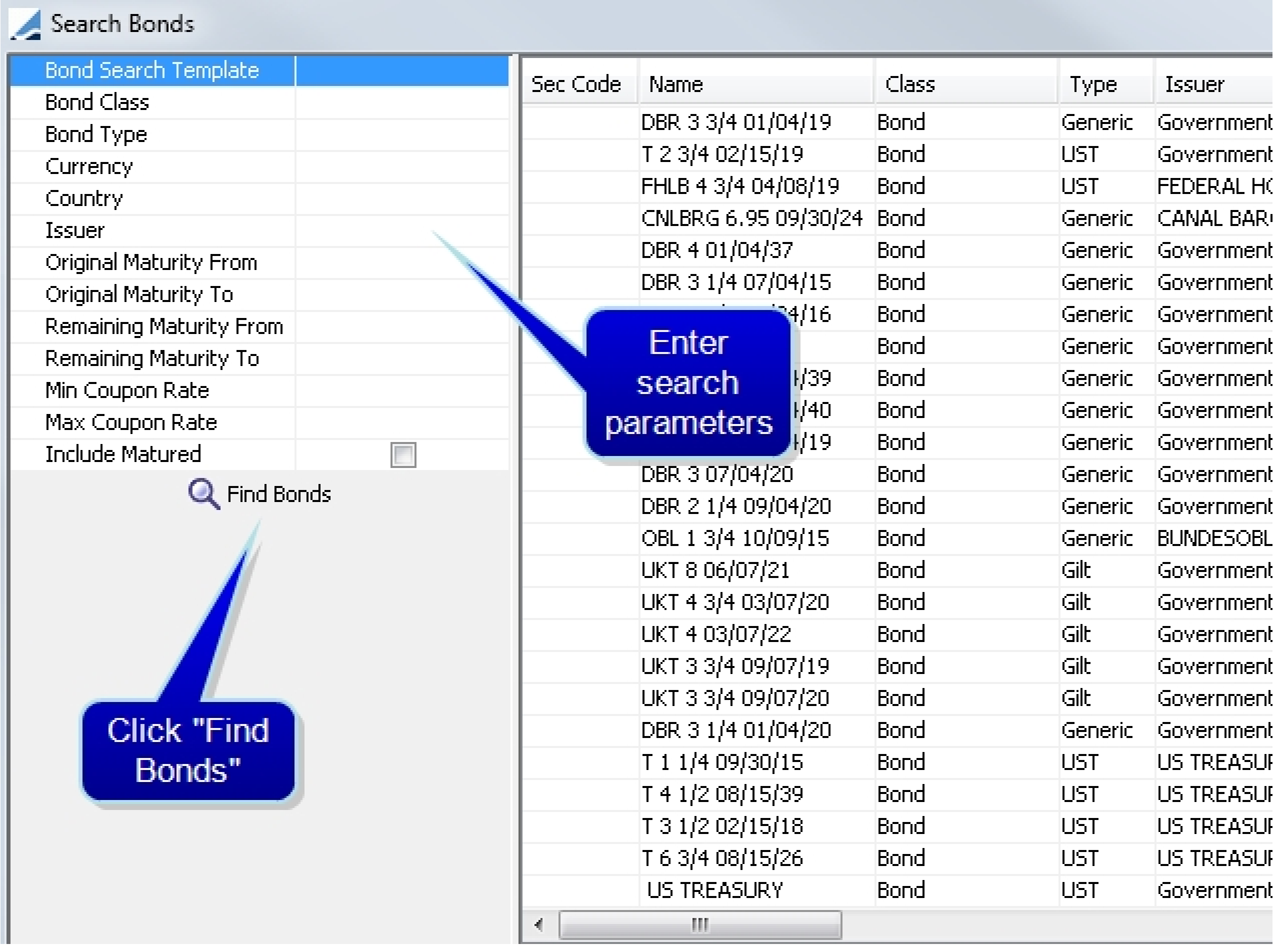
Properties	Description
Buy/Sell	Direction of the trade from the book’s perspective. Double-click the Buy label to change to

Properties	Description
	Sell as applicable.
Settle Type	Select the settle type: Cash Settle Price, Cash Settle Yield, or Physical Settle. The following properties can also be set: • Settlement Lag - A number of lag days, months, or years. This is the offset between the expiration date and the delivery date. Specify the lag as Business days or Calendar days. Examples: 3D Calendar, 1M Calendar, 1Y Business, etc. • Settlement Holidays - The holiday calendar.
Lockout Date	Select the lockout date which identifies the end of the lockout period.
Delivery Date	Enter the delivery date. This date is based on Lockout Date + Settlement Lag/Holidays.
Negotiated Price Type	Select the negotiated price type: Dirty Price or Yield.
Trader Price	Displays the trader price: either Yield or Price type based on the selected Negotiated Price Type.
Lock Yield	The yield for the locked period. If the Negotiated Price Type is "Dirty Price", then the Lock Yield will convert to Yield after a dirty price is entered into the Lock Price field.
Lock Price	Enter the lock price. If the Negotiated Price Type is a "Yield", then the Lock Price will convert to Dirty Price after a yield is entered into the Lock Yield field.
Observation Type	Displays how the Lockout Rate is calculated, as a Single Yield or Average Yield. In the case of an Average Yield, you can reset the yield using the standard reset process. You can also right-click "Average Yield" and choose "Supplemental" to view the resets.
Fixings	Displays the number of daily fixings for averaging the yield. The following properties can also be viewed: • Schedule Start Date - The schedule start date. • Schedule End Date - The schedule end date.
Duration	Displays the duration of the underlying bond.
Funding Rate	Enter the funding rate.
Settlement Date	The settlement date defaults to the trade date + the number of settle days specified in the bond product. The settlement date uses the holiday calendar of the bond product to identify business days. If you change the trade date, double-click in the Settlement Date field to update the

Properties	Description
	settlement date accordingly.
Clean Price Yield Dirty Price Gross Price	Enter the clean price, yield, dirty price, or gross price, and the other fields will be calculated accordingly. The dirty price is clean price + unit accrual. The gross price is the inflation adjusted price. For bonds quoted using Price32, you can enter the trade's price with two, three, or four digits after the dash. The first two digits represent the number of thirty-seconds (between 1 and 31). If the price contains 3 digits, the third digit represents the number of eighths of a thirty second (or 1/256, between 1 and 7). A bond price entered as "99-022" will be read as [99 + 2/32 + 2/8(1/32)], or 99.0703125. The third digit can also be +, indicating 4/8 of a thirty second. If the price contains 4 digits, the last two digits represent the number of sixteenths of a thirty second (or 1/512, between 1 and 15). Note that the four-digit logic only applies to bonds with the tick size 512.
Settle Ccy	Displays the settlement currency.
FX Rate	Displays the FX rate.
Settlement Accrual	Displays the settlement accrual.
Next Coupon	Displays the date of the next coupon retrieved from the coupon schedule.
Rate	Displays the rate.
Underlying	Displays the Bond Product details for the selected inflation bond product. To select a bond product double-click in this field to bring up the Search Bonds window. See below.
Product Type	Displays the bond class.
Product Subtype	Displays the bond type.

9.4 Search Bonds Window

The Search Bonds window functions similarly to the Bond Report window. Enter parameters for your search and select a desired bond product.


Search Bonds
Bond Search Template
Bond Class
Bond Type
Currency
Country
Issuer
Original Maturity From
Original Maturity To
Remaining Maturity From
Remaining Maturity To
Min Coupon Rate
Max Coupon Rate
Include Matured ☐
Find Bonds

Sec Code	Name	Class	Type	Issuer
	DBR 3 3/4 01/04/19	Bond	Generic	Government
	T 2 3/4 02/15/19	Bond	UST	Government
	FHLB 4 3/4 04/08/19	Bond	UST	FEDERAL H
	CNLBRG 6.95 09/30/24	Bond	Generic	CANAL BAR
	DBR 4 01/04/37	Bond	Generic	Government
	DBR 3 1/4 07/04/15	Bond	Generic	Government
	4/16	Bond	Generic	Government
		Bond	Generic	Government
	/39	Bond	Generic	Government
	/40	Bond	Generic	Government
	/19	Bond	Generic	Government
	DBR 3 07/04/20	Bond	Generic	Government
	DBR 2 1/4 09/04/20	Bond	Generic	Government
	OBL 1 3/4 10/09/15	Bond	Generic	BUNDESOBL
	UKT 8 06/07/21	Bond	Gilt	Government
	UKT 4 3/4 03/07/20	Bond	Gilt	Government
	UKT 4 03/07/22	Bond	Gilt	Government
	UKT 3 3/4 09/07/19	Bond	Gilt	Government
	UKT 3 3/4 09/07/20	Bond	Gilt	Government
	DBR 3 1/4 01/04/20	Bond	Generic	Government
	T 1 1/4 09/30/15	Bond	UST	US TREASU
	T 4 1/2 08/15/39	Bond	UST	US TREASU
	T 3 1/2 02/15/18	Bond	UST	US TREASU
	T 6 3/4 08/15/26	Bond	UST	US TREASU
	US TREASURY	Bond	UST	Government

Enter search parameters

Click "Find Bonds"

- » Enter search parameters.
- » Click **Find Bonds**.
- » Double-click the desired bond to load it to the Pricing Sheet.

10. Capturing FX Trades

To capture an FX trade in the Pricing Sheet, select the FX strategy and set the properties as needed.

[NOTE: Strategy templates are not currently implemented for FX strategies]

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to FX trades are described below.

Contents

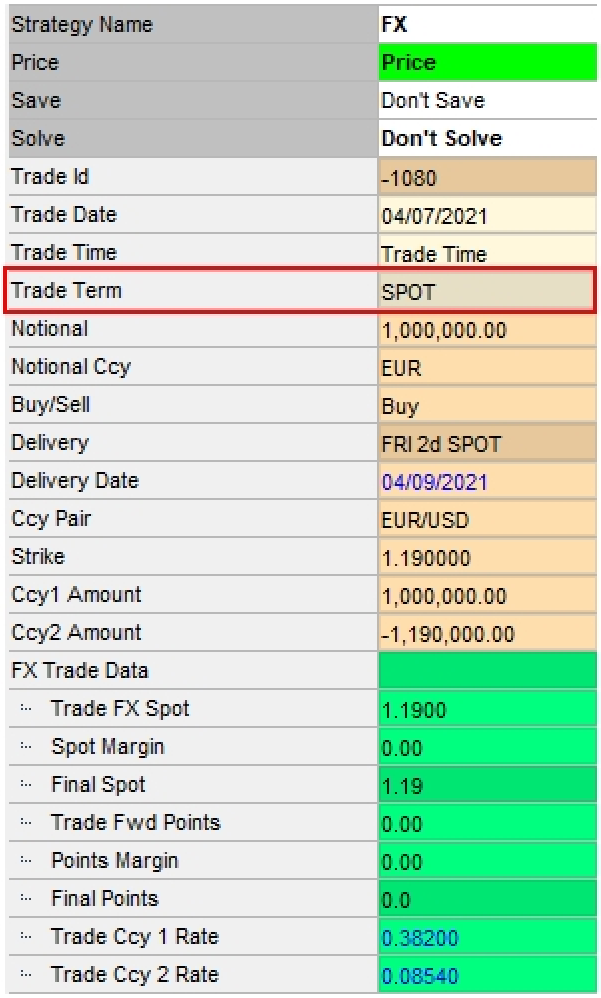
- FX Spot Trade
- FX Forward Trade
- FX Swap Trade
- FX NDF Trade
- FX Forward Start Trade
- FX Window Forward Trade
- FX Averaging Forward Trade
- Simple Transfer Trade
- Split Rates and Routing

10.1 FX Spot Trade

The Pricing Sheet allows for non-standard settlement of spot trades. You may select the product type manually, regardless of the Settlement Date. A validation is applied based on the setting in the Currency Defaults window, Currency Pairs panel Max Spot Days column.

Properties

Ccy Pair - Notional - Ccy1 Amount - Ccy2 Amount - Delivery Date = "Spot Date" (default) - Settle Type = "Physical"



Strategy Name	FX
Price	Price
Save	Don't Save
Solve	Don't Solve
Trade Id	-1080
Trade Date	04/07/2021
Trade Time	Trade Time
Trade Term	SPOT
Notional	1,000,000.00
Notional Ccy	EUR
Buy/Sell	Buy
Delivery	FRI 2d SPOT
Delivery Date	04/09/2021
Ccy Pair	EUR/USD
Strike	1.190000
Ccy1 Amount	1,000,000.00
Ccy2 Amount	-1,190,000.00
FX Trade Data	
Trade FX Spot	1.1900
Spot Margin	0.00
Final Spot	1.19
Trade Fwd Points	0.00
Points Margin	0.00
Final Points	0.0
Trade Ccy 1 Rate	0.38200
Trade Ccy 2 Rate	0.08540

Sample FX Spot trade

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Constants	Displays any value used in solving that is entered manually like Strike, etc.
Ccy Pair	Displays the default currency pair if any. The default currency pair is set in **Configuration > User Preferences**. You can select another currency pair as needed.

Properties	Description
	If a split currency is defined for the selected currency pair (through a triangulation rule), you can right-click and select Supplemental to enter the split rates as needed. You can also view the Routing information. ▶ See Split Rates and Routing panel for details.
Notional Ccy	Select the currency of the notional.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Settle Type	Select the Settle Type: • Physical: Physical settlement. • Cash: Cash settlement. • NDF: Settles as a non-deliverable forward. • NDF-Quanto: A non-deliverable forward that settles in a third currency. It uses reset for conversion instead of a fixed rate determined at inception. The Settle currency can be selected either as the primary or secondary and the third currency reset is selected as per the settle currency.
Location	Select the location for commodities.
Allocated	Displays "Allocated" if the trade has been allocated using the Allocation process, or "Unallocated" otherwise.

"Product: Rate" Properties

Properties	Description
Strike	Enter the spot rate. ***Rounding*** Any system generated strike (solver, shortcut entry) will respect the currency pair rounding settings. If the user manually enters a strike, it will only be rounded based on the constraints of the currency rounding of the amounts that the strike generates. Example: Ccy1 amount is 10,000.00 and a strike is entered as 1.234567. • If ccy rounding of Ccy2 is 2dp then Ccy2 amount would be 12345.67. The strike does not need to be rounded. • If ccy rounding of Ccy2 is 0dp (JPY for example) then Ccy2 amount would be 12346 and the strike would need to be rounded to 1.2346.

"Date" Properties

Properties	Description
Trade FX Date	Displays the trade date adjusted by the 5pm rule if set.
Trade Date	Displays the valuation date set in the Pricing window of the pricing sheet by default. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Trade Time	Displays the valuation time set in the Pricing window of the pricing sheet. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Delivery Date	Enter the delivery date. You can enter a relative term for the delivery, for example, “1m” for one month. The Trade Term property will be updated accordingly.
Delivery	Displays details on the delivery date.
Trade Term	Displays the delivery date as a tenor.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Model Price	Displays the theoretical price computed by the pricer.
Trader Price	Displays the theoretical price computed by the pricer. You can modify its value.
Customer Price	Displays the customer price such that: • Customer Price = Trader Price + Sales Price (Sell) • Customer Price = Trader Price - Sales Price (Buy)

Properties	Description
Sales Price	Enter the sales price as needed. Default value is Spot Margin + Points Margin.

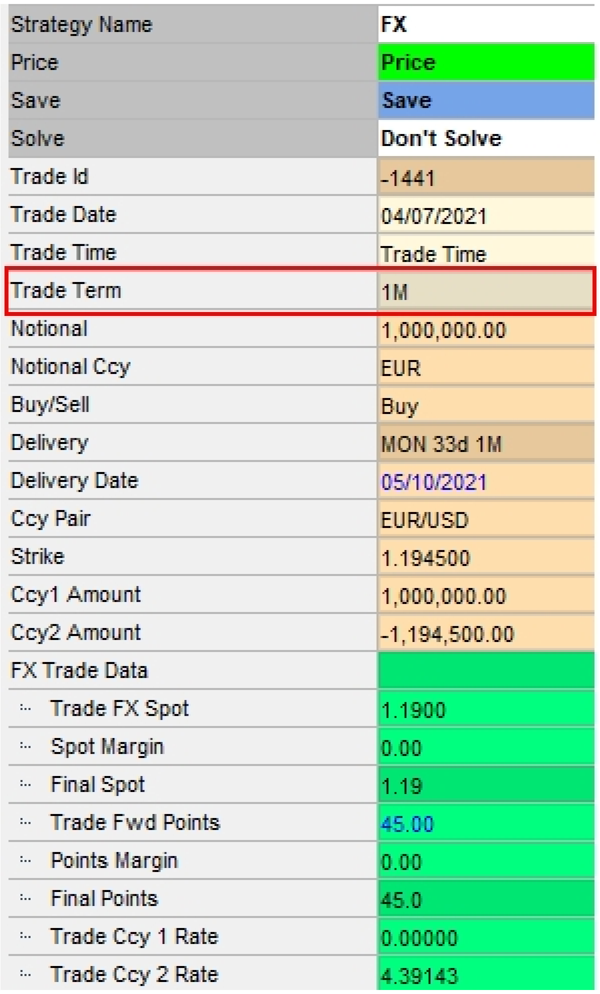
"FX Trade Data" Properties

Properties	Description
Trade FX Spot	Enter the Spot Rate of the FX trade.
Spot Margin	Enter the Spot Margin. This field is disabled if Sales Person is set to NONE.
Final Spot	Displays the Final Spot such that: • Final Spot = Trade FX Spot - Spot Margin (Buy) • Final Spot = Trade FX Spot + Spot Margin (Sell)
Location Spread	(Precious Metal) The premium over the Loco-London spot price (i.e. Trade FX Spot) of a specific Physical form of precious metal at a particular location. This spread is always quoted in USD/oz and is used to adjust the Loco-London spot rate. You may enter an absolute value or a percentage of the Loco-London Spot for the spread. The base location for each precious metal is designated in the PreciousMetalBaseLocation.currency domain value. For example, PreciousMetalBaseLocation.XAU. You may also designate the base location from the Currency Definition window for the metal. (Configuration > Definitions > Currency Definitions).

10.2 FX Forward Trade

Properties

FX Spot properties - Delivery Date = "Forward Date" - Settle Type = "Physical" - Fwd Points - FX Fwd



Strategy Name	**FX**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Id	-1441
Trade Date	04/07/2021
Trade Time	Trade Time
Trade Term	1M
Notional	1,000,000.00
Notional Ccy	EUR
Buy/Sell	Buy
Delivery	MON 33d 1M
Delivery Date	05/10/2021
Ccy Pair	EUR/USD
Strike	1.194500
Ccy1 Amount	1,000,000.00
Ccy2 Amount	-1,194,500.00
FX Trade Data	
Trade FX Spot	1.1900
Spot Margin	0.00
Final Spot	1.19
Trade Fwd Points	45.00
Points Margin	0.00
Final Points	45.0
Trade Ccy 1 Rate	0.00000
Trade Ccy 2 Rate	4.39143

Sample FX Forward trade

"FX Trade Data" Properties

Properties	Description
Trade Fwd Points	FX Forward Rate - Spot Rate.
Points Margin	Enter the points to apply on the margin for the trade. This field is disabled if Sales Person is set to NONE.
Final Points	Displays the Final Points such that: • Final Points = Trade Fwd Points - Points Margin (Buy) • Final Points = Trade Fwd Points + Points Margin (Sell)
Trade Ccy 1 Rate	Calculated from Fwd Rate. Can be manually captured to derive a missing value due to lack of liquidity in the market.

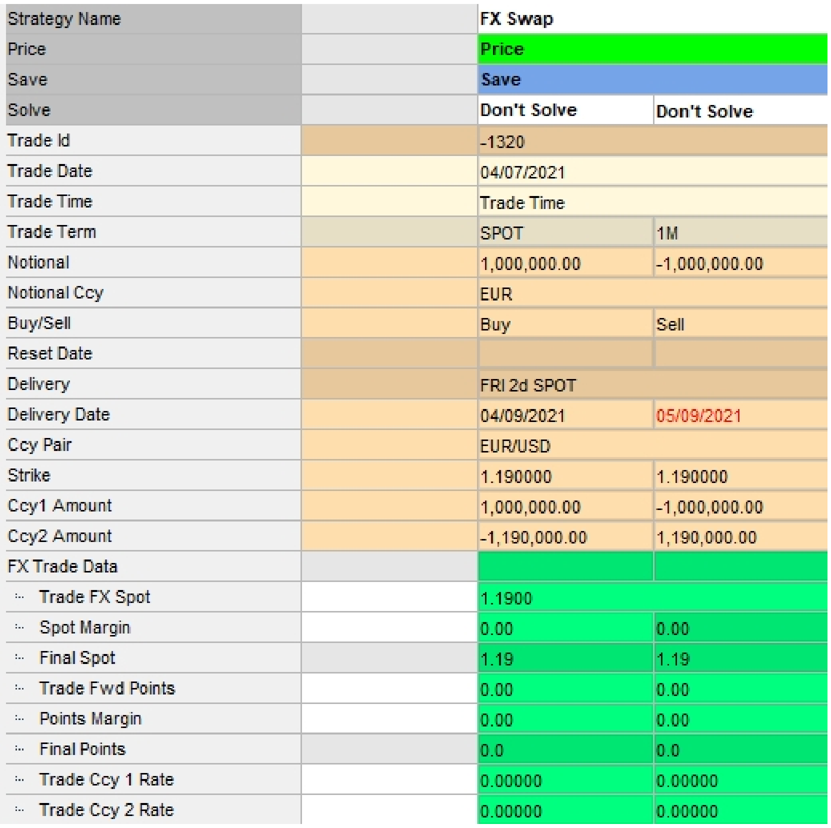
Properties	Description
Trade Ccy 2 Rate	Calculated from Fwd Rate. Can be manually captured to derive a missing value due to lack of liquidity in the market.

"Product: Style" Properties

Properties	Description
Settle Type	Select the Settle Type: • Physical: Physical settlement. • Cash: Cash settlement. • Quanto: Enables settlement in a third currency. It uses reset for conversion instead of a fixed rate determined at inception. The Settle currency can be selected either as the primary or secondary and the third ccy reset is selected as per the settle ccy. • NDF: Settlement as a non-deliverable forward. • NDF-Quanto: The same rules apply as for Quanto but as a non-deliverable forward.

10.3 FX Swap Trade

Sample FX Swap trade.



Strategy Name		FX Swap	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
Trade Id		-1320	
Trade Date		04/07/2021	
Trade Time		Trade Time	
Trade Term		SPOT	1M
Notional		1,000,000.00	-1,000,000.00
Notional Ccy		EUR	
Buy/Sell		Buy	Sell
Reset Date			
Delivery		FRI 2d SPOT	
Delivery Date		04/09/2021	05/09/2021
Ccy Pair		EUR/USD	
Strike		1.190000	1.190000
Ccy1 Amount		1,000,000.00	-1,000,000.00
Ccy2 Amount		-1,190,000.00	1,190,000.00
FX Trade Data			
Trade FX Spot		1.1900	
Spot Margin		0.00	0.00
Final Spot		1.19	1.19
Trade Fwd Points		0.00	0.00
Points Margin		0.00	0.00
Final Points		0.0	0.0
Trade Ccy 1 Rate		0.00000	0.00000
Trade Ccy 2 Rate		0.00000	0.00000

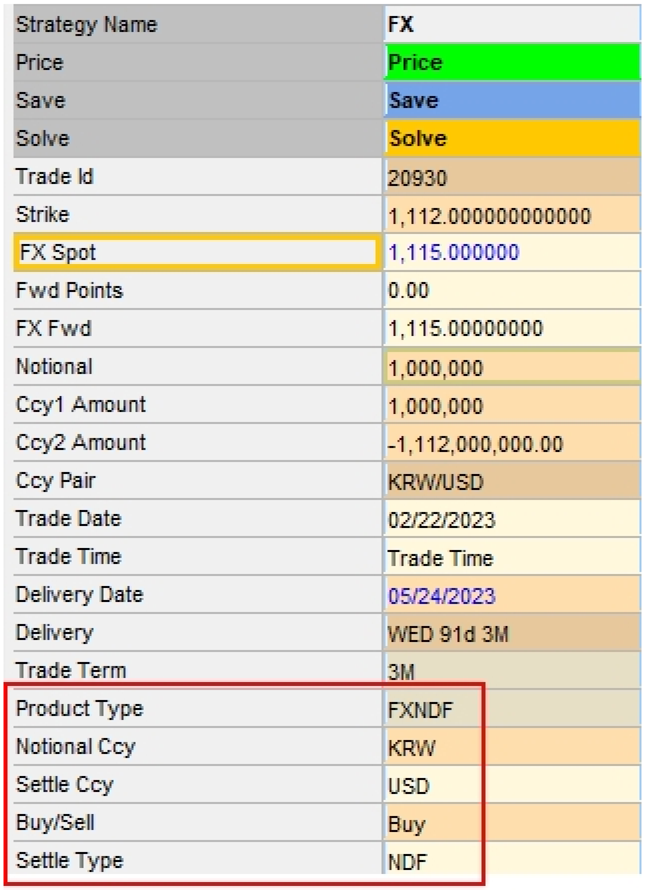
"FX Trade Data" Properties

Properties	Description
Fwd/Fwd	Read-only combined cell for both legs of the Swap describing the forward points calculated following a change to the FX Swap Interest Rate.
Swap IR	Editable interest rate for swaps for both legs. Impacts the forward points.

10.4 FX NDF Trade

Properties

FX Forward properties - Delivery Date = "Forward Date" - Settle Type = "NDF" - Settle Ccy - Settlement Source - Reset Date



Strategy Name	FX
Price	Price
Save	Save
Solve	Solve
Trade Id	20930
Strike	1,112.000000000000
FX Spot	1,115.000000
Fwd Points	0.00
FX Fwd	1,115.00000000
Notional	1,000,000
Ccy1 Amount	1,000,000
Ccy2 Amount	-1,112,000,000.00
Ccy Pair	KRW/USD
Trade Date	02/22/2023
Trade Time	Trade Time
Delivery Date	05/24/2023
Delivery	WED 91d 3M
Trade Term	3M
Product Type	FXNDF
Notional Ccy	KRW
Settle Ccy	USD
Buy/Sell	Buy
Settle Type	NDF

Sample FX NDF trade

"Product: Style" Properties

Properties	Description
Settle Ccy	Select the settlement currency. It should be the deliverable currency.
Settle Type	Select NDF.

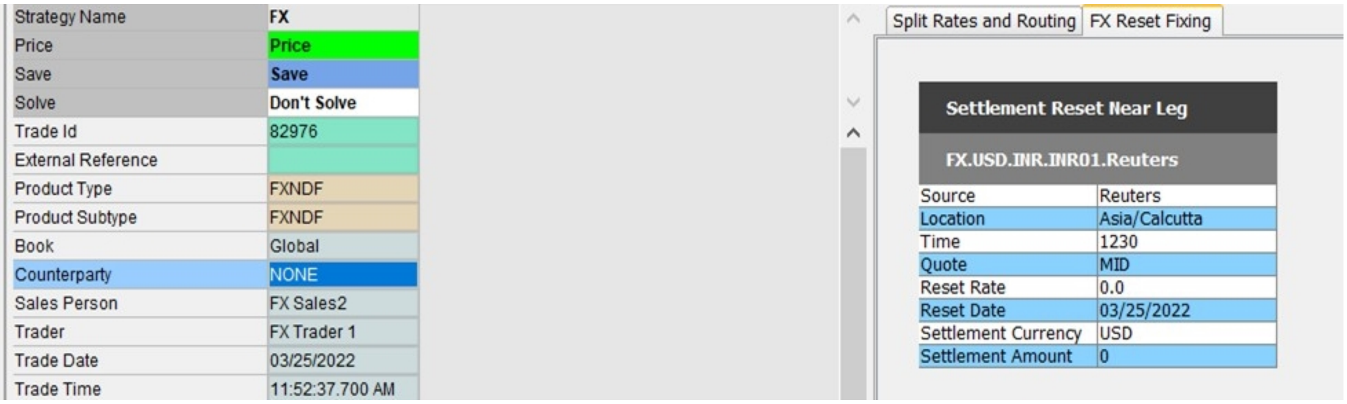
"Product: Rate" Properties

Properties	Description
Settlement Source	Select an FX Rate Definition to fix the FX rates for cash settled trades. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.
Reset Date	Displays "Delivery Date - Number of lag days defined in the FX Rate Definition". It is based on the FX Rate Definition selected in Settlement Source.

Properties	Description
	You can modify as needed.

Rate Reset Window

To open the Rate Reset window, right click in the FX NDF deal and select "Supplemental".



Strategy Name	FX
Price	Price
Save	Save
Solve	Don't Solve
Trade Id	82976
External Reference	
Product Type	FXNDF
Product Subtype	FXNDF
Book	Global
Counterparty	NONE
Sales Person	FX Sales2
Trader	FX Trader 1
Trade Date	03/25/2022
Trade Time	11:52:37.700 AM

Settlement Reset Near Leg

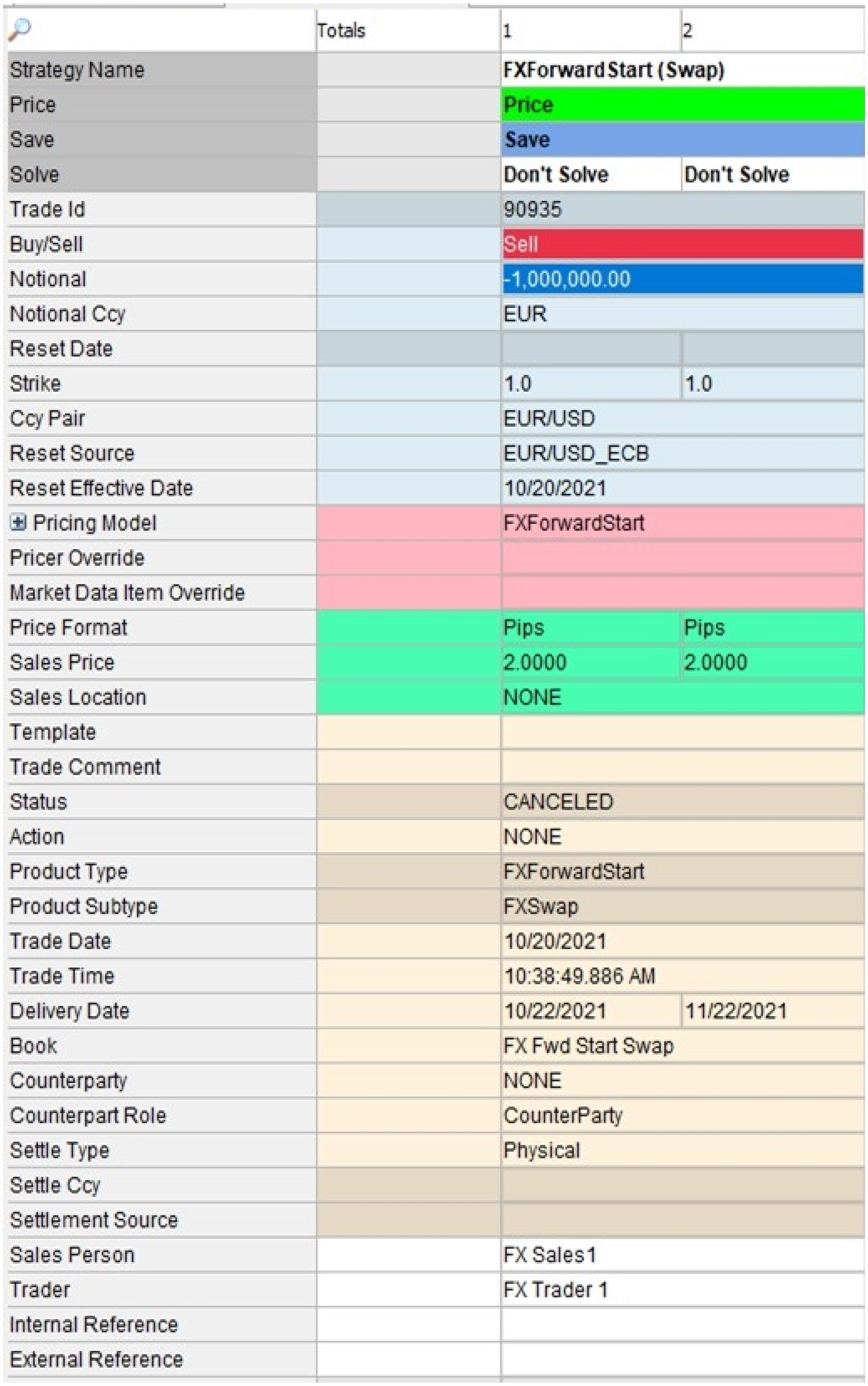
FX.USD.INR.INR01.Reuters

Source	Reuters
Location	Asia/Calcutta
Time	1230
Quote	MID
Reset Rate	0.0
Reset Date	03/25/2022
Settlement Currency	USD
Settlement Amount	0

10.5 FX Forward Start Trade

Properties

Strategy Name is FXForwardStart (Swap) or FXForwardStart (Forward)



	Totals	1	2
Strategy Name		FXForward Start (Swap)	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
Trade Id		90935	
Buy/Sell		Sell	
Notional		-1,000,000.00	
Notional Ccy		EUR	
Reset Date			
Strike		1.0	1.0
Ccy Pair		EUR/USD	
Reset Source		EUR/USD_ECB	
Reset Effective Date		10/20/2021	
⊞ Pricing Model		FXForwardStart	
Pricer Override			
Market Data Item Override			
Price Format		Pips	Pips
Sales Price		2.0000	2.0000
Sales Location		NONE	
Template			
Trade Comment			
Status		CANCELED	
Action		NONE	
Product Type		FXForwardStart	
Product Subtype		FXSwap	
Trade Date		10/20/2021	
Trade Time		10:38:49.886 AM	
Delivery Date		10/22/2021	11/22/2021
Book		FX Fwd Start Swap	
Counterparty		NONE	
Counterpart Role		CounterParty	
Settle Type		Physical	
Settle Ccy			
Settlement Source			
Sales Person		FX Sales1	
Trader		FX Trader 1	
Internal Reference			
External Reference			

Sample FX Forward Start trade

"Product" Properties

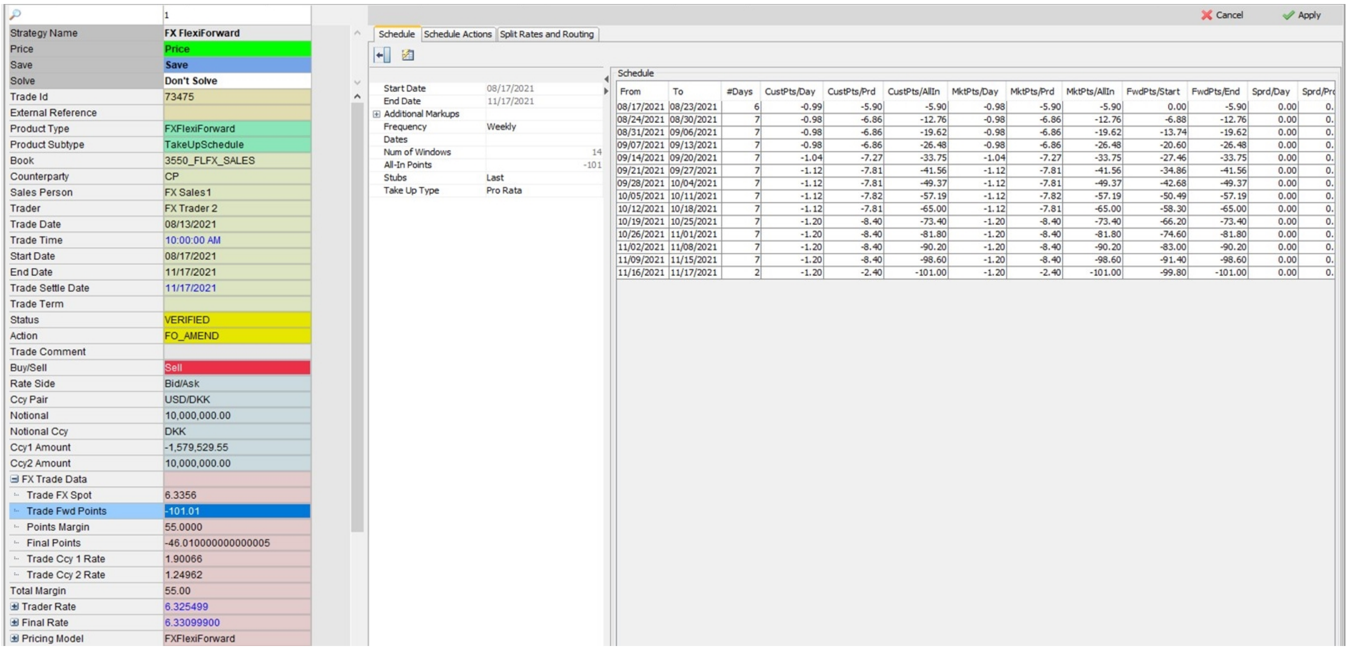
Properties	Description
Product Subtype	The type of underlying trade that the FX Forward Start converts to on the reset date.

"Date" Properties

v	Description
Reset Effective Date	The date on which the FX Forward Start trade is converted to the underlying trade type (i.e. Swap or Forward).

10.6 FX Flexi Forward Trade

Properties



	1
Strategy Name	**FX FlexiForward**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Id	73475
External Reference	
Product Type	FXFlexiForward
Product Subtype	TakeUpSchedule
Book	3550_FLFX_SALES
Counterparty	CP
Sales Person	FX Sales1
Trader	FX Trader 2
Trade Date	08/13/2021
Trade Time	10:00:00 AM
Start Date	08/17/2021
End Date	11/17/2021
Trade Settle Date	11/17/2021
Trade Term	
Status	VERIFIED
Action	FO_AMEND
Trade Comment	
Buy/Sell	Sell
Rate Side	Bid/Ask
Ccy Pair	USD/DKK
Notional	10,000,000.00
Notional Ccy	DKK
Ccy1 Amount	-1,579,529.55
Ccy2 Amount	10,000,000.00
⊟ FX Trade Data	
Trade FX Spot	6.3356
Trade Fwd Points	-101.01
Points Margin	55.0000
Final Points	-46.010000000000005
Trade Ccy 1 Rate	1.90066
Trade Ccy 2 Rate	1.24962
Total Margin	55.00
⊞ Trader Rate	6.325499
⊞ Final Rate	6.33099900
⊞ Pricing Model	FXFlexiForward

Start Date	08/17/2021
End Date	11/17/2021
⊞ Additional Markups	
Frequency	Weekly
Dates	
Num of Windows	14
All-In Points	-101
Stubs	Last
Take Up Type	Pro Rata

Schedule

From	To	#Days	CustPts/Day	CustPts/Prd	CustPts/AllIn	MktPts/Day	MktPts/Prd	MktPts/AllIn	FwdPts/Start	FwdPts/End	Sprd/Day	Sprd/Pr
08/17/2021	08/23/2021	6	-0.99	-5.90	-5.90	-0.98	-5.90	-5.90	0.00	-5.90	0.00	0.
08/24/2021	08/30/2021	7	-0.98	-6.86	-12.76	-0.98	-6.86	-12.76	-6.88	-12.76	0.00	0.
08/31/2021	09/06/2021	7	-0.98	-6.86	-19.62	-0.98	-6.86	-19.62	-13.74	-19.62	0.00	0.
09/07/2021	09/13/2021	7	-0.98	-6.86	-26.48	-0.98	-6.86	-26.48	-20.60	-26.48	0.00	0.
09/14/2021	09/20/2021	7	-1.04	-7.27	-33.75	-1.04	-7.27	-33.75	-27.46	-33.75	0.00	0.
09/21/2021	09/27/2021	7	-1.12	-7.81	-41.56	-1.12	-7.81	-41.56	-34.86	-41.56	0.00	0.
09/28/2021	10/04/2021	7	-1.12	-7.81	-49.37	-1.12	-7.81	-49.37	-42.68	-49.37	0.00	0.
10/05/2021	10/11/2021	7	-1.12	-7.82	-57.19	-1.12	-7.82	-57.19	-50.49	-57.19	0.00	0.
10/12/2021	10/18/2021	7	-1.12	-7.81	-65.00	-1.12	-7.81	-65.00	-58.30	-65.00	0.00	0.
10/19/2021	10/25/2021	7	-1.20	-8.40	-73.40	-1.20	-8.40	-73.40	-66.20	-73.40	0.00	0.
10/26/2021	11/01/2021	7	-1.20	-8.40	-81.80	-1.20	-8.40	-81.80	-74.60	-81.80	0.00	0.
11/02/2021	11/08/2021	7	-1.20	-8.40	-90.20	-1.20	-8.40	-90.20	-83.00	-90.20	0.00	0.
11/09/2021	11/15/2021	7	-1.20	-8.40	-98.60	-1.20	-8.40	-98.60	-91.40	-98.60	0.00	0.
11/16/2021	11/17/2021	2	-1.20	-2.40	-101.00	-1.20	-2.40	-101.00	-99.80	-101.00	0.00	0.

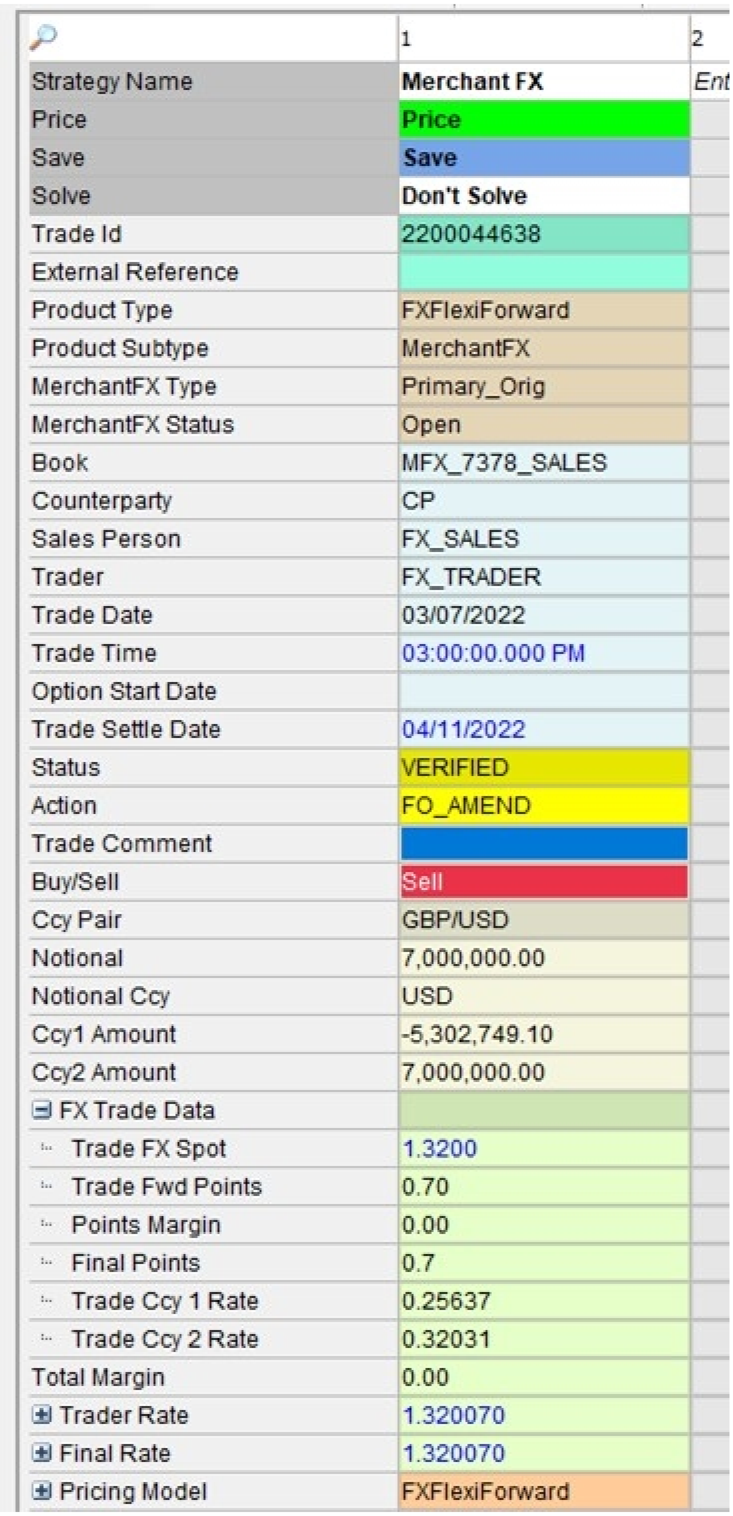
Flexi Forward Take Up Schedule

To open the Schedule tab, right click in the FX Flexible Forward deal and select "Supplemental".

Double-clicking on the row of a take up opens the FX Forward trade that is generated from the take up.

10.7 Merchant FX Trade

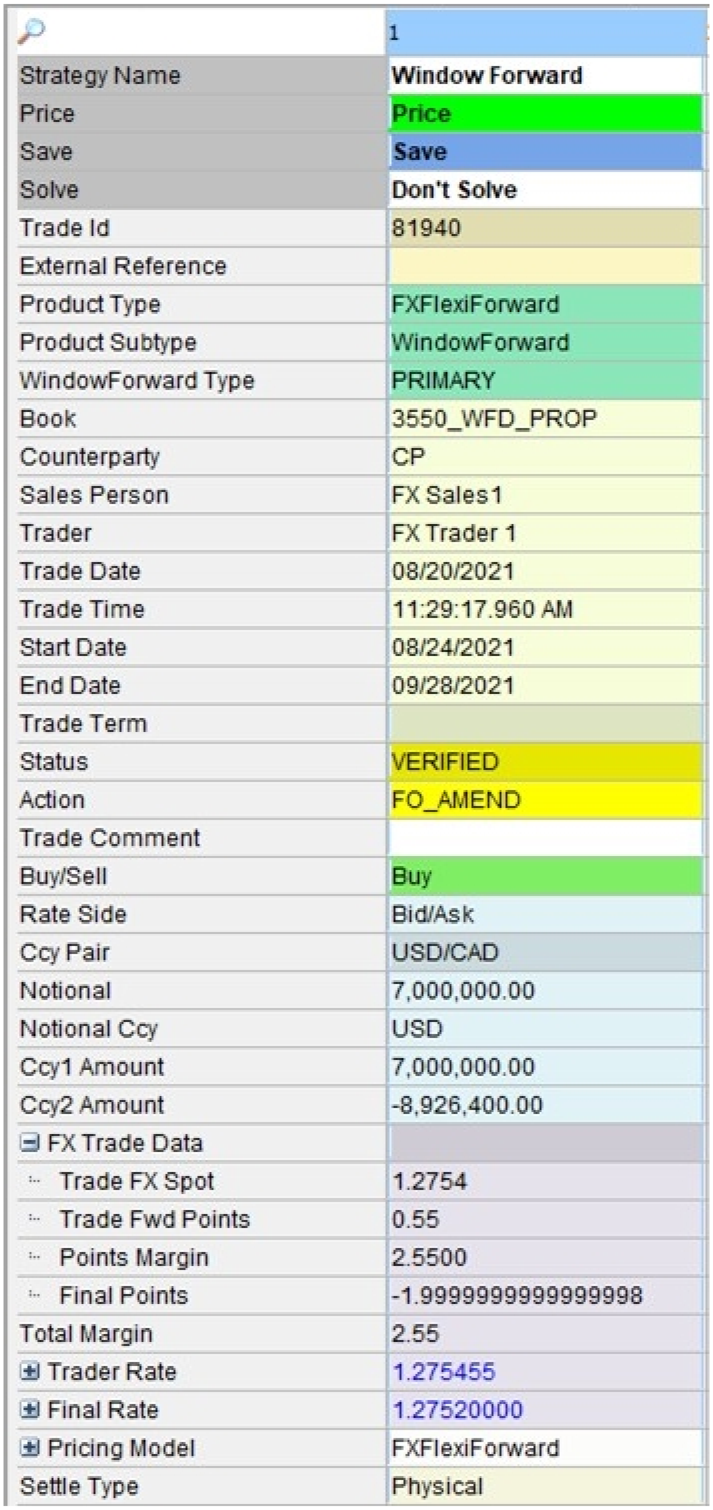
Properties



	1	2
Strategy Name	**Merchant FX**	*Ent*
Price	**Price**	
Save	**Save**	
Solve	**Don't Solve**	
Trade Id	2200044638	
External Reference		
Product Type	FXFlexiForward	
Product Subtype	MerchantFX	
MerchantFX Type	Primary_Orig	
MerchantFX Status	Open	
Book	MFX_7378_SALES	
Counterparty	CP	
Sales Person	FX_SALES	
Trader	FX_TRADER	
Trade Date	03/07/2022	
Trade Time	03:00:00.000 PM	
Option Start Date		
Trade Settle Date	04/11/2022	
Status	VERIFIED	
Action	FO_AMEND	
Trade Comment		
Buy/Sell	Sell	
Ccy Pair	GBP/USD	
Notional	7,000,000.00	
Notional Ccy	USD	
Ccy1 Amount	-5,302,749.10	
Ccy2 Amount	7,000,000.00	
⊟ FX Trade Data		
Trade FX Spot	1.3200	
Trade Fwd Points	0.70	
Points Margin	0.00	
Final Points	0.7	
Trade Ccy 1 Rate	0.25637	
Trade Ccy 2 Rate	0.32031	
Total Margin	0.00	
⊞ Trader Rate	1.320070	
⊞ Final Rate	1.320070	
⊞ Pricing Model	FXFlexiForward	

10.8 FX Window Forward Trade

Properties



	1
Strategy Name	Window Forward
Price	Price
Save	Save
Solve	Don't Solve
Trade Id	81940
External Reference	
Product Type	FXFlexiForward
Product Subtype	WindowForward
WindowForward Type	PRIMARY
Book	3550_WFD_PROP
Counterparty	CP
Sales Person	FX Sales1
Trader	FX Trader 1
Trade Date	08/20/2021
Trade Time	11:29:17.960 AM
Start Date	08/24/2021
End Date	09/28/2021
Trade Term	
Status	VERIFIED
Action	FO_AMEND
Trade Comment	
Buy/Sell	Buy
Rate Side	Bid/Ask
Ccy Pair	USD/CAD
Notional	7,000,000.00
Notional Ccy	USD
Ccy1 Amount	7,000,000.00
Ccy2 Amount	-8,926,400.00
⊟ FX Trade Data	
Trade FX Spot	1.2754
Trade Fwd Points	0.55
Points Margin	2.5500
Final Points	-1.9999999999999998
Total Margin	2.55
⊞ Trader Rate	1.275455
⊞ Final Rate	1.27520000
⊞ Pricing Model	FXFlexiForward
Settle Type	Physical

Sample Window Forward trade

Window Forward Properties

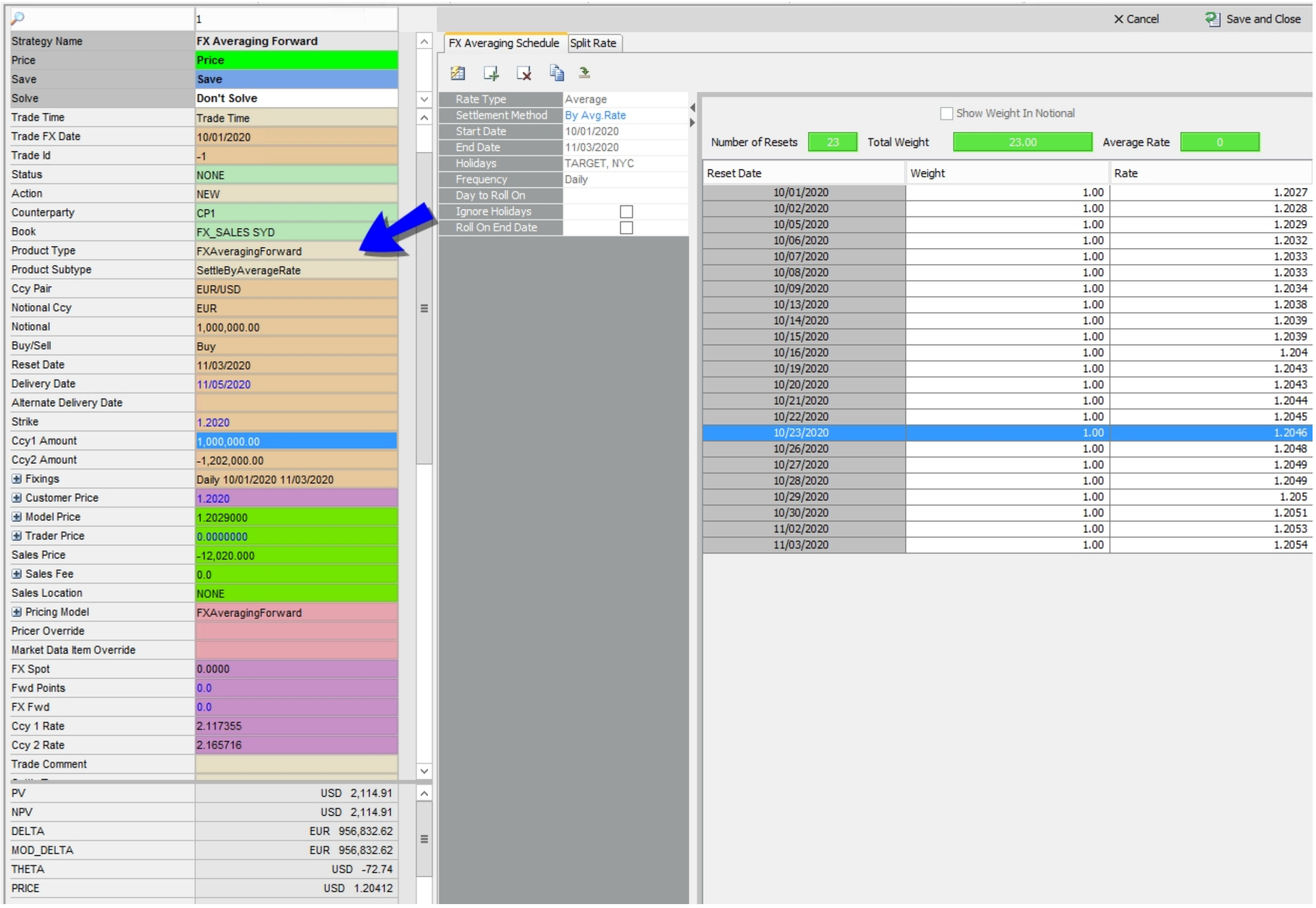
Properties	Description
Window Forward Type	PRIMARY, OFFSET, or RISK. Counterparty trades are of type PRIMARY. Backout from the sales book is of type OFFSET. Forward desk trade is of type RISK.

Right-clicking on the trade, and choosing "Supplemental" will bring up the Window Forward Actions tab (as well as the Split Rates and Routing Tab). From here, the TAKEUP action can be applied to the trade. Right click on a row in the Forward Actions tab to make the UndoTakeUp option appear.

10.9 FX Averaging Forward Trade

Properties

FX Averaging Forward properties - Settle Type = "Cash" or "Quanto". Fixing Start -Fixing End -Fixing Frequency.



Strategy Name	FX Averaging Forward
Price	Price
Save	Save
Solve	Don't Solve
Trade Time	Trade Time
Trade FX Date	10/01/2020
Trade Id	-1
Status	NONE
Action	NEW
Counterparty	CP1
Book	FX_SALES SYD
Product Type	FXAveragingForward
Product Subtype	SettleByAverageRate
Ccy Pair	EUR/USD
Notional Ccy	EUR
Notional	1,000,000.00
Buy/Sell	Buy
Reset Date	11/03/2020
Delivery Date	11/05/2020
Alternate Delivery Date	
Strike	1.2020
Ccy1 Amount	1,000,000.00
Ccy2 Amount	-1,202,000.00
⊞ Fixings	Daily 10/01/2020 11/03/2020
⊞ Customer Price	1.2020
⊞ Model Price	1.2029000
⊞ Trader Price	0.0000000
Sales Price	-12,020.000
⊞ Sales Fee	0.0
Sales Location	NONE
⊞ Pricing Model	FXAveragingForward
Pricer Override	
Market Data Item Override	
FX Spot	0.0000
Fwd Points	0.0
FX Fwd	0.0
Ccy 1 Rate	2.117355
Ccy 2 Rate	2.165716
Trade Comment	

PV	USD 2,114.91
NPV	USD 2,114.91
DELTA	EUR 956,832.62
MOD_DELTA	EUR 956,832.62
THETA	USD -72.74
PRICE	USD 1.20412

Rate Type	Average
Settlement Method	By Avg.Rate
Start Date	10/01/2020
End Date	11/03/2020
Holidays	TARGET, NYC
Frequency	Daily
Day to Roll On	
Ignore Holidays	☐
Roll On End Date	☐

☐ Show Weight In Notional

Number of Resets: 23 Total Weight: 23.00 Average Rate: 0

Reset Date	Weight	Rate
10/01/2020	1.00	1.2027
10/02/2020	1.00	1.2028
10/05/2020	1.00	1.2029
10/06/2020	1.00	1.2032
10/07/2020	1.00	1.2033
10/08/2020	1.00	1.2033
10/09/2020	1.00	1.2034
10/13/2020	1.00	1.2038
10/14/2020	1.00	1.2039
10/15/2020	1.00	1.2039
10/16/2020	1.00	1.204
10/19/2020	1.00	1.2043
10/20/2020	1.00	1.2043
10/21/2020	1.00	1.2044
10/22/2020	1.00	1.2045
10/23/2020	1.00	1.2046
10/26/2020	1.00	1.2048
10/27/2020	1.00	1.2049
10/28/2020	1.00	1.2049
10/29/2020	1.00	1.205
10/30/2020	1.00	1.2051
11/02/2020	1.00	1.2053
11/03/2020	1.00	1.2054

Sample FX Averaging Forward Trade

"Fixings" Properties

Properties	Description
Fixing Start	The start date for the rate fixing.
Fixing End	The end date for the rate fixing.
Fixing Frequency	The frequency with which rate fixings are calculated: Daily, Weekly, Monthly, Biweekly (BW), Bimonthly (BM), Semi-annually (SM).

FX Averaging Schedule

To open the FX Averaging Schedule tab, right click in the FX Averaging Forward deal and select "Supplemental".

To change the weight for the rate of any particular reset date, double-click the cell in the weight column corresponding to that date, and enter the weight.

To add additional reset dates for a customized schedule, press , and enter the date.

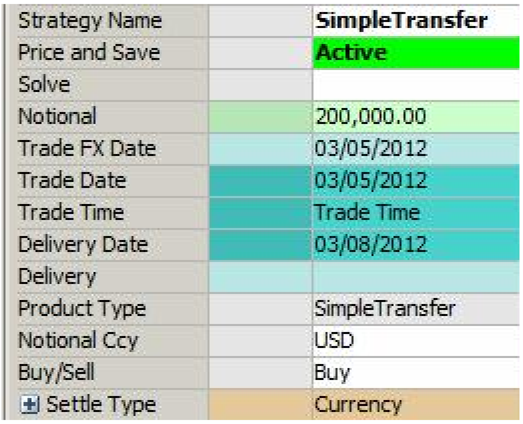
To remove a reset date from the schedule, select the reset and press .

When you are finished, press Save and Close .

10.10 Simple Transfer Trade

Properties

Buy/Sell - Notional - Notional Currency - Settle Type = "Currency"



Strategy Name		**SimpleTransfer**
Price and Save		**Active**
Solve		
Notional		200,000.00
Trade FX Date		03/05/2012
Trade Date		03/05/2012
Trade Time		Trade Time
Delivery Date		03/08/2012
Delivery		
Product Type		SimpleTransfer
Notional Ccy		USD
Buy/Sell		Buy
⊞ Settle Type		Currency

Sample Simple Transfer trade

"Product: Style" Properties

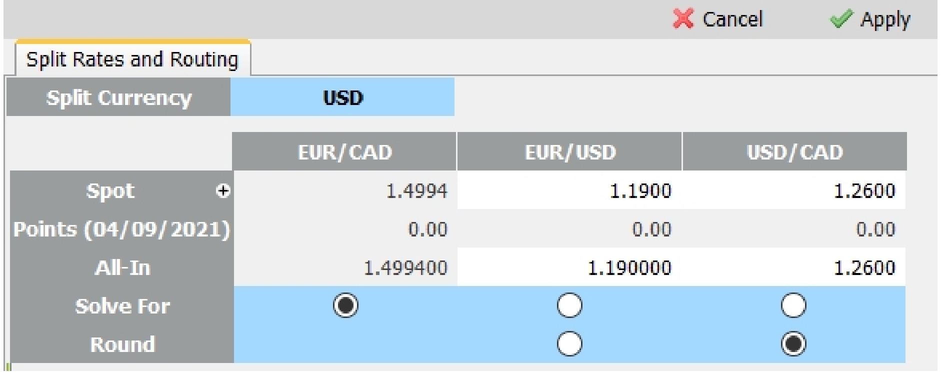
Properties	Description
Product Type	Displays the product type based on the selected strategy.
Notional Ccy	Select the currency of the notional.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Settle Type	Displays "Currency".

10.11 Split Rates and Routing

You can right-click an FX trade and choose “Supplemental” to bring up the Split Rates and Routing panel.

Split Rates for FX Spot, FX Forward, and FX Non-Deliverable Forward

The Split Rates panel only appears if a split currency is defined for the selected currency pair (through a triangulation rule).



Split Currency USD

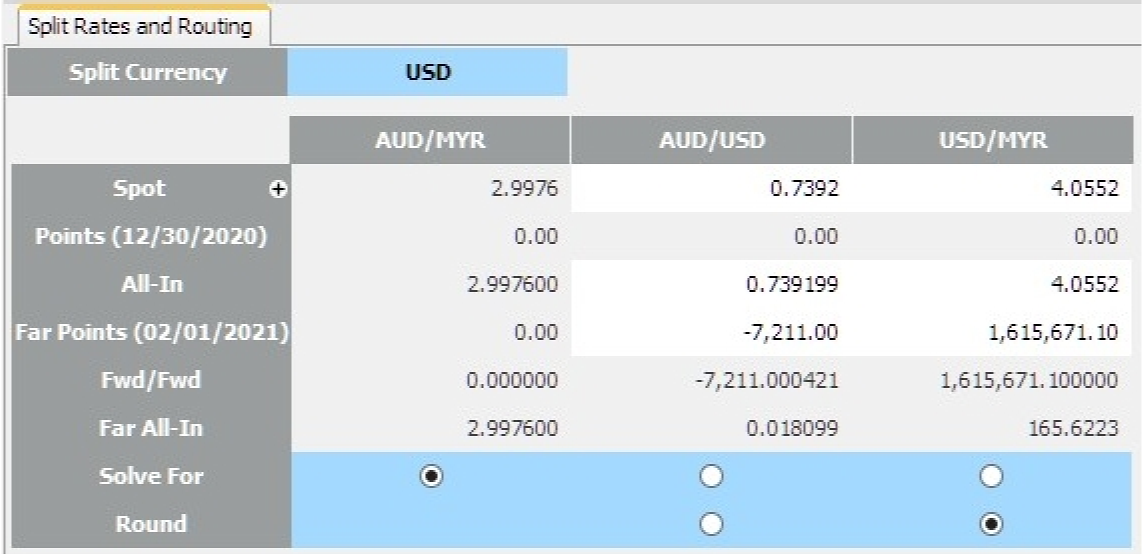
	EUR/CAD	EUR/USD	USD/CAD
Spot	1.4994	1.1900	1.2600
Points (04/09/2021)	0.00	0.00	0.00
All-In	1.499400	1.190000	1.2600
Solve For	●	○	○
Round		○	●

Sample Split Currency

- Enter the rates and points as needed and click **Apply** to apply the rates to the trade.

Split Rates for FX Swap, and FX Non-Deliverable Swap

The Split Rates panel only appears if a split currency is defined for the selected currency pair (through a triangulation rule).



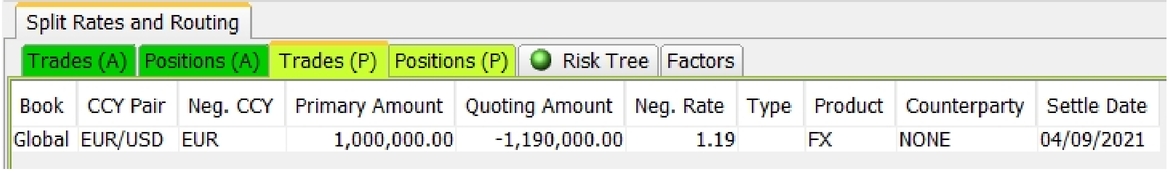
Split Rates and Routing

Split Currency	USD		
	AUD/MYR	AUD/USD	USD/MYR
Spot	2.9976	0.7392	4.0552
Points (12/30/2020)	0.00	0.00	0.00
All-In	2.997600	0.739199	4.0552
Far Points (02/01/2021)	0.00	-7,211.00	1,615,671.10
Fwd/Fwd	0.000000	-7,211.000421	1,615,671.100000
Far All-In	2.997600	0.018099	165.6223
Solve For	●	○	○
Round		○	●

Sample Split Currency

- » Enter the rates and points as needed and click **Apply** to apply the rates to the trade.

Routing



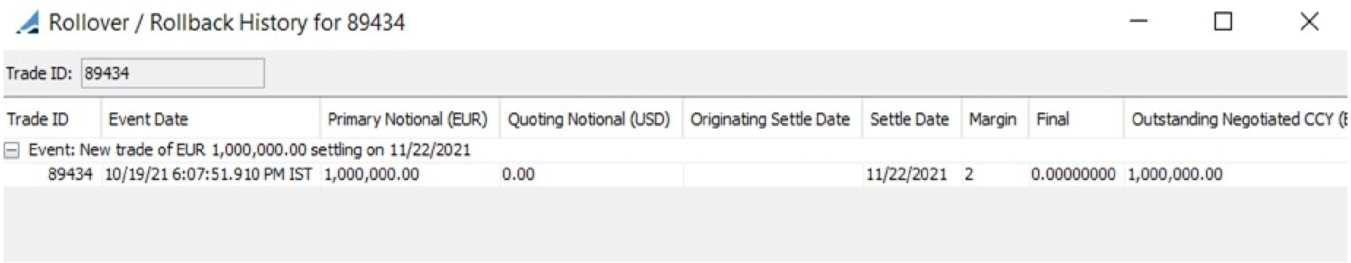
Split Rates and Routing
Trades (A)
Positions (A)
Trades (P)
Positions (P)
Risk Tree
Factors

Book	CCY Pair	Neg. CCY	Primary Amount	Quoting Amount	Neg. Rate	Type	Product	Counterparty	Settle Date
Global	EUR/USD	EUR	1,000,000.00	-1,190,000.00	1.19		FX	NONE	04/09/2021

▶ Please refer to FX Deal Station documentation for details on the Routing panel.

10.12 Rollover / Rollback History

The rollover and rollback history for any booked FX trade can be viewed by navigating to **Processing > Rollover/Rollback History**.



Rollover / Rollback History for 89434

Trade ID: 89434

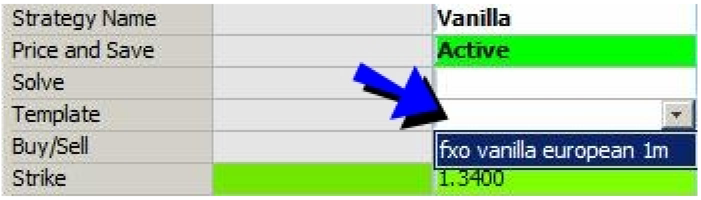
Trade ID	Event Date	Primary Notional (EUR)	Quoting Notional (USD)	Originating Settle Date	Settle Date	Margin	Final	Outstanding Negotiated CCY (
⊟ Event: New trade of EUR 1,000,000.00 settling on 11/22/2021								
89434	10/19/21 6:07:51.910 PM IST	1,000,000.00	0.00		11/22/2021	2	0.00000000	1,000,000.00

11. Capturing FX Option Trades

Before capturing FX Option trades in the Pricing Sheet, the following market data items are required:

- Spot rate
- Vol surface
- Two interest curves, or, one interest curve + one FX Fwd curve

To capture an FX Option trade in the Pricing Sheet, select an FX Option strategy and set the properties as needed. You can also select a strategy template to populate default values.



Strategy Name		Vanilla
Price and Save		Active
Solve		
Template		
Buy/Sell		
Strike		1.3400

Sample Strategy and Template selection

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to FX Options are described below.

Contents

- Vanilla Strategies
- Accrual Strategies
- Asian Strategies
- Barrier Strategies
- Compound Strategies
- Digital Strategies
- Forward Starting Strategies

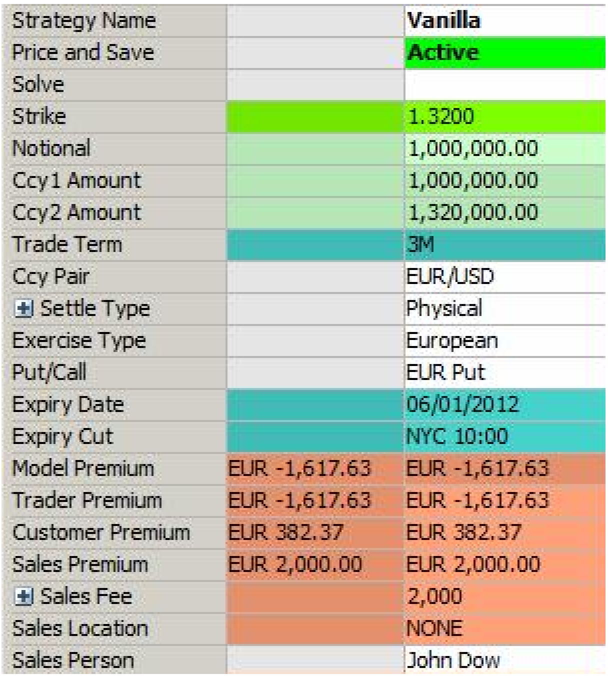
- Lookback Strategies
- Volatility Forward Strategies
- FX Target Redemption Forwards
- Inverting Quanto and Flexo Settled Strategies
- "Volatility and Variance Swaps Strategies" on page 237
- "Volatility and Variance Options Strategies" on page 240

11.1 Vanilla Strategies

This also applies to Butterfly, Condor, Reversal, Spread, Straddle, and Strangle strategies.

Properties

Product Type - Constants - Ccy Pair - Notional Ccy - Settle Ccy - Quanto Ccy Pair - Quanto Factor - Buy/Sell - Put/Call - Ccy2 Put/Call - Exercise Type - Settle Type - Location - Allocated - Strike - Strike % itmf - Strike Inverse - Settlement Source



Strategy Name		**Vanilla**
Price and Save		**Active**
Solve		
Strike		1.3200
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,320,000.00
Trade Term		3M
Ccy Pair		EUR/USD
⊞ Settle Type		Physical
Exercise Type		European
Put/Call		EUR Put
Expiry Date		06/01/2012
Expiry Cut		NYC 10:00
Model Premium	EUR -1,617.63	EUR -1,617.63
Trader Premium	EUR -1,617.63	EUR -1,617.63
Customer Premium	EUR 382.37	EUR 382.37
Sales Premium	EUR 2,000.00	EUR 2,000.00
⊞ Sales Fee		2,000
Sales Location		NONE
Sales Person		John Dow

Sample Vanilla FX Option

"Trade" Properties

Properties	Description
Customer Pay/Rec	The values available for this property are “Customer Pays” and “Customer Receives.” The value is driven by the sign of the Customer Premium: negative populates “Customer Receives” while positive populates “Customer Pays.” In the case where multiple options with different directions are open in the same pricing sheet, the property helps keeping track of pay and receive obligations with customers.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Constants	Displays any value used in solving that is entered manually like Strike, etc.
Ccy Pair	Displays the default currency pair if any. The default currency pair is set in **Configuration > User Preferences**. You can select another currency pair as needed.
Notional Ccy	Select the currency of the notional. In a Digital or Digital with Barrier, Notional Ccy = Settle Ccy.
Settle Ccy	Select the settlement currency for cash trades and self-quanto trades: • Primary Currency - Asset-or-Nothing - For a cash settlement, the trade becomes a quanto trade, and you can enter the quanto factor. • Secondary Currency - Cash-or-Nothing.
Quanto Ccy Pair	Only applies to "Self Quanto" or "Quanto" set as a Settle Type. Displays the currency pair used in the Quanto. This is Settlement Ccy/Secondary Ccy in the defined currency pair. The currency pair is defined in the Calypso Navigator under **Configuration > Definitions > Currency Definitions...**.
Quanto Factor	Only applies to "Self Quanto" or "Quanto" set as a Settle Type. Not available with Digital and Digital with Barrier strategies. Enter the rate between the quoting currency and the primary currency if the settlement currency is the primary currency. You can enter "k" to populate it with the strike rate, "s" for spot rate, or enter a fixed rate. The trade keyword "QuantoSource" will be populated accordingly.
Flexo FX Source	Only applies to the "Flexo" Settle Type. Choose the FX rate source for Flexo type trades.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Put/Call	Enter / displays the option direction for the primary currency.

Properties	Description
Ccy2 Put/Call	Displays / enter the option direction for the quoting currency.
Exercise Type	Select the exercise type: • European (default value) - The option may only be exercised on the expiry date. • American - You can exercise the option anytime during the life of the option.
Settle Type	Select the settlement type at exercise. The application may automatically select it based on the product type. • Physical - For physical settlement (exercise against the underlying product) - A trade on the underlying product is automatically created. FX points are calculated to the payment date. • Physical NDF - For physical settlement into an NDF product. FX points are calculated to the valdate of the fixing date of the related NDF • Cash - For cash settlement (exercise against a fee). • Self Quanto - For cash settlement in primary currency, with a fixed conversion factor (quanto factor). Only available for Vanilla, Barrier, Barrier with Digital, and Forward Start strategies. • Quanto - For the settlement currency in a third currency type, with a fixed conversion factor (quanto factor). Only available for Vanilla, Barrier, Barrier with Digital, and Forward Start strategies. • Flexo - For a settlement currency in a third currency type with a configure FX Rate source. Only available for Vanilla, Barrier and Forward Start strategies.
Location	Select the location for commodities.
Allocated	Refers to physical Precious Metal trades. Displays allocated/unallocated metal status. This field has no connection to the ALLOCATE trade status.

"Product: Rate" Properties

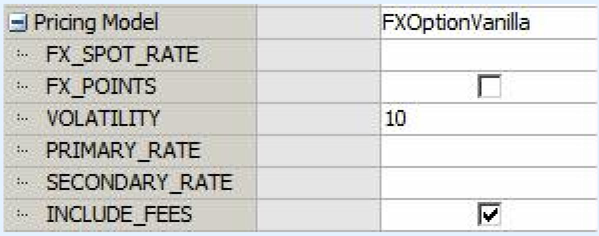
Properties	Description
Strike	Enter the strike. The following FX Delta shortcuts are also available. Add the shortcut to the Strike property field and press Enter. • You can enter "atm" to solve for an at-the-money forward. This gives the at-the-money strike for the given currency pair and tenor. The premium in Delta convention and the Delta-neutral-or-atm-forward convention are taken from the vol surface. This is the most commonly used shortcut because it produces the "at-the-money" strike whether it's Delta neutral or ATMF. • You can enter "atms" to solve for an at-the-money spot. This gives the strike equal to

Properties	Description
	the current spot rate. • You can enter "atmf" to get the strike equal to the current outright forward. • You can enter "dn" to set the strike to the ATM delta neutral strike generated from the supplied vol surface and expiry date. • You can use the strike to solve for a Delta by entering "<delta value>d", for example "25d". • When "<delta value>s" is entered (e.g., 10s), this gives the 25-spot-delta strike, with premium-in-delta coming from the vol surface. • When "<delta value>f" is entered (e.g., 10f), this gives the 25-forward-delta strike, with premium-in-delta coming from the vol surface. • One percentage strike shortcut: "<delta value>%s" gives the strike equal to spot plus <delta value>%. Also, "-<delta value>%s" gives the strike equal to spot minus <delta value>%. ***Rounding*** Any system generated strike (solver, shortcut entry) will respect the currency pair rounding settings. If the user manually enters a strike, it will only be rounded based on the constraints of the currency rounding of the amounts that the strike generates. Example: Ccy1 amount is 10,000.00 and a strike is entered as 1.234567. • If ccy rounding of Ccy2 is 2dp then Ccy2 amount would be 12345.67. The strike does not need to be rounded. • If ccy rounding of Ccy2 is 0dp (JPY for example) then Ccy2 amount would be 12346 and the strike would need to be rounded to 1.2346. The shortcut used will not be persisted if the trade is saved. ***EX:*** Entering "atms" in this field will calculate the at-the-money-strike and will appear as "<strike value> [atms] when pricing. If the trade is saved, the value is saved, but the shortcut used will not be saved.
Strike % itmf	Displays the percentage of strike with respect to "in-the-money" forward: [(FX Fwd - Strike)/ FX Fwd]*100.
Strike Inverse	Displays 1/Strike for an inverted trade.
Settlement Source	Select an FX Rate Definition to fix the FX rates for cash settled trades. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.
Reset Date	Only applies to Physical NDF settle type. Displays "Delivery Date - Number of lag days defined in the FX Rate Definition". It is based on the FX Rate Definition selected in Settlement Source. You can modify as needed.

"Date" Properties

Properties	Description
Trade FX Date	Displays the trade date adjusted by the 5pm rule if set.
Trade Date	Displays the valuation date set in the Pricing window of the pricing sheet by default. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Trade Time	Displays the valuation time set in the Pricing window of the pricing sheet. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Expiry Date	Enter the expiration date. You can enter a relative term for the option expiration, for example, "1m" for one month. The Trade Term property will be updated accordingly. **[NOTE: The expiration date takes into account "local" holiday calendars defined in the Defaults panel under Configuration > User Preferences]**
Expiry	Displays expiration date details.
Expiry Cut	Displays the default expiry timezone. The default expiry timezone is set in the Defaults panel under **Configuration > User Preferences**.
Expiry Delivery Link	Select one of four options in the list: • On - Links the delivery date to the expiration date using the default set for the currency pair, so that when one is updated, the other one is updated accordingly. • Off - The delivery date and expiration are independent of each other. • Equal - The delivery date and expiration date are made to equal each other. • T+1 - The delivery date follows one day after the expiry date.
Delivery Date	Displays the delivery date of the option. You can modify as needed.
Delivery	Displays details on the delivery date.
Trade Term	Displays the expiry date as a tenor.
First Exercise Date	Enter the first date the option can be exercise for American options.

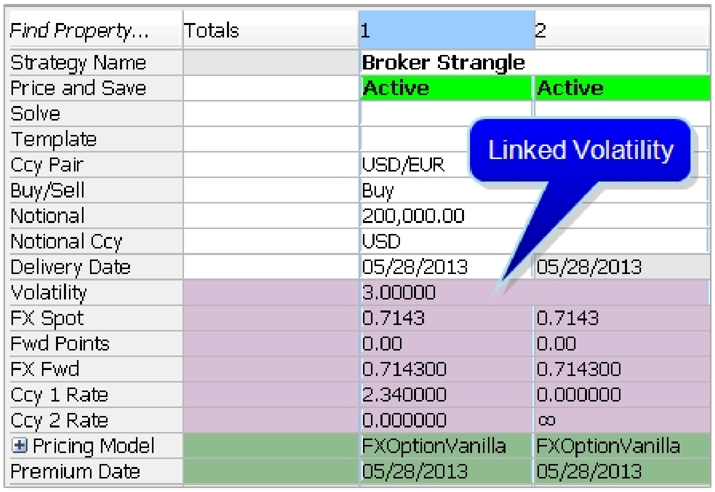
"Price" Properties

Properties	Description
Premium Date	Displays the premium payment date. The system uses the spot date by default. You can change this to a forward date. If you use a forward date, the application adjusts the premium amount using the discount curve from the selected pricing environment.
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.  Pricing Model: FXOptionVanilla FX_SPOT_RATE: FX_POINTS: ☐ VOLATILITY: 10 PRIMARY_RATE: SECONDARY_RATE: INCLUDE_FEES: ☑ Sample pricing parameters
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Price Format	Select the currency and unit amount of the prices. The unit amount defaults to the price format specified under **Configuration > User Preferences**. You can select: • Percentage of the primary amount "<primary currency> %" - For example "EUR %". Premium primary % = (premium amount / primary amount) * 100. • Pips of the primary amount "<primary currency> Pips" - For example "EUR Pips". Premium primary pips = (premium amount / quoting amount) * bp factor. • Percentage of the quoting amount "<quoting currency> %" - For example "USD %". Premium quoting % = (premium amount / quoting amount) * 100. • Pips of the quoting amount "<quoting currency> Pips" - For example "USD Pips". Premium quoting pips = (premium amount / primary amount) * bp factor.

11.2 Broker Butterfly and Broker Strangle Strategies

"Broker" strategies are quoted with the same volatility on all legs, giving them different strikes for a given delta. The behavior of the Volatility and Strike properties is different from standard Butterfly and Strangle strategies.

A single, linked volatility is entered in these strategies.



Find Property...	Totals	1	2
Strategy Name		**Broker Strangle**	
Price and Save		**Active**	**Active**
Solve			
Template			
Ccy Pair		USD/EUR	
Buy/Sell		Buy	
Notional		200,000.00	
Notional Ccy		USD	
Delivery Date		05/28/2013	05/28/2013
Volatility		3.00000	
FX Spot		0.7143	0.7143
Fwd Points		0.00	0.00
FX Fwd		0.714300	0.714300
Ccy 1 Rate		2.340000	0.000000
Ccy 2 Rate		0.000000	∞
⊞ Pricing Model		FXOptionVanilla	FXOptionVanilla
Premium Date		05/28/2013	05/28/2013

Sample Broker Strangle trade

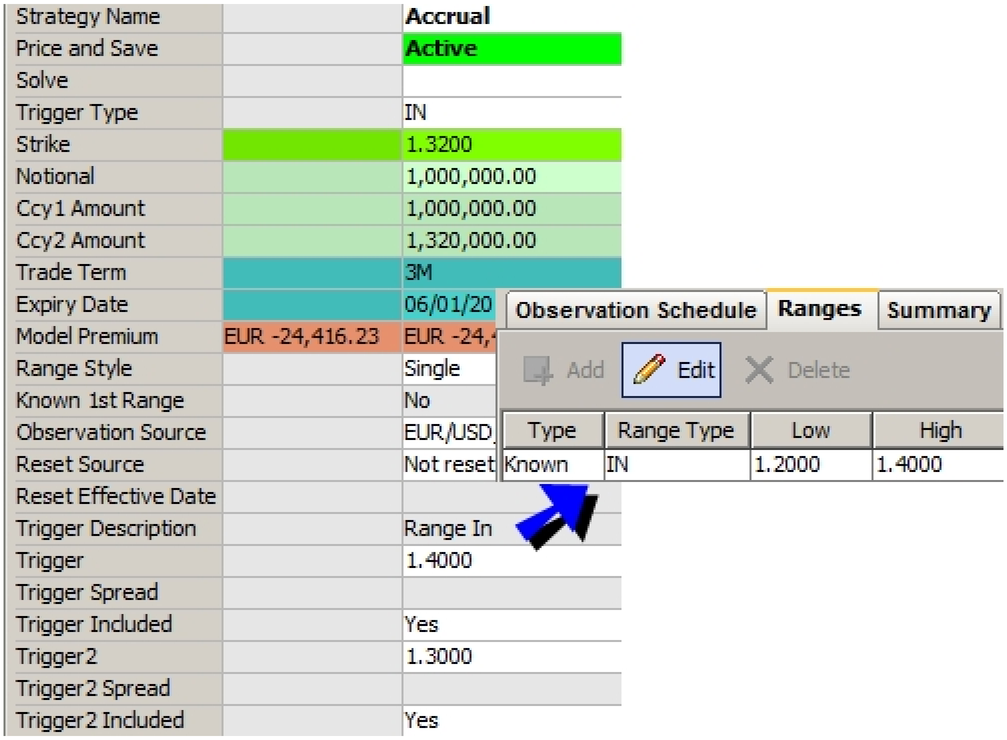
A Broker Butterfly is a Broker Straddle with a delta neutral straddle.

11.3 Accrual Strategies

[NOTE: Quanto pricing for Accrual strategies is not currently supported]

Properties

Vanilla properties - Range Style - Observation Source - Reset Source - Known 1st Range - Reset Effective Date - Trigger properties



Strategy Name		Accrual
Price and Save		Active
Solve		
Trigger Type		IN
Strike		1.3200
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,320,000.00
Trade Term		3M
Expiry Date		06/01/20
Model Premium	EUR -24,416.23	EUR -24,
Range Style		Single
Known 1st Range		No
Observation Source		EUR/USD
Reset Source		Not reset
Reset Effective Date		
Trigger Description		Range In
Trigger		1.4000
Trigger Spread		
Trigger Included		Yes
Trigger2		1.3000
Trigger2 Spread		
Trigger2 Included		Yes

Type	Range Type	Low	High
Known	IN	1.2000	1.4000

Sample Accrual FX Option

"Product" Style" Properties

Properties	Description
Observation Type	For Accrual and Accumulator options, the choices are: • Cash Accrual • FX Accrual • Vanilla Fade In - Each time the spot condition is met on a fixing date, a portion of the notional is paid. That is, on expiry date the notional is: "n/N" x "notional amount". • Vanilla Fade Out - Each time the spot condition is met on a fixing date, a portion of the notional is deducted from the maximum that can be used. That is, on expiry date the notional is: "notional amount" - ("n/N" x "notional amount"). Where: • "notional amount" is the notional amount • n is how many times the spot satisfies the predefined condition (whether it is meant to be above/below a predetermined trigger, or inside/outside a predetermined range) on the predefined fixing dates • N is the number of fixings dates over the life of the option

Properties	Description
Range Style	Select Single for single range, or Multiple for multiple ranges. • For Single range, you can capture the range in the Trigger properties. • For Multiple range, right-click the trade and choose "Supplemental" to define the ranges. ▶ See Setting Accrual Details for details.
Known 1st Range	Select Yes if the first range is known for a resetting range, or No otherwise. If Yes, you can specify the first range in Trigger and Trigger2.

"Product: Rate" Properties

Properties	Description
Observation Source	Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. Then right-click the FX Rate Definition and choose "Supplemental" to define the accrual details. ▶ See Setting Accrual Details for details.
Reset Source	Select "Not resetting" for non-resetting ranges, or select the FX Rate Definition that will be used to fix the rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. Then right-click the FX Rate Definition and choose "Supplemental" to define the fixing schedule. ▶ See Setting Accrual Details for details.

"Date" Properties

Properties	Description
Reset Effective Date	Enter the date at which the strike will be known.

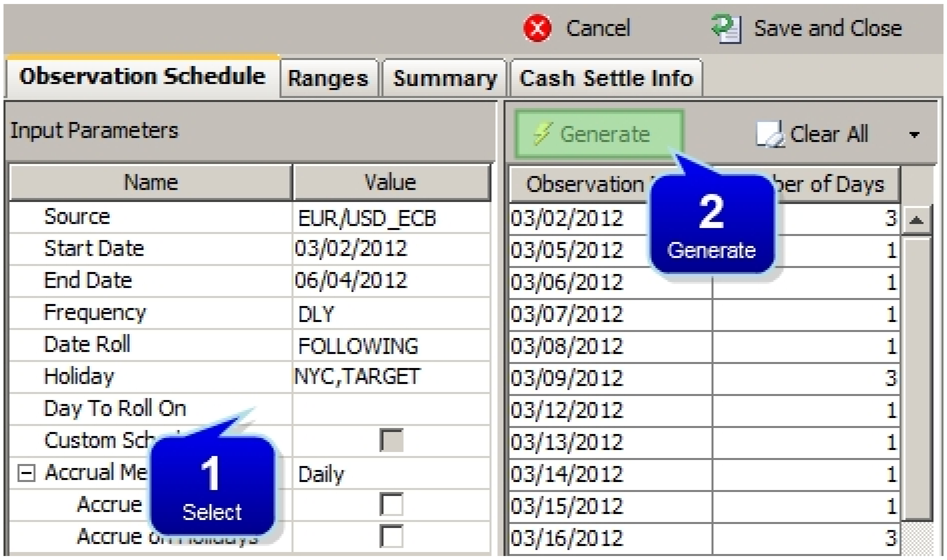
"Trade" Properties

Properties	Description
Breakeven FX Rate	Informs the trader or customer from which point the option begins to make profit, or, on the other side, from which point the option starts to lose money. It gives an indication of how far the option is from that point compare to market conditions.

11.3.1 Setting Accrual Details

To define observation schedules, reset schedules, and ranges for Accrual options, right-click the trade and choose "Supplemental". Define the schedules as needed then click **Save and Close** to apply the details to the trade.

Observation Schedule



Name	Value
Source	EUR/USD_ECB
Start Date	03/02/2012
End Date	06/04/2012
Frequency	DLY
Date Roll	FOLLOWING
Holiday	NYC,TARGET
Day To Roll On	
Custom Sch	☐
⊟ Accrual Me	Daily
Accrue	☐
Accrue o	☐

Observation	ber of Days
03/02/2012	3
03/05/2012	1
03/06/2012	1
03/07/2012	1
03/08/2012	1
03/09/2012	3
03/12/2012	1
03/13/2012	1
03/14/2012	1
03/15/2012	1
03/16/2012	3

Accrual Configuration (Observation schedule)

The observation source (FX Rate Definition), start date, and end date default to the option's details.

Step 1 - Select the frequency, date roll convention, and holidays.

Select the Accrual Method: Daily or Unweighted (discrete accrual on each observation date).

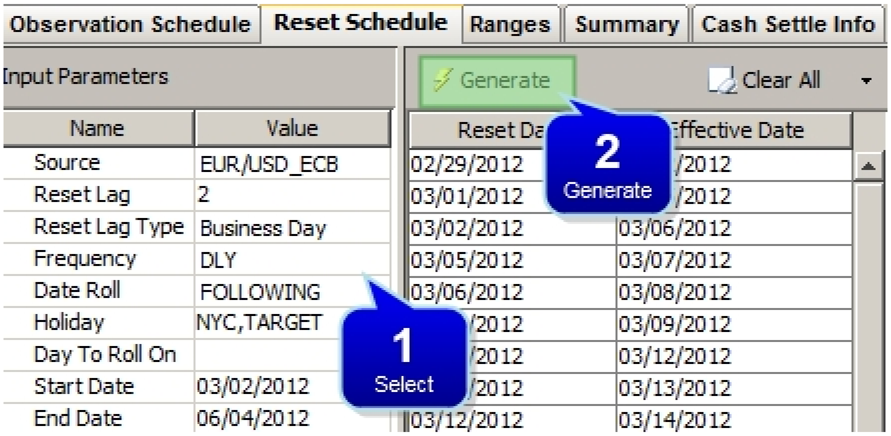
For Daily, you can include weekends or not, and include holidays or not. If you include weekends and holidays, the precedent business day's rate will be used.

Step 2 - Click **Generate** to generate the schedule.

You can click the "Clear All" menu to add / remove observation dates.

Reset Schedule

[NOTE: The Reset Schedule panel only appears if the ranges are resetting ("Reset Source" property contains an FX Rate Definition)]


Observation Schedule
Reset Schedule
Ranges
Summary
Cash Settle Info
Input Parameters
Generate
Clear All
2
Generate
1
Select

Name	Value
Source	EUR/USD_ECB
Reset Lag	2
Reset Lag Type	Business Day
Frequency	DLY
Date Roll	FOLLOWING
Holiday	NYC,TARGET
Day To Roll On	
Start Date	03/02/2012
End Date	06/04/2012

Reset Da	ffective Date
02/29/2012	/2012
03/01/2012	/2012
03/02/2012	03/06/2012
03/05/2012	03/07/2012
03/06/2012	03/08/2012
/2012	03/09/2012
/2012	03/12/2012
/2012	03/13/2012
03/12/2012	03/14/2012

Accrual Configuration (Reset schedule)

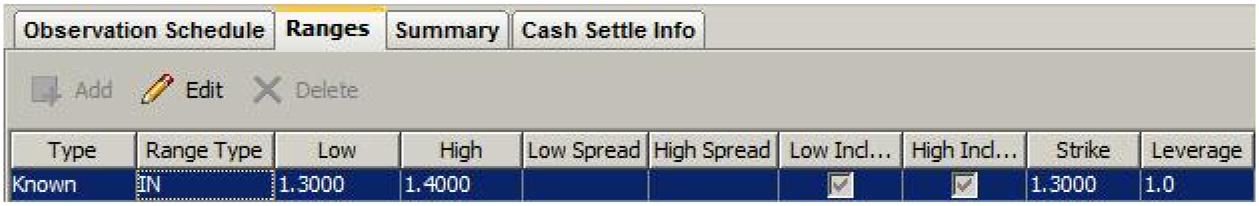
The fixing source (FX Rate Definition) defaults to the option's details.

Step 1 - Set the reset lag (number of days between reset date and effective date), frequency, date roll convention, holidays, and first and last effective dates.

Step 2 - Click **Generate** to generate the schedule.

You can click the "Clear All" menu to add / remove observation dates.

Fixed Ranges


Observation Schedule
Ranges
Summary
Cash Settle Info
Add
Edit
Delete

Type	Range Type	Low	High	Low Spread	High Spread	Low Incl...	High Incl...	Strike	Leverage
Known	IN	1.3000	1.4000			☑	☑	1.3000	1.0

Accrual Configuration (Fixed ranges)

For a single range, you can only specify one range, for a multi-range, you can add multiple ranges.

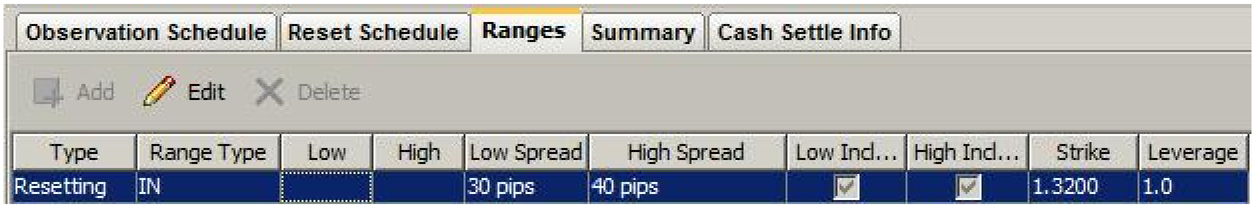
Single Range - Select the range and click **Edit**.

- Select the range type: IN, OUT, ABOVE, or BELOW.
- Enter the lower value of the range, the upper value of the range, the strike, and a leverage as needed (factor to increase / decrease the notional).

Multi-Range - Click **Add** and define the range - The information is the same as for a single range.

- You can check "Allow overlapping ranges" to define ranges that are included in one another. By defining only two ranges, you can actually define three levels.
- Repeat as needed for other ranges.

Resetting Ranges



Type	Range Type	Low	High	Low Spread	High Spread	Low Ind...	High Ind...	Strike	Leverage
Resetting	IN			30 pips	40 pips	☑	☑	1.3200	1.0

Accrual Configuration (Resetting Ranges)

For a single range, you can only specify one range, for a multi-range, you can add multiple ranges.

Single Range - Select the range and click **Edit**.

- Select the range type: IN, OUT, ABOVE, or BELOW.
- Enter the lower spread, the upper spread, and a leverage as needed (factor to increase / decrease the notional).

Multi-Range - Click **Add** and define the range - The information is the same as for a single range.

- You can check "Allow overlapping ranges" to define ranges that are included in one another. By defining only two ranges, you can actually define three levels.
- Repeat as needed for other ranges.

Summary

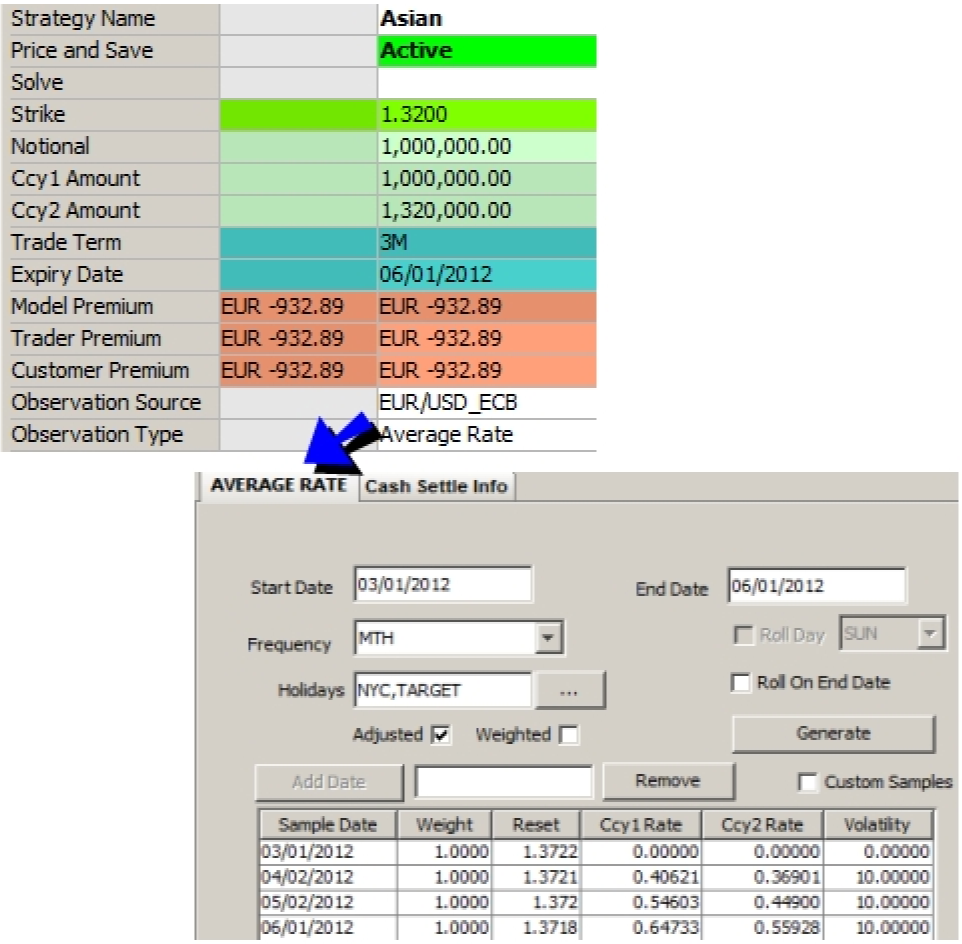
The summary panel shows a report of the range observation.

11.4 Asian Strategies

[NOTE: Quanto pricing for Asian strategies is not currently supported]

Properties

Vanilla properties - Fixings - Observation Source - Observation Type



Strategy Name		**Asian**
Price and Save		**Active**
Solve		
Strike		1.3200
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,320,000.00
Trade Term		3M
Expiry Date		06/01/2012
Model Premium	EUR -932.89	EUR -932.89
Trader Premium	EUR -932.89	EUR -932.89
Customer Premium	EUR -932.89	EUR -932.89
Observation Source		EUR/USD_ECB
Observation Type		Average Rate

Start Date 03/01/2012
End Date 06/01/2012
Frequency MTH
☐ Roll Day SUN
Holidays NYC,TARGET
☐ Roll On End Date
Adjusted ☑
Weighted ☐
☐ Custom Samples

Sample Date	Weight	Reset	Ccy1 Rate	Ccy2 Rate	Volatility
03/01/2012	1.0000	1.3722	0.00000	0.00000	0.00000
04/02/2012	1.0000	1.3721	0.40621	0.36901	10.00000
05/02/2012	1.0000	1.372	0.54603	0.44900	10.00000
06/01/2012	1.0000	1.3718	0.64733	0.55928	10.00000

Sample Asian FX Option

"Product: Style" Properties

Properties	Descripition
Observation Type	The choices are: • Average Rate — The average of the fixings determines the average rate. The settlement is the difference between the average rate and the strike multiplied by the primary amount in the trade. • Average Strike — The average of the fixings determines the average strike. The settlement is the difference between the spot rate and the average strike multiplied by the primary amount in the trade. • Geom Avg Rate — The system calculates the geometric average of all the fixings and compares it with the strike. The settlement is the difference between the geometric average rate and the strike multiplied by the primary amount in the trade.

Properties	Description
	- Geom Average Strike — The system calculates the strike from the geometric average of all the fixings. The settlement is the difference between the spot rate and the geometric average strike multiplied by the primary amount in the trade. - DARO - Double average rate option, the average is computed for both the rate and the strike. - Geom DARO - Geometric double average rate option, the geometric average is computed for both the rate and the strike.

"Product: Rate" Properties

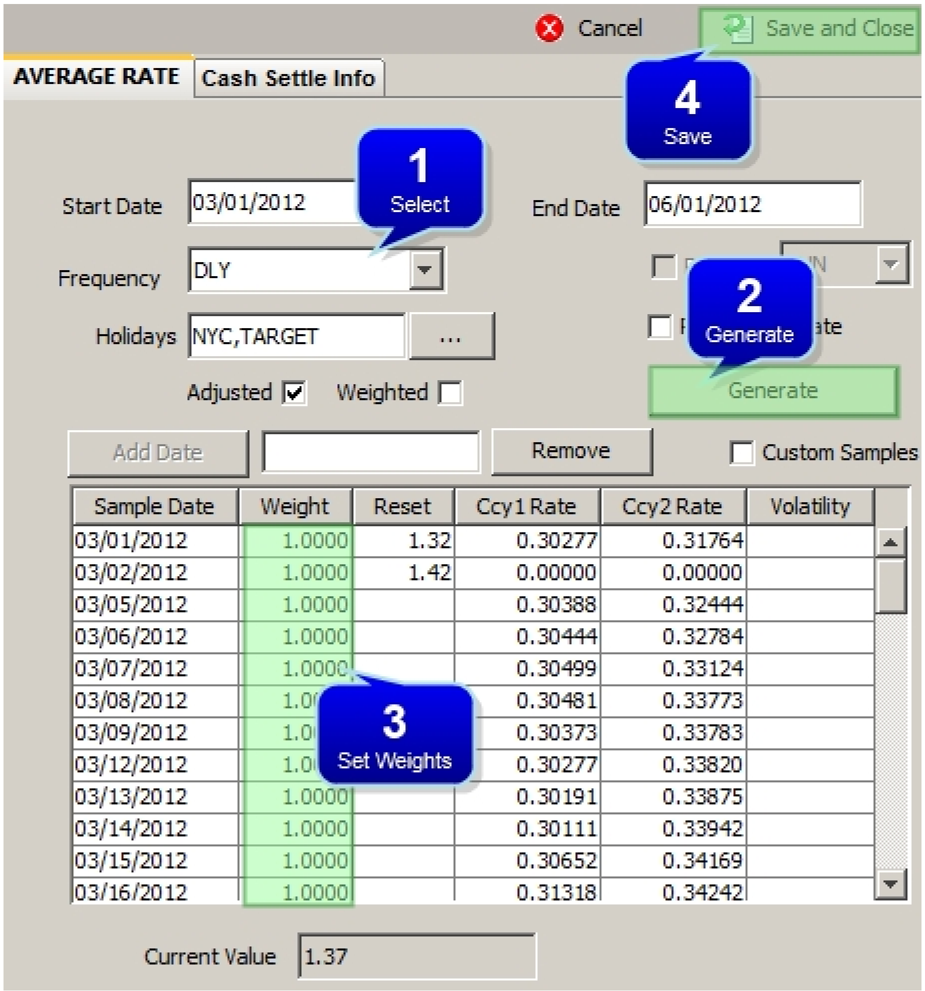
Properties	Description
Observation Source	Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. Then right-click the FX Rate Definition and choose "Supplemental" to define the fixing schedule. ▶ See Setting an Asian Observation Schedule for details.

"Date" Properties

Properties	Description
Fixings	Displays the number of fixings for averaging the rate or strike. You can also view the following properties: - Schedule Start Date - Schedule End Date - Schedule 2 Start Date - Schedule 2 End Date

11.4.1 Setting an Asian Observation Schedule

Right-click the FX Rate Definition and choose "Supplemental" to define the fixing schedule. Click **Save and Close** when you are done.



Start Date 03/01/2012

End Date 06/01/2012

Frequency DLY

Holidays NYC,TARGET

Adjusted ☑ Weighted ☐

☐ Custom Samples

Sample Date	Weight	Reset	Ccy1 Rate	Ccy2 Rate	Volatility
03/01/2012	1.0000	1.32	0.30277	0.31764	
03/02/2012	1.0000	1.42	0.00000	0.00000	
03/05/2012	1.0000		0.30388	0.32444	
03/06/2012	1.0000		0.30444	0.32784	
03/07/2012	1.0000		0.30499	0.33124	
03/08/2012	1.0		0.30481	0.33773	
03/09/2012	1.0		0.30373	0.33783	
03/12/2012	1.0		0.30277	0.33820	
03/13/2012	1.0000		0.30191	0.33875	
03/14/2012	1.0000		0.30111	0.33942	
03/15/2012	1.0000		0.30652	0.34169	
03/16/2012	1.0000		0.31318	0.34242	

Current Value 1.37

Fixing Schedule (Asian options)

The start and end dates default to the option's details.

Step 1 - Select the frequency. For the weekly frequency, you can check the Roll Day checkbox, and select the day from the adjacent field. For other frequencies, your can check the “Roll On End Date” checkbox to roll on the last day of the period.

Select holidays as needed.

You can check the Adjusted checkbox to adjust the sample dates for holidays based on the selected holiday calendars.

You can check the Weighted checkbox to adjust the weights for holidays based on the selected holiday calendars.

Step 2 - Click **Generate** to generate the schedule.

The FX rates are set from the Calypso Navigator using **Trade Lifecycle > Reset > FX Rate Reset**. They are saved as quote values for the quote value name of the FX Rate Definition.

You can also enter the reset values from the Calypso Navigator using **Market Data > Market Quotes > Quotes** for the quote value name of the FX Rate Definition.

The quote value name of the FX Rate Definition is of the form “FX.<primary currency>.<quoting currency>.<FX Rate Definition name>.<FX Rate Definition source>” - For example “FX.EUR.USD.EUR/USD_ECB.ECB”.

You can add and remove dates in the schedule. In this case the "Custom Samples" checkbox will appear checked.

Step 3 - You can modify the weights as needed. The weights are applied to the values when calculating an average rate value, or an average strike value.

The Current Value field displays the actual value of the average rate based on the averaging type and existing resets.

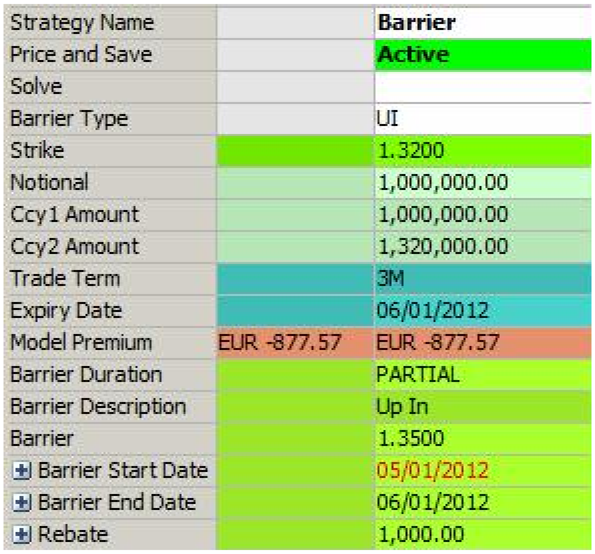
Step 4 - Click **Save and Close** when you are done.

11.5 Barrier Strategies

This also applies to Window Barrier strategies.

Properties

Vanilla Strategies properties- Barrier properties



Strategy Name		**Barrier**
Price and Save		**Active**
Solve		
Barrier Type		UI
Strike		1.3200
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,320,000.00
Trade Term		3M
Expiry Date		06/01/2012
Model Premium	EUR -877.57	EUR -877.57
Barrier Duration		PARTIAL
Barrier Description		Up In
Barrier		1.3500
⊞ Barrier Start Date		05/01/2012
⊞ Barrier End Date		06/01/2012
⊞ Rebate		1,000.00

Sample Barrier FX Option

"Barrier" Properties

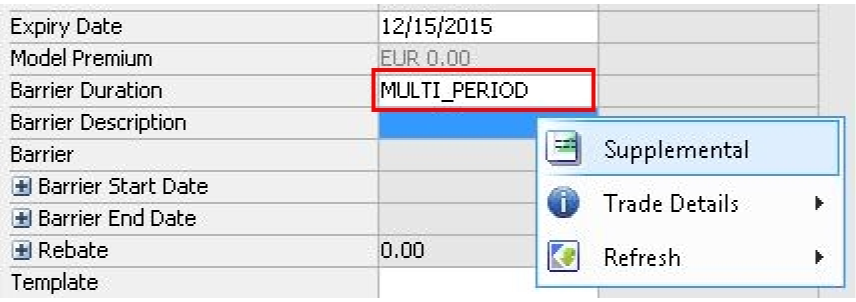
"Barrier" properties apply to Barrier, Window Barrier, Digital with Barrier FX options.

Properties	Description
Barrier Duration	Select the duration type: • EXPIRY - The barrier is only observed on the expiry date. You can define multiple volatilities. The VOLATILITY1 and VOLATILITY2 pricing parameters correspond to the volatilities for the upper and lower barriers. Enter the volatility for the barrier if desired. Otherwise, the pricer uses the volatility from the surface if you do not specify one in the pricing parameters. To use the same volatility as the strike, manually enter that value in the pricing parameters. • FULL - The barrier is observed throughout the life of the option. The start date of the observation is the trade date; the end date of the observation is the expiry date. • PARTIAL - Enter the start and end dates for the observation, which can be less than the life of the option. Enter values for Barrier/Barrier2 Start and Barrier/Barrier2 End dates. • MULTI_PERIOD - The barrier is observed over multiple periods. With MULTI_PERIOD selected, right-click the barrier trade and choose "Supplemental" from the pop-up menu. ▶ See Configuring Multiple Barriers for details.
Barrier Description	Displays the description of the barrier type.
Barrier Type	Select the type of barrier: • UI - Up In • DI - Down In • UO - Up Out • DO - Down Out • DKI – Up In Down In • DKO - Up Out Down Out • KIKO (UI) – KIKO Up In Down Out - Knock into a UI barrier option • KIKO (DI) - KIKO Up Out Down In - Knock into a DI barrier option • UIDO (Up In or Down Out) - After Knock_In (Up In) Barrier is Traversed, FXO Vanilla Option is created. If the knock-out barrier is traversed at any time, then there ceases to be an option. • UODI (Up Out or Down In) - After Knock_In (Down In) Barrier is Traversed, FXO Vanilla Option is created. If the knock-out barrier is traversed at any time, then there ceases to be an option.
Barrier	Strike rate for the single barrier, or upper barrier for a double barrier.
Barrier Start Date	For a partial barrier: the start date of the barrier observation. You can also set the Barrier Start Time.
Barrier End Date	For a partial barrier: the end date of the barrier observation.

Properties	Description
	You can also set the Barrier End Time.
Barrier2	Strike rate for the lower barrier.
Barrier2 Start Date	For a partial double barrier: the start date of the second barrier observation. You can also enter the Barrier2 Start Date.
Barrier2 End Date	For a partial double barrier: the end date of the second barrier observation. You can also set the Barrier2 End Time.
Rebate	Enter a rebate amount if applicable. You can also set the following properties: • Rebate Ccy - Select the currency for the rebate. – Primary Currency — Asset-or-Nothing – Secondary Currency — Cash-or-Nothing • Rebate Timing - Select Expiry (rebate at expiration), or INSTANT (rebate when the barrier is hit).

11.5.1 Configuring Multiple Barriers

When the Barrier Duration property is set to MULTI_PERIOD, you can right-click anywhere in a barrier trade and choose "Supplemental" from the pop-up menu to open the Multiple Barrier Configuration panel.



Expiry Date	12/15/2015
Model Premium	EUR 0.00
Barrier Duration	MULTI_PERIOD
Barrier Description	
Barrier	
Barrier Start Date	
Barrier End Date	
Rebate	0.00
Template	

Right-click in Barrier trade leg

Periods in which an observation occurs in the schedule are referred to as stages. Barriers define the specific window of observation of each stage and can be manipulated to customize the terms of the observation.

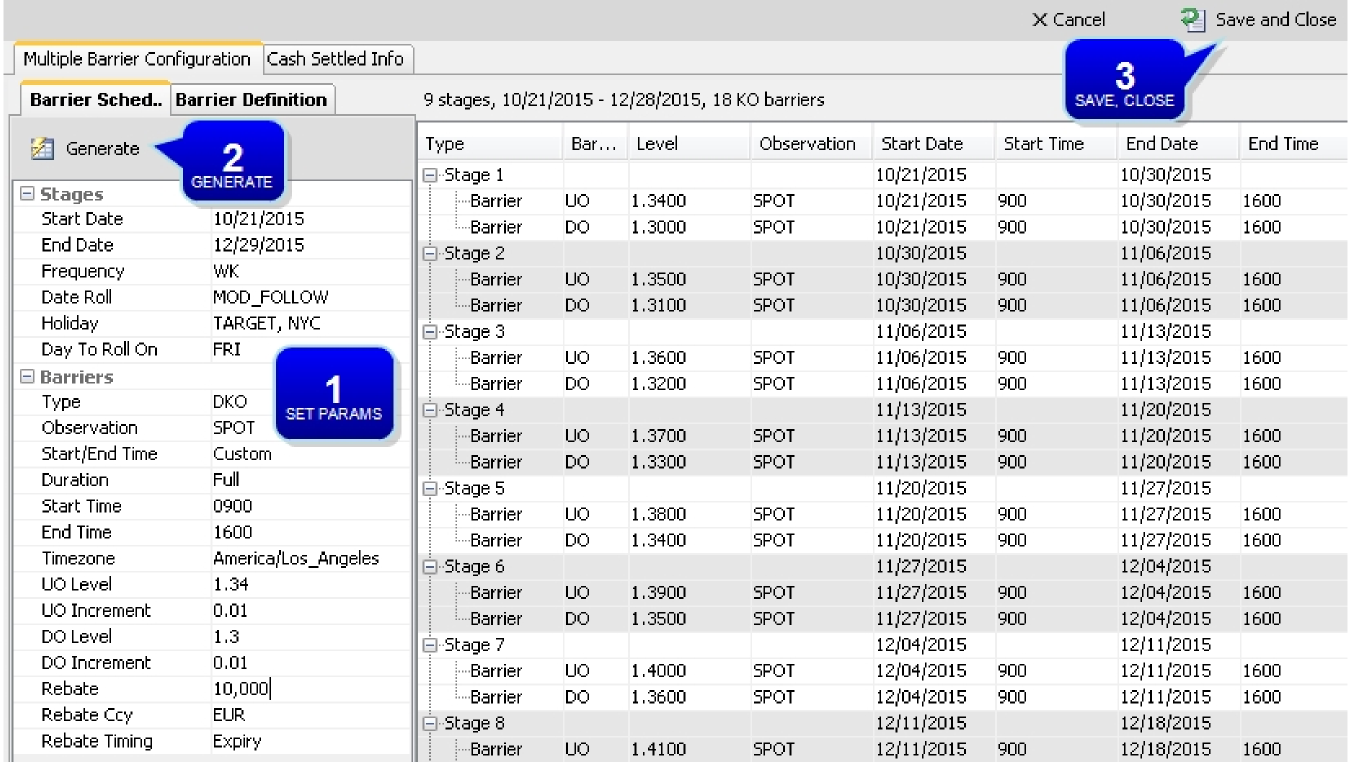
There are two methods for creating multiple stage barriers on the Multiple Barrier Configuration panel. The first is accomplished on the Barrier Schedule tab and lets you parametrically generate the duration of the stages in the schedule by frequency, such as weekly or bi-weekly. The second method is accomplished on the Barrier Definition tab and allows you to manually set the number and duration of the barriers, and apply unique definitions to each.

Notice that when you select MULTI_PERIOD in the trade leg, property settings such as Barrier , Barrier Type, barrier start and end dates, and Rebate are shifted to the Multiple Barrier Configuration panel. All barrier types are available except for KIKO options.

Follow the basic steps below for creating multi-period barriers.

> **TIP:** If you create an observation schedule on the Barrier Schedule tab, you can make refinements and/or add stages to it on the Barrier Definition tab. To edit a specific barrier, highlight that barrier's row in the schedule and use the Barrier parameters to make changes.

Barrier Schedule Tab



9 stages, 10/21/2015 - 12/28/2015, 18 KO barriers

Stages	
Start Date	10/21/2015
End Date	12/29/2015
Frequency	WK
Date Roll	MOD_FOLLOW
Holiday	TARGET, NYC
Day To Roll On	FRI
Barriers	
Type	DKO
Observation	SPOT
Start/End Time	Custom
Duration	Full
Start Time	0900
End Time	1600
Timezone	America/Los_Angeles
UO Level	1.34
UO Increment	0.01
DO Level	1.3
DO Increment	0.01
Rebate	10,000
Rebate Ccy	EUR
Rebate Timing	Expiry

Type	Bar...	Level	Observation	Start Date	Start Time	End Date	End Time
Stage 1				10/21/2015		10/30/2015	
Barrier	UO	1.3400	SPOT	10/21/2015	900	10/30/2015	1600
Barrier	DO	1.3000	SPOT	10/21/2015	900	10/30/2015	1600
Stage 2				10/30/2015		11/06/2015	
Barrier	UO	1.3500	SPOT	10/30/2015	900	11/06/2015	1600
Barrier	DO	1.3100	SPOT	10/30/2015	900	11/06/2015	1600
Stage 3				11/06/2015		11/13/2015	
Barrier	UO	1.3600	SPOT	11/06/2015	900	11/13/2015	1600
Barrier	DO	1.3200	SPOT	11/06/2015	900	11/13/2015	1600
Stage 4				11/13/2015		11/20/2015	
Barrier	UO	1.3700	SPOT	11/13/2015	900	11/20/2015	1600
Barrier	DO	1.3300	SPOT	11/13/2015	900	11/20/2015	1600
Stage 5				11/20/2015		11/27/2015	
Barrier	UO	1.3800	SPOT	11/20/2015	900	11/27/2015	1600
Barrier	DO	1.3400	SPOT	11/20/2015	900	11/27/2015	1600
Stage 6				11/27/2015		12/04/2015	
Barrier	UO	1.3900	SPOT	11/27/2015	900	12/04/2015	1600
Barrier	DO	1.3500	SPOT	11/27/2015	900	12/04/2015	1600
Stage 7				12/04/2015		12/11/2015	
Barrier	UO	1.4000	SPOT	12/04/2015	900	12/11/2015	1600
Barrier	DO	1.3600	SPOT	12/04/2015	900	12/11/2015	1600
Stage 8				12/11/2015		12/18/2015	
Barrier	UO	1.4100	SPOT	12/11/2015	900	12/18/2015	1600

Example observation schedule generated on the Barrier Schedule tab.

Step 1 - Set Stages and Barriers parameters on the Barrier Schedule tab to generate the observation schedule.

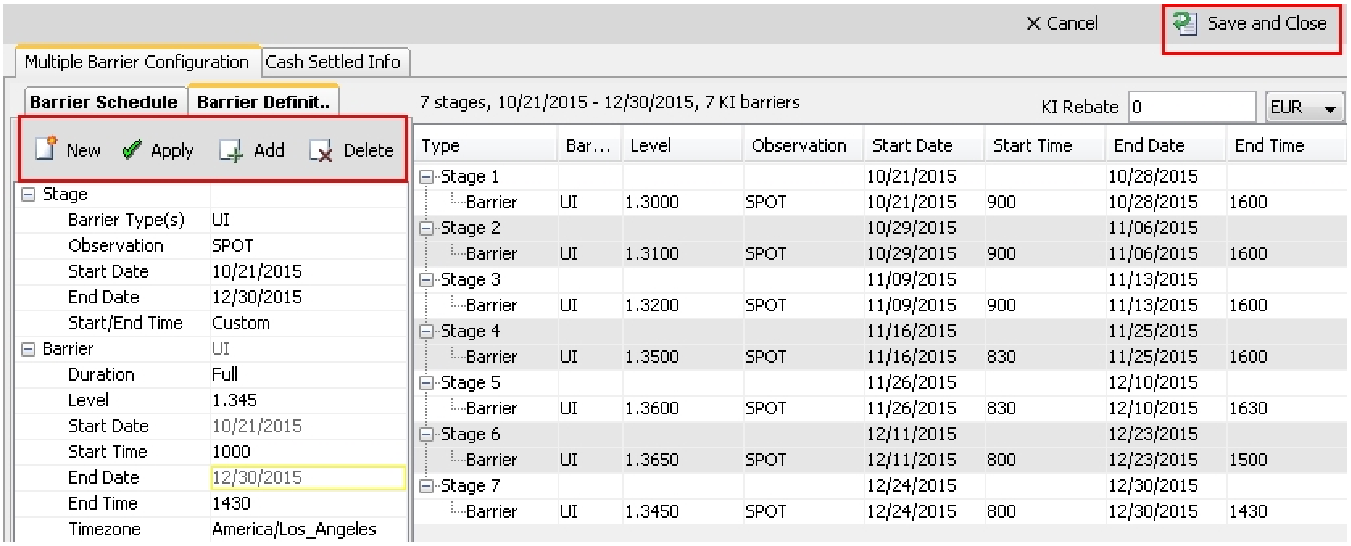
- The Frequency determines the period of time for each stage, such as daily, weekly, bi-weekly, monthly, or quarterly.
- The [Barriers] Type drop-down list provides the same barrier types as those described in Barrier properties with the exception of KIKO options.
- For Observation, you can select SPOT or an FX Rate Definition (discrete observation).

- For the Start/End Time, you can select "Default" to observe the barrier over the whole day, or "Custom" to observe the barrier within a specific frame of time during the day. In the latter case, you can set the Start Time and the End Time.
- For the Duration, you can choose "Full" (each observation window has the same length based on the frequency), "Window at Start" (the observation window starts at the beginning of the stage, and Window Length determines its duration), "Window at End" (the observation window ends at the End Date of the stage and Window Length determines its duration), or Custom (each window has a user-defined length with possible offset).
- Set the barrier level. You can also include an increment for defining progressive changes in the level from stage to stage.
- You can set rebate details for "out" barrier types.

Step 2 - Click **Generate** to generate the observation schedule. To make further edits, use the Barrier Definition tab. See details below for this tab.

Step 3 - Click **Save and Close** when you are satisfied with the schedule.

Barrier Definition Tab



7 stages, 10/21/2015 - 12/30/2015, 7 KI barriers

KI Rebate 0 EUR

⊟ Stage	
Barrier Type(s)	UI
Observation	SPOT
Start Date	10/21/2015
End Date	12/30/2015
Start/End Time	Custom
⊟ Barrier	UI
Duration	Full
Level	1.345
Start Date	10/21/2015
Start Time	1000
End Date	12/30/2015
End Time	1430
Timezone	America/Los_Angeles

Type	Bar...	Level	Observation	Start Date	Start Time	End Date	End Time
⊟ Stage 1				10/21/2015		10/28/2015	
Barrier	UI	1.3000	SPOT	10/21/2015	900	10/28/2015	1600
⊟ Stage 2				10/29/2015		11/06/2015	
Barrier	UI	1.3100	SPOT	10/29/2015	900	11/06/2015	1600
⊟ Stage 3				11/09/2015		11/13/2015	
Barrier	UI	1.3200	SPOT	11/09/2015	900	11/13/2015	1600
⊟ Stage 4				11/16/2015		11/25/2015	
Barrier	UI	1.3500	SPOT	11/16/2015	830	11/25/2015	1600
⊟ Stage 5				11/26/2015		12/10/2015	
Barrier	UI	1.3600	SPOT	11/26/2015	830	12/10/2015	1630
⊟ Stage 6				12/11/2015		12/23/2015	
Barrier	UI	1.3650	SPOT	12/11/2015	800	12/23/2015	1500
⊟ Stage 7				12/24/2015		12/30/2015	
Barrier	UI	1.3450	SPOT	12/24/2015	800	12/30/2015	1430

Example observation schedule created manually on the Barrier Definition tab.

[NOTE: When you first open the Multiple Barrier Configuration panel and click the Barrier Definition tab, the system has generated the first stage including a start and end date based on the present day and Expiry Date, if one was entered on the Barrier trade leg. To begin manually adding stages, highlight the stage's row in the schedule, enter the Stage and Barrier parameters, and click Apply to override the autopopulated settings in

Stage 1. (The Apply button is used for executing edits made to already existing stages.) Alternatively, you can simply highlight the first stage, delete it, and add a new first stage. See details below.]

Step 1 - Click **New** to initiate a new stage. Stage and Barrier parameters are reset to default.

Step 2 - Configure Stage parameters.

- The Barrier Type(s) drop-down list provides the same barrier types as those described in Barrier properties with the exception of KIKO options.
- For the Observation, you can select SPOT or an FX Rate Definition (discrete observation).
- Define the Start Date and End Date for the given stage.

[NOTE: Start and end dates can be for any period of time provided the stage does not overlap with a previous or subsequent stage.]

- For the Start/End Time, you can select "Default" to observe the barrier over the whole day, or "Custom" to observe the barrier within a specific frame of time during the day. In the latter case, you can set the Start Time and the End Time, which are located under Barrier parameters.

Configure Barrier parameters

- For the Duration, you can choose "Full" (the barrier's observation window shares the same period as the stage), "Window at Start" (the observation window starts at the beginning of the stage, and Window Length determines its duration), "Window at End" (the observation window ends at the End Date of the stage and Window Length determines its duration), or Custom (each window has a user-defined length with possible offset).

[NOTE: When Custom, Window at Start, or Window at End is selected, the barrier's start and end must fall within the constraints of the stage's Start Date and End Date. Also, the Window Length parameter must not exceed the stage's period.]

- Set the Level for the barrier.
- You can set rebate details for "out" barrier types.
-

Step 3 - When you have finished configuring the stage, click **Add**. The stage is added to the observation schedule. To add further stages, repeat from Step 1.

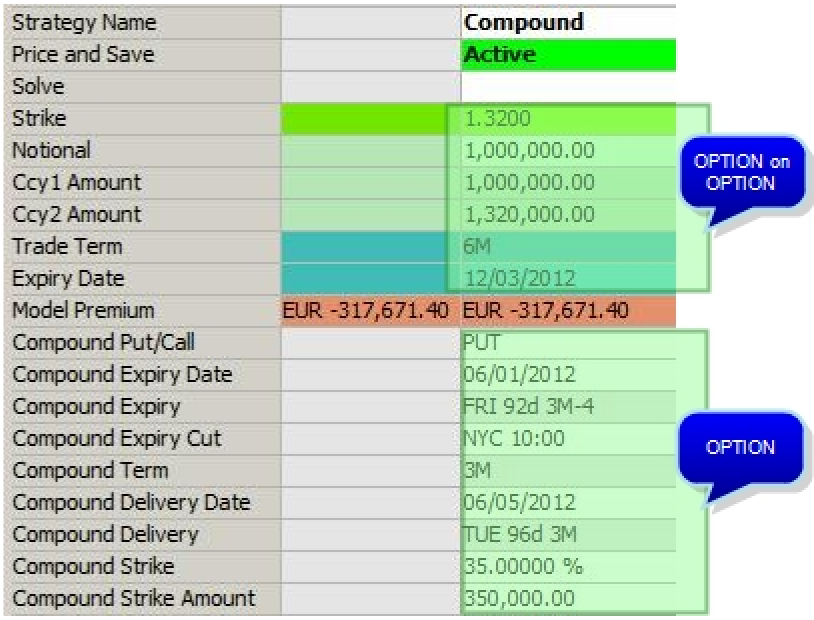
Step 4 - If you need to make any changes to an already existing barrier, first highlight the barrier's row in the schedule and make changes to the parameters. Once the edits are made, click **Apply** to execute the changes. To delete a stage, highlight it in the schedule and click **Delete**.

Step 5 - Click **Save and Close** when you are satisfied with the schedule.

11.6 Compound Strategies

Properties

Vanilla properties - Compound Term - Compound Expiry Date - Compound Expiry - Compound Delivery Date - Compound Delivery - Compound Expiry Cut - Compound Put/Call - Compound Strike - Compound Strike Amount



Strategy Name		**Compound**
Price and Save		**Active**
Solve		
Strike		1.3200
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,320,000.00
Trade Term		6M
Expiry Date		12/03/2012
Model Premium	EUR -317,671.40	EUR -317,671.40
Compound Put/Call		PUT
Compound Expiry Date		06/01/2012
Compound Expiry		FRI 92d 3M-4
Compound Expiry Cut		NYC 10:00
Compound Term		3M
Compound Delivery Date		06/05/2012
Compound Delivery		TUE 96d 3M
Compound Strike		35.00000 %
Compound Strike Amount		350,000.00

Sample Compound FX Option

"Product: Style" Properties

Properties	Description
Compound Put/Call	Select the direction of the compound option for the primary currency.

"Product: Rate" Properties

Properties	Description
Compound Strike	Enter/displays the price of the underlying option as a percentage of the underlying primary amount.
Compound Strike Amount	Compound Strike Amount = Compound Strike * Ccy 1 Amount / 100. You can also enter a compound strike amount and the Compound Strike will be updated accordingly.

Properties	Description
	When exercising the compound option, the compound strike amount will be passed to the created plain vanilla as PREMIUM fee.

"Date" Properties

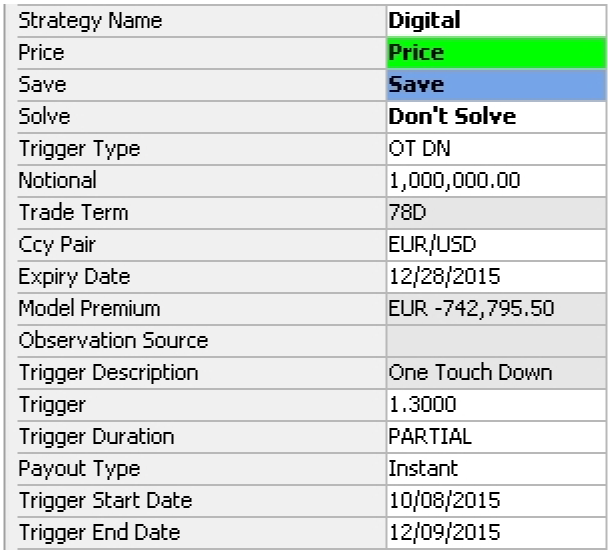
Properties	Description
Compound Expiry Date	Enter the expiry date of the compound option.
Compound Expiry	Displays details about the "Compound Expiry Date".
Compound Expiry cut	Displays the default expiry timezone for the compound option. The default expiry timezone is set in the Defaults panel under **Configuration > User Preferences**.
Compound Term	Displays the "Compound Expiry Date" as a tenor.
Compound Delivery Date	Enter the delivery date of the compound option.
Compound Delivery	Displays details about the "Compound Delivery Date".

11.7 Digital Strategies

This also applies to Digital with Barrier strategies.

Properties

Vanilla properties (no strike) - Trigger properties - Observation Source



Strategy Name	**Digital**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trigger Type	OT DN
Notional	1,000,000.00
Trade Term	78D
Ccy Pair	EUR/USD
Expiry Date	12/28/2015
Model Premium	EUR -742,795.50
Observation Source	
Trigger Description	One Touch Down
Trigger	1.3000
Trigger Duration	PARTIAL
Payout Type	Instant
Trigger Start Date	10/08/2015
Trigger End Date	12/09/2015

Sample Digital FX Option

"Product: Rate" Properties

Properties	Description
Observation Source	Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.

"Trigger" Properties

"Trigger" properties apply to Accrual, Accumulator, Range Accrual, Digital, Window Digital, European Binary FX options.

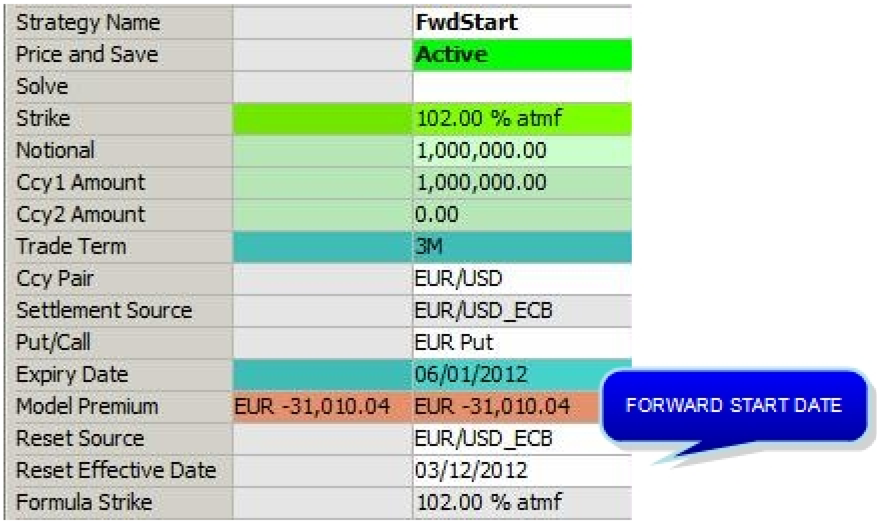
Properties	Description
Trigger Duration	Select the duration type: • EXPIRY — The trigger is only observed on the expiry date. You can define multiple volatilities. The VOLATILITY1 and VOLATILITY2 pricing parameters correspond to the volatilities for the upper and lower triggers. Enter the volatility for the digital if desired. Otherwise, the pricer uses the volatility from the surface if you do not specify one in the pricing parameter. To use the same volatility as the strike, manually enter that value in the pricing parameter(s). • FULL — The trigger is observed throughout the life of the option. The start date of the observation is the trade date; the end date of the observation is the expiry date. • PARTIAL — Enter the start and end dates for the observation, which can be less than the life of the option. Enter values for Trigger/Trigger2 Start and Trigger/Trigger2 End dates.
Trigger Description	Displays the description of the trigger type.
Trigger Type	Select the trigger type. ***For Digital options, the choices are:*** • OT UP - One Touch Up • OT DN - One Touch Down • NT UP - No Touch Up • NT DN - No Touch Down • DOT - Double One Touch • DNT - Double No Touch • OTNT (UI) - One Touch No Touch UI • OTNT (DI) - One Touch No Touch DI ***For Digital at Expiry, the choices are:***

Properties	Description
	• ABOVE – Payout occurs if spot rate above the trigger level • BELOW – Payout occurs if spot rate below the trigger level • IN – Payout occurs if the spot rate within the two trigger levels • OUT – Payout occurs if the spot rate outside the two trigger levels ***For Digital With Barrier options, the choices are ABOVE or BELOW.*** ***For Accrual options and Accumulator options, the choices are:*** • ABOVE - Payout occurs when the spot rate is above the trigger. • BELOW - Payout occurs when the spot rate is below the trigger. • IN - Payout occurs when the spot rate is within in the trigger range. • OUT - Payout occurs when the spot rate is out of the trigger range.
Payout Type	Select Instant (payout when the trigger is hit) or Expiry (payout at expiration).
Trigger	***Digital an European Binary options:*** Enter the strike rate for the single trigger, or upper trigger for a double digital. ***Accrual and Accumulator options:*** Enter the trigger for ABOVE and LOW options, or low trigger for a range.
Trigger Start Date	Enter the start date of observation for a partial digital.
Trigger End Date	Enter the end date of observation for a partial digital.
Trigger Spread	In case of resetting range, enter the upper spread for single range.
Trigger Included	***Accrual options:*** For ABOVE and BELOW accruals, select Yes to monitor the trigger, or No otherwise. ***Range Accruals:*** Select Yes to monitor the upper value of the range, or No otherwise.
Trigger2	***Digital and European Binary options:*** Enter the strike rate for the lower trigger. ***Accrual options and Accumulator options:*** Enter the high trigger for a range.
Trigger2 Start Date	Enter the start date of second trigger observation for a double partial digital.
Trigger2 End Date	Enter the end date of second trigger observation for a double partial digital.
Trigger2 Spread	In case of resetting range, enter the lower spread for single range.
Trigger2 Included	***Range Accruals:*** Select Yes to monitor the lower value of the range, or No otherwise.

11.8 Forward Starting Strategies

Properties

Vanilla properties - Reset Source - Reset Effective Date - Formula Strike



Strategy Name		FwdStart
Price and Save		Active
Solve		
Strike		102.00 % atmf
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		0.00
Trade Term		3M
Ccy Pair		EUR/USD
Settlement Source		EUR/USD_ECB
Put/Call		EUR Put
Expiry Date		06/01/2012
Model Premium	EUR -31,010.04	EUR -31,010.04
Reset Source		EUR/USD_ECB
Reset Effective Date		03/12/2012
Formula Strike		102.00 % atmf

Sample Forward Starting FX Option

"Product: Rate" Properties

Properties	Description
Strike	You can enter the strike as a percentage of the "at-the-money" forward like "102% atmf", as an "in-the-money" spot like "atms", as a percentage of "out-the-money" like "10%otm", or as rate +/- pips like "2 pips". Entry shortcuts can be used for the strike: "o" for %OTM i.e. entering "10o" displays as 10%OTM. "f" for atmf i.e. entering "90f" displays as 90%atmf. "s" for atms i.e. entering "85s" displays 85%atms. "p" for pips i.e. entering "-10p" displays -10 pips. An option trade can be inverted (strike inverted). For percentage strikes, the strike is 1/original strike. For pip strikes, the strike is converted to percentage strike, and then inverted as 1/strike. This is then reconverted to a pip strike to display. ***Rounding*** Any system generated strike (solver, shortcut entry) will respect the currency pair rounding

Properties	Description
	settings. If the user manually enters a strike, it will only be rounded based on the constraints of the currency rounding of the amounts that the strike generates. Example: Ccy1 amount is 10,000.00 and a strike is entered as 1.234567. - If ccy rounding of Ccy2 is 2dp then Ccy2 amount would be 12345.67. The strike does not need to be rounded.
Formula Strike	Displays the formula captured in the Strike property.

"Product: Style" Properties

Properties	Description
Reset Source	Select the FX Rate Definition that will be used to fix the strike. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.

If ccy rounding of Ccy2 is 0dp (JPY for example) then Ccy2 amount would be 12346 and the strike would need to be rounded to 1.2346.

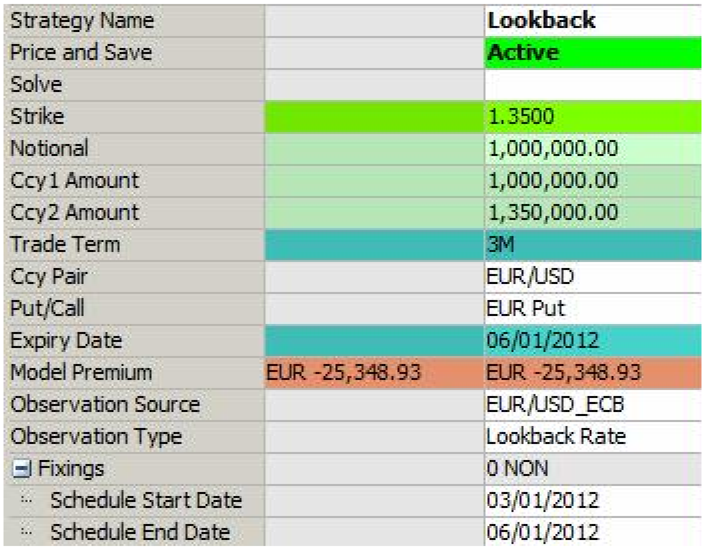
"Date" Properties

Properties	Description
Reset Effective Date	Enter the date at which the strike will be known.

11.9 Lookback Strategies

Properties

Vanilla properties - Observation Source - Fixings - Observation Type



Strategy Name		**Lookback**
Price and Save		**Active**
Solve		
Strike		1.3500
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,350,000.00
Trade Term		3M
Ccy Pair		EUR/USD
Put/Call		EUR Put
Expiry Date		06/01/2012
Model Premium	EUR -25,348.93	EUR -25,348.93
Observation Source		EUR/USD_ECB
Observation Type		Lookback Rate
⊟ Fixings		0 NON
Schedule Start Date		03/01/2012
Schedule End Date		06/01/2012

Sample Lookback FX Option

"Product: Style" Properties

Properties	Description
Observation Type	The choices are: • Lookback Rate - Enter a strike in the Strike field. Call pays the maximum of the rate during the option life, minus the strike; put pays the strike minus the minimum rate during the option life. • Lookback Strike - No strike price is required; the rate is the rate at expiry. Call pays the rate at expiry minus the minimum of the rate during the option life; put pays the maximum rate during the option life, minus the rate at expiry.

"Product: Rate" Properties

Properties	Description
Observation Source	Select an FX Rate Definition to fix the FX rates. FX Rate Definitions are configured from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**.

"Date" Properties

Properties	Description
Fixings	Displays the number of fixings. The following properties are also displayed:

Properties	Description
	- Schedule Start Date - Schedule End Date - Schedule 2 Start Date - Schedule 2 End Date

11.10 Volatility Forward Strategies

The Volatility Forward strategy supports both cash and physical settlement. When a physical-delivery Volatility Forward strategy is exercised, it creates an ATM delta-neutral straddle trade.

Properties

Vanilla properties (no strike) - Agreed Forward Volatility - VF Vol at Trade Expiry - VF Vol at Straddle Expiry - VF Implied Forward Vol – Vega - VF Straddle Expiry Date - VF Straddle Term - VF Straddle Cut

"Product: Rate" Properties

Properties	Description
Vega	Displays what the Vega would be in a Vanilla option from the trade date to the number of days calculated from the difference of the Expiry Date and the Fixing Date of the Volatility Forward option.
VF Vol at Trade Expiry	Displays the volatility at trade expiration (from the market data).
VF Vol at Straddle Expiry	Displays the volatility at underlying expiration (from the market data).
VF Implied Forward Vol	Displays the implied forward volatility.
Agreed Forward Volatility	Enter the forward volatility agreed to on the trade date. The price that is agreed upon to buy the ATM straddle. It defaults to the calculated implied forward volatility. However, you can modify the value.

"Date" Properties

Properties	Description
VF Straddle Expiry Date	Enter the expiration date of the underlying option (straddle).
VF Straddle Term	Displays the "VF Straddle Expiry Date" as a tenor.
VF Straddle Cut	Select the expiry timezone for the expiration date of the underlying option (straddle). Expiry

Properties	Description
	timezones are created from the Calypso Navigator using **Configuration > Definitions > Expiry Time Zone**.

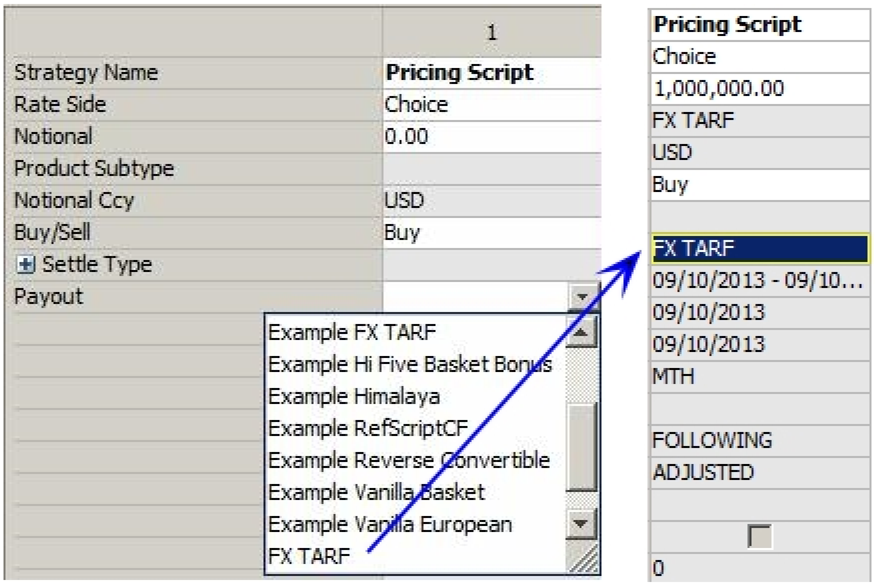
11.11 FX Target Redemption Forwards

Target Redemption Forwards (TARF) are options composed of a strip of FX Forwards with a knockout on the entire structure based on the accrued profit for the structure purchaser.

The FX TARF strategy must be created as a custom strategy using **Configuration > Strategy Builder**.

11.11.1 Defining the FX TARF Strategy

Choose **Configuration > Strategy Builder** an select the strategy "Script > Pricing Script".



	1
Strategy Name	**Pricing Script**
Rate Side	Choice
Notional	0.00
Product Subtype	
Notional Ccy	USD
Buy/Sell	Buy
⊞ Settle Type	
Payout	

Example FX TARF
Example Hi Five Basket Bonus
Example Himalaya
Example RefScriptCF
Example Reverse Convertible
Example Vanilla Basket
Example Vanilla European
FX TARF

Pricing Script
Choice
1,000,000.00
FX TARF
USD
Buy

FX TARF
09/10/2013 - 09/10...
09/10/2013
09/10/2013
MTH

FOLLOWING
ADJUSTED

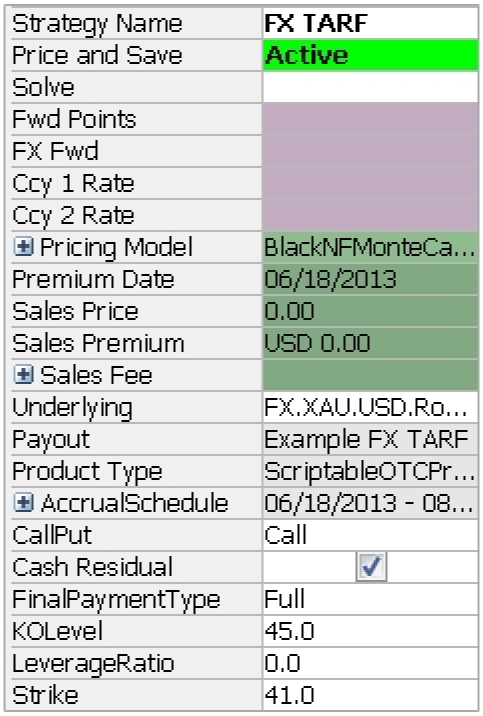
☐
0

- Select the Pricing Script payout corresponding to the FX TARF, and complete the strategy definition as needed.
  - ▶ Please refer to Calypso Pricing Script documentation for information on defining pricing scripts.
- Save the custom strategy and give it a name.
- Make sure that you add the new strategy to the user profile.

11.11.2 Using the FX TARF Strategy

Open a Pricing Sheet and select the custom strategy that you have created.

Each forward uses a fixing source. If the forward is at-the-money at the fixing time, the accrued interest is added to a counter. When the counter reaches the knockout level, the entire structure knocks out. The final payment may or may not be paid.



Strategy Name	**FX TARF**
Price and Save	**Active**
Solve	
Fwd Points	
FX Fwd	
Ccy 1 Rate	
Ccy 2 Rate	
⊞ Pricing Model	BlackNFMonteCa...
Premium Date	06/18/2013
Sales Price	0.00
Sales Premium	USD 0.00
⊞ Sales Fee	
Underlying	FX.XAU.USD.Ro...
Payout	Example FX TARF
Product Type	ScriptableOTCPr...
⊞ AccrualSchedule	06/18/2013 - 08...
CallPut	Call
Cash Residual	☑
FinalPaymentType	Full
KOLevel	45.0
LeverageRatio	0.0
Strike	41.0

Sample FX TARF trade

"Product" Properties

Properties	Description
Ccy Pair	Displays the currency pair used in the trade.
Buy/Sell	Select the trade direction.
Notional	Enter the trade notional.
Notional Ccy	Displays the notional currency used in the trade.
Observation Source	Select the observation source for FX underlying.
Model Premium	Displays the model premium in notional currency.
Underlying	The underlying of an FX TARF is a currency pair. Displayed based on the selected currency pair.

"Product: Accrual" Properties

Properties	Description
Accrual Schedule	Displays the accrual schedule dates and methods used. You can enter values for: • Start Date • End Date • Frequency • Payment Holidays • Date Roll • Payment Rule • Date Rule • Specify Roll • Roll Day • Payment Lag • Reset Lag • Reset Holidays • Bus. Day Lag • Stub Rule • Rounding • Include Start • Quote Usage • Manual Schedule - check and click the ... button to manually define a schedule and apply it.

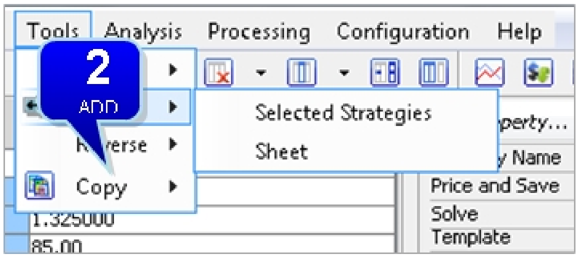
"Product: Type" Properties

Properties	Description
Payout	Displays the Pricing Script payout selected in the strategy.
CallPut	"Call" or "Put". Select the direction of the option from the book's perspective.
Cash Residual	Click the checkbox for true, or clear otherwise.
Final Payment Type	Select "Full", "Exact", or "None".
KOLevel	Enter the knock out level.
LeverageRatio	Enter the factor to increase/decrease the notional by.
Strike	Enter the strike. ***Rounding***

Properties	Description
	Any system generated strike (solver, shortcut entry) will respect the currency pair rounding settings. If the user manually enters a strike, it will only be rounded based on the constraints of the currency rounding of the amounts that the strike generates. Example: Ccy1 amount is 10,000.00 and a strike is entered as 1.234567. • If ccy rounding of Ccy2 is 2dp then Ccy2 amount would be 12345.67. The strike does not need to be rounded. • If ccy rounding of Ccy2 is 0dp (JPY for example) then Ccy2 amount would be 12346 and the strike would need to be rounded to 1.2346.

11.12 Inverting Quanto and Flexo Settled Strategies

A user can invert strategies with a "Quanto" or "Flexo" settle type by selecting the strategy and clicking **Tools > Invert > Selected Strategies**. An entire sheet can be inverted by clicking **Tools > Invert > Sheet**.



Inverting a strategy with a "Quanto" settle type will change the following properties:

- Ccy Attributes
- Put/Call
- Strike/Trigger/Barrier Attributes- Value will invert to 1/<Original Value> or vice versa.

  EX: An entered strike of 1.25 will invert to 1/1.25 = .08
- Quanto Ccy Pair/Quanto Factor- The inverted currency and the settle currency. The order of the currencies in the "Pair Pos Ref" defined in the Currency Default window. To set this, click **Configuration > Definitions > Currency Defaults...**.
- Trigger Type Attributes
- Barrier Type Attributes

Inverting a strategy with a "Flexo" settle type will change the following properties:

- Ccy Attributes
- Put/Call
- Strike/Trigger/Barrier Attributes- Value will invert to 1/<Original Value> or vice versa.

EX: An entered strike of 1.25 will invert to 1/1.25 = .08

- Quanto Currency Pair- The inverted currency and the settle currency. The order of the currencies in the "Pair Pos Ref" defined in the Currency Default window. To set this, click **Configuration > Definitions > Currency Defaults...**.
- Flexo Source - The Flexo Source will be the Settlement Source of the new Quanto Currency Pair.
- Trigger Attributes
- Barrier Attributes

11.13 Volatility and Variance Swaps Strategies

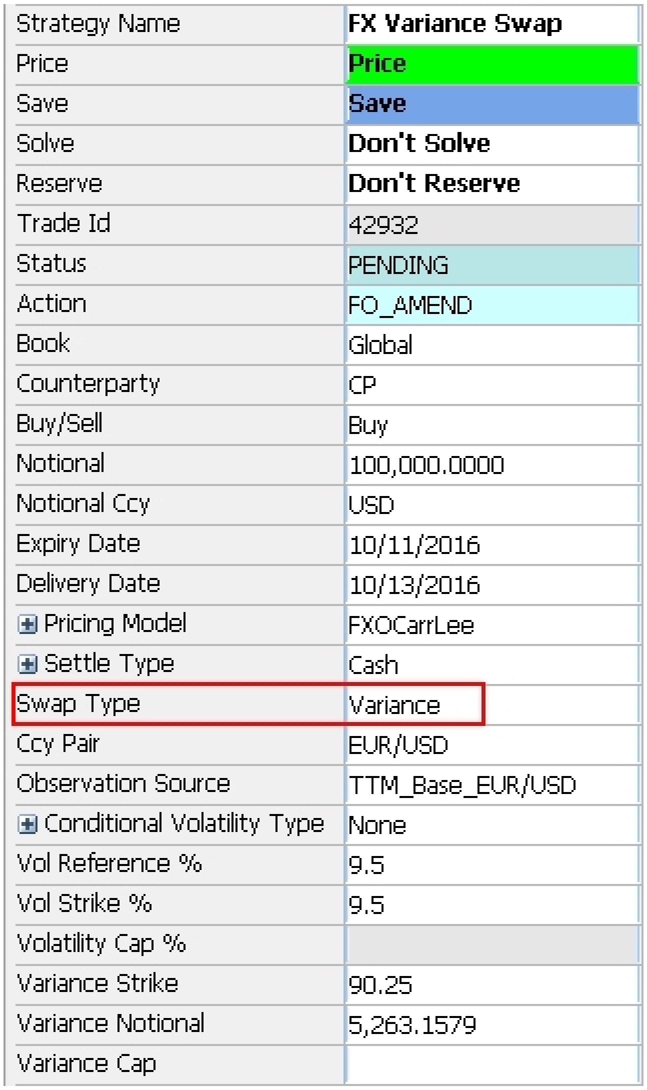
FX Volatility Swaps and FX Variance Swaps are agreements between counterparties to swap a fixed rate of FX volatility or variance and a realized rate of FX volatility or variance over a set period of time. This strategy also provides an optional cap.

The key property in this strategy for determining whether the swap measures variance or volatility is "Swap Type." A drop-down list in the property field allows users to select between the two settings. Since variance is the mathematical square of volatility and computed differently, further properties for the Variance Swap also display Variance Strike and Variance Notional, which are editable fields when enabled. See property descriptions below for details.

[NOTE: Selecting the Pricing Model used for the FX Variance/Volatility Swap is integral to market data input and trade capture. For pricer details specific to this strategy, see "FX Options" in the Calypso *Analytics and Pricing Environment* documentation.]

Key Properties

Buy/Sell - Ccy Pair - Notional - Pricing Model - Swap Type - Observation Source - Vol Reference % - Vol Strike % - Variance Strike



Strategy Name	**FX Variance Swap**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Reserve	**Don't Reserve**
Trade Id	42932
Status	PENDING
Action	FO_AMEND
Book	Global
Counterparty	CP
Buy/Sell	Buy
Notional	100,000.0000
Notional Ccy	USD
Expiry Date	10/11/2016
Delivery Date	10/13/2016
⊞ Pricing Model	FXOCarrLee
⊞ Settle Type	Cash
Swap Type	Variance
Ccy Pair	EUR/USD
Observation Source	TTM_Base_EUR/USD
⊞ Conditional Volatility Type	None
Vol Reference %	9.5
Vol Strike %	9.5
Volatility Cap %	
Variance Strike	90.25
Variance Notional	5,263.1579
Variance Cap	

Sample FX Variation Swap with Swap Type "Variance"

Basic Steps for Capturing FX Variance/Volatility Swap Trades

- Select the trade direction, either buy or sell, and enter a notional value for the trade.
- Select the Ccy Pair and Observation Source.
- Select the Swap Type, either Volatility or Variance, and the Pricing Model.
- Enter a value for Vol Reference %.
- Enter a value for Vol Strike % if a volatility swap, or Variance Strike if a variance swap.
- Enter the Settle Type and Expiry Date.
- Enter other common trade properties, such as Book and Counterparty.

"Trade" Properties

Properties	Description
Swap Type	This setting determines whether the swap is for variance or volatility. When Variance is selected, the Variance Strike, Variance Notional, and Variance Cap properties are enabled.
Expected N	Displays the number of fixings expected during the life of the trade.
Use First Observation	When the checkbox is selected, the trade will use the market fixing rate for the first fixing. When the checkbox is cleared, the trade uses a supplied rate for its first fixing.
Annualization Factor	Enter the number of business days in a year to calculate the annualized volatility. Default is 252.
Conditional Volatility Type	This field allows you to select a condition type to include observations. • None – No condition. • Upside – You can set a lower return. The observation must be greater or equal to the lower return to be included. • Downside – You can set an upper return. The observation must be lower than the upper return to be included. • Corridor – You can set a lower return and an upper return. The observation must be within the lower and upper return to be included.
Vol Reference %	The volatility reference is used to compute the vega notional (or volatility exposure). The amount of volatility exposure in currency units per volatility point. VEGA_NOTIONAL = NOTIONAL / 2 * Volatility Reference = 100 000 / 2*27 = 1851,85
Vol Strike %	Enter the volatility strike for the trade. This is the fixed level against which the payout is computed as a percentage.
Volatility Cap %	Enter a cap on the realized volatility.
Variance Strike	Displays the volatility strike squared. Modifying this field re-computes the Volatility Strike %. Variance Strike = (Volatility Strike)^2.
Variance Notional	Displays the notional amount for the variance swap. The payout is linked to this amount. Modify as needed and it will recompute the volatility notional. Variance Notional = Volatility Notional / (2 * Volatility Strike)^
Variance Cap	Enter a cap on the realized variance.

"Style" Properties

Properties	Description
Buy/Sell	Choose the direction of the trade.
Settle Type	Select a settlement type: Cash, Quanto, or Compo.
Ccy Pair	Enter the currency pair used to measure the volatility.
Notional Ccy	Currency of the notional

"Product: Rate" Properties

Properties	Description
Observation Source	Select the FX rate definition used to fix the FX rates.

"Product: Amount" Properties

Properties	Description
Notional	Enter the notional amount for the trade.

"Date" Properties

Properties	Description
Expiry Date	Enter the expiration date of the trade.
Delivery Date	Enter the delivery date of the trade.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. ▶ For pricer details on the FX Variance/Volatility Swap, see "FX Options" in the Calypso *Analytics and Pricing Environment* documentation.

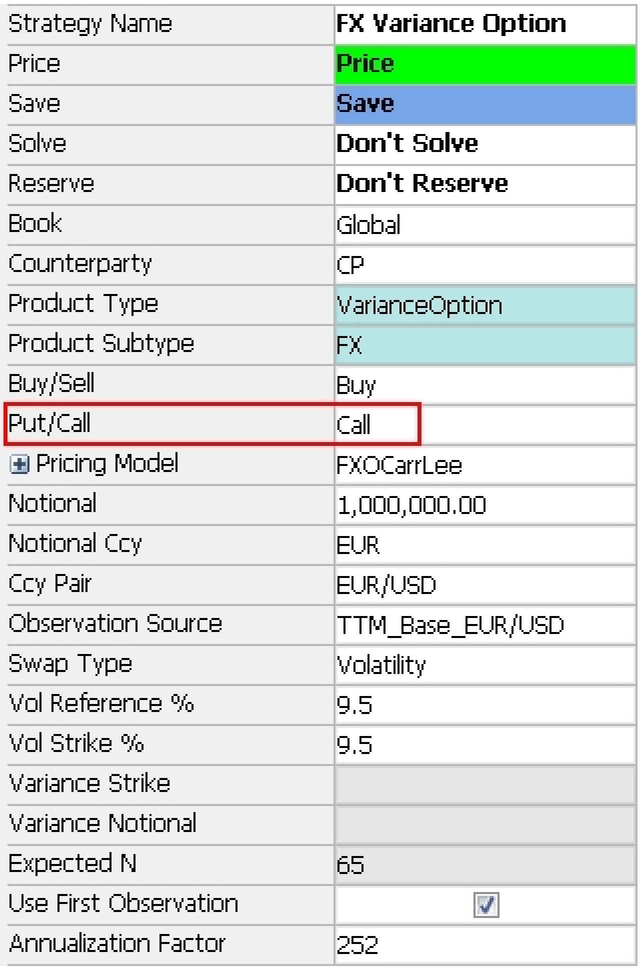
11.14 Volatility and Variance Options Strategies

FX Volatility and Variance Options are used to capture options on swaps that reference realized FX volatility or variance. They are captured the same way as FX Variance/Volatility Swaps with the addition of the Put/Call property, but have no provision for a cap or conditions on volatility.

[NOTE: Selecting the Pricing Model used for the FX Variance/Volatility Option is integral to market data input and trade capture. For pricer details specific to this strategy, see "FX Options" in the Calypso *Analytics and Pricing Environment* documentation.]

Key Properties

Buy/Sell - Put/Call - Ccy Pair - Notional - Pricing Model - Swap Type - Observation Source - Vol Reference % - Vol Strike % - Variance Strike



Strategy Name	**FX Variance Option**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Reserve	**Don't Reserve**
Book	Global
Counterparty	CP
Product Type	VarianceOption
Product Subtype	FX
Buy/Sell	Buy
Put/Call	Call
⊞ Pricing Model	FXOCarrLee
Notional	1,000,000.00
Notional Ccy	EUR
Ccy Pair	EUR/USD
Observation Source	TTM_Base_EUR/USD
Swap Type	Volatility
Vol Reference %	9.5
Vol Strike %	9.5
Variance Strike	
Variance Notional	
Expected N	65
Use First Observation	☑
Annualization Factor	252

Sample FX Volatility Option with Swap Type "Volatility"

Basic Steps for Capturing FX Variance/Volatility Option Trades

- Select the trade direction, either buy or sell, and whether the trade is a put or call.
- Enter a notional value for the trade.
- Select the Ccy Pair and Observation Source.

- Select the Swap Type, either Volatility or Variance, and the Pricing Model.
- Enter a value for Vol Reference %.
- Enter a value for Vol Strike % if swap type is volatility, or Variance Strike if swap type is variance.
- Enter the Settle Type and Expiry Date.
- Enter other common trade properties, such as Book and Counterparty.

"Trade" Properties

Properties	Description
Swap Type	This setting determines whether the swap is for variance or volatility. When Variance is selected, the Variance Strike, Variance Notional, and Variance Cap properties are enabled.
Expected N	Displays the number of fixings expected during the life of the trade.
Use First Observation	When the checkbox is selected, the trade will use the market fixing rate for the first fixing. When the checkbox is cleared, the trade uses a supplied rate for its first fixing.
Annualization Factor	Enter the number of business days in a year to calculate the annualized volatility. Default is 252.
Vol Reference %	The volatility reference is used to compute the vega notional (or volatility exposure). The amount of volatility exposure in currency units per volatility point. VEGA_NOTIONAL = NOTIONAL / 2 * Volatility Reference = 100 000 / 2*27 = 1851,85
Vol Strike %	Enter the volatility strike for the trade. This is the fixed level against which the payout is computed as a percentage.
Variance Strike	Displays the volatility strike squared. Modifying this field re-computes the Volatility Strike %. Variance Strike = (Volatility Strike)^2.
Variance Notional	Displays the notional amount for the variance swap. The payout is linked to this amount. Modify as needed and it will recompute the volatility notional. Variance Notional = Volatility Notional / (2 * Volatility Strike)

"Style" Properties

Properties	Description
Buy/Sell	Choose the direction of the trade.
Put/Call	Select whether the trade is a put or call.
Settle Type	Select a settlement type: Cash, Quanto, or Compo.
Ccy Pair	Enter the currency pair used to measure the volatility.
Notional Ccy	Currency of the notional

"Product: Rate" Properties

Properties	Description
Observation Source	Select the FX rate definition used to fix the FX rates.

"Product: Amount" Properties

Properties	Description
Notional	Enter the notional amount for the trade.

"Date" Properties

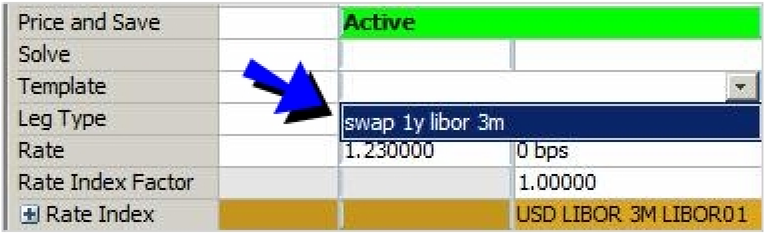
Properties	Description
Expiry Date	Enter the expiration date of the trade.
Delivery Date	Enter the delivery date of the trade.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. ▶ For pricer details on the FX Variance/Volatility Option, see "FX Options" in the Calypso *Analytics and Pricing Environment* documentation.

12. Capturing IRD & Cash Trades

To capture an IRD trade in the Pricing Sheet, select an IRD strategy and set the properties as needed. You can also select a strategy template to populate default values.



Price and Save		Active	
Solve			
Template			
Leg Type		swap 1y libor 3m	
Rate		1.230000	0 bps
Rate Index Factor			1.00000
⊞ Rate Index			USD LIBOR 3M LIBOR01

Sample Strategy and Template selection

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to IRD trades are described below.

Contents

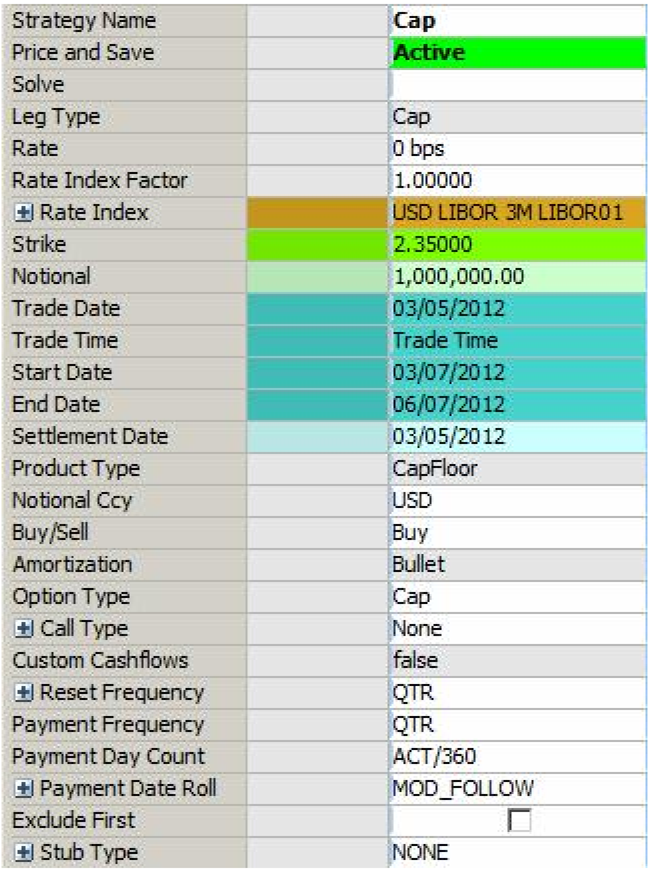
- Cap Floor Trades
- Spread Cap Floor Trades
- Setting an Amortization Schedule
- FRA Trades
- Structured Flows Trades
- Applying Reconvention Actions
- Swap Trades
- Capped Swap Trades
- Swaption Trades
- Setting Specific Resets
- Islamic Trades

12.1 Cap Floor Trades

This also applies to Collar trades and Corridor trades.

Key Properties

Buy/Sell - Option Type - Leg Type - Strike - Rate properties - Payment properties - Start Date - End Date



Strategy Name		**Cap**
Price and Save		**Active**
Solve		
Leg Type		Cap
Rate		0 bps
Rate Index Factor		1.00000
⊞ Rate Index		USD LIBOR 3M LIBOR01
Strike		2.35000
Notional		1,000,000.00
Trade Date		03/05/2012
Trade Time		Trade Time
Start Date		03/07/2012
End Date		06/07/2012
Settlement Date		03/05/2012
Product Type		CapFloor
Notional Ccy		USD
Buy/Sell		Buy
Amortization		Bullet
Option Type		Cap
⊞ Call Type		None
Custom Cashflows		false
⊞ Reset Frequency		QTR
Payment Frequency		QTR
Payment Day Count		ACT/360
⊞ Payment Date Roll		MOD_FOLLOW
Exclude First		☐
⊞ Stub Type		NONE

Sample Cap trade

"Product: Style" Properties

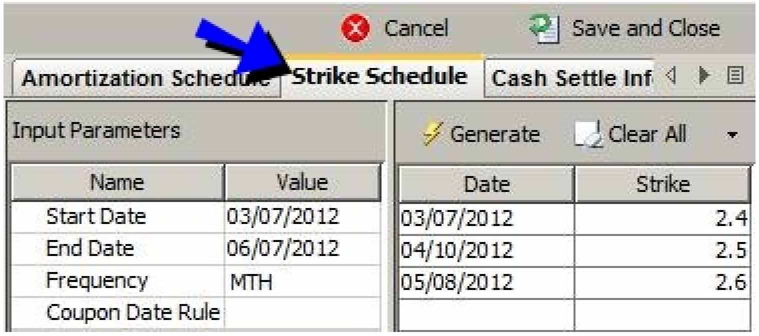
Properties	Description
Product Type	Displays the product type based on the selected strategy.
Notional Ccy	Select the currency of the notional.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Amortization	The amortization of the notional defaults to Bullet.

Properties	Description
	You can also right-click the trade and choose "Supplemental" to specify an amortization schedule. ▶ See Setting an Amortization Schedule for details.
Option Type	Select the option type: Cap, Floor, Collar, Corridor. If Leg Type is set to Float, Compounding Type is set to SimpleSpr, and Cmp Frequency is set to DLY, then two additional options appear: Daily Floor, and Daily Cap. These two options apply the cap or the floor to each day's rate prior to compounding.
Leg Type	Displays "Cap", "Floor", "Collar", or "Corridor" based on the selected strategy and Option Type.
Custom Cashflows	Displays "true" if the cashflows have been customized, or "false" otherwise.

"Product: Rate" Properties

<table>
<tr><th>Properties</th><th>Description</th></tr>
<tr><td>Strike</td><td>
Enter the strike.

You can also right-click the trade and choose "Supplemental" to specify a Strike Schedule.



<table>
<tr><th>Name</th><th>Value</th></tr>
<tr><td>Start Date</td><td>03/07/2012</td></tr>
<tr><td>End Date</td><td>06/07/2012</td></tr>
<tr><td>Frequency</td><td>MTH</td></tr>
<tr><td>Coupon Date Rule</td><td></td></tr>
</table>

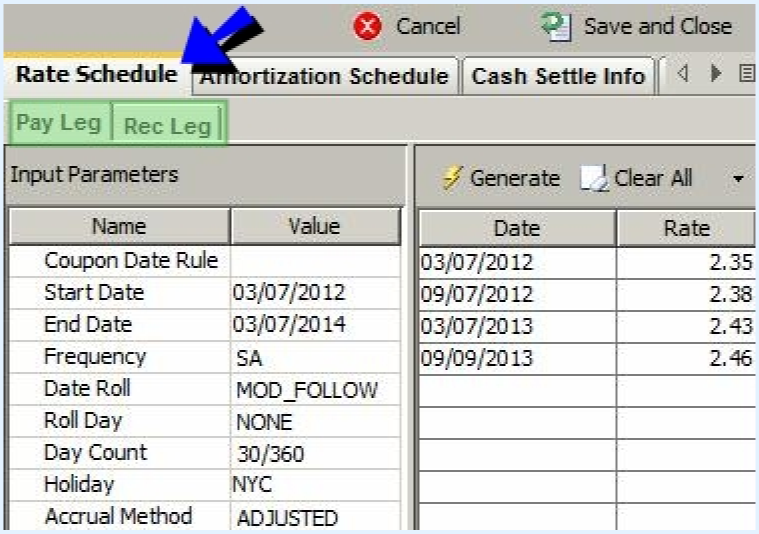
<table>
<tr><th>Date</th><th>Strike</th></tr>
<tr><td>03/07/2012</td><td>2.4</td></tr>
<tr><td>04/10/2012</td><td>2.5</td></tr>
<tr><td>05/08/2012</td><td>2.6</td></tr>
</table>

Sample Strike Schedule

- The start and end dates default to the trade's start and end dates.
- You can select a frequency or a date rule to generate the strike schedule.
- Click **Generate** to generate the schedule. Then double-click a strike cell to enter the strike for the corresponding date.

  You can click the "Clear All" menu to add / remove strike dates.
- Then click **Save and Close** to apply to the strike schedule to the trade.
</td></tr>
<tr><td>Rate</td><td>
Enter the fixed rate for fixed rates, or the spread over the rate value for floating rates as needed.

You can also right-click the trade and choose "Supplemental" to specify a Rate Schedule.
</td></tr>
</table>

Properties	Description
	You can specify a schedule for the Pay Leg and another schedule for the Rec Leg. For a fixed rate, it is a fixed rate schedule, and for a floating leg, it is a spread schedule.  Cancel Save and Close Rate Schedule Amortization Schedule Cash Settle Info Pay Leg Rec Leg Generate Clear All Input Parameters Coupon Date Rule: Start Date: 03/07/2012 End Date: 03/07/2014 Frequency: SA Date Roll: MOD_FOLLOW Roll Day: NONE Day Count: 30/360 Holiday: NYC Accrual Method: ADJUSTED Date – Rate: 03/07/2012: 2.35 09/07/2012: 2.38 03/07/2013: 2.43 09/09/2013: 2.46 Sample Rate Schedule » The start and end dates default to the trade's start and end dates. » You can select a frequency or a date rule to generate the rate schedule. Select the other parameters as needed. » Click **Generate** to generate the schedule. Then double-click a rate cell to enter the rate for the corresponding date. You can click the "Clear All" menu to add / remove rate dates. » Then click **Save and Close** to apply to the rate schedule to the trade.
Rate Index Factor	Enter the index factor as needed for floating rates to multiply the rate value.
Rate Index	Select the rate index for floating rates. You can set additional properties: • Reset Timing - Select "At Start" (reset occurs at the beginning of the period) or "In Arrears" (reset occurs at then end of the period). • Reset Lag - Enter the number of days between the actual reset date and the reset date as defined by the reset timing, and specify Business or Calendar. The Reset Lag will persist is terms of days. Entering "30D" and saving will be displayed as "1M" on retrieval. Entering "d" for days, "w" for weeks, "m" for months and "y" for years as a tenor (EX: 1m b = -1M Business) will be saved as days. If not tenor is entered, the system will use days by default. • Reset Holidays - Select the reset calendars.

Properties	Description
	- Reset Date Roll - Select the reset date roll. - Manual First Rate - Enter the first reset rate if any. - Specify Initial Inflation - Select "None", "Initial Level Date" or "Initial Level". - Initial Level Date - If selected in "Specify Initial Inflation", enter the initial level date. - Initial Level - If selected in "Specify Initial Inflation", enter the initial level. - Convert Basis - Check the “Convert Basis” checkbox to check whether the reference index and the trade have the same daycount convention. If not, the rate’s daycount convention is converted to the trade’s daycount convention. ▶ Choose **Help > View Help** for complete details. - Rate Rounding - Select the rate’s rounding method to override the default value from the rate index. - Rate Decimals - Enter the number of decimal places to override the default value from the rate index.
Reset Frequency	Select the reset frequency to sample resets at a frequency different from the payment frequency. Otherwise, the resets are sampled at the payment frequency. - For Weekly, you can set the Reset Day of Week. - For Monthly, you can set the Reset Day of Month. When the sampling frequency is more frequent that the payment frequency, you can define the weight of the resets, and the duration of the sampling period. ***Reset Weighting*** You can select: - Equal - Resets within the sampling period are equally weighted. - Weighted - Resets are weighted according to the number of days for which they apply. For example, if a reset occurs on a Monday, the weight is 1 day; if it occurs on a Friday, the weight is 3 days (Friday, Saturday and Sunday). - Simple - The reset rate is calculated as the mean rate within the sampling period. - Cutoff Adj. (Only applies to Daily reset) - Calculates weighting up to cutoff date. The cutoff date is set as a number of days from the last sample period’s end date in Reset Cutoff Lag. - Cutoff Weekly (Only applies to weekly reset) - If you specify a reset cutoff, the last sample period will be “end date – reset cutoff”. Set the cutoff lag in Reset Cutoff Lag. ***Reset Duration*** You can select: - Match - Rates are sampled over the entire averaging period.

Properties	Description
	• Custom - Rates are sampled over a user-defined period. Define the number of days of the sampling period in Custom Sample Period.

"Product: Payment" Properties

Properties	Description
Compounding Type	Select the compounding type, if applicable, or none. • Flat - Flat compounding - The spread is added after the compounding is computed if any. Current period interest is calculated using floating rate plus spread. But compound interest is calculated using floating rate only (and the spread is not added). • Spread - The interest compounds at the rate value plus spread. Enter the Spread in the Compounding Spread field. • SimpleSpr (Swaps only) - This involves compounding the Floating Rate but treating the spread as simple interest. In other words, the floating rate interest is earned at the end of a period but not the spread (only the floating rate is added back into the notional). The spread is then calculated on the notional for the entire calculation period without compounding. • NoCmp - A cashflow is created at the compounding period without actually compounding the interest. The daily rate resets for the floating rate are used to calculate the simple interest everyday and summed to find the total interest for the period. You can also set the following properties: • Compounding Frequency - Select the compounding frequency. The compounding frequency must be more frequent than the payment frequency. When you select a DLY compounding frequency for a rate index that is not setup for daily compounding, the DailyCompound calculator is used. • User Reset Period Dates - Check to compound trades based on the reset dates rather than the payment dates. • Compounding Stub • Sample Timing - Select the sample timing: "At Start" or "In Arrears". • Use Sample Period Shift - When checked, it includes an Observation Shift that allows shifting the whole Sample Period in addition to the Reset Dates, such that the weights of any given daily fixing remains the same.
Payment Frequency	Select the payment frequency.
Payment Day Count	Select the payment daycount.
Payment Date Roll	Select the payment date roll, when the payment date falls on a non business day.

Properties	Description
	You can also set the following properties: • Payment Timing - Select "At Start" (payment occurs at the beginning of the period) or "In Arrears" (payment occurs at the end of the period). • Payment Interest Calculation – For payment timing "In Arrears", select EXP for an exponential interest calculation, or NONE otherwise. – For payment timing "At Start", select DISC for discounting, or NONE otherwise. • Payment Accrual - Select the adjustment method of the accrual period: – ADJUSTED - Adjusts the period's end date if it falls on a non-business day, according to the payment date roll convention. Rolling the end date adjusts the period length, so a rolled date changes the interest amount. – UNADJUSTED - Does not adjust the period's end date for non-business days. – MAT_UNADJUSTED - Adjusts the period's end date if it falls on a weekend unless it is the last period (maturity), in which case it is not adjusted. Thus the adjustment method may affect intermediate interest amounts, but it does not change the maturity date. – FRN - Adjusts the period's end date for non-business days to the next business day unless the next business day is in the following month, in which case it uses the preceding business day. • Payment Holidays - Select the payment calendars to determine business days. • Payment Lag - Enter the number of days between the interest date and the payment date, and specify Business or Calendar. The Payment Lag will persist is terms of days. Entering "30D" and saving will be displayed as "1M" on retrieval. Entering "d" for days, "w" for weeks, "m" for months and "y" for years as a tenor (EX: 1m b = -1M Business) will be saved as days. • Apply Pmt Lag to Principal Flows - Set to True or False. (The Apply Pmt Lag to Principal Flows Domain value sets the default value for this property to True or False.) Supports different payment dates for principal and interest cashflows. The property applies to either Principal cashflows or not based on this property. • Payment Roll Day - Select a date roll adjustment to adjust the date, or none otherwise. – DAY - Enter a fixed day of the month to which the date will be rolled. For example, entering “5” forces the payment date to be on the fifth calendar day of the month. Entering “31” indicates the last day of the month, even for months with fewer than 31 days - The selection changes to EOM. – IMM - The payment date is rolled according to the IMM_WED date roll convention by default. If the date roll convention is IMM_MON, then the payment date is rolled according to the IMM_MON date roll convention.

Properties	Description
	– EOM - The last day of the month, regardless of the number of days in the month. • Payment Rounding - Select the rounding method. • Extra Day in First Period - Check to add a day to the first payment period. The system uses the daycount (nominator+1)/denominator on the first cashflow - For example ACT+1/360. • Extra Day in Last Period - Check to add a day to the last payment period. The system uses the daycount (nominator+1)/denominator on the last cashflow - For example ACT+1/360.
Exclude First	Check the “Exclude First” checkbox to exclude the first caplet from the cashflows.
Stub Type	Select the stub period, if applicable, or none. You can also set the following properties: • Stub First Date - Enter the end date of the first period for SPECIFIC FIRST and SPECIFIC BOTH. • Stub Last Date - Enter the start date of the last period for SPECIFIC LAST and SPECIFIC BOTH • Stub Full Coupon Date - Enter the full coupon date for FULL COUPON. • Stub Tolerance - Enter the number of days of stub tolerance. • First Stub Interpolation - Select Interpolate to interpolate on the first period, or none otherwise. ▶ Choose **Help > View Help** for complete details. • First Stub Tenor 1 - Select the first index tenor for interpolation of the first period. • First Stub Tenor 2 - Select the second index tenor for interpolation of the first period. • Last Stub Interpolation - Select Interpolate to interpolate on the last period, or none otherwise. ▶ Choose **Help > View Help** for complete details. • Last Stub Tenor 1 - Select the first index tenor for interpolation of the last period. • Last Stub Tenor 2 - Select the first index tenor for interpolation of the last period. • Interpolated Rate Rounding - Select the stub rate’s rounding method. • Interpolated Rate Decimal - Enter the number of decimal places for interpolated rate rounding. • Interpolation Style - Select the interpolation style: – Index Based - The DateRoll, the holidays and the daycount are coming from the rate index. – Product Payment - The DateRoll, the holidays and the daycount are coming from

Properties	Description
	the coupon panel. ▶ Choose **Help > View Help** for complete details.

"Date" Properties

Properties	Description
Trade Date	Displays the valuation date set in the Pricing window of the pricing sheet by default. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Trade Time	Displays the valuation time set in the Pricing window of the pricing sheet. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Settlement Date	Enter the settlement date.
Settlement Holiday	Enter the settlement holiday calendar.
Start Date	Enter the start date.
End Date	Enter the end date.
Start Tenor	Enter the start tenor.
Maturity Tenor	Enter the maturity tenor.

"Price" Properties

Properties	Description
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.

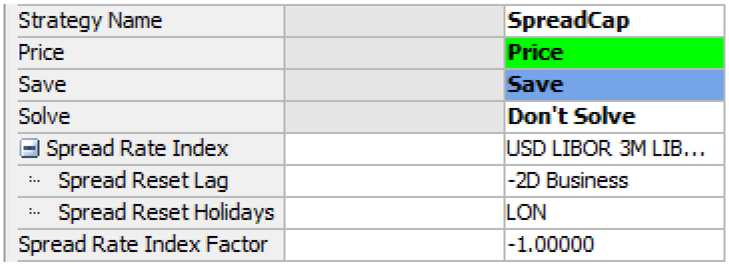
Properties	Description
Sales Price	Enter the sales price as needed.
Sales Location	You can select the location of the sales representative. The sales location is a legal entity of role SalesLocation. The sales fee is paid to that legal entity if selected. If the sales location is not selected, the sales fee is paid to the counterparty of the trade if the domain "DefaultSalesMarginFeeLE" contains the value "UseTradeCptyAsDefault". Otherwise, it is paid to the "NONE" counterparty.

12.2 Spread Cap Floor Trades

This also applies to Spread Collar trades.

Key Properties

"Product: Rate" Properties



Strategy Name		**SpreadCap**
Price		**Price**
Save		**Save**
Solve		**Don't Solve**
⊟ Spread Rate Index		USD LIBOR 3M LIB...
Spread Reset Lag		-2D Business
Spread Reset Holidays		LON
Spread Rate Index Factor		-1.00000

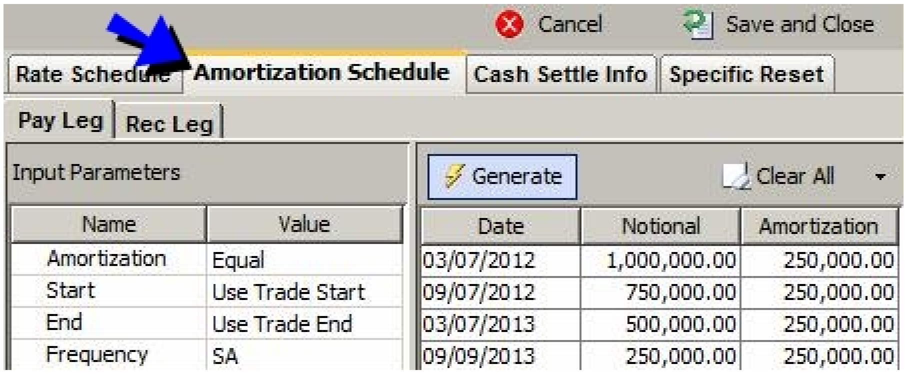
Sample Spread Cap trade

"Product: Rate" Properties

Properties	Description
Spread Rate Index	Select the spread rate index. You can set additional properties: • Spread Reset Lag - Enter the number of days between the actual reset date and the reset date as defined by the reset timing, and specify Business or Calendar. The Reset Lag will persist is terms of days. Entering "30D" and saving will be displayed as "1M" on retrieval. Entering "d" for days, "w" for weeks, "m" for months and "y" for years as a tenor (EX: 1m b = -1M Business) will be saved as days. If not tenor is entered, the system will use days by default. • Spread Reset Holidays - Select the reset calendars.
Spread Rate Index Factor	Enter the index factor as needed to multiply the rate value.

12.3 Setting an Amortization Schedule

To define an amortization schedule, right-click the trade and choose "Supplemental".


Cancel
Save and Close
Rate Schedule
Amortization Schedule
Cash Settle Info
Specific Reset
Pay Leg
Rec Leg
Input Parameters
Generate
Clear All

Name	Value
Amortization	Equal
Start	Use Trade Start
End	Use Trade End
Frequency	SA

Date	Notional	Amortization
03/07/2012	1,000,000.00	250,000.00
09/07/2012	750,000.00	250,000.00
03/07/2013	500,000.00	250,000.00
09/09/2013	250,000.00	250,000.00

Sample Amortization Schedule

- Select the type of amortization and set the corresponding properties.
  - Choose **Help > View Help** for complete details on the amortization types.
- Then click **Generate** to generate the schedule.

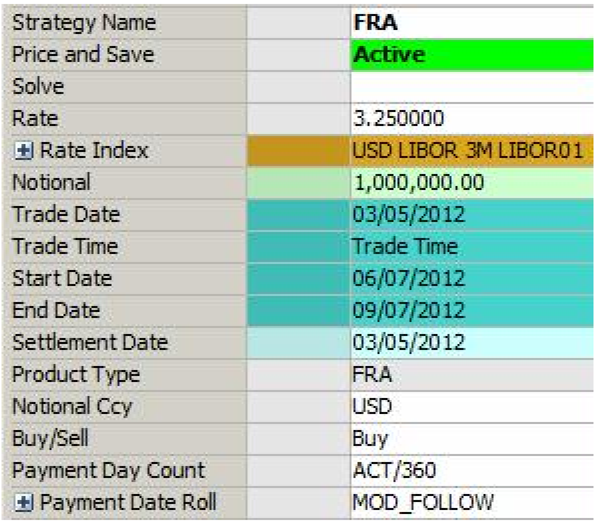
  You can click the "Clear All" menu to add / remove amortization dates.
- Click **Save and Close** to apply the schedule to the trade.

12.4 FRA Trades

An FRA is a forward contract where one party pays a fixed rate and the other party pays an interest rate set on a specified future date.

Key Properties

Buy/Sell - "Product: Rate" properties - "Product: Payment" properties - Start Date - End Date



Strategy Name	**FRA**
Price and Save	**Active**
Solve	
Rate	3.250000
⊞ Rate Index	USD LIBOR 3M LIBOR01
Notional	1,000,000.00
Trade Date	03/05/2012
Trade Time	Trade Time
Start Date	06/07/2012
End Date	09/07/2012
Settlement Date	03/05/2012
Product Type	FRA
Notional Ccy	USD
Buy/Sell	Buy
Payment Day Count	ACT/360
⊞ Payment Date Roll	MOD_FOLLOW

Sample FRA trade

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Notional Ccy	Select the currency of the notional.
Buy/Sell	Select the direction of the trade: Buy or Sell.

"Product: Rate" Properties

Properties	Description
Rate	Enter the forward rate.
Rate Index	Select the rate index. You can also set the following properties: • Reset Lag - Enter the number of business days between the actual reset date and the payment date. • Rate Interpolation - Select “Interpolate” to interpolate the fixing rate. The rate is interpolated using the tenors specified in "Interpolate Tenor 1" and "Interpolate Tenor 2". • Rate Rounding - Select the rate’s rounding method to override the default value from the rate index. • Rate Decimals - Enter the number of decimal places to override the default value from the rate index.

"Product: Payment" Properties

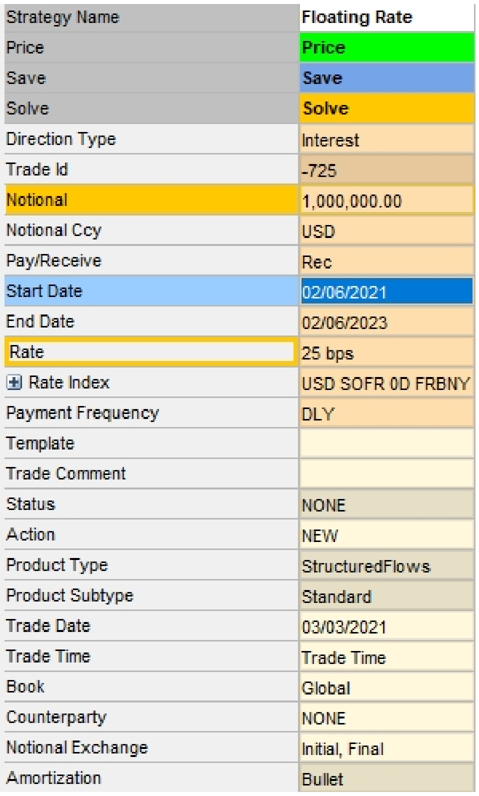
Properties	Description
Payment Day Count	Select the payment daycount.
Payment Date Roll	Select the payment date roll, when the payment date falls on a non business day. You can specify the following additional properties: • Payment Timing - Select "At Start" (payment occurs at the beginning of the period) or "In Arrears" (payment occurs at the end of the period). • Payment Interest Calculation - Select the discounting method: – FWD_DISC - Discounts the payment / receipt amount from the end date to the start date using the fixing rate. Only applies when you do not select "In Arrears". – DUAL_DISC - Discounts the payment / receipt amount from the end date to the start date using both the fixing rate and the fixed rate. Only applies when you do not select "In Arrears". – FIX_RATE_DISC - ProjAmtBeg = ProjAmtEnd/(1+F * daycount/basis)) – RATIO_DISC - ProjAmtBeg = ProjAmtEnd * (1+f * daycount/basis) / (1+F * daycount/basis) Where: - ProjAmtEnd = Amount to settle if “in arrears” - ProjAmtBeg = Discounted amount to settle in advance - f = Forward rate projected from curve - F = Contracted FRA rate • Payment Begin Date Roll - Select a date roll for the start date. • Payment Begin Holidays - Select a holiday calendar for the start date. • Payment End Date Roll - Select a date roll for the end date. • Payment End Holidays - Select a holiday calendar for the end date.

12.5 Structured Flows Trades

Select a Floating Rate strategy or a Fixed Rate strategy.

Key Properties

Direction Type - Pay/Receive - Payment properties - Rate properties



Strategy Name	Floating Rate
Price	Price
Save	Save
Solve	Solve
Direction Type	Interest
Trade Id	-725
Notional	1,000,000.00
Notional Ccy	USD
Pay/Receive	Rec
Start Date	02/06/2021
End Date	02/06/2023
Rate	25 bps
⊞ Rate Index	USD SOFR 0D FRBNY
Payment Frequency	DLY
Template	
Trade Comment	
Status	NONE
Action	NEW
Product Type	StructuredFlows
Product Subtype	Standard
Trade Date	03/03/2021
Trade Time	Trade Time
Book	Global
Counterparty	NONE
Notional Exchange	Initial, Final
Amortization	Bullet

Sample Floating Rate trade

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Product Subtype	Select the product type as per your need. By default, it is Standard.
Notional	Enter the notional amount.
Notional Ccy	Select the currency of the notional.
Direction Type	Select Interest or Principal. A "swap leg" should be defined as Receive Interest or Pay Interest. A "loan" should be defined as Pay Principal, and a "deposit" as Receive Principal.
Pay/Receive	Select the direction of the trade leg from the book's perspective.
Rate Index	Select the rate index for floating rates. You can set additional parameters: • Reset Timing - Select beginning period or end period. • Reset Lag - Check to define the parameters in the Reset Lag field:

Properties	Description
	– Offset - Enter the number of days between the actual reset date and the reset date as defined by the reset timing. – Days - Specify business or calendar days. – Holidays - Select the holidays calendars. – Roll - Select the reset date roll. • Manual First Rate • Convert Basis - Check to check whether the reference index and the trade have the same daycount convention. If not, the rate's daycount convention is converted to the trade's daycount convention. • Rate Rounding - Select the rate's rounding method to override the default value from the rate index. • Rate Decimals • Reset Date Rule - Select the date rule to determine the reset dates of the cashflows. • Use Sample Period Shift - When checked, the reset lag allows shifting the whole Sample Period in addition to the Reset Dates, such that the weights of any given daily fixing remain the same. If you select an Inflation Index, you can set the Fixed Inflation Rate in percent and the inflation calculation type.
Rate	Enter the rate for fixed rates or the spread for floating rates.
Notional Exchange	Select Initial, Final, Amortization or any combination of the three to indicate that the notional amount will be exchanged, otherwise there is no exchange of notional.
Amortization	The amortization of the notional defaults to Bullet. You can also right-click the trade and choose "Supplemental" to specify an amortization schedule. ▶ See Setting an Amortization Schedule for details.
Custom Cashflows	Displays "true" if the cashflows have been customized, or "false" otherwise.
Collateral Type	Select the Collateral Type as needed. Collateral Types can be defined in the domain "Advance.CollateralType". You can set additional parameters: • Partial Collateralized - Check to perform a partial collateralization. • Prepayment Method - Select the method by which the collateral will be reduced. – PROPORTIONAL - Whenever principal decreases, the collateral is reduced according to the proportion specified upfront. – SEQUENTIAL - Whenever principal decreases, the portion with the lower ranking

Properties	Description
	collateral type will be reduced first until it's exhausted. - Collateralized Precentage - Enter a percentage to be collateralized.
Open Term	Check for an open term trade. In this case, you need to select a behavioral maturity and enter a number of notice days.

"Compounding Type" Properties

Properties	Description
Compounding Type	Select the compounding type, if applicable, or none. - Flat - Flat compounding - The spread is added after the compounding is computed if any. Current period interest is calculated using floating rate plus spread. But compound interest is calculated using floating rate only (and the spread is not added). - Spread - The interest compounds at the rate value plus spread. Enter the Spread in the Compounding Spread field. - SimpleSpr (Swaps only) - This involves compounding the Floating Rate but treating the spread as simple interest. In other words, the floating rate interest is earned at the end of a period but not the spread (only the floating rate is added back into the notional). The spread is then calculated on the notional for the entire calculation period without compounding. - NoCmp - A cashflow is created at the compounding period without actually compounding the interest. The daily rate resets for the floating rate are used to calculate the simple interest everyday and summed to find the total interest for the period. You can also set the following properties: - Compounding Frequency - Select the compounding frequency. The compounding frequency must be more frequent than the payment frequency. When you select a DLY compounding frequency for a rate index that is not setup for daily compounding, the DailyCompound calculator is used. - User Reset Period Dates - Check to compound trades based on the reset dates rather than the payment dates. - Compounding Stub - Sample Timing - Select the sample timing: "At Start" or "In Arrears". - Compounding cut off lag and holidays - Partial Period Compounding - Select NCCR for Non-Cumulative Compound Rate (only applicable to daily compounding trades), or not set for CCR (Cumulative Compound Rate). The NCCR rate is the daily change in CCR rate.

Properties	Description
	The value NCCR can be added to the domain "PartialPeriodCompRateEnrichmentMethods" if it is not available for selection.

"Product: Payment" Properties

Swap "Product: Payment" properties also apply.

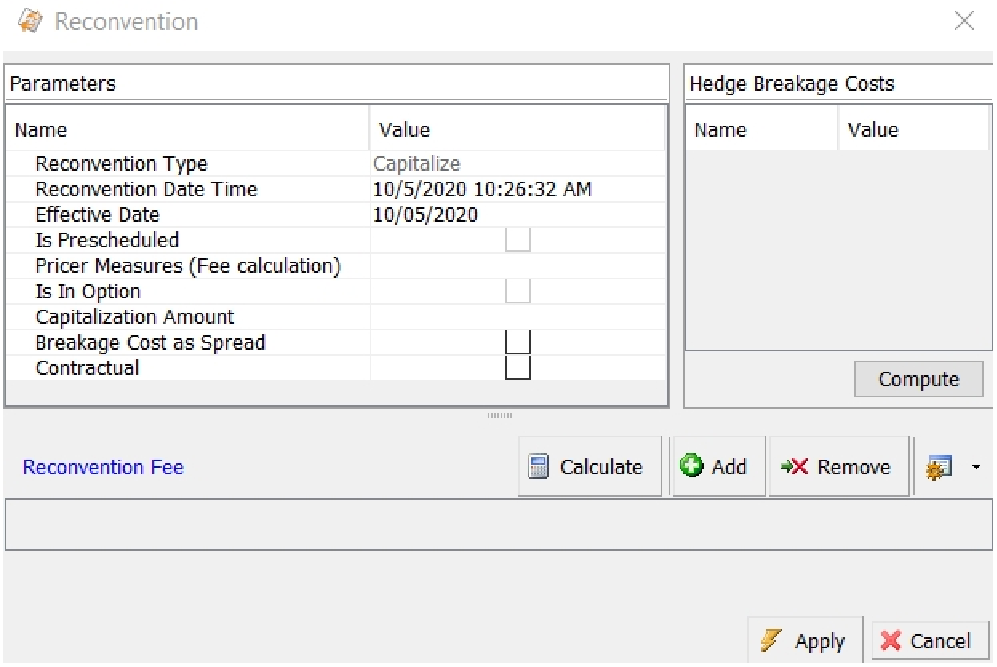
"B2B" Properties

Properties	Description
B2B	The application automatically checks the B2B checkbox when an internal trade with an inter-company book is associated with the trade. The B2B configuration can be defined using **Configuration > Automated Operations > Back to Back Trades**. • To use the default B2B configuration, no further action is required. The B2B trade will be automatically created based on the B2B configuration when the trade is saved. • To modify the B2B configuration, modify any details below, then check the "User override" checkbox. • To turn the B2B feature off, clear the B2B checkbox. • To turn the B2B feature on (if there is no default B2B configuration defined), check the B2B checkbox. Set the details below.
SD_FILTER	Optional. Enter the name of the Static Data Filter. As in the B2B configuration, you can filter by an amount, counterparty, legal entity attribute, sales person, or some other parameter.
Transfer Margin	Select this checkbox to transfer the sales margin (sales price) to the destination book. Clear the checkbox to ensure the margin remains in the original trade book.
Transfer Book	The book to which the B2B trade is transferred.
Transferred Trade ID	The ID of the B2B generated trade.
Transferred Book	The book from which the original trade is transferred.
User Override	Check to override the default configuration.

▶ Please refer to Calypso Money Market documentation for details on setting up Back to Back trades.

12.6 Applying Reconvention Actions

You can apply reconventions to structured flows. Reconventions are changes made to the current trade that will affect cashflows, such as a change of notional amount or the maturity date. To perform a reconvention, select the trade column, choose **Processing > Reconvention**, and select the reconvention type.



Name	Value
Reconvention Type	Capitalize
Reconvention Date Time	10/5/2020 10:26:32 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Capitalization Amount	
Breakage Cost as Spread	☐
Contractual	☐

- In the Parameters area, enter the parameters of the reconvention. They are described below based on the reconvention type.
- The Original and Replacement areas only apply if you have defined market measures.
- You can add or calculate a reconvention fee as needed in the Reconvention Fee area. See below for details.
- Click **Apply** when you are done to apply the reconvention.

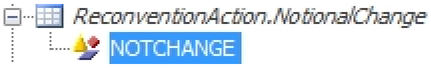
Reconvention Action

By default, the AMEND action is applied to the trade when a reconvention is performed or removed.

You can configure the reconvention actions to be applied when adding a reconvention, or deleting a reconvention, using the following domains:

- Domain for addition is “ReconventionAction.<reconvention type>”.

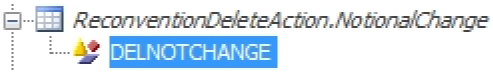
  Example:

  
  ReconventionAction.NotionalChange
  NOTCHANGE

  The action NOTCHANGE will be applied to the trade when the "Notional Reconvention" is performed.

- Domain for removal is “ReconventionDeleteAction.<reconvention type>”.

  Example:

  
  ReconventionDeleteAction.NotionalChange
  DELNOTCHANGE

  The action DELNOTCHANGE will be applied to the trade when a "Notional Reconvention" is removed.

[NOTE: The actions defined in these domains must be added to the Trade workflow for structured flows]

Common Parameters

The following parameters are common to all reconvention types. The other parameters are described below by reconvention tpye.

- Reconvention Type - Displays the type of reconvention to be performed.
- Reconvention Date Time - Defaults to today's date and time. You can modify as necessary.
- Effective Date - Enter the effective date on which the reconvention is to be applied.
- Is Prescheduled - Check to ignore validations that control reconvention order, or clear otherwise.
- Pricer Measures (Fee calculation) - You can select the pricer measures you want to compute for fee calculation. Their values are displayed when you click **Calculate**.
- Breakage Cost as Spread - Check to convert breakage cost on synthetic hedge to spread.
- Contractual - Check to indicate that the reconvention is contractual, or clear otherwise. For information purposes only.

Hedge Breakage Costs

The hedge breakage cost can be simulated when a reconvention is applied based on FTP (Fund Transfer Pricing) rules.

Please refer to Calypso Liquidity documentation for information on setting up FTP rules.

Reconvention Fee

You can click **Calculate** to add a fee based on the selected pricer measures is any.

You can click **Add** to add a reconvention fee as needed. Enter the fee amount.

You can configure the fee type in the domain “DefaultReconventionFee”. If not set, it defaults to PREPAYMENT_FEE.

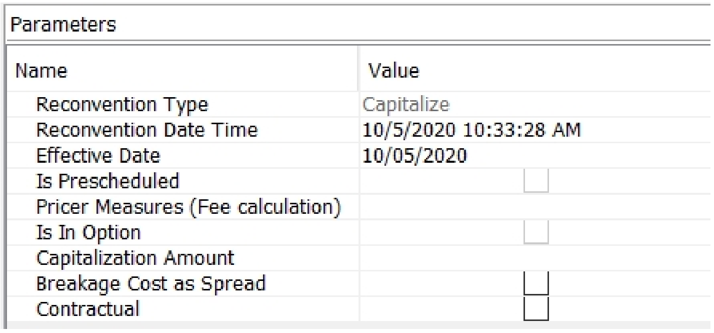
Viewing Reconventions

You can view all reconventions applied to the trade in the Events panel.

You can right-click a reconvention and drill down to the trade or to the details of the reconvention. You can also delete a reconvention.

12.6.1 Capitalize

You can capitalize the current accrual using the Capitalize reconvention. The current accrual amount as of the Effective Date is moved to the principal.



Parameters

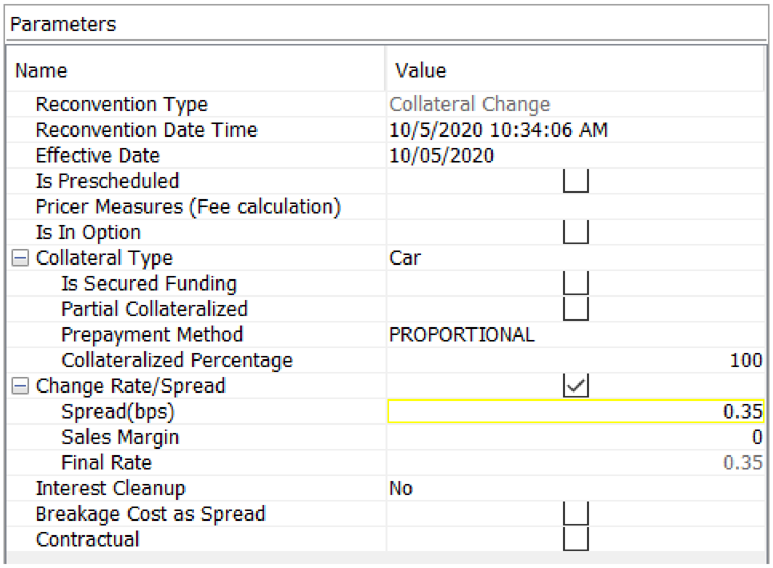
Name	Value
Reconvention Type	Capitalize
Reconvention Date Time	10/5/2020 10:33:28 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Capitalization Amount	
Breakage Cost as Spread	☐
Contractual	☐

Sample Capitalize reconvention

» Enter the effective date.

12.6.2 Collateral Change

You can change the collateral using the Collateral Change reconvention.



Parameters

Name	Value
Reconvention Type	Collateral Change
Reconvention Date Time	10/5/2020 10:34:06 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
⊟ Collateral Type	Car
Is Secured Funding	☐
Partial Collateralized	☐
Prepayment Method	PROPORTIONAL
Collateralized Percentage	100
⊟ Change Rate/Spread	☑
Spread(bps)	0.35
Sales Margin	0
Final Rate	0.35
Interest Cleanup	No
Breakage Cost as Spread	☐
Contractual	☐

Sample Collateral Change reconvention

» Select the Collateral Type, and set additional parameters as needed.

- Partial Collateralized - Check to perform a partial collateralization, then enter a percentage to be collateralized in the "Collateralized Percentage" field.
- Prepayment Method - Select the method by which the collateral will be reduced.

  PROPORTIONAL - Whenever principal decreases, the collateral is reduced according to the proportion specified upfront.

  SEQUENTIAL - Whenever principal decreases, the portion with the lower ranking collateral type will be reduced first until it's exhausted.

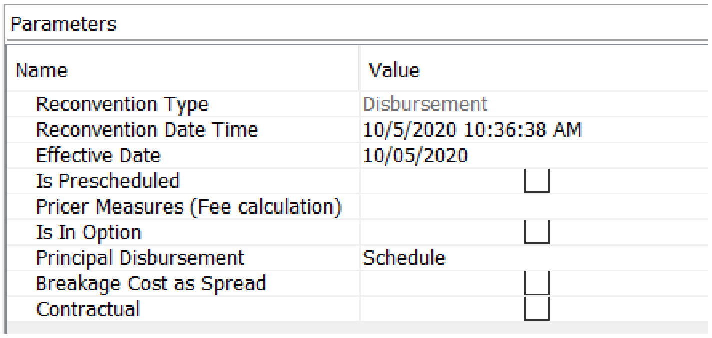
- Rate (%) or Spread (bps) - Enter a new rate (fixed) or spread (floating) to perform a rerate at the same time.

  Enter a sales margin as needed.
- Interest Cleanup - Select "Yes" to perform an interest cleanup at the same time, otherwise select "No".

12.6.3 Disbursement

You can set a new Disbursement Schedule to override the current Disbursement schedule using the Disbursement reconvention. For a trade, if no specific disbursement dates are known, this reconvention allows individual disbursements to happen as lifecycle actions. You can use the Disbursement reconvention anytime until the last day specified on the original disbursement schedule.

[NOTE: The disbursements must still add up to the trade notional. If you need to change the trade notional, use the Notional Change reconvention]



Parameters

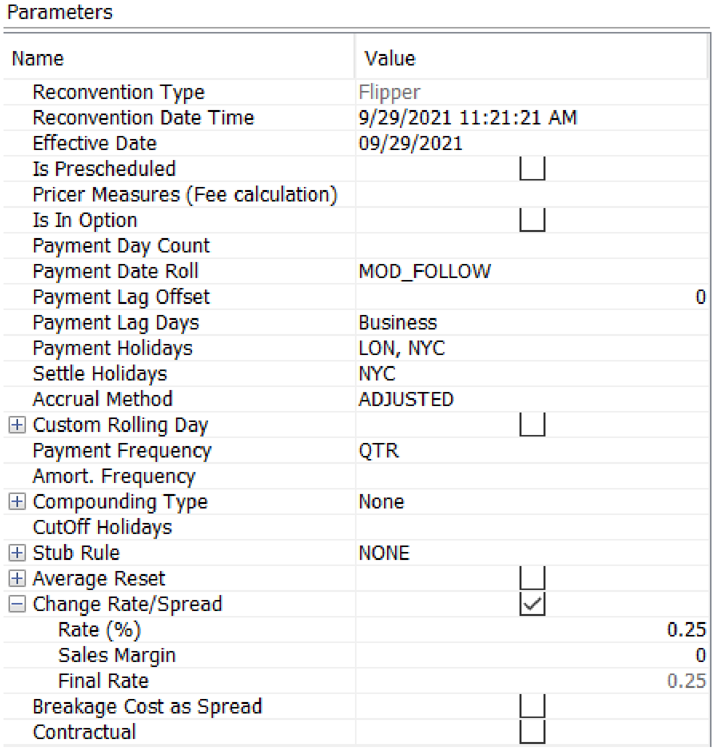
Name	Value
Reconvention Type	Disbursement
Reconvention Date Time	10/5/2020 10:36:38 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Principal Disbursement	Schedule
Breakage Cost as Spread	☐
Contractual	☐

Sample Disbursement reconvention

- Principal Disbursement - Set the schedule parameters as needed. Then click **Generate** and **OK**.

12.6.4 Flipper

You can change the leg type using the Flipper reconvention.



Parameters

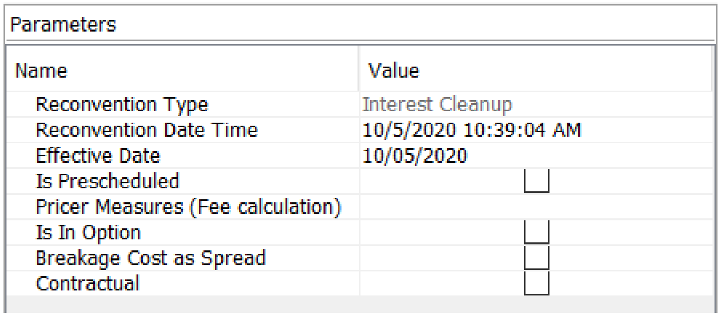
Name	Value
Reconvention Type	Flipper
Reconvention Date Time	9/29/2021 11:21:21 AM
Effective Date	09/29/2021
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Payment Day Count	
Payment Date Roll	MOD_FOLLOW
Payment Lag Offset	0
Payment Lag Days	Business
Payment Holidays	LON, NYC
Settle Holidays	NYC
Accrual Method	ADJUSTED
⊞ Custom Rolling Day	☐
Payment Frequency	QTR
Amort. Frequency	
⊞ Compounding Type	None
CutOff Holidays	
⊞ Stub Rule	NONE
⊞ Average Reset	☐
⊟ Change Rate/Spread	☑
Rate (%)	0.25
Sales Margin	0
Final Rate	0.25
Breakage Cost as Spread	☐
Contractual	☐

Sample Flipper reconvention

If the original trade's leg type is Float, the Flipper reconvention flips the leg type to Fixed. You can then specify the parameters for a Fixed leg (or vice versa if the original trade is Fixed).

12.6.5 Interest Cleanup

You can end the current payment period and pay out the interest on an effective date using the Interest Cleanup reconvention.



Parameters

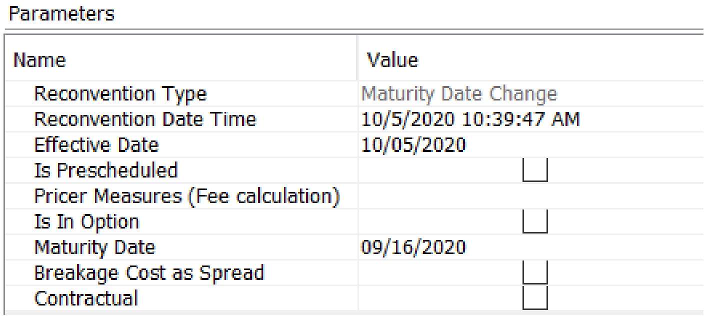
Name	Value
Reconvention Type	Interest Cleanup
Reconvention Date Time	10/5/2020 10:39:04 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Breakage Cost as Spread	☐
Contractual	☐

Sample Interest Cleanup reconvention

- Enter the new Effective Date on which the interest is to be paid out.

12.6.6 Maturity Date Change

You can change the maturity date using the Maturity Date Change reconvention.



Parameters

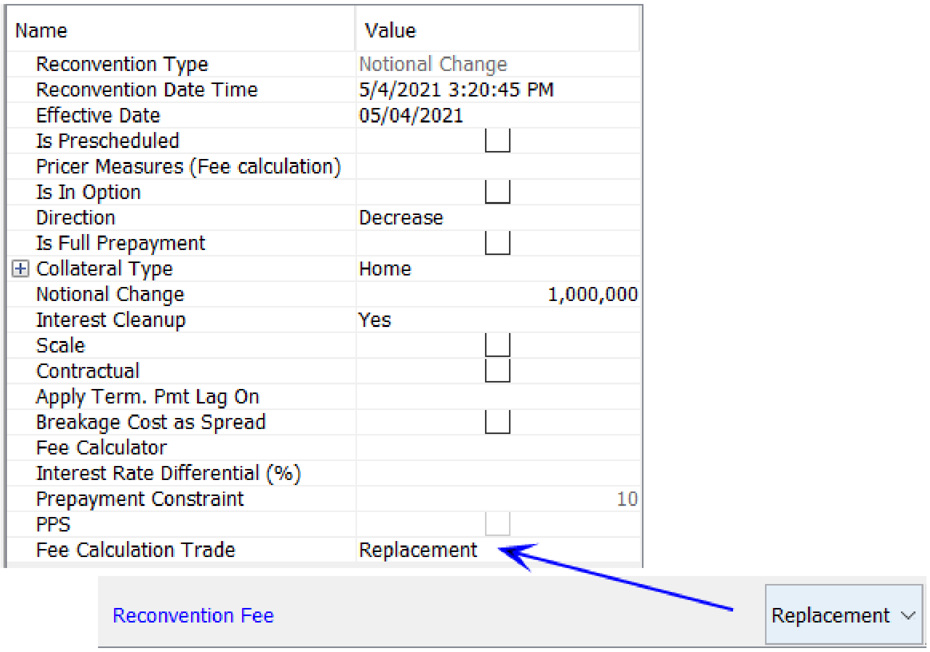
Name	Value
Reconvention Type	Maturity Date Change
Reconvention Date Time	10/5/2020 10:39:47 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Maturity Date	09/16/2020
Breakage Cost as Spread	☐
Contractual	☐

Sample Maturity Date Change reconvention

- Maturity Date: Select a maturity date.

12.6.7 Notional Change

You can change the principal amount using the Notional Change reconvention.



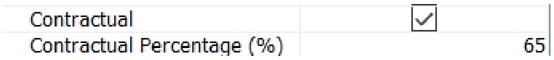
Name	Value
Reconvention Type	Notional Change
Reconvention Date Time	5/4/2021 3:20:45 PM
Effective Date	05/04/2021
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Direction	Decrease
Is Full Prepayment	☐
⊞ Collateral Type	Home
Notional Change	1,000,000
Interest Cleanup	Yes
Scale	☐
Contractual	☐
Apply Term. Pmt Lag On	
Breakage Cost as Spread	☐
Fee Calculator	
Interest Rate Differential (%)	
Prepayment Constraint	10
PPS	☐
Fee Calculation Trade	Replacement

Reconvention Fee: Replacement

Sample Notional Change reconvention

- Enter the direction of the notional change: Increase or Decrease.
- Enter the amount of the notional change.

- Interest Cleanup - Select "Yes" to perform an interest cleanup at the same time as the rerate, select "Partial, Prepayment Amount only" for a partial interest cleanup, otherwise select "No" for no interest cleanup.
- Check the Scale checkbox to scale the notional change with each amortization payment.
- Check the Contractual checkbox to indicate that the notional change is contractual. You can then enter the contractual percentage. For information purposes only.



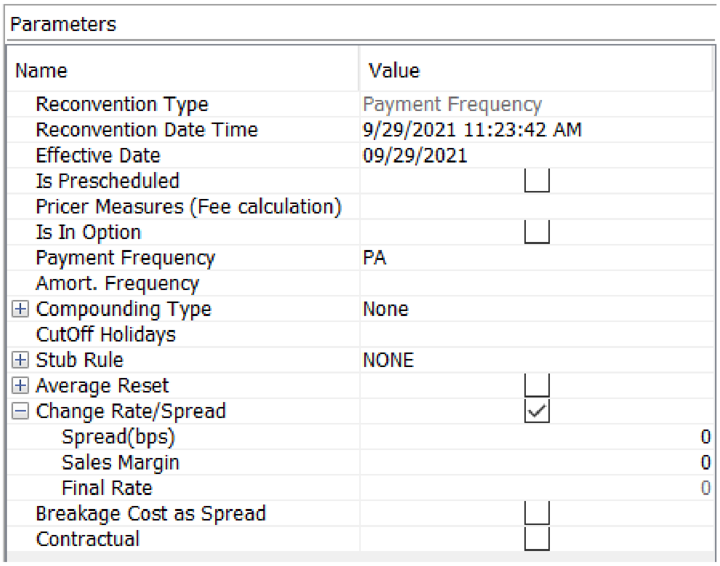
Contractual	☑
Contractual Percentage (%)	65

- Fee Calculator - You can select a fee calculator to compute the fee amount when you click **Calculate**, or select Manual to enter the fee amount manually.
- Apply Term. Pmt Lag On - This only applies to full notional change - Select the cashflows where the payment lag should be applied: Principal, Interest, Both, None or not set.

  Default is not set, which means that no lag applied to Principal and lag applied to Interest.
- Interest Rate Differential - Enter the percentage of interest rate differential, which is the fee computed based on the difference between the original trade and replacement trade.
- Prepayment Constraint - This field is only applicable for Advance trades.
- PPS - This field is only applicable for Advance trades.
- Fee Calculation Trade - Set to Replacement or Original based on the selection in the Reconvention Fee area.
  - Replacement - The fee is computed based on the NPV of the replacement trade (default).
  - Original - The fee is computed based on the NPV of the original trade.

12.6.8 Payment Frequency

You can change the payment frequency using the Payment Frequency reconvention.



Parameters

Name	Value
Reconvention Type	Payment Frequency
Reconvention Date Time	9/29/2021 11:23:42 AM
Effective Date	09/29/2021
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Payment Frequency	PA
Amort. Frequency	
⊞ Compounding Type	None
CutOff Holidays	
⊞ Stub Rule	NONE
⊞ Average Reset	☐
⊟ Change Rate/Spread	☑
Spread(bps)	0
Sales Margin	0
Final Rate	0
Breakage Cost as Spread	☐
Contractual	☐

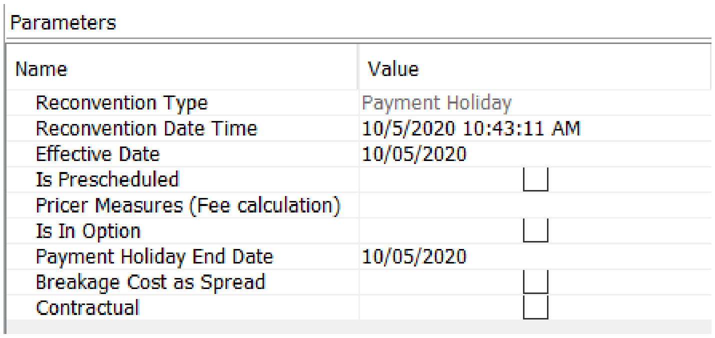
Sample Payment Frequency reconvention

- Select the Payment Frequency.
- Select the Amortization Frequency.
- Select the Compounding Type. You can expand this field to set additional compounding parameters.
- Select the Stub Rule. You can expand this field to define the stub periods.
- Enter a new rate (fixed) or spread (floating) to perform a rerate at the same time.

  Enter a sales margin as needed.

12.6.9 Payment Holiday

You can specify a payment holiday using the Payment Holiday reconvention. This allows you to delay the payment of all subsequent flows to begin again at a later date. For the duration of a payment holiday, no payments will be made.



Parameters

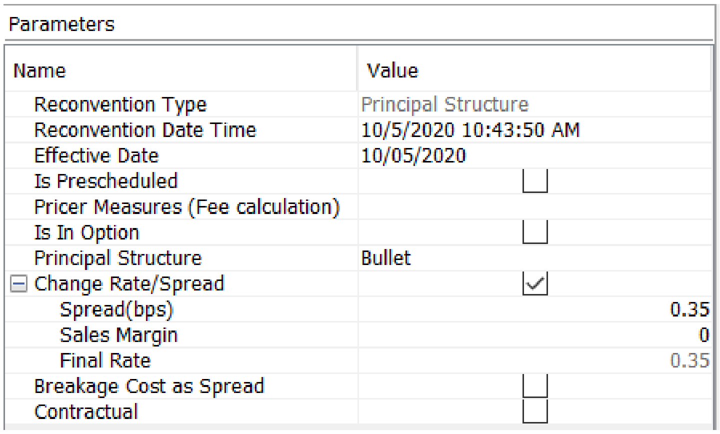
Name	Value
Reconvention Type	Payment Holiday
Reconvention Date Time	10/5/2020 10:43:11 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Payment Holiday End Date	10/05/2020
Breakage Cost as Spread	☐
Contractual	☐

Sample Payment Holiday reconvention

- Effective Date - Enter the start date of the payment holiday.
- Payment Holiday End Date - Enter the end date of the payment holiday.

12.6.10 Principal Structure

You can change principal structure on the remainder of the trade using the Principal Structure reconvention.



Parameters

Name	Value
Reconvention Type	Principal Structure
Reconvention Date Time	10/5/2020 10:43:50 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Principal Structure	Bullet
⊟ Change Rate/Spread	☑
Spread(bps)	0.35
Sales Margin	0
Final Rate	0.35
Breakage Cost as Spread	☐
Contractual	☐

Sample Principal Structure reconvention

- Principal Structure - Select the type of amortization type and set the corresponding amortization parameters. Then click **Generate** and **OK**.

  If the amortization type requires calculation, the principal amount that was remaining on the Effective Date will be the starting amount.

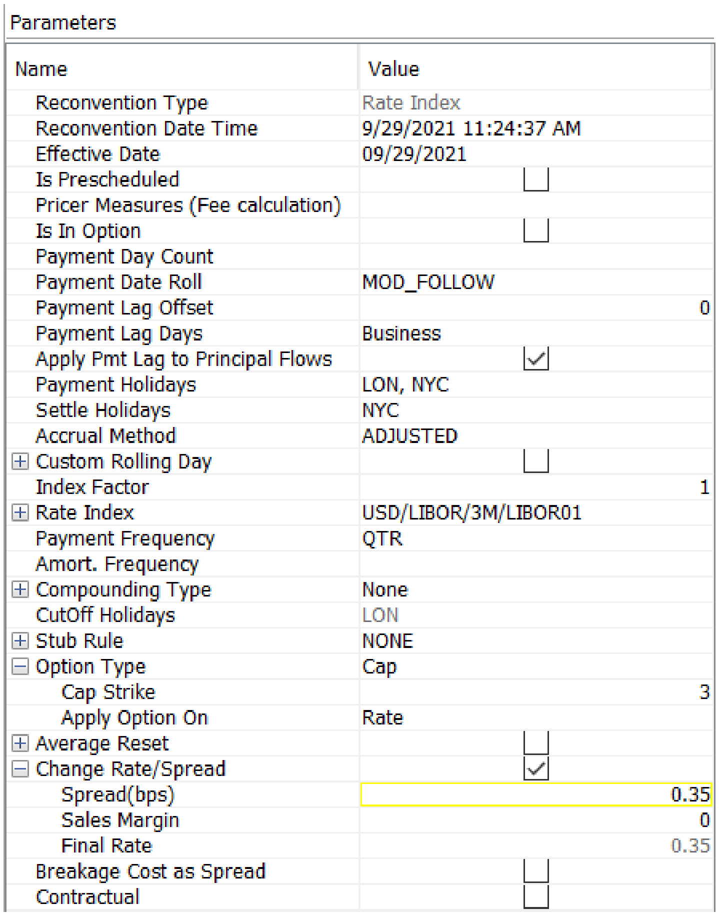
- Enter a new rate (fixed) or spread (floating) to perform a rerate at the same time.

  If the rerate reconvention uses a hypersurface and the new structure is not Bullet, it triggers the IsAmortizing trigger and allows the calculation of the measures using the new amortization structure.

  Enter a sales margin as needed.

12.6.11 Rate Index

You can change the index of a floating rate trade using the Rate Index reconvention.



Parameters

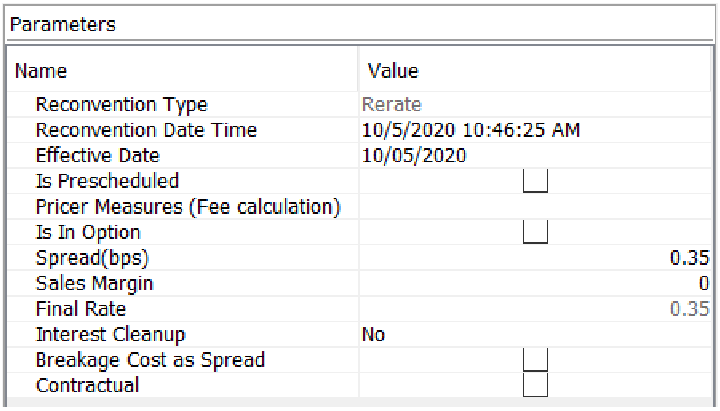
Name	Value
Reconvention Type	Rate Index
Reconvention Date Time	9/29/2021 11:24:37 AM
Effective Date	09/29/2021
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Payment Day Count	
Payment Date Roll	MOD_FOLLOW
Payment Lag Offset	0
Payment Lag Days	Business
Apply Pmt Lag to Principal Flows	☑
Payment Holidays	LON, NYC
Settle Holidays	NYC
Accrual Method	ADJUSTED
⊞ Custom Rolling Day	☐
Index Factor	1
⊞ Rate Index	USD/LIBOR/3M/LIBOR01
Payment Frequency	QTR
Amort. Frequency	
⊞ Compounding Type	None
CutOff Holidays	LON
⊞ Stub Rule	NONE
⊟ Option Type	Cap
Cap Strike	3
Apply Option On	Rate
⊞ Average Reset	☐
⊟ Change Rate/Spread	☑
Spread(bps)	0.35
Sales Margin	0
Final Rate	0.35
Breakage Cost as Spread	☐
Contractual	☐

Sample Rate Index reconvention

» Select a Rate Index. You can then specify its parameters.

12.6.12 Rerate

You can change the rate on a fixed leg or the spread on a floating leg trade using the Rerate reconvention.



Parameters

Name	Value
Reconvention Type	Rerate
Reconvention Date Time	10/5/2020 10:46:25 AM
Effective Date	10/05/2020
Is Prescheduled	☐
Pricer Measures (Fee calculation)	
Is In Option	☐
Spread(bps)	0.35
Sales Margin	0
Final Rate	0.35
Interest Cleanup	No
Breakage Cost as Spread	☐
Contractual	☐

Sample Rerate reconvention

- Enter a new rate (fixed) or spread (floating).

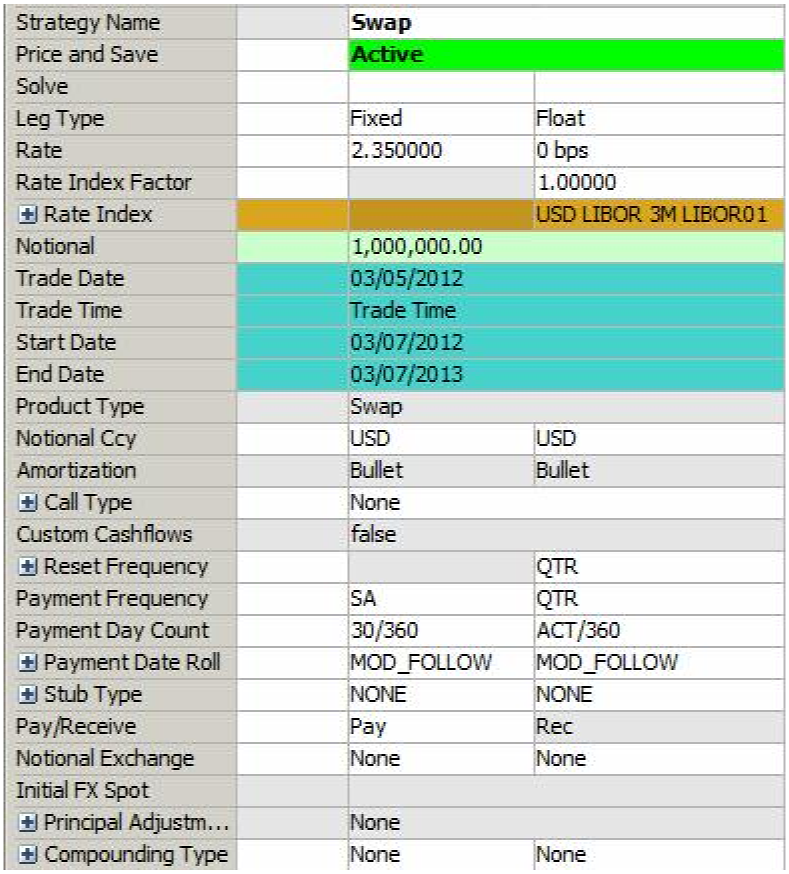
  [NOTE: This will overwrite the market measures if any]

  Enter a sales margin as needed.
- Interest Cleanup - Select "Yes" to perform an interest cleanup at the same time as the rerate, otherwise select "No".

12.7 Swap Trades

Key Properties

Pay/Receive - Call Type - Cap "Product Rate" properties (no strike) - Structured Flows "Product: Payment" properties



Strategy Name		**Swap**	
Price and Save		**Active**	
Solve			
Leg Type		Fixed	Float
Rate		2.350000	0 bps
Rate Index Factor			1.00000
⊞ Rate Index			USD LIBOR 3M LIBOR01
Notional		1,000,000.00	
Trade Date		03/05/2012	
Trade Time		Trade Time	
Start Date		03/07/2012	
End Date		03/07/2013	
Product Type		Swap	
Notional Ccy		USD	USD
Amortization		Bullet	Bullet
⊞ Call Type		None	
Custom Cashflows		false	
⊞ Reset Frequency			QTR
Payment Frequency		SA	QTR
Payment Day Count		30/360	ACT/360
⊞ Payment Date Roll		MOD_FOLLOW	MOD_FOLLOW
⊞ Stub Type		NONE	NONE
Pay/Receive		Pay	Rec
Notional Exchange		None	None
Initial FX Spot			
⊞ Principal Adjustm...		None	
⊞ Compounding Type		None	None

Sample Swap trade

"Product: Style" Properties

Properties	Description
Trade Type	Select "On Market" or "Off Market": • Off Market allows the addition of Sales Margin in terms of bp or a dollar amount, which will be represented as a CA Sales Margin Fee. • On Market includes the use of an off-market-rate swap, indicated by [om] in the Rate property. CA Sales Margin Fees can be included as well, resulting in two fee types for the saved trade.
Product Type	Displays the product type based on the selected strategy.
Notional Ccy	Select the currency of the notional. You can select a different currency for each leg. ▶ See Swap Trade - Cross-Currency for details.
Pay/Receive	Select the direction of the trade leg from the book's perspective.
Notional Exchange	Select Initial, Final, Amortization or any combination of the three to indicate that the notional amount will be exchanged, otherwise there is no exchange of notional.
Amortization	The amortization of the notional defaults to Bullet. You can also right-click the trade and choose "Supplemental" to specify an amortization schedule. ▶ See Setting an Amortization Schedule for details.
Leg Type	Select the trade leg type: Fixed or Float.
Call Type	Select "None". You can select "Cancellable" for a cancellable swap. ▶ See Cancelable Trades for details.
Custom Cashflows	Displays "true" if the cashflows have been customized, or "false" otherwise.

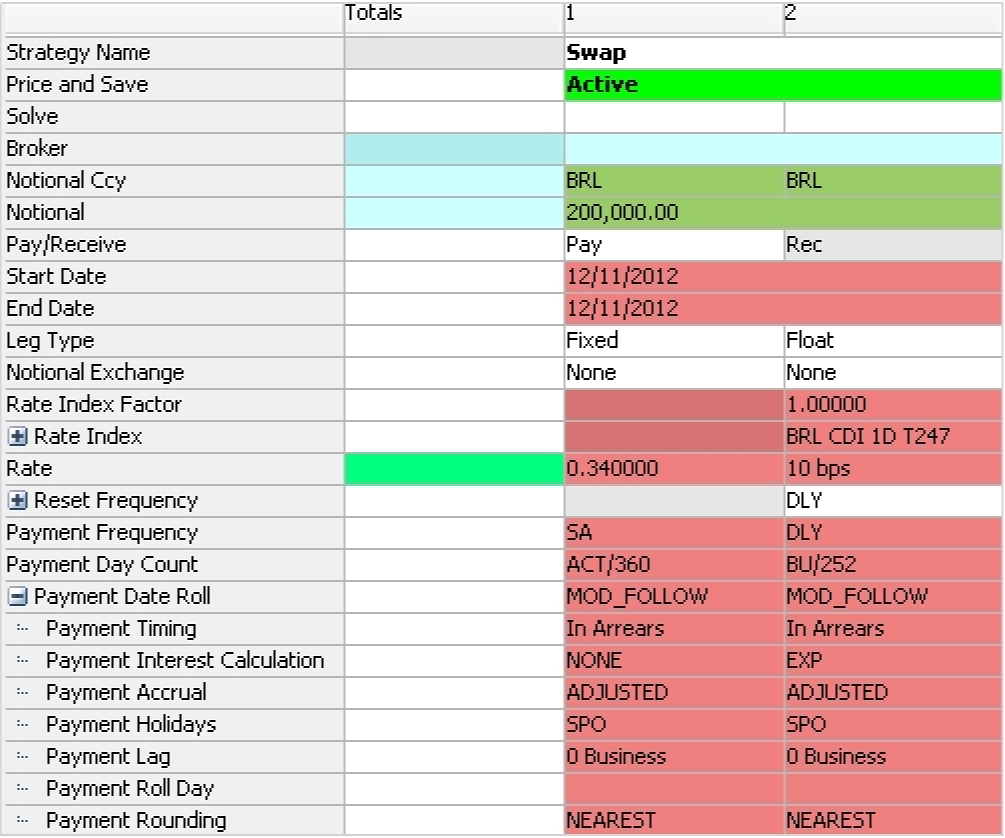
"Product: Rate" Properties

Properties	Description
Rate Index	Select the Rate Index: • ISDA Set In Advance: True or False. Setting to true will trigger behavior for daily compounded and averaging swap trades.

12.7.1 Brazilian Swaps

Key Properties

Swap Properties - Ccy - "Product: Rate" Properties - "Product: Payment" Properties



	Totals	1	2
Strategy Name		**Swap**	
Price and Save		**Active**	
Solve			
Broker			
Notional Ccy		BRL	BRL
Notional		200,000.00	
Pay/Receive		Pay	Rec
Start Date		12/11/2012	
End Date		12/11/2012	
Leg Type		Fixed	Float
Notional Exchange		None	None
Rate Index Factor			1.00000
⊞ Rate Index			BRL CDI 1D T247
Rate		0.340000	10 bps
⊞ Reset Frequency			DLY
Payment Frequency		SA	DLY
Payment Day Count		ACT/360	BU/252
⊟ Payment Date Roll		MOD_FOLLOW	MOD_FOLLOW
Payment Timing		In Arrears	In Arrears
Payment Interest Calculation		NONE	EXP
Payment Accrual		ADJUSTED	ADJUSTED
Payment Holidays		SPO	SPO
Payment Lag		0 Business	0 Business
Payment Roll Day			
Payment Rounding		NEAREST	NEAREST

Sample Brazil Swap trade

"Product: Rate" Properties

Properties	Description
Rate Index	Select the rate index, CDI. CDI interest calculation is compounded exponentially. If a PTAX rate is used, it will have to be configured in the Exotic Type Creator. From the Calypso Navigator, navigate to **Configuration > Product > Exotic Type Creator** to define the index and added to the Exotic Swap Strategy in the Strategy Builder. ▶ Please refer to Calypso Building Custom Strategies documentation for more details

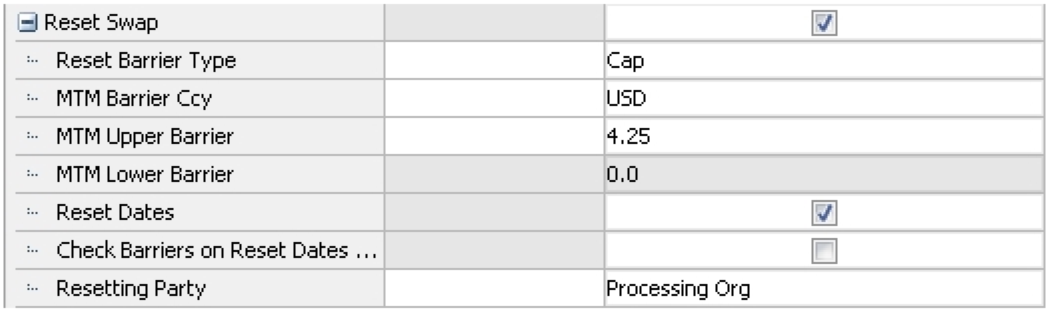
"Product: Payment" Properties

Properties	Description
Payment Frequency	Select the payment frequency.

Properties	Description
(Float Leg)	
Payment Day Count (Float Leg)	Select BU/252. Interest accrues using this daycount. The daycount fraction is the number of business days in the period divided by 252. Business days are set on the trade.
Payment Interest Calculation (Float Leg)	Select the interest calculation.

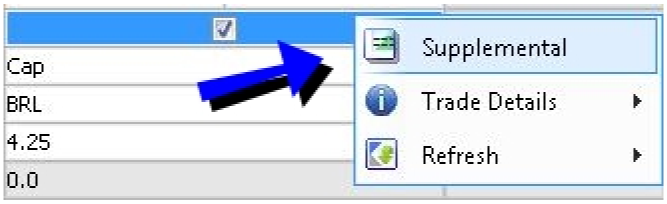
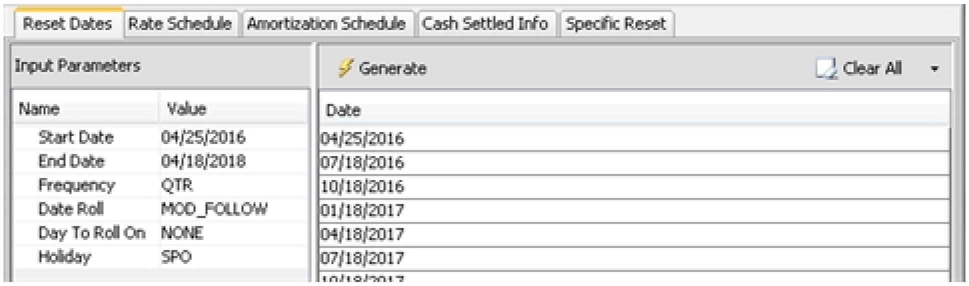
"Reset Swap" Properties

The Reset Swap properties allow for setting reset trigger conditions such as Cap, Floor, or Collar on the NPV of the swap or one or more reset dates. If any of the trigger conditions are met, the designated resetting party has the option to reset the swap.



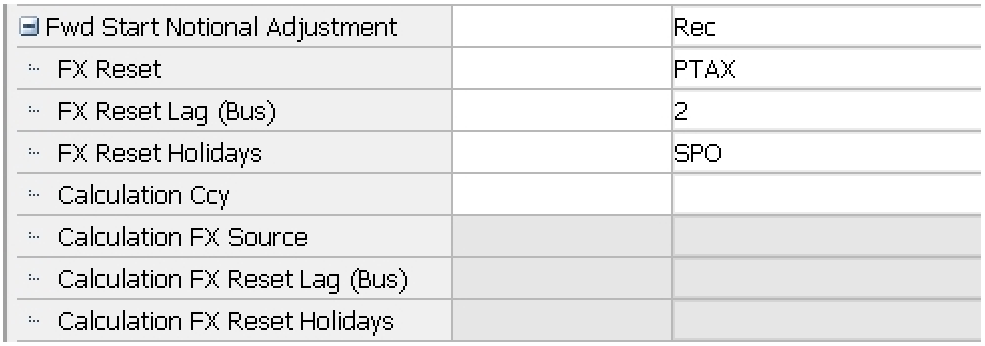
Reset Swap	☑
Reset Barrier Type	Cap
MTM Barrier Ccy	USD
MTM Upper Barrier	4.25
MTM Lower Barrier	0.0
Reset Dates	☑
Check Barriers on Reset Dates ...	☐
Resetting Party	Processing Org

Properties	Description
Reset Barrier Type	Select a trigger type for the swap: None, Cap, Floor, Collar.
MTM Barrier Ccy	Select the trade currency. When a barrier is set, both the mark to market (MTM) and the barrier will be converted to the base currency defined by the pricing environment.
MTM Upper Barrier	Enter the limit for the MTM upper barrier. This box is enabled when the Reset Barrier Type is set to either Cap or Collar.
MTM Lower Barrier	Enter the limit for the MTM lower barrier. This box is enabled when the Reset Barrier Type is set to either Floor or Collar.
Reset Dates	Select the checkbox to generate a schedule of one or more reset dates. » Right-click anywhere in the Swap Pay/Rec legs and select Supplemental from the menu.

Properties	Description
	 Cap BRL 4.25 0.0 Supplemental Trade Details Refresh This opens the Supplemental panel, which includes the Reset Dates tab.  Reset Dates Rate Schedule Amortization Schedule Cash Settled Info Specific Reset Input Parameters Generate Clear All Name: Value Start Date: 04/25/2016 End Date: 04/18/2018 Frequency: QTR Date Roll: MOD_FOLLOW Day To Roll On: NONE Holiday: SPO Date 04/25/2016 07/18/2016 10/18/2016 01/18/2017 04/18/2017 07/18/2017 » Enter a Start Date and End Date to define the duration for trigger reset dates. Then select the Frequency, Date Roll schedule, Day to Roll On, and Holiday schedule as needed. » Click **Generate** to see the schedule of trigger reset dates. If necessary, you can manually override the dates that are generated. » Click **Clear All** to clear all rows generated in the schedule. You can also click the arrow to see options for adding and deleting extra rows. » Once the schedule is complete, click **Save and Close**.
Check Barriers on Reset Dates Only	Enabled when both barrier and date conditions are specified. When selected, the barriers will only be monitored on the designated reset dates.
Resetting Party	Select Processing Org, Counterparty, or Mutual. **[NOTE: This setting is for informational purposes only and does not impact trade behavior.]**

"Fwd Start Notional Adjustment" Properties

These properties allow you to define a forward start for either a cross currency swap or non deliverable swap and adjust the notional of one of the legs based on the FX rate on the forward swap Start Date. On a USD/BRL cross currency swap, this feature allows participants to hedge a forward USD amount by fixing the USD notional and updating the BRL notional at the swap's Start Date. Between the Trade Date and the swap's Start Date, on which the BRL notional is fixed, the valuation of the forward starting cross currency swap is based on a projected FX rate.



⊟ Fwd Start Notional Adjustment		Rec
FX Reset		PTAX
FX Reset Lag (Bus)		2
FX Reset Holidays		SPO
Calculation Ccy		
Calculation FX Source		
Calculation FX Reset Lag (Bus)		
Calculation FX Reset Holidays		

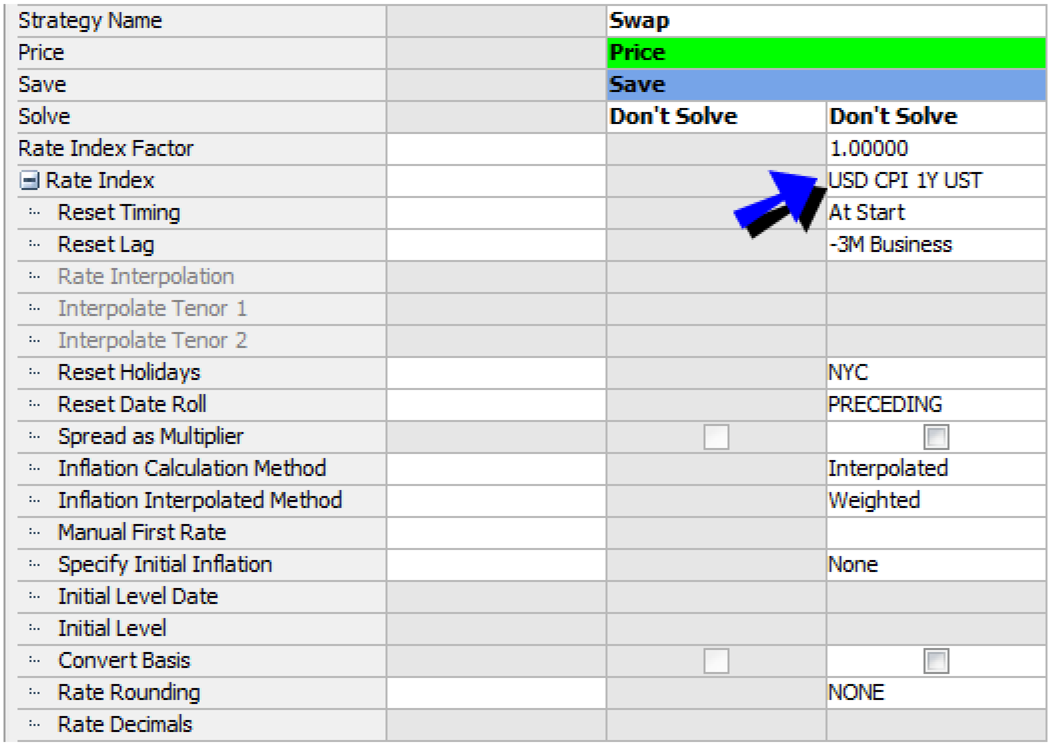
Properties	Description
Fwd Start Notional Adjustment	Select which leg will receive the notional adjustment: Pay, Rec, or None.
FX Reset	Select the FX Reset to be used to fix the notional.
FX Reset Lag (Bus)	Enter a number to be used for the Reset Lag if a reset lag is desired.
FX Reset Holidays	Select the holiday schedule to be used with the Reset Lag.
Calculation Ccy	To use an intermediate currency to calculate the FX rate, double-click this field and enter the calculating currency from the list.
Calculation FX Source	Select the FX reset for calculation. The FX reset will auto-populate when selecting the currency if the reset already exists in the system.
Calculation FX Reset Lag (Bus)	Enter an FX reset lag to override the lag set in the FX reset.
Calculation FX Reset Holidays	Select one or more FX reset holiday schedule(s). This field will auto-populate when entering the currency if an FX reset already exists but can be overridden.

12.7.2 Inflation Swaps

To enter an Inflation Swap, select the Swap strategy and select an inflation index.

Key Properties

Swap properties - "Product: Rate" Properties



Strategy Name		Swap	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
Rate Index Factor			1.00000
⊟ Rate Index			USD CPI 1Y UST
Reset Timing			At Start
Reset Lag			-3M Business
Rate Interpolation			
Interpolate Tenor 1			
Interpolate Tenor 2			
Reset Holidays			NYC
Reset Date Roll			PRECEDING
Spread as Multiplier		☐	☐
Inflation Calculation Method			Interpolated
Inflation Interpolated Method			Weighted
Manual First Rate			
Specify Initial Inflation			None
Initial Level Date			
Initial Level			
Convert Basis		☐	☐
Rate Rounding			NONE
Rate Decimals			

Sample Inflation Swap trade

"Product: Rate" Properties

Properties	Description
Rate Index	Select an inflation index. An inflation index can be defined from the Calypso Navigator by navigating to **Configuration > Interest Rates > Rate Index Definition.** Inflation specific fields will only be editable if an inflation index is selected.
Inflation Calculation Method	Select the calculation method: • IndexLevel – Index levels are not interpolated between publication dates. • Interpolated – Daily index levels are interpolated between reference dates. Select the interpolation method from the Inflation Interpolated Method field.
Inflation Interpolated Method	Only appears for the Interpolated calculation method. The only option is "Weighted".
Specify Initial Inflation	Select "None", "Initial Level Date" or "Initial Level".
Initial Level Date	Enter the initial level date. For a real rate swap, the Initial Level Date uses the Start Date as a base date rather than the Valuation

Properties	Description
	Date. The Initial Level Date is therefore relative to the Start Date. When saving a strategy template for a real rate swap, be sure to select "Relative" for the "Save dates as?" option. When you use a tenor in the date fields (e.g., 1d, 1w, 1m), new trades using the template will then populate dates according to the tenor and based on the current date. If you use "0d" for the Initial Level Date when creating the template, it will be populated with the same date as the Start Date.
Initial Level	Enter the initial level.
Inflation Calculation Type	Select the inflation calculation type: • InflationIncome - [(Final Level / Initial Level) - 1] • InflationIndexation – [Final Level / Initial Level] You can also set the following properties: • Apply To: – Select “Interest” to apply the inflation calculation type to the interest. If InflationIncome calculation type is selected, this is the only option available. – Select “Interest and Principal” to apply the InflationIndexation calculation type to both the interest and principal. If selected, the swap leg requires a manual Initial Level to be defined in the “Specify Initial Inflation” property. • Use Fixed Rate - When “Use Fixed Rate” is checked, enter a value in the property “Fixed Coupon Rate”. Then right-click the Fixed Coupon Rate and choose "Supplemental" to define the fixed coupon schedule. • Inflation Factor - Enabled only when Inflation Calculation Type = InflationIndexation. Determines the rounding method for the Inflation Factor on the Cash Flows panel. Options for this field are NONE, NEAREST, UP, DOWN. • Inflation Factor Decimal - Enabled only when Inflation Calculation Type = InflationIndexation. Determines the rounding precision for the Inflation Factor on the Cash Flows panel. Enter an integer to specify the precision. **[NOTE: to add the Inflation Factor column on the Cash Flows panel, in Pricing Sheet point to Configuration > User Preferences and select the Cash Flows tab. From there you can move the Inflation Factor column to the Selected Columns field to expose it in cashflows.]**

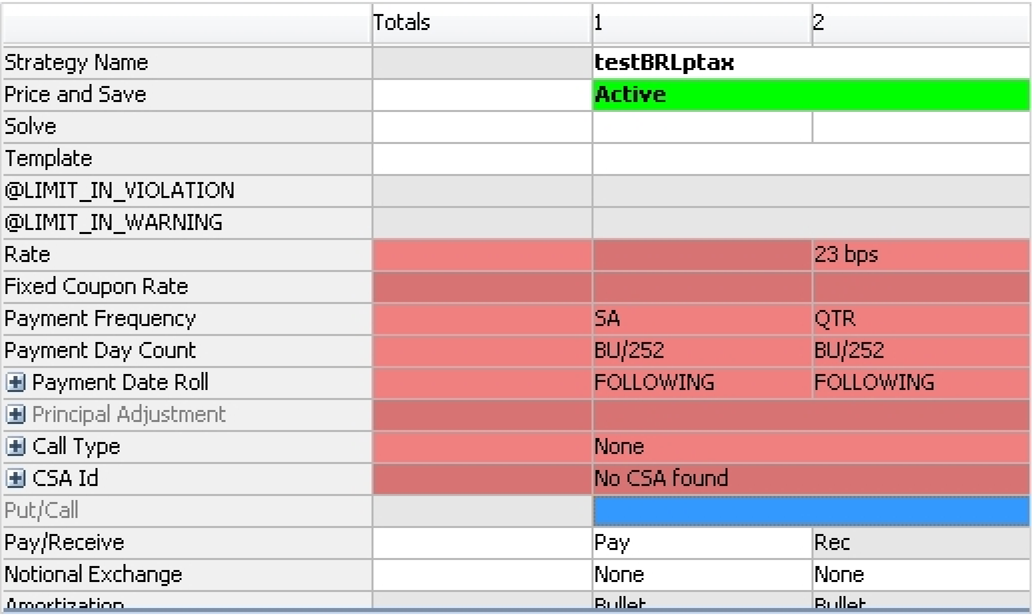
Leg link for Inflation Swaps trades can be configured.

- Fixed Coupon Rate - can be set to "=", "*", "+" or "-"

12.7.3 Brazilian Inflation (PTAX) Swaps

Key Properties

Swap Properties - Product: Rate Properties



	Totals	1	2
Strategy Name		testBRLptax	
Price and Save		Active	
Solve			
Template			
@LIMIT_IN_VIOLATION			
@LIMIT_IN_WARNING			
Rate			23 bps
Fixed Coupon Rate			
Payment Frequency		SA	QTR
Payment Day Count		BU/252	BU/252
⊞ Payment Date Roll		FOLLOWING	FOLLOWING
⊞ Principal Adjustment			
⊞ Call Type		None	
⊞ CSA Id		No CSA found	
Put/Call			
Pay/Receive		Pay	Rec
Notional Exchange		None	None
Amortization		Bullet	Bullet

Sample PTAX Inflation Swap trade

"Product: Rate" Properties

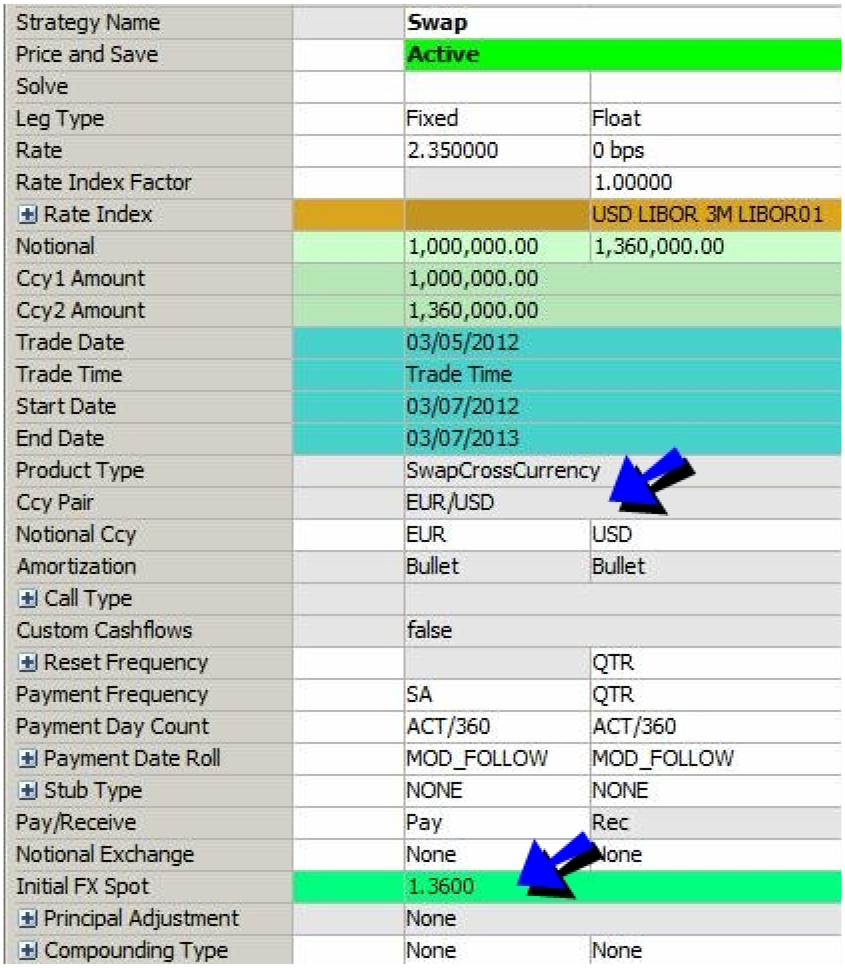
Properties	Description
Leg Type	Select Fixed or Float on one leg, and select PTAX in the other. To configure this type of leg, create a PTAX exotic structure in **Configuration > Product > Exotic Type Creator** and add it to the Exotic Swap strategy in the Pricing Sheet using **Configuration > Strategy Builder**.

12.7.4 Cross-Currency Swaps

Swaps where each leg is expressed in a different currency.

Key Properties

Swap properties - Ccy Pair - Initial FX Spot - Principal Adjustment



Strategy Name	Swap	
Price and Save	Active	
Solve		
Leg Type	Fixed	Float
Rate	2.350000	0 bps
Rate Index Factor		1.00000
⊞ Rate Index		USD LIBOR 3M LIBOR01
Notional	1,000,000.00	1,360,000.00
Ccy1 Amount	1,000,000.00	
Ccy2 Amount	1,360,000.00	
Trade Date	03/05/2012	
Trade Time	Trade Time	
Start Date	03/07/2012	
End Date	03/07/2013	
Product Type	SwapCrossCurrency	
Ccy Pair	EUR/USD	
Notional Ccy	EUR	USD
Amortization	Bullet	Bullet
⊞ Call Type		
Custom Cashflows	false	
⊞ Reset Frequency		QTR
Payment Frequency	SA	QTR
Payment Day Count	ACT/360	ACT/360
⊞ Payment Date Roll	MOD_FOLLOW	MOD_FOLLOW
⊞ Stub Type	NONE	NONE
Pay/Receive	Pay	Rec
Notional Exchange	None	None
Initial FX Spot	1.3600	
⊞ Principal Adjustment	None	
⊞ Compounding Type	None	None

Sample Cross-Currency Swap trade

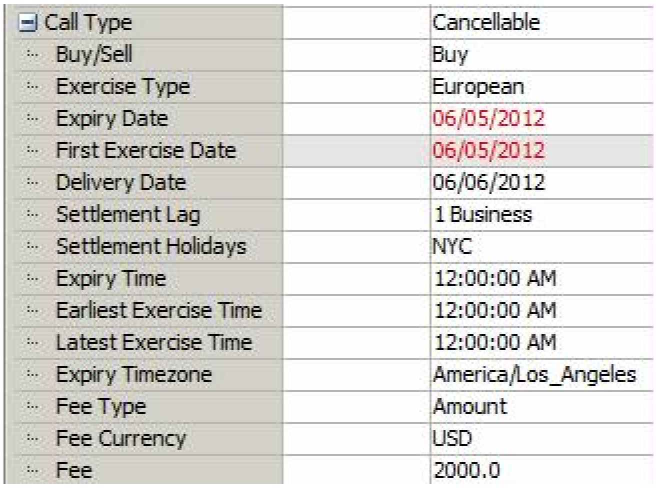
Properties	Description
Ccy Pair	Displays the currency pair when each leg is in a different currency.
Initial FX Spot	Enter the FX spot trade between the two currencies.
Principal Adjustment	If there is notional exchange, you can also specify notional adjustments at every coupon period based on FX rates. Select None, Pay (adjustments on the Pay leg), or Rec (adjustments on the rec leg). You can also set the following properties: • FX Reset - Select the FX rate reset to determine the FX rates for the adjustments. FX rate resets are defined from the Calypso Navigator using **Configuration > Foreign Exchange > FX Rate Definitions**. • Adjust First - Check to adjust the first cashflow.

Properties	Description
	• FX Reset Use Index Reset Date - Check to set the FX reset date to the index reset date. It is the payment begin date otherwise. If "FX Reset Use Index Reset Date" is not checked, you can set the FX Reset Lag and FX Reset Holidays as needed.

12.7.5 Cancellable Swaps

Key Properties

Swap properties - Call Type = "Cancellable"



⊟ Call Type		Cancellable
Buy/Sell		Buy
Exercise Type		European
Expiry Date		06/05/2012
First Exercise Date		06/05/2012
Delivery Date		06/06/2012
Settlement Lag		1 Business
Settlement Holidays		NYC
Expiry Time		12:00:00 AM
Earliest Exercise Time		12:00:00 AM
Latest Exercise Time		12:00:00 AM
Expiry Timezone		America/Los_Angeles
Fee Type		Amount
Fee Currency		USD
Fee		2000.0

Sample Cancellable properties

Properties	Description
Call Type	Select "Cancellable". For a Cancellable swap, you can set the following properties: • Buy/Sell - Select Buy or Sell, the direction of the trade from the book's perspective. • Exercise Type - Select European, Bermudan, or American - See below for details.

European

The trade can only be canceled on the expiration date.

» Enter the expiration date in the Expiry Date field. If you enter a non-business day, it will automatically move to the previous business day.

- Enter the expiration time in the Expiry Time field, and select the corresponding timezone and holiday calendars.

  You can also enter the earliest exercise time and latest exercise time.
- The delivery date defaults to the spot date for the selected currency. You can modify as needed. You can also enter the number of lag days in the Settlement Lag field and select whether the lag days are business days or calendar days.
- You can select a fee type in the Fee Type field (Amount or %), and enter the fee amount / percentage in the Fee field. Select the fee currency from the Fee Currency field.

American

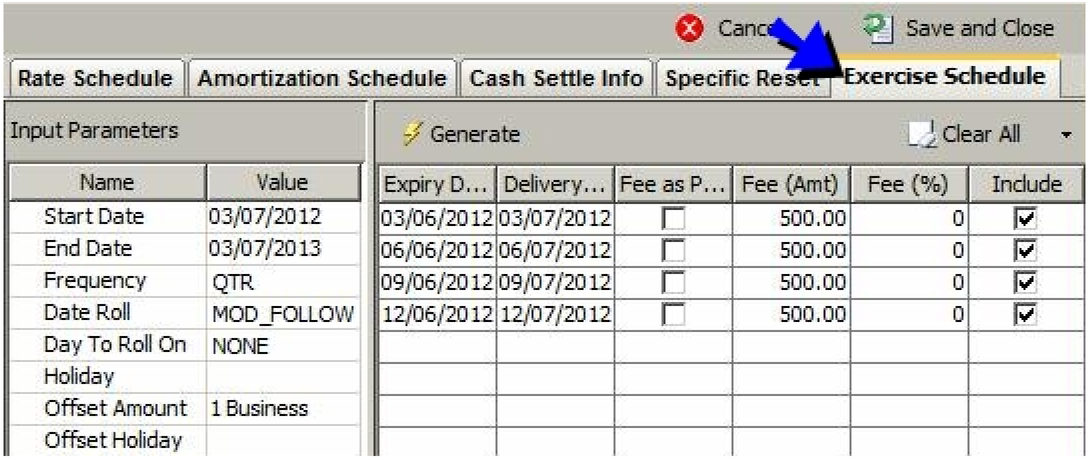
The trade can be canceled between the first exercise date and the expiration date.

- Enter the first exercise date in addition to the European properties.

Bermudan

The trade can be canceled according to a user-defined schedule.

Right-click the trade and choose "Supplemental" to specify the Schedule.



Input Parameters

Name	Value
Start Date	03/07/2012
End Date	03/07/2013
Frequency	QTR
Date Roll	MOD_FOLLOW
Day To Roll On	NONE
Holiday	
Offset Amount	1 Business
Offset Holiday	

Expiry D...	Delivery...	Fee as P...	Fee (Amt)	Fee (%)	Include
03/06/2012	03/07/2012	☐	500.00	0	☑
06/06/2012	06/07/2012	☐	500.00	0	☑
09/06/2012	09/07/2012	☐	500.00	0	☑
12/06/2012	12/07/2012	☐	500.00	0	☑

Sample Bermudan Schedule

- The start and end dates default to the trade's start and end dates.

  Select a frequency, date roll and holiday calendars to generate the schedule.

  Enter a number of lag days to compute the delivery date based on the actual call date. And select Bus if the lag days are business days, or Cal for calendar days.
- Click **Generate** to generate the schedule.

  You can click the "Clear All" menu to add / remove dates.

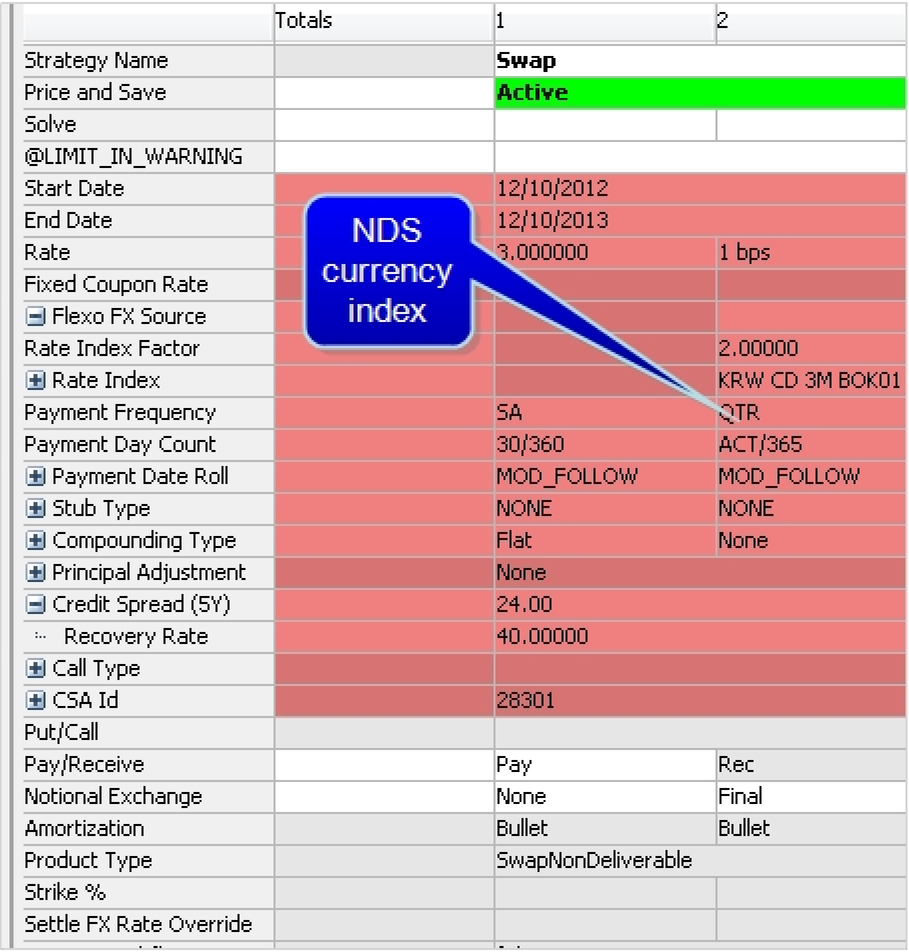
  You can enter the fees in the schedule in percentage or in amounts. The Fee currency is selected in the trade's "Fee Currency" property.

» Then click **Save and Close** to apply the schedule to the trade.

12.7.6 Non-deliverable Swaps

Key Properties

Swap Properties - Currency type: Non-Deliverable - Product: Style properties - Product: Rate properties



	Totals	1	2
Strategy Name		**Swap**	
Price and Save		**Active**	
Solve			
@LIMIT_IN_WARNING			
Start Date		12/10/2012	
End Date		12/10/2013	
Rate		3.000000	1 bps
Fixed Coupon Rate			
⊟ Flexo FX Source			
Rate Index Factor			2.00000
⊞ Rate Index			KRW CD 3M BOK01
Payment Frequency		SA	QTR
Payment Day Count		30/360	ACT/365
⊞ Payment Date Roll		MOD_FOLLOW	MOD_FOLLOW
⊞ Stub Type		NONE	NONE
⊞ Compounding Type		Flat	None
⊞ Principal Adjustment		None	
⊟ Credit Spread (5Y)		24.00	
Recovery Rate		40.00000	
⊞ Call Type			
⊞ CSA Id		28301	
Put/Call			
Pay/Receive		Pay	Rec
Notional Exchange		None	Final
Amortization		Bullet	Bullet
Product Type		SwapNonDeliverable	
Strike %			
Settle FX Rate Override			

"Product: Style" Properties

Properties	Description
Settle Type	Select for Non-Deliverable FX Reset or Non-Deliverable Fixed FX.
Settle Ccy	Select the settlement currency.
Quanto Factor	Used when Settle Type = Non-Deliverable (Fixed FX). Displays the current quanto factor.

Properties	Description
Quanto Ccy Pair	Used when Settle Type = Non-Deliverable (Fixed FX). Displays the currency pair between the Notional Ccy and the Settle Ccy.

"Product: Rate" Properties

Properties	Description
Flexo FX Source	If Settle Type = Non-Deliverable (FX Reset), enter the following values: Flexo FX Reset Lag - Enter a lag value to override the default reset lag for the selected Settlement Source. Flexo FX Reset Holidays - Select a holiday calendar to override the default holiday calendar for the selected Settlement Source.
Calculation Ccy	Select the intermediate currency to convert notional currency to settle currency. Enter: – Calculation FX Rate – Calculation FX Source – Calculation FX Reset Lag – Calculation FX Reset Holidays

For NDS Swaps in the Pricing Sheet, the Events Viewer panel will display the following columns:

- Currency - Settlement currency
- Currency Native
- Amount - Interest amount in settle currency
- Amount Native Ccy
- Amount Calculation Ccy
- Settle FX Reset
- Settle Reset Date
- Calculation FX Reset
- Calculation Reset Date
- PV Amt - PV Disc in Native Ccy
- PV Amt Settle Ccy
- df - df of native Ccy
- df Settle Ccy

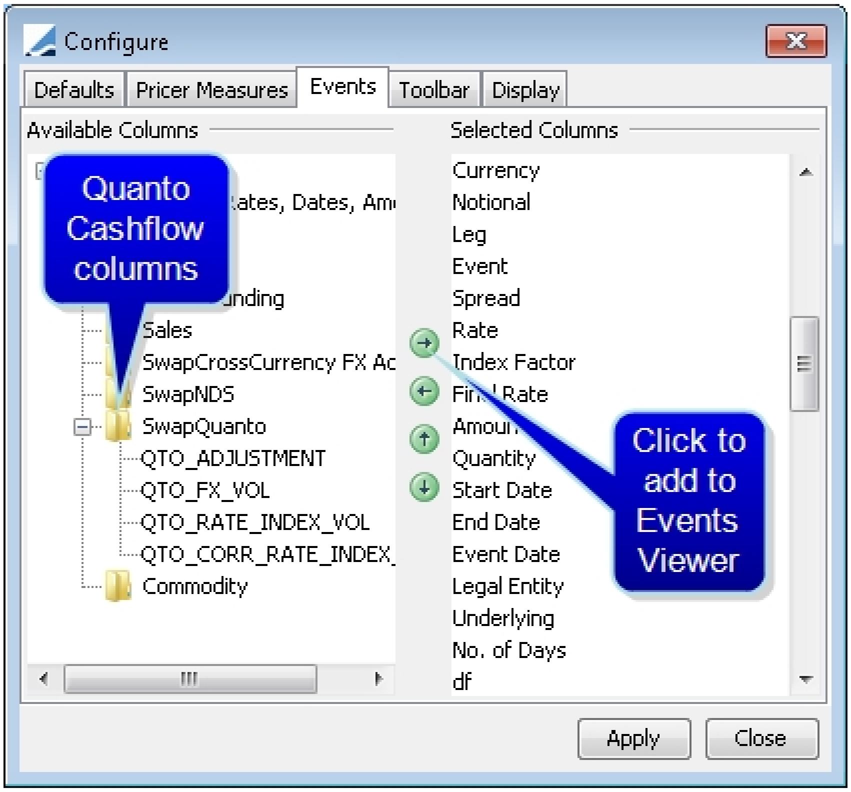
12.7.7 Quanto Swaps

A Quanto swap trade uses the Swap strategy. it is a swap where the rate index currency is different from the notional currency.

You can add the QTO cashflow values to the Events Viewer panel of the Pricing Sheet using **Configuration > User Preferences > Events tab**.

Key Properties

Swap Properties - Trade Events = QTO cashflow details

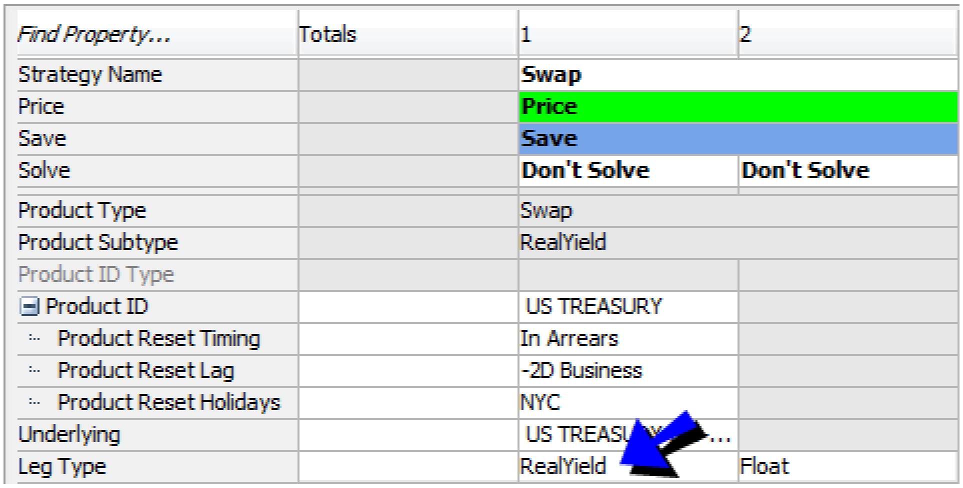

Configure
Defaults
Pricer Measures
Events
Toolbar
Display
Available Columns
Selected Columns
Quanto Cashflow columns
ates, Dates, Am
nding
Sales
SwapCrossCurrency FX Ac
SwapNDS
SwapQuanto
QTO_ADJUSTMENT
QTO_FX_VOL
QTO_RATE_INDEX_VOL
QTO_CORR_RATE_INDEX_
Commodity
Currency
Notional
Leg
Event
Spread
Rate
Index Factor
Fi l Rate
Amou
Quantity
Start Date
End Date
Event Date
Legal Entity
Underlying
No. of Days
df
Click to add to Events Viewer
Apply
Close

12.7.8 Real Yield Swaps

To enter a Real Yield Swap, select the Swap strategy and the "RealYield" leg type.

Key Properties

Swap properties - Underlying - Product ID



Find Property...	Totals	1	2
Strategy Name		**Swap**	
Price		**Price**	
Save		**Save**	
Solve		**Don't Solve**	**Don't Solve**
Product Type		Swap	
Product Subtype		RealYield	
Product ID Type			
Product ID		US TREASURY	
Product Reset Timing		In Arrears	
Product Reset Lag		-2D Business	
Product Reset Holidays		NYC	
Underlying		US TREAS ...	
Leg Type		RealYield	Float

Sample Real Yield Swap trade

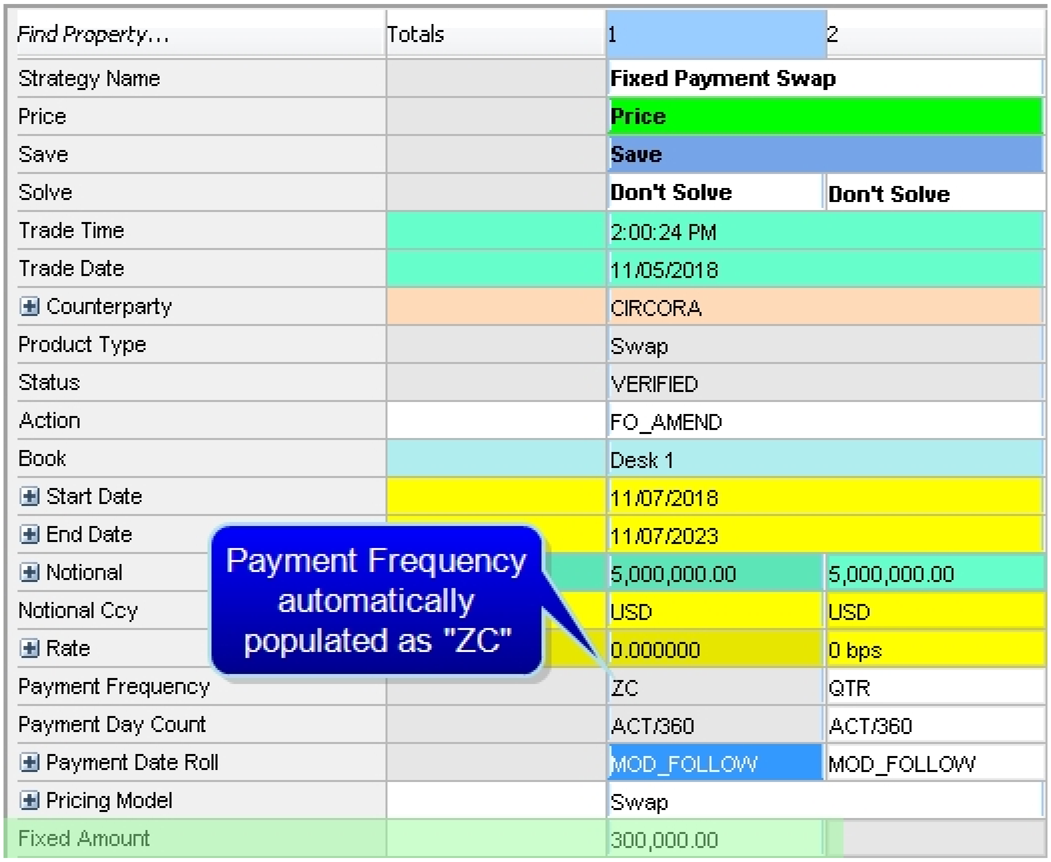
Properties	Description
Underlying	Double-click to select the underlying inflation bond.
Product ID	Displays the bond product identifier. You can also override the following bond properties: • Product Reset Timing - Select the product reset timing: At Start, or In Arrears. • Product Reset Lag - Enter product reset lag (number of days between the reset date and the payment date), and specify the reset lag as Business days or Calendar days. • Product Reset Holidays - Select the product reset holidays.

12.7.9 Fixed Payment Swap

The Fixed Payment Swap strategy allows for entering a fixed amount on the fixed leg to specify a cashflow amount that will be exchanged at the end of the period. The floating leg, on the other hand, can have exchanges during the life of the swap. Instead of entering a notional and rate to calculate the payment amount, a value is entered directly in the Fixed Amount property.

Key Properties

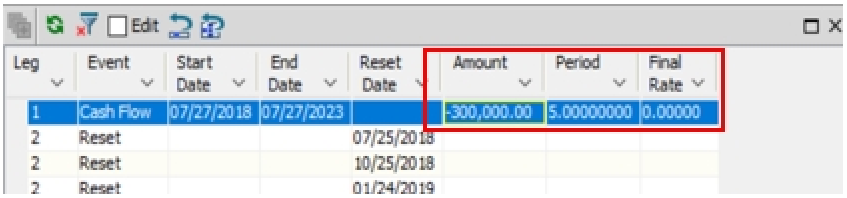
Swap properties - Fixed Amount



Find Property...	Totals	1	2
Strategy Name		**Fixed Payment Swap**	
Price		**Price**	
Save		**Save**	
Solve		**Don't Solve**	**Don't Solve**
Trade Time		2:00:24 PM	
Trade Date		11/05/2018	
⊞ Counterparty		CIRCORA	
Product Type		Swap	
Status		VERIFIED	
Action		FO_AMEND	
Book		Desk 1	
⊞ Start Date		11/07/2018	
⊞ End Date		11/07/2023	
⊞ Notional		5,000,000.00	5,000,000.00
Notional Ccy		USD	USD
⊞ Rate		0.000000	0 bps
Payment Frequency		ZC	QTR
Payment Day Count		ACT/360	ACT/360
⊞ Payment Date Roll		MOD_FOLLOW	MOD_FOLLOW
⊞ Pricing Model		Swap	
Fixed Amount		300,000.00	

Payment Frequency automatically populated as "ZC"

Cashflows indicate the amount for the fixed leg and have no information for the rate.



Leg	Event	Start Date	End Date	Reset Date	Amount	Period	Final Rate
1	Cash Flow	07/27/2018	07/27/2023		-300,000.00	5.00000000	0.00000
2	Reset			07/25/2018			
2	Reset			10/25/2018			
2	Reset			01/24/2019			

12.7.10 Performance Swap

A Performance Swap trade is a swap where a set of future cash flows are exchanged between two counterparties. The primary leg can be a single asset only, with a bond or market index underlying. The secondary leg is currently limited to swaps.

Key Properties

Swap properties - Leg Type, Underlying - Product: Performance Schedule properties - Product: Income Schedule properties

Properties	Description
Underlying	Select the product that underlies the performance swap: A bond or a market index depending on what you specify under Leg Type.
Leg Type	Pricing sheet currently supports Bond and MarketIndex for the primary leg, and swap for the secondary leg.
Modified Adj Duration	Enabled when the primary leg type is "Market Index" and Fixing Type is set to "Spread". Enter a number.
Fixing Type	When the primary leg is set to Bond: Default value is based on the selected Bond Quote Type. When the primary leg is set to MarketIndex: Can set to Spread to disable Initial Price and set Units Based to False. This disables "Modified Adj Duration".
Notional Price	Bond asset detail. Select the notional price for the bond.
Use Asset Schedule	Bond asset detail that impacts the cashflows, set to true or false.

"Product: Performance Schedule" Properties

Properties	Description
Income Payments Type	Dropdown with options "NONE", "AT_MATURITY", "REF_ASSET_CPN_SCHEDULE", "CUSTOM_SCHEDULE", and "DATE_RULE".
Pmt Lag	This string applies a payment lag to the income payments.
Pmt Holidays	Selecting this property opens the Holiday Calendar widget from which payment holidays can be selected and customized.
Pmt Date Roll	Selecting this property opens the Date Roll widget from which payment date rolls can be specified.
Reinvestment Rate	Enter a number to apply a reinvestment rate.
Pmt Frequency	Select the frequency of payment from a dropdown menu.
Pmt Roll Day	Select the payment roll day from the dropdown.

"Product: Income Payments Type" Properties

Properties	Description
Income Payments Type	Bond only: Dropdown with options None, At Maturity, Upon Receipt, and Custom Schedule. Defaults to Upon Receipt.

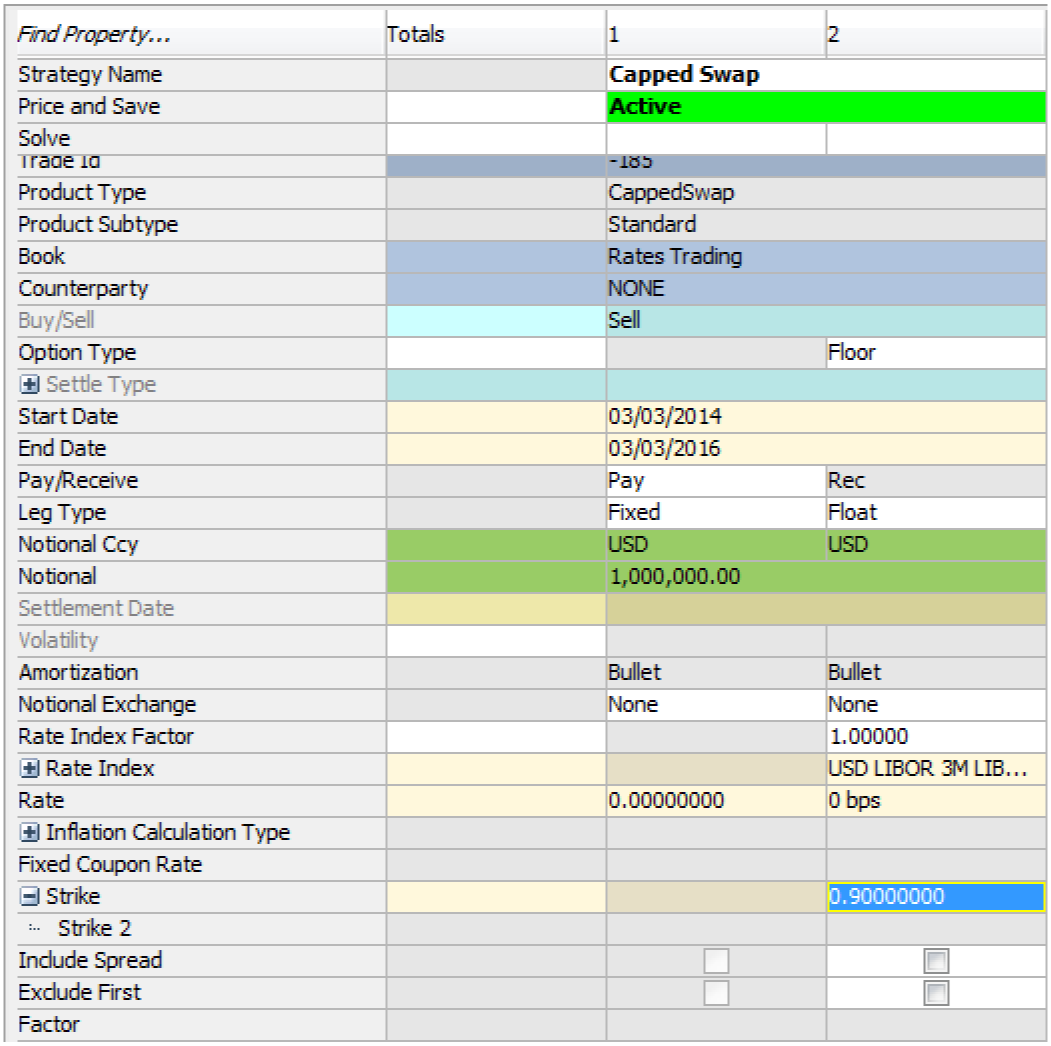
Properties	Description
Pmt Lag	This string applies a payment lag to the income payments.
Pmt Holidays	Selecting this property opens the Holiday Calendar widget from which payment holidays can be selected and customized.
Pmt Date Roll	Selecting this property opens the Date Roll widget from which payment date rolls can be specified.
Reinvestment Rate	Enter a number to apply a reinvestment rate.
Pmt Frequency	Select the frequency of payment from a dropdown menu.
Pmt Roll Day	Select the payment roll day from the dropdown.

12.8 Capped Swap Trades

A swap with a cap floor on the floating leg. The trade can be fixed-floating or floating-floating.

Key Properties

Swap properties - Option Type - Strike 2 - Factor - Volatility



Find Property...	Totals	1	2
Strategy Name		**Capped Swap**	
Price and Save		**Active**	
Solve			
Trade Id		-185	
Product Type		CappedSwap	
Product Subtype		Standard	
Book		Rates Trading	
Counterparty		NONE	
Buy/Sell		Sell	
Option Type			Floor
⊞ Settle Type			
Start Date		03/03/2014	
End Date		03/03/2016	
Pay/Receive		Pay	Rec
Leg Type		Fixed	Float
Notional Ccy		USD	USD
Notional		1,000,000.00	
Settlement Date			
Volatility			
Amortization		Bullet	Bullet
Notional Exchange		None	None
Rate Index Factor			1.00000
⊞ Rate Index			USD LIBOR 3M LIB...
Rate		0.00000000	0 bps
⊞ Inflation Calculation Type			
Fixed Coupon Rate			
⊟ Strike			0.90000000
Strike 2			
Include Spread		☐	☐
Exclude First		☐	☐
Factor			

Sample Capped Swap trade

"Product: Style" Properties

Properties	Description
Settle Type	Select for Non-Deliverable FX Reset or Non-Deliverable Fixed FX.
Settle Ccy	Select the settlement currency.
Quanto Factor	Used when Settle Type = Non-Deliverable (Fixed FX). Displays the current quanto factor.
Quanto Ccy Pair	Used when Settle Type = Non-Deliverable (Fixed FX). Displays the currency pair between the Notional Ccy and the Settle Ccy.

"Product: Payment" Properties

Properties	Description
Compounding Type	Select the compounding type, if applicable, or none. • Flat - Flat compounding - The spread is added after the compounding is computed if any. Current period interest is calculated using floating rate plus spread. But compound interest is calculated using floating rate only (and the spread is not added). • Spread - The interest compounds at the rate value plus spread. Enter the Spread in the Compounding Spread field. • SimpleSpr (Swaps only) - This involves compounding the Floating Rate but treating the spread as simple interest. In other words, the floating rate interest is earned at the end of a period but not the spread (only the floating rate is added back into the notional). The spread is then calculated on the notional for the entire calculation period without compounding. • NoCmp - A cashflow is created at the compounding period without actually compounding the interest. The daily rate resets for the floating rate are used to calculate the simple interest everyday and summed to find the total interest for the period. You can also set the following properties: • Compounding Frequency - Select the compounding frequency. The compounding frequency must be more frequent than the payment frequency. When you select a DLY compounding frequency for a rate index that is not setup for daily compounding, the DailyCompound calculator is used. • User Reset Period Dates - Check to compound trades based on the reset dates rather than the payment dates. • Compounding Stub • Sample Timing - Select the sample timing: "At Start" or "In Arrears". • Use Sample Period Shift - When checked, it includes an Observation Shift that allows shifting the whole Sample Period in addition to the Reset Dates, such that the weights of any given daily fixing remains the same.
Factor	Enter the factor. Available for the Option Type "Digital Cap", "Digital Floor" or "Digital Collar".

"Product: Rate" Properties

Properties	Description
Strike	Enter the upper strike. You can also specify the following property: • Strike 2 - Captures the lower strike. Available for the Option Type "Collar" or "Digital Collar".

Properties	Description
	You can also right-click the fields and choose "Supplemental" to specify a Strike Schedule. For "Strike 2", you can specify different schedules for the Upper and Lower Strike.
Option Type	Select an option type: None, Cap, Floor, Collar, Digital Cap, Digital Floor, Digital Collar.
Flexo FX Source	If Settle Type = Non-Deliverable (FX Reset), enter the following values: – Flexo FX Reset Lag - Enter a lag value to override the default reset lag for the selected Settlement Source. – Flexo FX Reset Holidays - Select a holiday calendar to override the default holiday calendar for the selected Settlement Source.
Calculation Ccy	Select the intermediate currency to convert notional currency to settle currency. Enter: – Calculation FX Rate – Calculation FX Source – Calculation FX Reset Lag – Calculation FX Reset Holidays

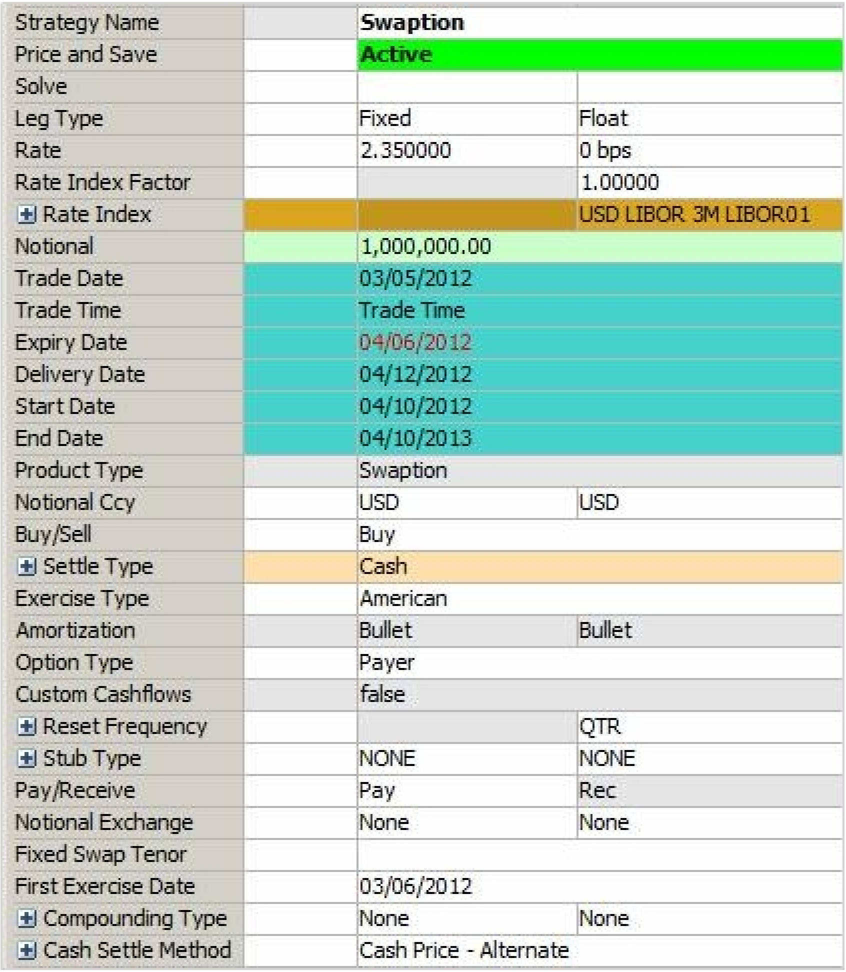
"Market Data" Properties

Properties	Description
Volatility	Displays the volatility based on the market data associated with the selected pricing environment. You can modify this value.

12.9 Swaption Trades

Key Properties

Swaption properties - Expiry Date - Delivery Date - Option Type - Exercise Type - Settle Type - Fixed Swap Tenor - Cash Settle Method



Strategy Name		Swaption	
Price and Save		Active	
Solve			
Leg Type		Fixed	Float
Rate		2.350000	0 bps
Rate Index Factor			1.00000
⊞ Rate Index			USD LIBOR 3M LIBOR01
Notional		1,000,000.00	
Trade Date		03/05/2012	
Trade Time		Trade Time	
Expiry Date		04/06/2012	
Delivery Date		04/12/2012	
Start Date		04/10/2012	
End Date		04/10/2013	
Product Type		Swaption	
Notional Ccy		USD	USD
Buy/Sell		Buy	
⊞ Settle Type		Cash	
Exercise Type		American	
Amortization		Bullet	Bullet
Option Type		Payer	
Custom Cashflows		false	
⊞ Reset Frequency			QTR
⊞ Stub Type		NONE	NONE
Pay/Receive		Pay	Rec
Notional Exchange		None	None
Fixed Swap Tenor			
First Exercise Date		03/06/2012	
⊞ Compounding Type		None	None
⊞ Cash Settle Method		Cash Price - Alternate	

Sample Swaption trade

"Product: Style" Properties

Properties	Description
Option Type	Select the option type: Payer, Receiver, or Straddle.
Exercise Type	Select the exercise type: • European (default value) - The option may only be exercised on the expiry date. You can select a fee type (Amount or %) and enter a fee. • American - You can exercise the option anytime between the first exercise date and the expiration date. You can define a fee schedule. Right-click the trade and choose "Supplemental" to define the fee schedule. For American Swaptions in the Pricing Sheet, changing the Delivery Date will not effect

Properties	Description
	the underlying Swap Start Date. Shortcuts applied to the Swap Start Date are based on the Trade Start Date, not the Delivery Date. Changing the Swap End Date triggers the validation of the Expiry Date. If it is after the new End Date, the dates become equal. ▶ See Defining a Fee Schedule for details. • Bermudan - You can exercise the option according to a user-defined exercise schedule. Right-click the trade and choose "Supplemental" to define the exercise schedule. It is the same as defining a cancelable schedule. ▶ See Cancelable Swaps for details.
Settle Type	Select the settlement type at exercise. The application may automatically select it based on the product type. • Cash - For cash settlement (exercise against a fee). • Physical - For physical settlement (exercise against the underlying product) - A trade on the underlying product is automatically created. • Cleared Physical Settlement You can also set the following properties: • Settlement Lag - Enter a number of lag days, months or years. This is the offset between the expiration date and the delivery date. Examples: 3D, 1M, 1Y, etc. • Settlement Lag Days - Select Business or Calendar. • Settlement Holidays - Select the holiday calendar. • Settlement Date Roll - Select the date roll convention. • Expiration Time Zone - Select the timezone of the expiration times. • Expiration Time - Enter the expiration time. • Earliest Exercise Time - Enter the earliest exercise time. • Latest Exercise Time - Enter the latest exercise time. • Automatic Exercise - Check to allow automatic exercise. Swaptions can be automatically exercised using the AUTOMATIC_EXERCISE scheduled task, provided they are in-the-money. You can specify a threshold in percentage to trigger the automatic exercise. Otherwise, choose **Processing > Exercise** to exercise the option - Help is provided from that window. • Partial/Multiple Exercise (European swaptions only) - Check to allow partial exercise. You can specify the minimum and maximum notional that can be partially exercised.
MidCurve /	Select an option from the drop-down list:

Properties	Description
FixedSwapTenor	• None - Neither MidCurve nor Fixed Swap Tenor is selected for the Swaption. • MidCurve - Select for a MidCurve Swaption, which sets the Product Subtype to MidCurve • FixedTenor - Select for a Fixed Tenor Swaption, which sets the Product Subtype to FT European. This selection disables the Start Date and End Date. You can also add a tenor to the Fixed Swap Tenor field (see below), press Enter, and the FixedTenor selection is automatically made. ***Pricing for Mid-Curve Swaption*** Mid-curve swaption needs to be priced using the pricer PricerSwaptionMidCurve. In addition to the volatility surface, discount curve and forecast curve, it requires a correlation matrix between the swaption expiry (Offset Axis), underlying swap start date (1st Axis = Lag) and underlying swap expiry (2nd Axis = Tenor). You can set the following parameters at trade level: • SWAPTION_MIDCURVE_CALCULATOR – Normal2Normal - Normal marginals + normal effective distributions. – Lognormal2Normal - Lognormal marginals + normal effective distributions. – Lognormal2ShiftedLognormal - Lognormal marginals + shifted-lognormal effective distributions. • VOLATILITY_LONG_TENOR - Marginal volatility of the long replicating swap. A value of '1.2' means 1.2 bp vol for normal marginals, while it is 1.2% for lognormals. Use to numerically calculate corresponding marginal vega. • VOLATILITY_SHORT_TENOR - Marginal volatility of the short replicating swap. Use to numerically calculate corresponding marginal vega. • USE_ATM_VOLS - Only True is currently supported. • CORRELATION - Correlation between the replicating swap rates. The correlation is of the 'same' type as the marginals. A value of '0.87' means: 87%. Use to numerically calculate corresponding CORRELATION_01. • SHIFTEDLOGNORMAL_SHIFT - Shift of the effective shifted-lognormal distribution. If missing, a default value of '0.0' is assumed. Ignored unless VOLATILITY is set as well. Not applicable to Normal2Normal / Lognormal2Normal models. • VOLATILITY - Effective volatility of the underlying swap. Use to numerically calculate corresponding vega.

Properties	Description
	More details can be found in the Calypso Analytics Library documentation.
Fixed Swap Tenor	Enter the fixed tenor of the swap for Fixed Tenor Swaptions. The swap starts on the option's delivery date and ends on the option's delivery date + fixed tenor. The system currently only supports the pricing of European Fixed Tenor Swaptions.

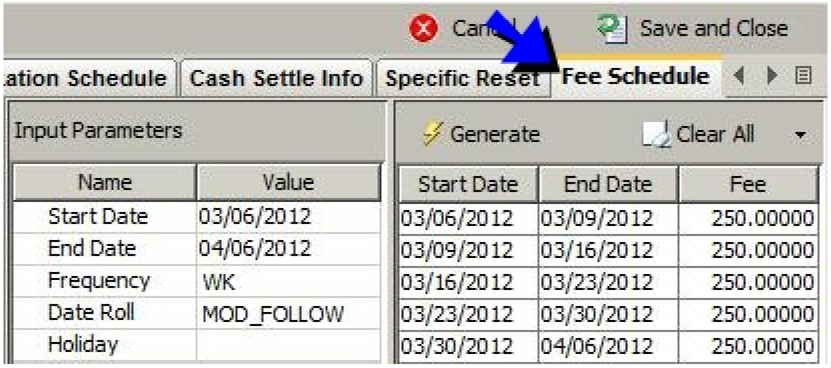
"Product: Payment" Properties

Properties	Description
Cash Settlement Method	Only applies to cash settlement. Select the settlement method to compute the settlement amount. [NOTE: If you have defined cash settlement defaults (CSD), it will pick up the settlement method from the CSD defined for the agreement specified in domain "CashSettleDefaultsAgreements" / rate index / currency - It is ANY by default. For example, ANY is defined in domain "CashSettleDefaultsAgreements", and you have a CSD defined for ANY / LIBOR / USD. If the trade is LIBOR / USD and settles in Cash, then the settlement method from the CSD will be set on the trade by default] You can set additional properties: • Valuation Date - Defaults to the Expiration Date. • Valuation Lag - Enter the number of days between the valuation date and the cash settle payment date. • Valuation Holidays - Select the holiday calendar. • Cash Settle Payment Date - Defaults to the Delivery Date. • Cash Settle Currency - Select the currency of the settlement amount. • Rate Source - You can select a rate source or none (empty). Rate sources are defined in the "RateSource" domain. If you select none, you have to select a set of reference banks in Rek Bank 1, Ref Bank 2, Ref Bank 3, Ref Bank 4, Ref Bank 5 - Legal entities of role ReferenceBank. If you select OTHER_SOURCE, you need to select a rate index in Cash Settle Rate Index. • Quotation Rate - Select the instance of the quotation rate that you want to use: MID, BID, or ASK. • Settle Rate - Displays the settlement rate used to compute the settlement amount for the cash settlement methods "Par Yield Curve - Adj." and "Par Yield Curve - Unadj.". In the Option Exercise Window, there is a Settlement Rate field. You can get the value from the pricing environment by clicking **Price**, or you can enter a value. If you enter a

Properties	Description
	rate, it will be displayed here. • Cash Settle Location - Select the ISDA location. • MV Applicable CSA - Activated when one of the following settlement types are selected: Mid-market Valuation, (Indicative Quotations), Mid-market Valuation (Indicative Quotations) - Alternate Method, or Mid-market Valuation (Calculation Agent Determination). Select No CSA, Existing CSA, or Reference VM CSA. • Cash Collateral Currency - Activated when MMV Applicable CSA is set to Reference VM CSA. Select a currency from a list defined in Domain Values. • Cash Collateral Interest Rate - Activated when MMV Applicable CSA is set to Reference VM CSA. Select a Rate Index (Populated via the arte index window from the database). • Agreed Discount Rate - Activated when one of the following settlement types are selected: Mid-market Valuation (Indicative Quotations), Mid-market Valuation (Indicative Quotations) - Alternate Method, or Mid-market Valuation (Calculation Agent Determination) and MMV Applicable CSA is set to No CSA. Also activated when Cash Settlement Type is set to Collateralized Cash Price. Also activated when Settlement type is set to Cleared Physical Settlement. Select a Rate Index (Populated via the rate index window from the database). • Mutually Agreed Clearing House - Activated when Cash Settlement type is set to Collateralized Cash Price. Also activated when Settlement type is set to Collateralized Cash Price. Enter text (up to 128 characters).

12.9.1 Defining a Fee Schedule

Right-click the trade and choose "Supplemental" to define a fee schedule for American swaptions.



Name	Value
Start Date	03/06/2012
End Date	04/06/2012
Frequency	WK
Date Roll	MOD_FOLLOW
Holiday	

Start Date	End Date	Fee
03/06/2012	03/09/2012	250.00000
03/09/2012	03/16/2012	250.00000
03/16/2012	03/23/2012	250.00000
03/23/2012	03/30/2012	250.00000
03/30/2012	04/06/2012	250.00000

Sample American Fee Schedule

» The start and end dates default to the trade's start and end dates.

Select a frequency, date roll and holiday calendars to generate the fee schedule.

» Click **Generate** to generate the schedule.

You can click the "Clear All" menu to add / remove cancellation dates.

You can enter the fees amounts in the fee schedule.

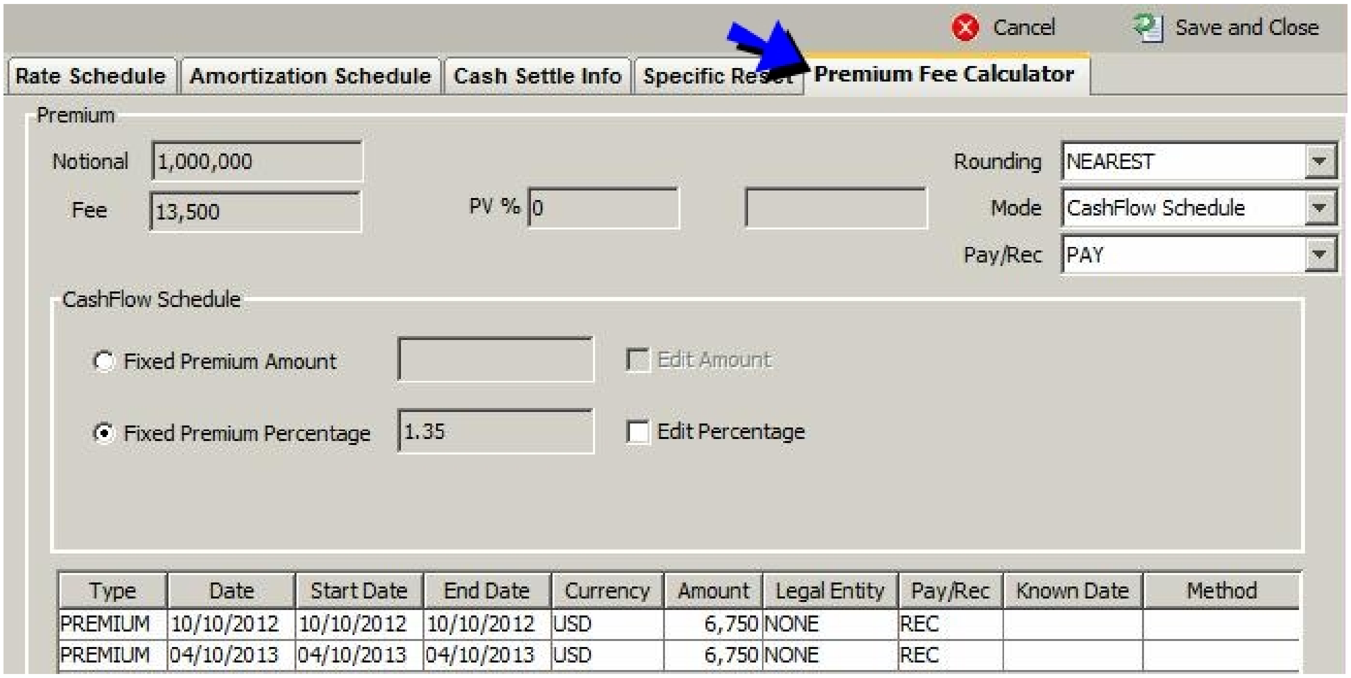
» Then click **Save and Close** to apply the schedule to the trade.

12.9.2 Computing the Premium Fee

The premium fee is a fee of type PREMIUM. Such a fee needs to be defined in the Calypso Navigator under **Configuration > Fees, Haircuts, & Margins > Fee Definition**.

Once you apply the premium fee to the trade, it is displayed in the Trade Events panel.

To compute the premium fee, price the trade, then right-click the trade and choose "Supplemental".



Notional 1,000,000

Fee 13,500

PV % 0

Rounding NEAREST

Mode CashFlow Schedule

Pay/Rec PAY

○ Fixed Premium Amount ☐ Edit Amount

● Fixed Premium Percentage 1.35 ☐ Edit Percentage

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec	Known Date	Method
PREMIUM	10/10/2012	10/10/2012	10/10/2012	USD	6,750	NONE	REC		
PREMIUM	04/10/2013	04/10/2013	04/10/2013	USD	6,750	NONE	REC		

Sample Cashflow Schedule premium fee

There are multiple ways to compute the premium fee.

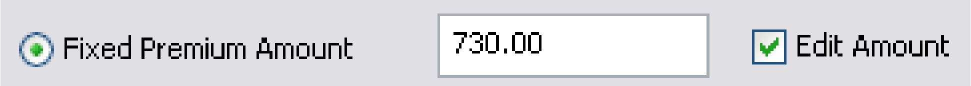
Cashflow Schedule

This is the default calculation when the trade is priced.

» You can modify the rounding convention from the Rounding field.

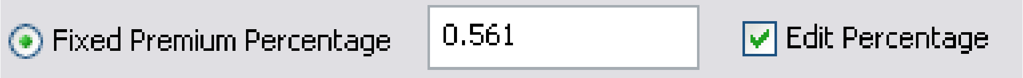
» You can modify the fee amount as needed.

  – Click “Fixed Premium Amount” and check the “Edit Amount” checkbox to modify the fee amount for each fee period.



● Fixed Premium Amount 730.00 ☑ Edit Amount

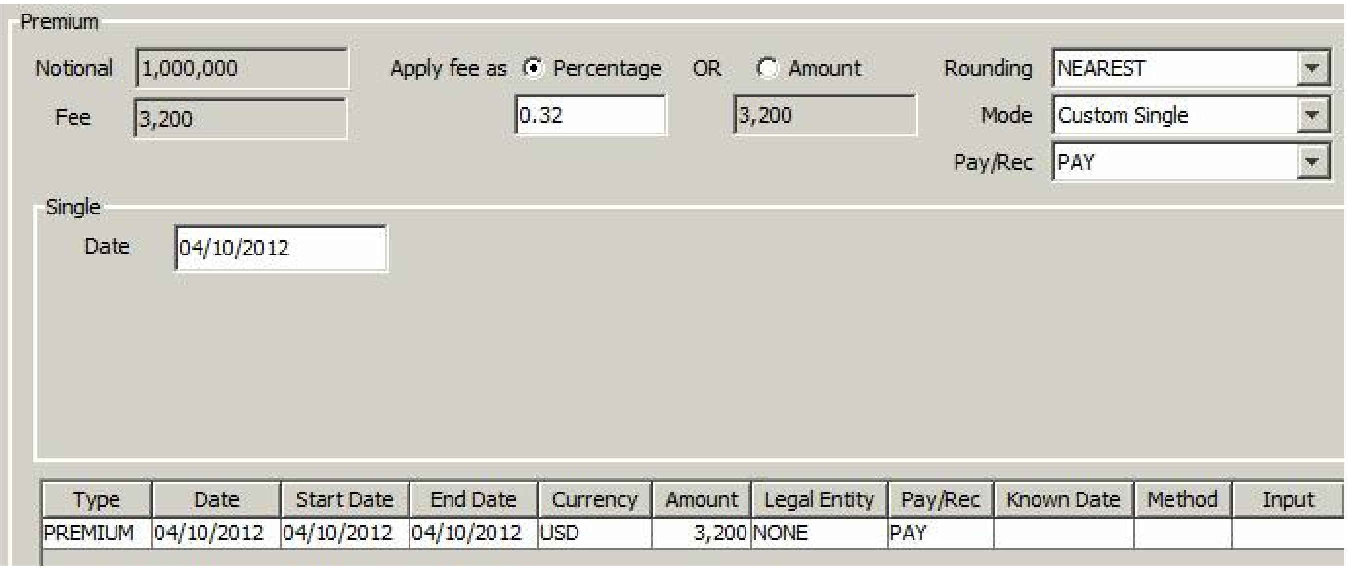
- Or click “Fixed Premium Percentage” and check the “Edit Amount” checkbox to modify the fee percentage.



● Fixed Premium Percentage 0.561 ☑ Edit Percentage

» Then click **Calc** to recalculate the fee, and click **Save and Close** to save the fees. You can view the generated fees in the Trade Events panel.

Single Premium Fee



Premium

Notional: 1,000,000

Fee: 3,200

Apply fee as ● Percentage 0.32 OR ○ Amount 3,200

Rounding: NEAREST

Mode: Custom Single

Pay/Rec: PAY

Single

Date: 04/10/2012

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec	Known Date	Method	Input
PREMIUM	04/10/2012	04/10/2012	04/10/2012	USD	3,200	NONE	PAY			

Sample Single Premium fee

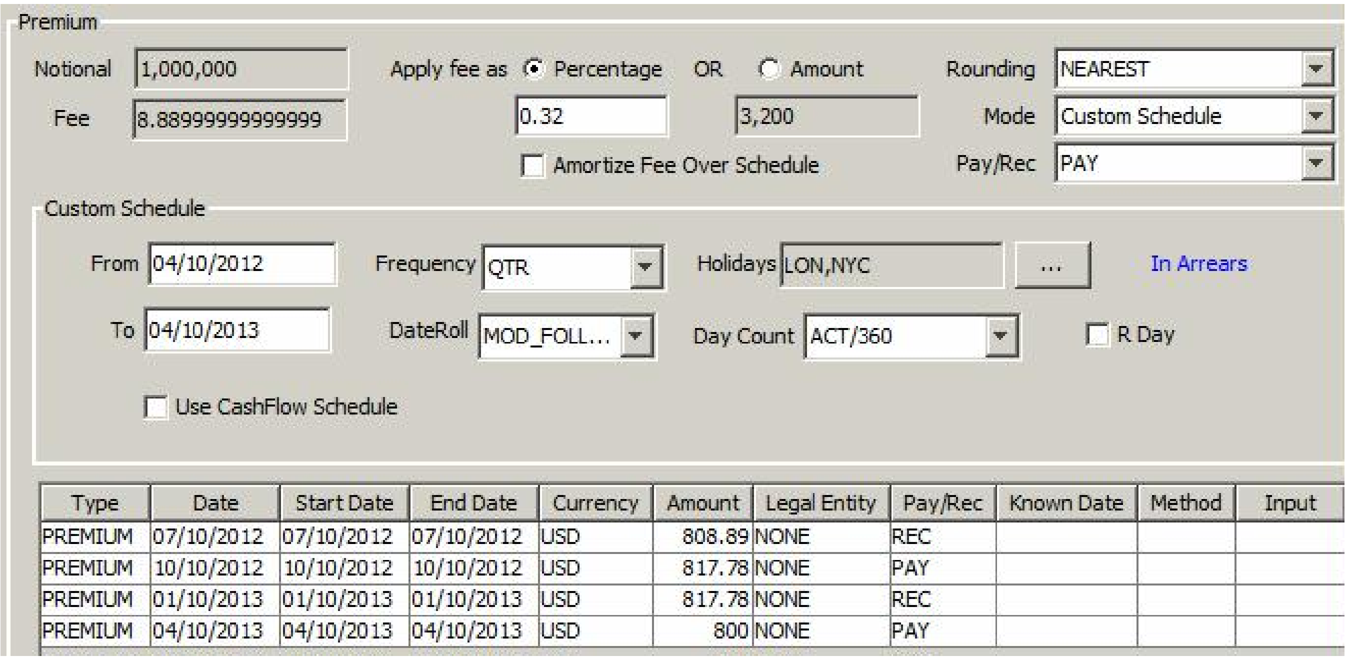
» Select “Custom Single” from the Mode field.

» Click Percentage to enter the fee as a percentage of the notional, or Amount to enter a fee amount.

» Select the rounding convention from the Rounding field, and enter the fee date in the Date field.

» Then click **Calc** to calculate the fee, and click **Save and Close** to save the fee. You can view the generated fee in the Trade Events panel.

Custom Schedule



Premium

Notional 1,000,000

Fee 8.88999999999999

Apply fee as ● Percentage OR ○ Amount

0.32 3,200

☐ Amortize Fee Over Schedule

Rounding NEAREST

Mode Custom Schedule

Pay/Rec PAY

Custom Schedule

From 04/10/2012

To 04/10/2013

Frequency QTR

DateRoll MOD_FOLL...

Holidays LON,NYC

Day Count ACT/360

☐ R Day

☐ Use CashFlow Schedule

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec	Known Date	Method	Input
PREMIUM	07/10/2012	07/10/2012	07/10/2012	USD	808.89	NONE	REC			
PREMIUM	10/10/2012	10/10/2012	10/10/2012	USD	817.78	NONE	PAY			
PREMIUM	01/10/2013	01/10/2013	01/10/2013	USD	817.78	NONE	REC			
PREMIUM	04/10/2013	04/10/2013	04/10/2013	USD	800	NONE	PAY			

Sample Custom Schedule premium fee

» Select “Custom Schedule” from the Mode field.

» Click Percentage to enter the fee as a percentage of the notional, or Amount to enter a fee amount. This is the total amount that will be broken down according to the schedule.

» Select the rounding convention from the Rounding field.

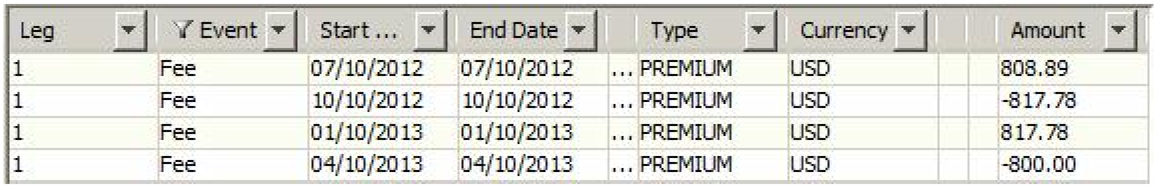
» Check “Amortize Fee Over Schedule” to assign the total premium by percentage or amount to each period, or uncheck to assign the same amount to each period.

» Enter the criteria to define the custom schedule: From and To dates, frequency, payment calendars, date roll convention, day count, payment date, and roll day adjustment.

The "Use Cashflow Schedule" checkbox only applies if the trade has stub periods.

When checked, if your trade has stub periods, all the correct dates will have been generated for the trade. Then you can overlay the settings of frequency, date roll, beg/end, etc. on top of that. Ensure that the frequency is less than or equal to the frequency of the cashflows. This is similar to the way Bermudan exercise dates generation works.

» Then click **Calc** to calculate the fees, and click **Save and Close** to save the fees. You can view the generated fees in the Trade Events panel.



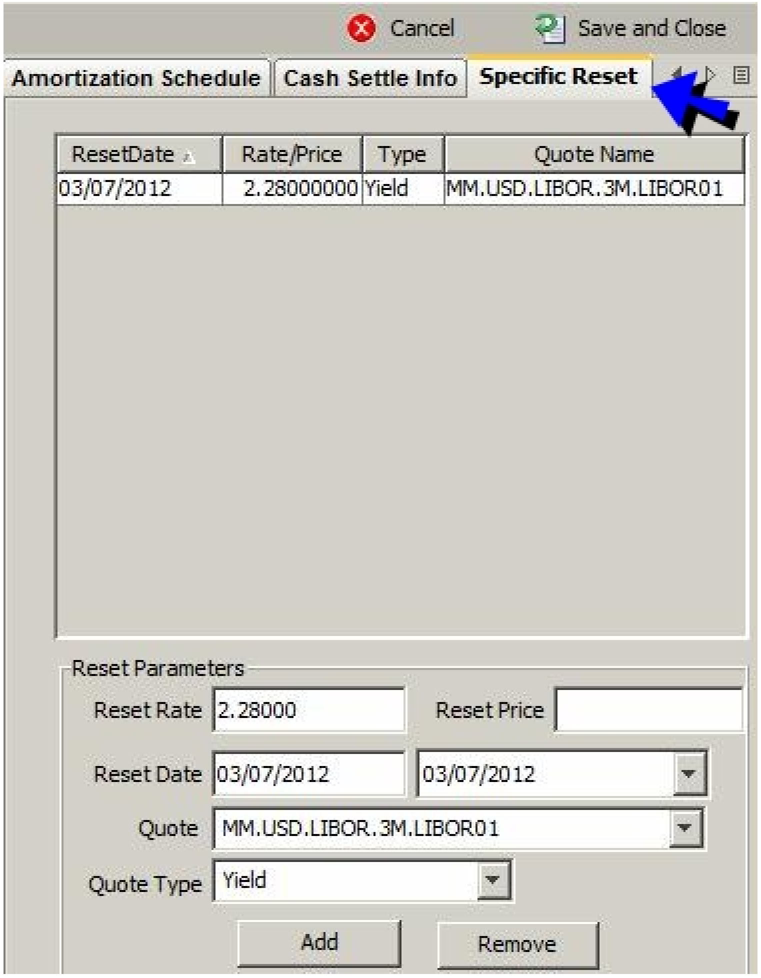
Leg	Event	Start ...	End Date		Type	Currency		Amount
1	Fee	07/10/2012	07/10/2012	...	PREMIUM	USD		808.89
1	Fee	10/10/2012	10/10/2012	...	PREMIUM	USD		-817.78
1	Fee	01/10/2013	01/10/2013	...	PREMIUM	USD		817.78
1	Fee	04/10/2013	04/10/2013	...	PREMIUM	USD		-800.00

Sample PREMIUM fees in Trade Events panel

12.10 Setting Specific Resets

You can enter price fixings and rate resets specific to the current trade. The resets defined here are not used by other trades.

To set specific resets, right-click a trade and choose "Supplemental".



ResetDate	Rate/Price	Type	Quote Name
03/07/2012	2.28000000	Yield	MM.USD.LIBOR.3M.LIBOR01

Reset Parameters

Reset Rate 2.28000

Reset Price

Reset Date 03/07/2012 03/07/2012

Quote MM.USD.LIBOR.3M.LIBOR01

Quote Type Yield

- Enter a reset rate (or reset price, as applicable), and select a reset date, then click **Add**.
- Click **Save and Close** to save the specific resets.

  The rates will appear in the corresponding cashflows, and the **Manual Reset** checkbox will appear checked.

12.11 Islamic Trades

You can capture Islamic MM trades and Islamic Swap trades using the Pricing Sheet.

Islamic trades are standard loan / deposit trades and swap trades with an underlying commodity asset, and participants (brokers and counterparty). The underlying details are only stored for reference. The brokers need to accept the underlying details however in order for the trade to be validated.

The INTEREST flows are replaced with PROFIT and COST flows.

12.11.1 Before you Begin

Execute SQL

You need to add "`<calypso home>/client/resources/samples/dbscripts/SchemaData_islamic.xml`" to Execute SQL, in order to populate Islamic static data.

Underlying Names

The names of the commodity underlyings must be defined in the domain "IslamicMM.UnderlyingName" for Islamic MM trades, and in the domain "IslamicSwapLeg.UnderlyingName" for Islamic Swap trades.

Islamic trades are not actually linked to a commodity product. They are linked to an underlying name for reference.

Islamic MM Workflow Setup

The trades should only be validated once the brokers have accepted the underlying details.

So the trade lifecycle should be as follows:

1. Capture trades - Trades move to status PENDING, and confirmation messages are sent to the brokers.

2. When the trades are accepted by the brokers, the back office operator manually applies the ACCEPT action to the confirmations, which applies the same action to the trades through the message rule ApplyTradeSameAction.

The trades then follow the standard workflow.

Changes to Trade Workflow

Add the transition PENDING - ACCEPT - ACCEPTED.

Change the transition PENDING - AUTHORIZE - VERIFIED to ACCEPTED - AUTHORIZE - VERIFIED.

Orig Status	Action	Resulting Status	Use STP	Product Type	Rules	Create Task
PENDING	ACCEPT	ACCEPTED	false	IslamicMM		true
ACCEPTED	ACCEPT	ACCEPTED	false	IslamicMM		true
ACCEPTED	AUTHORIZE	VERIFIED	false	IslamicMM	CheckSDI	false

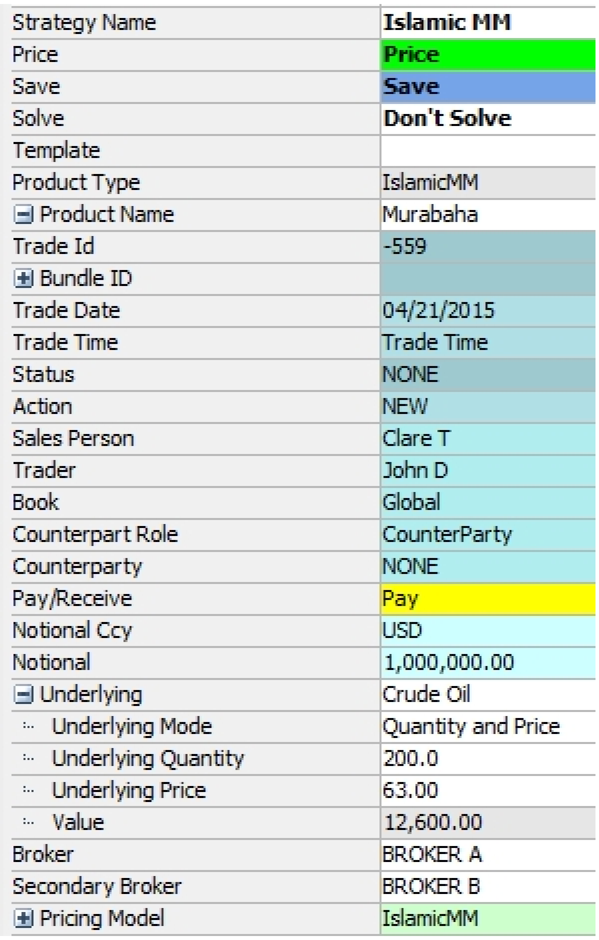
Message Workflow

Orig Status	Action	Resulting Status	Use STP	Product Type	Rules	Create Task	Comment
NONE	NEW	PENDING	false	IslamicMM		true	
PENDING	ACCEPT	VERIFIED	false	IslamicMM	ApplyTradeSameAction	true	[action=ACCEPT]
PENDING	ACCEPT	VERIFIED	false	IslamicMM	ApplyTradeSameAction	true	[action=ACCEPT]
PENDING	CANCEL	CANCELED	false	IslamicMM	ApplyTradeSameAction	true	[action=CANCEL]
VERIFIED	CANCEL	CANCELED	false	IslamicMM		true	

The action defined in the Comment will be applied to the trade.

12.11.2 Islamic MM Trades

Select the "Islamic MM" strategy.



Strategy Name	**Islamic MM**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Template	
Product Type	IslamicMM
⊟ Product Name	Murabaha
Trade Id	-559
⊞ Bundle ID	
Trade Date	04/21/2015
Trade Time	Trade Time
Status	NONE
Action	NEW
Sales Person	Clare T
Trader	John D
Book	Global
Counterpart Role	CounterParty
Counterparty	NONE
Pay/Receive	Pay
Notional Ccy	USD
Notional	1,000,000.00
⊟ Underlying	Crude Oil
Underlying Mode	Quantity and Price
Underlying Quantity	200.0
Underlying Price	63.00
Value	12,600.00
Broker	BROKER A
Secondary Broker	BROKER B
⊞ Pricing Model	IslamicMM

Key Properties

Pay/Receive - Product Name - Contract Type - Broker - Secondary Broker - Underlying - Rate - Rate Index - Cap %

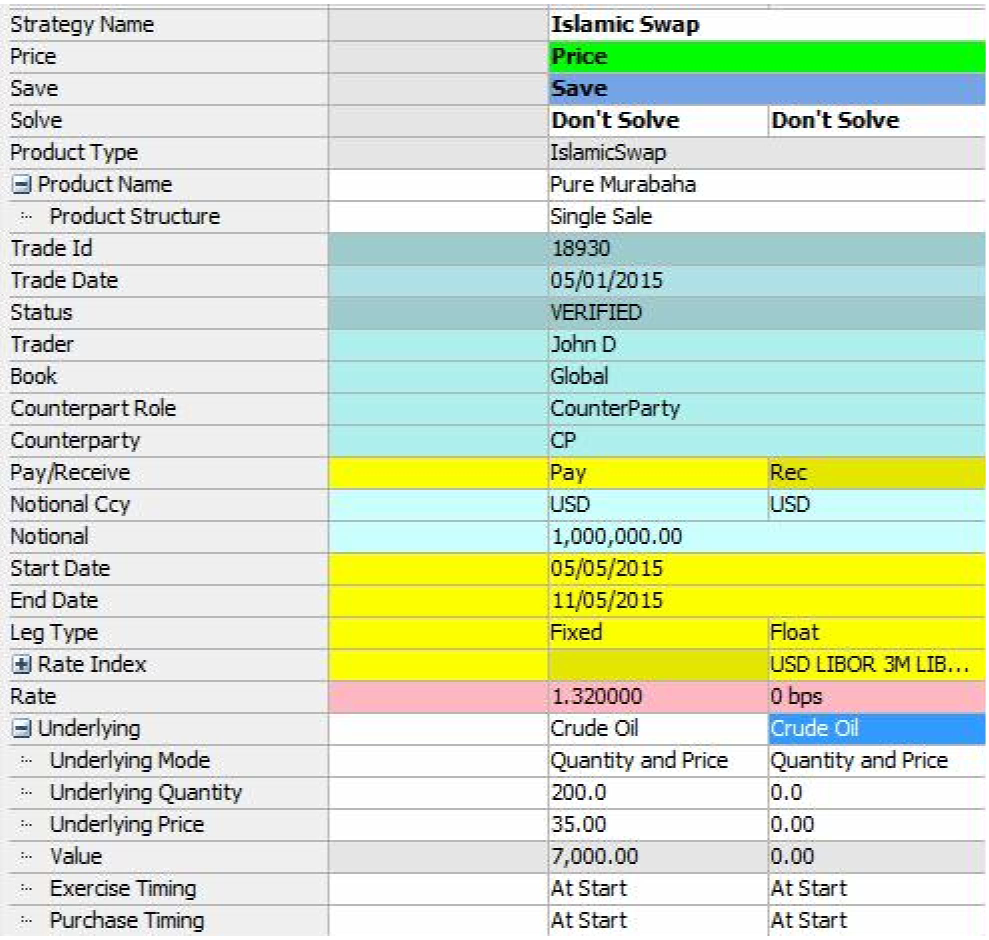
Properties	Description
Pay/Receive	Select the direction of the trade, either Pay or Receive. • Deposit indicates that the processing org is borrowing money from the counterparty (the party that deposits the money). The commodity trades are done with the brokers and the counterparty. • Loan indicates that the processing org lends the money to the counterparty. The commodity trades are done with the brokers.
Product Name	Select the product. • For Pay (Deposit), you can select Isra, Murabaha, or Wakala. • For Rec (Loan), you can select Tawaruq or Murabaha.
Contract Type	Applies to Wakala only. You can select the contract type for information purposes: • Restricted Agency • Unrestricted Agency
Broker	Optional for Murabaha trades. Not used for Wakala. Type in a few letters, and all brokers that start with those letters will appear. You can select a broker from the list. A broker is a legal entity of role Broker. Only favorite brokers can be selected. Favorite brokers are selected from the Calypso Navigator using **Configuration > Favorites > Brokers**.
Secondary Broker	Optional for Murabaha trades. Not used for Wakala. Type in a few letters, and all brokers that start with those letters will appear. You can select a broker from the list. A secondary broker is a legal entity of role Broker. Only favorite brokers can be selected. Favorite brokers are selected from the Calypso Navigator using **Configuration > Favorites > Brokers**.
Underlying	Select the name of the commodity underlying. Underlying names are defined in the domain "IslamicMM.UnderlyingName". Not used for Wakala.
Underlying Mode	Select the calculation mode: • Quantity and Price: You will be prompted to enter the quantity and price. The principal is computed as: Principal = Underlying Quantity * Underlying Price.

Properties	Description
	• Value Only: You will be prompted to enter an asset value. The principal is computed as: • Principal = Underlying Value
Underlying Quantity	Applies for Underlying Mode = Quantity and Price. Enter the quantity of underlying.
Underlying Price	Applies for Underlying Mode = Quantity and Price. Enter the unit price of underlying.
Value	For Underlying Mode = Quantity and Price, displays the asset value. For Underlying Mode = Value Only, enter the asset value.
Rate	Enter the fixed rate for Isra, Murabaha, Tawaruq.
Rate Index	Select the rate index for Wakala, and set the rate index parameters as needed.
Cap %	Enter the cap rate for Wakala.

12.11.3 Islamic Swaps

Islamic Profit Rate swaps allow buying / selling the underlying commodity asset t a certain date. The underlying details are only stored for reference.

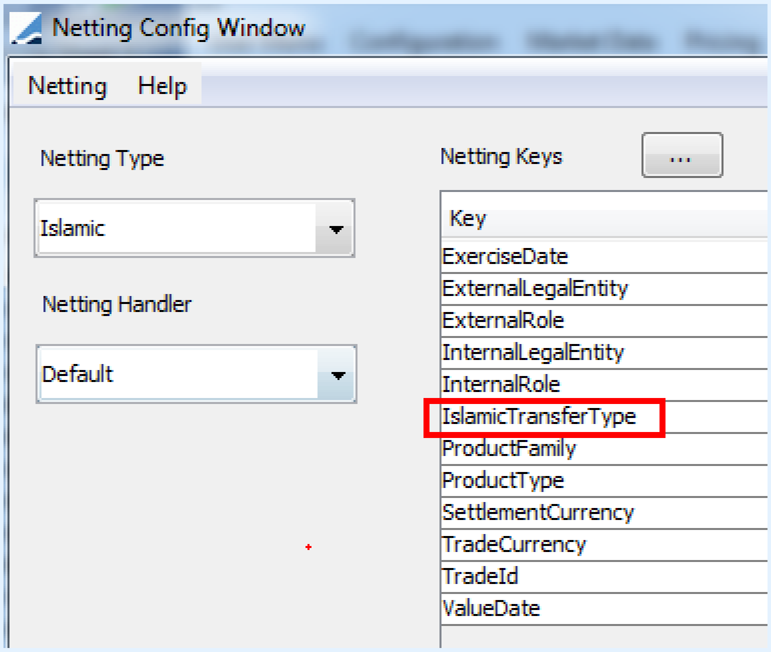
Select the "Islamic Swap" strategy.



Strategy Name		**Islamic Swap**	
Price		**Price**	
Save		**Save**	
Solve		**Don't Solve**	**Don't Solve**
Product Type		IslamicSwap	
⊟ Product Name		Pure Murabaha	
Product Structure		Single Sale	
Trade Id		18930	
Trade Date		05/01/2015	
Status		VERIFIED	
Trader		John D	
Book		Global	
Counterpart Role		CounterParty	
Counterparty		CP	
Pay/Receive		Pay	Rec
Notional Ccy		USD	USD
Notional		1,000,000.00	
Start Date		05/05/2015	
End Date		11/05/2015	
Leg Type		Fixed	Float
⊞ Rate Index			USD LIBOR 3M LIB...
Rate		1.320000	0 bps
⊟ Underlying		Crude Oil	Crude Oil
Underlying Mode		Quantity and Price	Quantity and Price
Underlying Quantity		200.0	0.0
Underlying Price		35.00	0.00
Value		7,000.00	0.00
Exercise Timing		At Start	At Start
Purchase Timing		At Start	At Start

Islamic Swap Properties - Product Name - Product Structure - Broker - Secondary Broker - Underlying

Properties	Description
Product Name	You can select "Pure Murabaha" or "Waad Based".
Product Structure	You can select "Single Sale" or "Double Sale". For a Single Sale swap, there is only one cashflows per payment period. Both legs must have the same payment frequency. You need to setup a netting method similar to the Trade netting method that uses the netting key IslamicTransferType instead of TransferType.

Properties	Description
	 Netting Type: Islamic Netting Handler: Default Netting Keys Key ExerciseDate ExternalLegalEntity ExternalRole InternalLegalEntity InternalRole IslamicTransferType ProductFamily ProductType SettlementCurrency TradeCurrency TradeId ValueDate For a Double Sale swap, the cashflows are generated for each leg independently.
Broker	Type in a few letters, and all brokers that start with those letters will appear. You can select a broker from the list. A broker is a legal entity of role Broker. Only favorite brokers can be selected. Favorite brokers are selected from the Calypso Navigator using **Configuration > Favorites > Brokers**.
Secondary Broker	Type in a few letters, and all brokers that start with those letters will appear. You can select a broker from the list. A secondary broker is a legal entity of role Broker. Only favorite brokers can be selected. Favorite brokers are selected from the Calypso Navigator using **Configuration > Favorites > Brokers**.
Underlying	Select the name of the commodity underlying. Underlying names are defined in the domain "IslamicSwapLeg.UnderlyingName".
Underlying Mode	Select the calculation mode: • Quantity and Price: You will be prompted to enter the quantity and price. The principal is computed as: Principal = Underlying Quantity * Underlying Price. • Value Only: You will be prompted to enter an asset value. The principal is computed as: • Principal = Underlying Value

Properties	Description
Underlying Quantity	Applies for Underlying Mode = Quantity and Price. Enter the quantity of underlying.
Underlying Price	Applies for Underlying Mode = Quantity and Price. Enter the unit price of underlying.
Value	For Underlying Mode = Quantity and Price, displays the asset value. For Underlying Mode = Value Only, enter the asset value.
Exercise Timing	Select the exercise timing: "At Start" (exercise occurs at the beginning of the period) or "In Arrears" (exercise occurs at the end of the period).
Purchase Timing	Select the purchase timing: "At Start" (purchase occurs at the beginning of the period) or "In Arrears" (purchase occurs at the end of the period).

12.11.4 Sample Message Setup

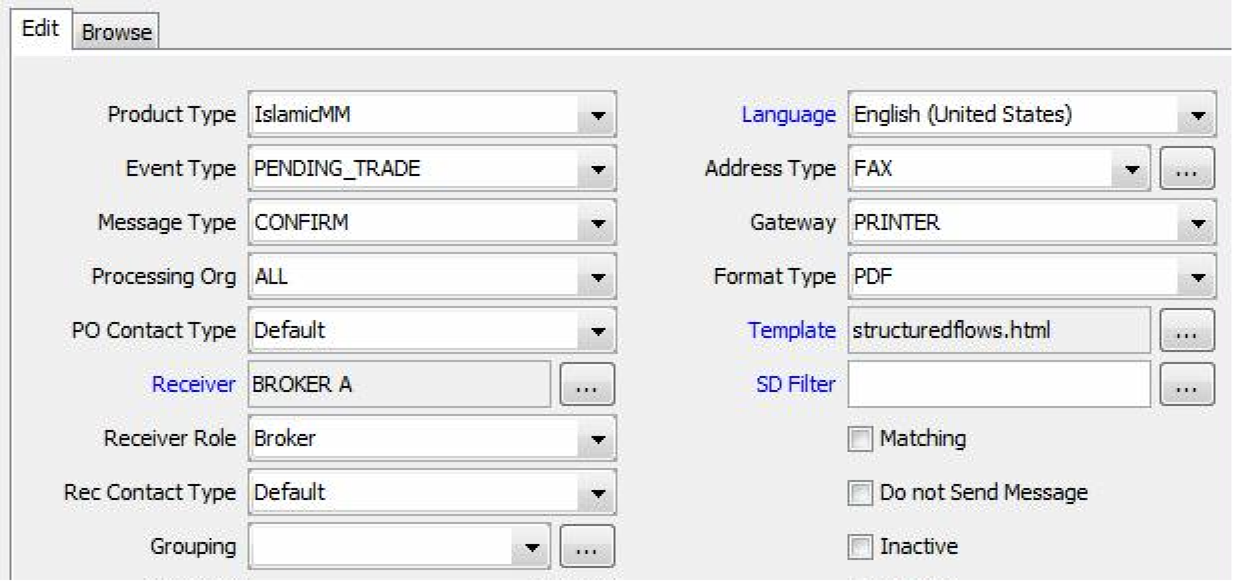
Islamic MM

You need to setup message templates for each type of pending trade so that a confirmation is to the brokers and/or counterparty to be accepted:

- Pending loan to Broker 1
- Pending loan to Broker 2
- Pending deposit to Broker 1
- Pending deposit to Broker 2
- Pending deposit to CounterParty

You can distinguish the types of trades using static data filters as needed.

Sample pending confirmation sent to the broker:

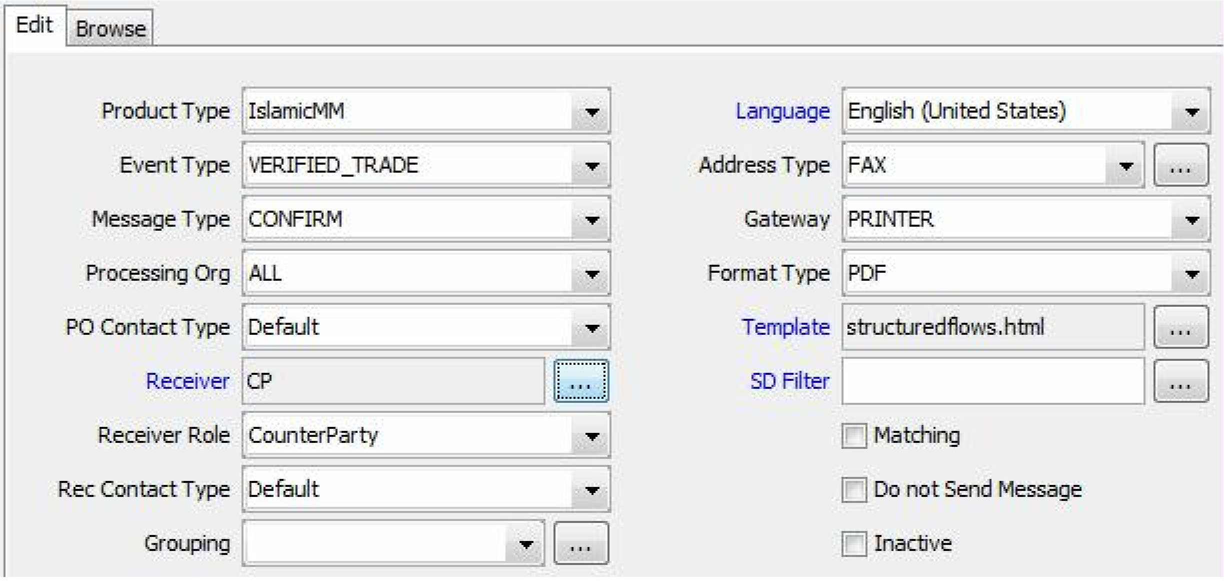


Product Type: IslamicMM
Event Type: PENDING_TRADE
Message Type: CONFIRM
Processing Org: ALL
PO Contact Type: Default
Receiver: BROKER A
Receiver Role: Broker
Rec Contact Type: Default
Grouping:
Language: English (United States)
Address Type: FAX
Gateway: PRINTER
Format Type: PDF
Template: structuredflows.html
SD Filter:
☐ Matching
☐ Do not Send Message
☐ Inactive

[NOTE: These are just sample values - You need to use the appropriate message type and template]

Once the trades are VERIFIED, an official confirmation can be sent to the counterparty.

Sample verified confirmation sent to the counterparty:



Product Type: IslamicMM
Event Type: VERIFIED_TRADE
Message Type: CONFIRM
Processing Org: ALL
PO Contact Type: Default
Receiver: CP
Receiver Role: CounterParty
Rec Contact Type: Default
Grouping:
Language: English (United States)
Address Type: FAX
Gateway: PRINTER
Format Type: PDF
Template: structuredflows.html
SD Filter:
☐ Matching
☐ Do not Send Message
☐ Inactive

[NOTE: These are just sample values - You need to use the appropriate message type and template]

For Wakala, you can use the following templates:

- IslamicMMWakalaWakilOffer.html
- IslamicMMWakalaWakilOfferArabic.html

To use the Arabic template, set the language to Arabic, and the environment property FORMATTER_CHARSET=UTF-8.

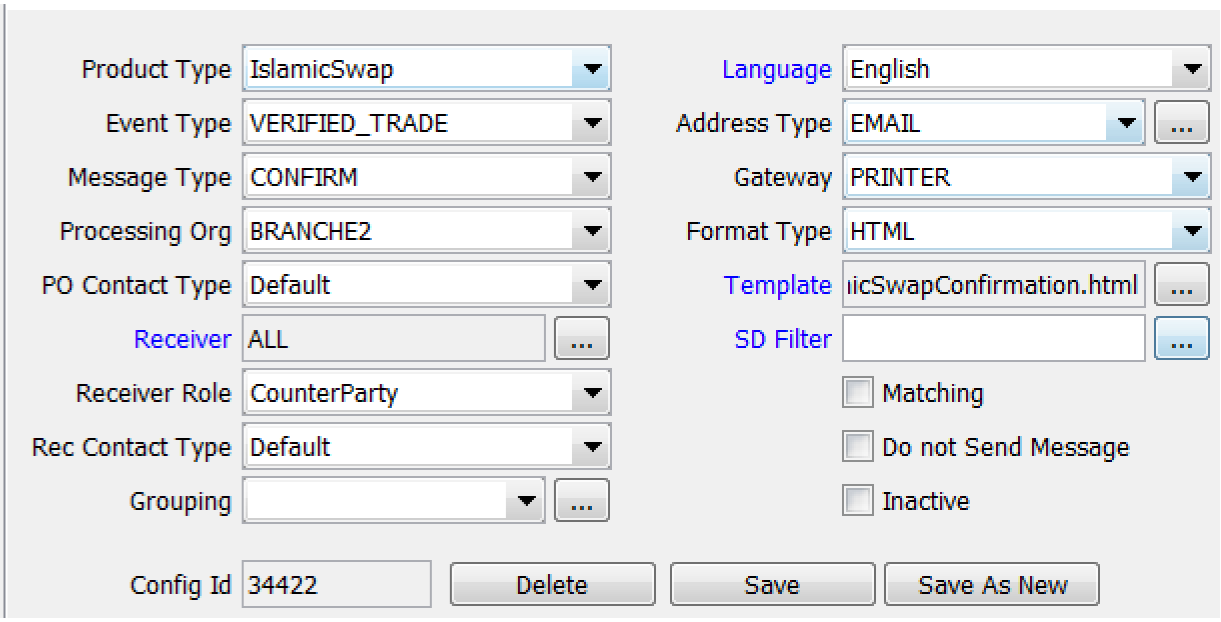
Islamic Swap

You can use the following templates:

- IslamicSwapAssetSaleConfirmation.html
- IslamicSwapConfirmation.html
- IslamicSwapExerciseNotice.html
- IslamicSwapAssetSaleConfirmationArabic.html
- IslamicSwapConfirmationArabic.html
- IslamicSwapExerciseNoticeArabic.html

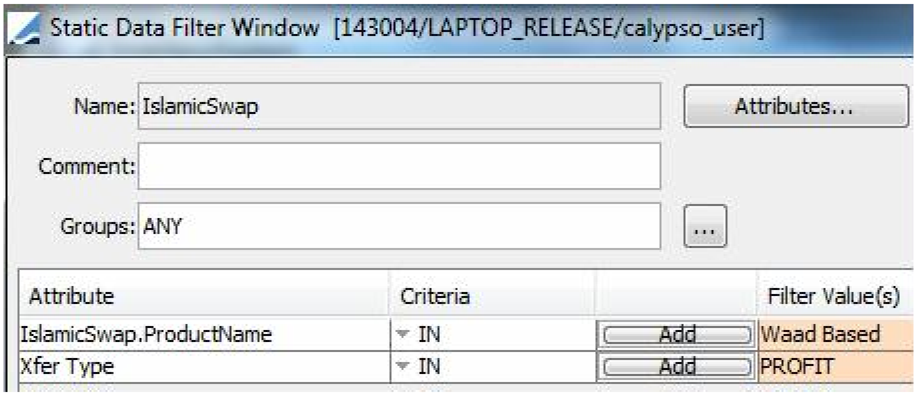
To use the Arabic template, set the language to Arabic, and the environment property FORMATTER_CHARSET=UTF-8.

Sample confirmation:



Product Type	IslamicSwap	Language	English
Event Type	VERIFIED_TRADE	Address Type	EMAIL
Message Type	CONFIRM	Gateway	PRINTER
Processing Org	BRANCHE2	Format Type	HTML
PO Contact Type	Default	Template	ıicSwapConfirmation.html
Receiver	ALL	SD Filter	
Receiver Role	CounterParty	☐ Matching	
Rec Contact Type	Default	☐ Do not Send Message	
Grouping		☐ Inactive	
Config Id	34422		

Sample exercise notice (not needed for Pure Murabaha Islamic swaps):



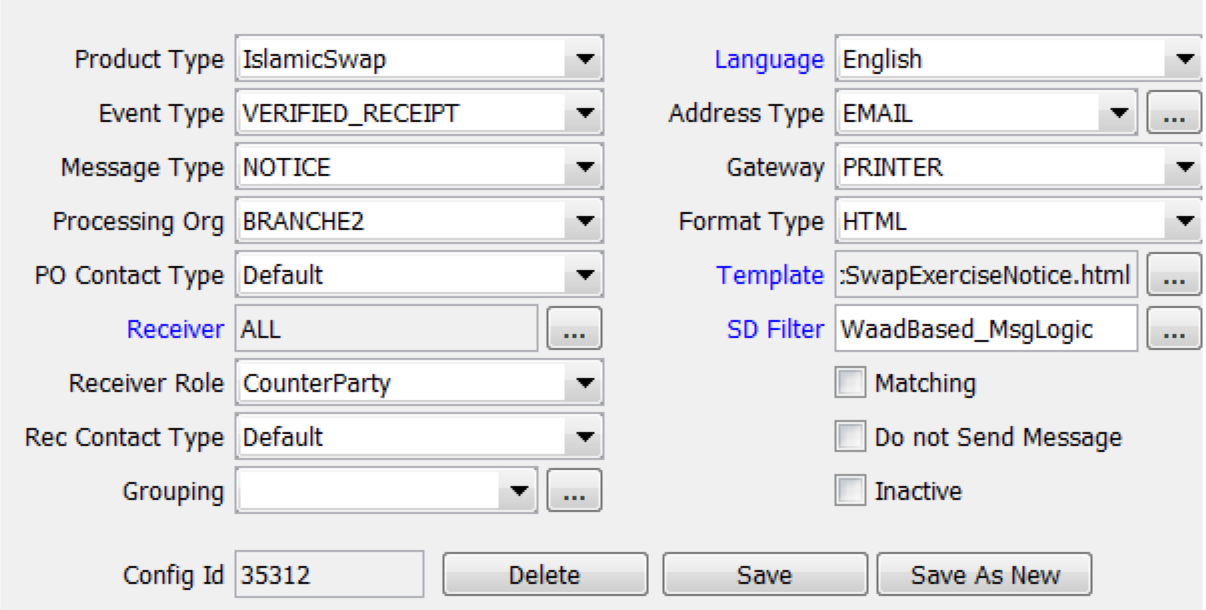
Static Data Filter Window [143004/LAPTOP_RELEASE/calypso_user]

Name: IslamicSwap

Comment:

Groups: ANY

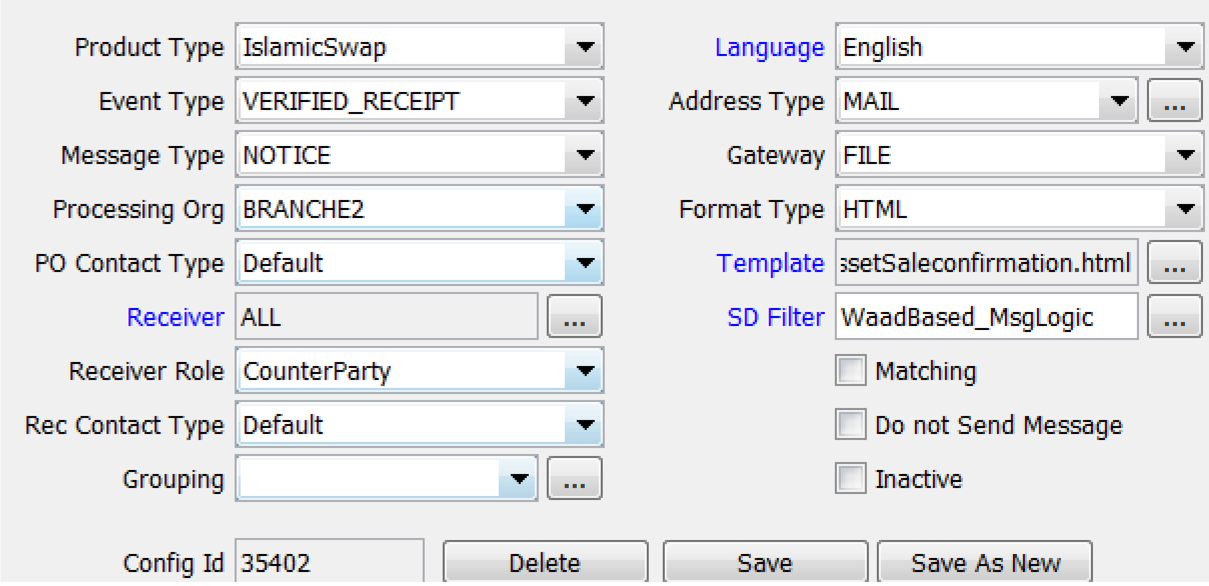
Attribute	Criteria		Filter Value(s)
IslamicSwap.ProductName	IN	Add	Waad Based
Xfer Type	IN	Add	PROFIT



Product Type	IslamicSwap	Language	English
Event Type	VERIFIED_RECEIPT	Address Type	EMAIL
Message Type	NOTICE	Gateway	PRINTER
Processing Org	BRANCHE2	Format Type	HTML
PO Contact Type	Default	Template	:SwapExerciseNotice.html
Receiver	ALL	SD Filter	WaadBased_MsgLogic
Receiver Role	CounterParty		☐ Matching
Rec Contact Type	Default		☐ Do not Send Message
Grouping			☐ Inactive

Config Id 35312

Sample asset sale confirmation (not needed for Pure Murabaha Islamic swaps):



Product Type: IslamicSwap
Event Type: VERIFIED_RECEIPT
Message Type: NOTICE
Processing Org: BRANCHE2
PO Contact Type: Default
Receiver: ALL
Receiver Role: CounterParty
Rec Contact Type: Default
Grouping:
Config Id: 35402

Language: English
Address Type: MAIL
Gateway: FILE
Format Type: HTML
Template: ssetSaleconfirmation.html
SD Filter: WaadBased_MsgLogic
☐ Matching
☐ Do not Send Message
☐ Inactive

13. Capturing Listed Derivatives Strategies

To capture a listed derivatives trade in the Pricing Sheet, you first need to define listed derivatives contracts and products.

▶ See Listed Derivatives for details.

▶ Please refer to Calypso Listed Derivatives documentation for details.

Then select a listed derivatives strategy and set the properties as needed.

There are two types of exchange traded strategies (based on the user preference "Default Listed Product Strategy": Specific or Generic.

- For Specific, you can capture listed derivatives trades using specific strategies based on the type of the listed derivatives: Future Bond, Future MM, Future Option Bond, etc.
- For Generic, you can capture listed derivatives trades using the strategies Future (for Future trades) or Option (for Future Option and ETO trades). It is mandatory to select Generic for ETD Clearing.

[NOTE: Strategy templates are not currently implemented for listed strategies]

The following categories of properties are common to all types of strategies:

- Trade properties
- Product Amount properties
- Market Data properties
- Solver properties
- Dealt Data properties
- Keyword properties
- Pricer properties

▶ Please refer to Calypso Strategy Properties documentation for details.

Properties specific to listed derivatives strategies are described below.

Contents

- ETO FX, Equity and Equity Index Trades
- Bond, MM, FX, Equity, Equity Index and Commodity Future Trades
- Bond, MM, FX, Equity, Equity Index and Commodity Future Option Trades
- Listed FRA Trades

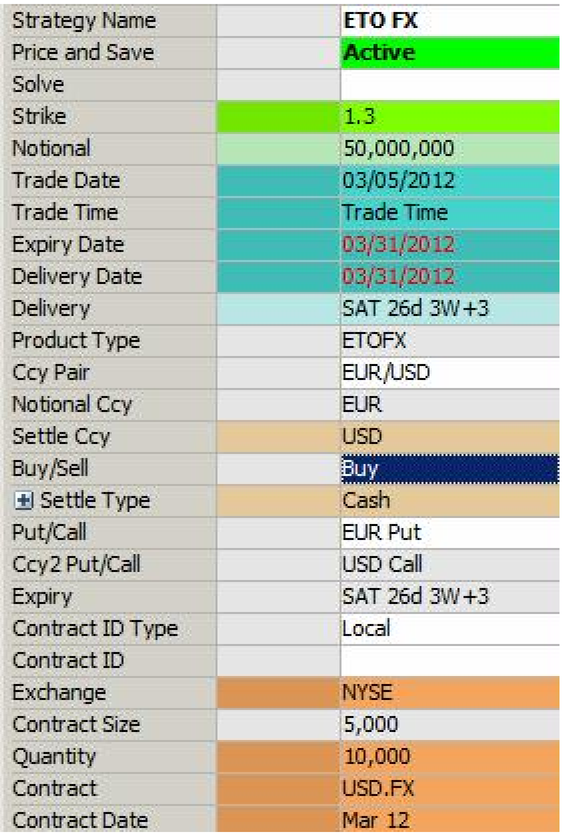
- Future Structured Flows
- "Future Swap Trades" on page 329
- "Future Forward Start FX Trades" on page 331
- Brazilian FRC Trades
- Generic Future and Generic Option

13.1 ETO FX, Equity and Equity Index Trades

Prior to capturing ETO FX trades, you need to specify ETO equity contracts from the Calypso Navigator using **Configuration > Listed Derivatives > Option Contracts**, and generate the ETO FX, Equity and Equity Index products.

Properties

Exchange - Contract - Contract Date - Strike - Quantity - Buy/Sell - Put/Call



Strategy Name		**ETO FX**
Price and Save		**Active**
Solve		
Strike		1.3
Notional		50,000,000
Trade Date		03/05/2012
Trade Time		Trade Time
Expiry Date		03/31/2012
Delivery Date		03/31/2012
Delivery		SAT 26d 3W+3
Product Type		ETOFX
Ccy Pair		EUR/USD
Notional Ccy		EUR
Settle Ccy		USD
Buy/Sell		Buy
⊞ Settle Type		Cash
Put/Call		EUR Put
Ccy2 Put/Call		USD Call
Expiry		SAT 26d 3W+3
Contract ID Type		Local
Contract ID		
Exchange		NYSE
Contract Size		5,000
Quantity		10,000
Contract		USD.FX
Contract Date		Mar 12

Sample ETO FX trade

An ETO product is uniquely identified by an exchange, a contract, a contract date, and a strike.

» Select an exchange, a contract, a contract date, and a strike to select an ETO product.

[NOTE: So-called "Flex" option products - bespoke products allowed by some exchanges for trading and clearing by the clearinghouse, and which sometimes have multiple expiration dates - are referenced by a day, month, and year in the Contract Date field. To achieve the correct date format used in the quote you can use a combination of the Date Format field and the DateFormat attribute in the Exchange Traded Option Contract Window to populate the correct date in the Contract Date property. See "Exchange Traded Option Contract" in the Calypso *Equity Derivatives* documentation for details.]

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Ccy Pair	Displays the currency pair of the contract.
Notional Ccy	Select the currency of the notional.
Settle Ccy	Select the settlement currency.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Put/Call	Enter / displays the option direction for the primary currency.
Settle Type	Displays the settlement type of the contract: Cash or Physical.
Contract ID Type Contract ID	You can select a security code of the ETO product, and the corresponding value will be displayed in the Contract ID field.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays the contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.
Contract Date	Select the expiration date.

"Product: Rate" Properties

Properties	Description
Strike	Select the strike.

"Date" Properties

Properties	Description
Trade Date	Displays the valuation date set in the Pricing window of the pricing sheet by default.

Properties	Description
	You can modify as needed. ▶ See Using the Pricing Sheet for details.
Trade Time	Displays the valuation time set in the Pricing window of the pricing sheet. You can modify as needed. ▶ See Using the Pricing Sheet for details.
Expiry Date	Displays the expiration date.
Expiry	Displays expiration date details.
Delivery Date	Displays the delivery date.
Delivery	Displays delivery date details.

"Price" Properties

Properties	Description
Premium Date	Displays the premium payment date. The system uses the spot date by default. You can change this to a forward date. If you use a forward date, the application adjusts the premium amount using the discount curve from the selected pricing environment.
Pricing Model	Select the pricer used to price the trade. It defaults to the pricer set in the pricer configuration. You can also specify pricing parameters associated with the selected pricing model.
Pricer Override	The Pricer Override allows overriding the default pricer coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new pricer. You can select a pricer-override key provided you have created override keys in the Pricer Configuration.
Market Data Item Override	The Market Data Item Override allows overriding the default market data coming from the pricer configuration in a persistent fashion. This trade will always be priced using the new market data. You can select a market data-override key provided you have created override keys in the Pricer Configuration.
Model Premium	Displays the theoretical premium computed by the pricer.
Trader Premium	Displays the theoretical premium computed by the pricer. You can modify its value.
Trader Price	Displays the unit amount of trader premium.
Customer Premium	Displays the premium amount such that Customer Premium = Trader Premium. The premium is the actual fee that will be paid/received.

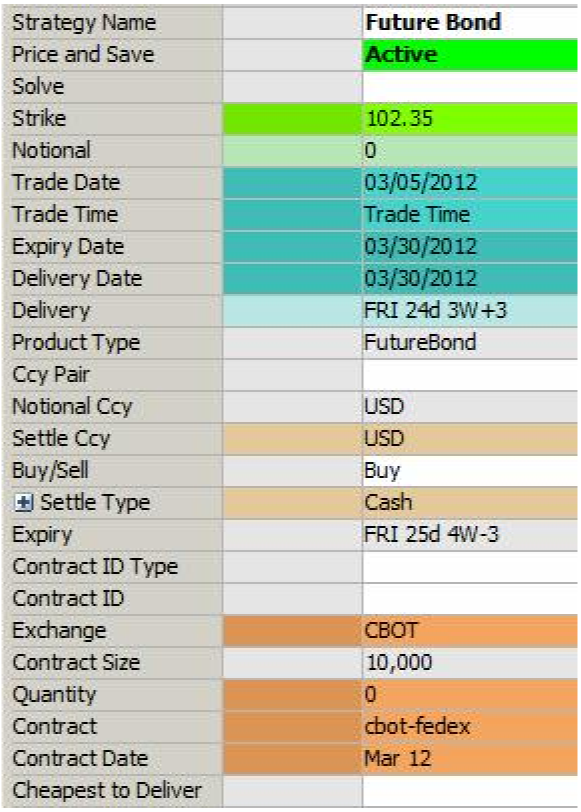
Properties	Description
Customer Price	Displays the unit amount of customer premium.
Modified Strike	Displays the strike.

13.2 Bond, MM, FX, Equity, Equity Index and Commodity Future Trades

Prior to capturing Futures trades, you need to specify Future contracts from the Calypso Navigator using **Configuration > Listed Derivatives > Future Contracts**, and generate the Future products.

Properties

Exchange - Contract - Contract Date - Strike - Quantity - Buy/Sell



Strategy Name		**Future Bond**
Price and Save		**Active**
Solve		
Strike		102.35
Notional		0
Trade Date		03/05/2012
Trade Time		Trade Time
Expiry Date		03/30/2012
Delivery Date		03/30/2012
Delivery		FRI 24d 3W+3
Product Type		FutureBond
Ccy Pair		
Notional Ccy		USD
Settle Ccy		USD
Buy/Sell		Buy
⊞ Settle Type		Cash
Expiry		FRI 25d 4W-3
Contract ID Type		
Contract ID		
Exchange		CBOT
Contract Size		10,000
Quantity		0
Contract		cbot-fedex
Contract Date		Mar 12
Cheapest to Deliver		

Sample Bond Future trade

A Future product is uniquely identified by an exchange, a contract, and a contract date.

- Select an exchange, a contract, and a contract date to select a Future product.
- The trade counterparty must be a clearer, a legal entity of role Clearer.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Ccy Pair	Displays the currency pair of the contract.
Notional Ccy	Select the currency of the notional.
Settle Ccy	Select the settlement currency.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Settle Type	Displays the settlement type of the contract: Cash or Physical.
Contract ID Type Contract ID	You can select a security code of the Future product, and the corresponding value will be displayed in the Contract ID field.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays the contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.
Contract Date	Select the expiration date. Once you have entered a trade, you can type the following shortcuts into the Contract Date to duplicate the trade for additional contracts. • +*n*y - For example "+2y" - To add trades for all available contracts over the next *n* years. • +*n*yq - For example "+2yq" - To add trades for all quarterly contracts over the next *n* years. • +*n*q - For example "+2q" - To add trades for the next *n* quarterly contracts. • +*n*s - For example "+2s" - To add trades for the next *n* contracts.
Cheapest to Deliver	Bond futures only. Displays the cheapest bond to deliver.

"Product: Rate" Properties

Properties	Description
Strike	Enter the traded price.

"Product: Payment" Properties

Properties	Description
Factor	Bond futures only. Displays the cheapest to deliver factor.

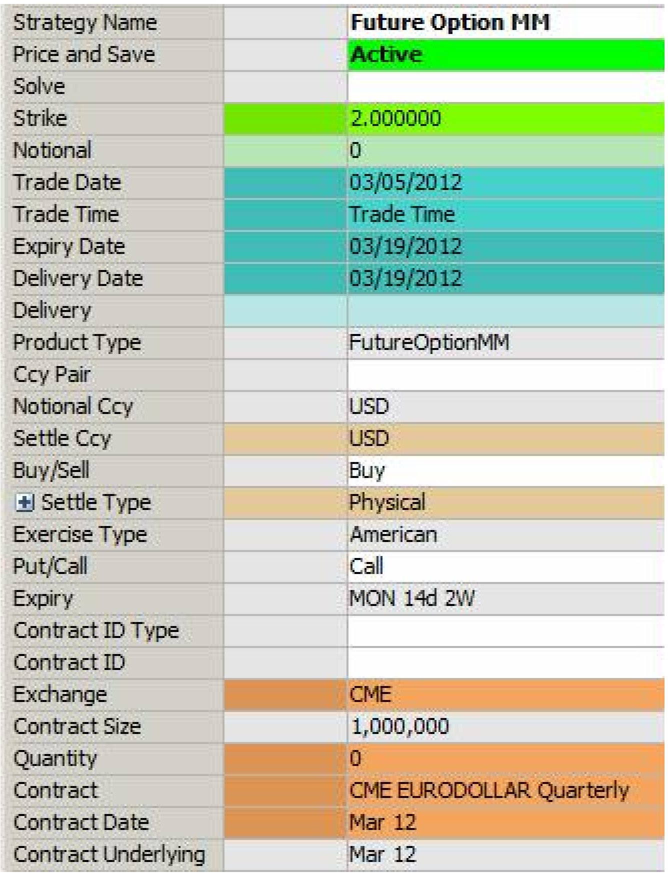
13.3 Bond, MM, FX, Equity, Equity Index, Commodity Future Option Trades

Prior to capturing Futures Option trades, you need to specify Future Option contracts from the Calypso Navigator using **Configuration > Listed Derivatives > Future Option Contracts**, and generate the Future Option products.

[NOTE: So-called "Flex" option products - bespoke products allowed by some exchanges for trading and clearing by the clearinghouse, and which sometimes have multiple expiration dates - are referenced by a day, month, and year in the Contract Date field. To achieve the correct date format used in the quote you can use a combination of the Date Format field and the DateFormat attribute in the Future Option Contract Specification Window to populate the correct date in the Contract Date property. See "Defining Future Option Contracts" in the Calypso *Futures* documentation for details.]

Properties

Exchange - Contract - Contract Date - Strike - Quantity - Buy/Sell - Put/Call



Strategy Name		**Future Option MM**
Price and Save		**Active**
Solve		
Strike		2.000000
Notional		0
Trade Date		03/05/2012
Trade Time		Trade Time
Expiry Date		03/19/2012
Delivery Date		03/19/2012
Delivery		
Product Type		FutureOptionMM
Ccy Pair		
Notional Ccy		USD
Settle Ccy		USD
Buy/Sell		Buy
⊞ Settle Type		Physical
Exercise Type		American
Put/Call		Call
Expiry		MON 14d 2W
Contract ID Type		
Contract ID		
Exchange		CME
Contract Size		1,000,000
Quantity		0
Contract		CME EURODOLLAR Quarterly
Contract Date		Mar 12
Contract Underlying		Mar 12

Sample MM Future Option trade

A Future Option product is uniquely identified by an exchange, a contract, a contract date, and a strike.

- Select an exchange, a contract, a contract date , and a strike to select a Future Option product.
- The trade counterparty must be a clearer, a legal entity of role Clearer.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Ccy Pair	Displays the currency pair of the contract.
Notional Ccy	Select the currency of the notional.
Settle Ccy	Select the settlement currency.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Put/Call	Enter / displays the option direction for the primary currency.
Exercise Type	Displays the exercise type of the contract.

Properties	Description
Settle Type	Displays the settlement type of the contract: Cash or Physical.
Contract ID Type Contract ID	You can select a security code of the Future product, and the corresponding value will be displayed in the Contract ID field.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays the contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.
Contract Underlying	Displays the expiration date of the underlying future contract.
Contract Date	Select the expiration date. Once you have entered a trade, you can type the following shortcuts into the Contract Date to duplicate the trade for additional contracts. • +*n*y - For example "+2y" - To add trades for all available contracts over the next *n* years. • +*n*yq - For example "+2yq" - To add trades for all quarterly contracts over the next *n* years. • +*n*q - For example "+2q" - To add trades for the next *n* quarterly contracts. • +*n*s - For example "+2s" - To add trades for the next *n* contracts.

"Product: Rate" Properties

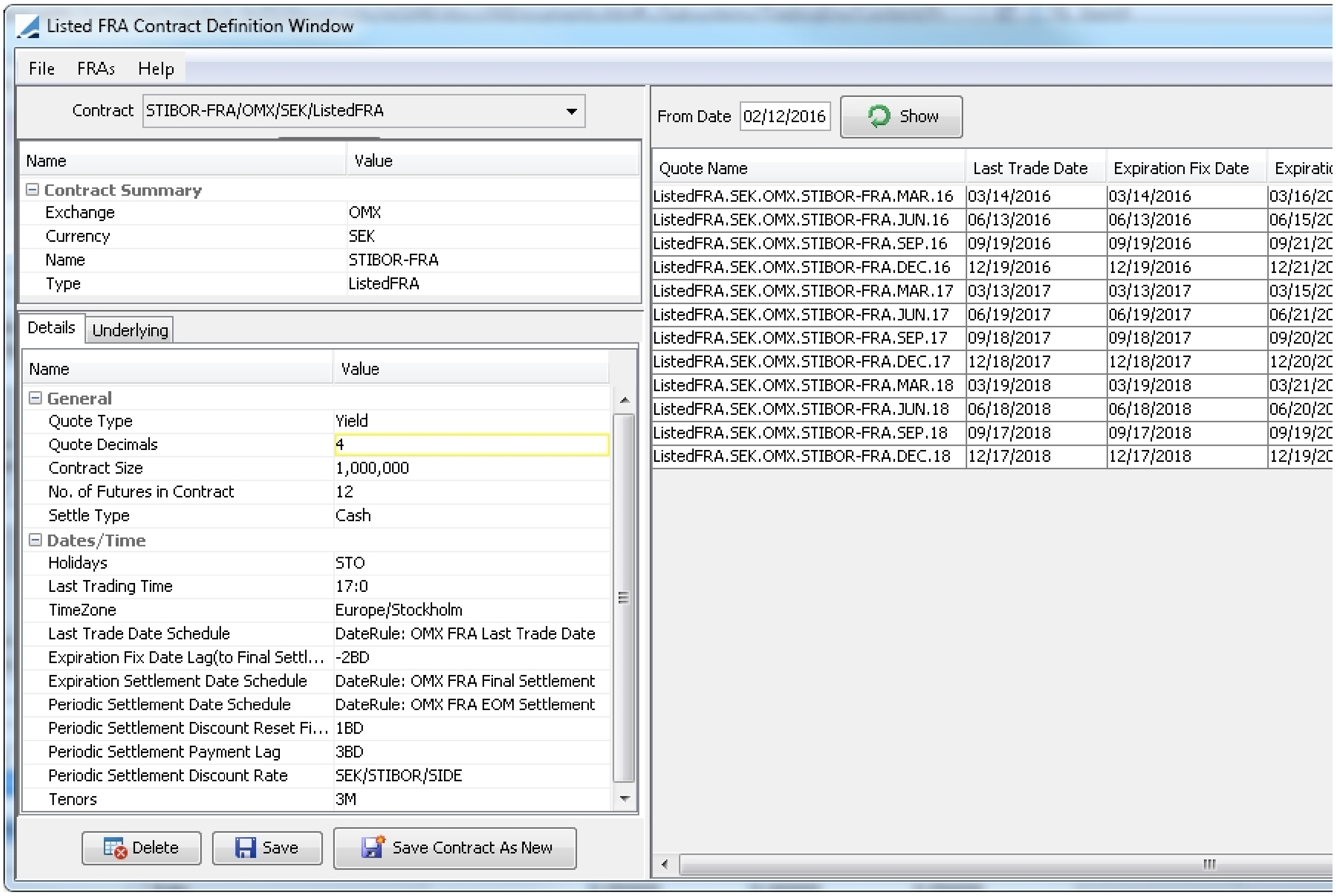
Properties	Description
Strike	Select the strike.

13.4 Listed FRA Trades

The Listed FRA possesses features of both a future and an OTC trade. As opposed to a plain FRA, the Listed FRA uses a standardized contract to capture the details of the agreement and facilitate clearing of the product by an exchange. The sections that follow describe how to define the contract and then capture the trade in the Pricing Sheet.

13.4.1 Defining Listed FRA Contracts

The future contract for the Listed FRA bases the trade on quantity of contracts, where the trade's notional equals quantity times the contract size specified in the contract. To open the contract from Calypso Navigator, point to **Configuration > Listed Derivatives > Listed FRA Contracts** (menu action `refdata.ListedIRContractDefinitionWindow`).



Contract STIBOR-FRA/OMX/SEK/ListedFRA

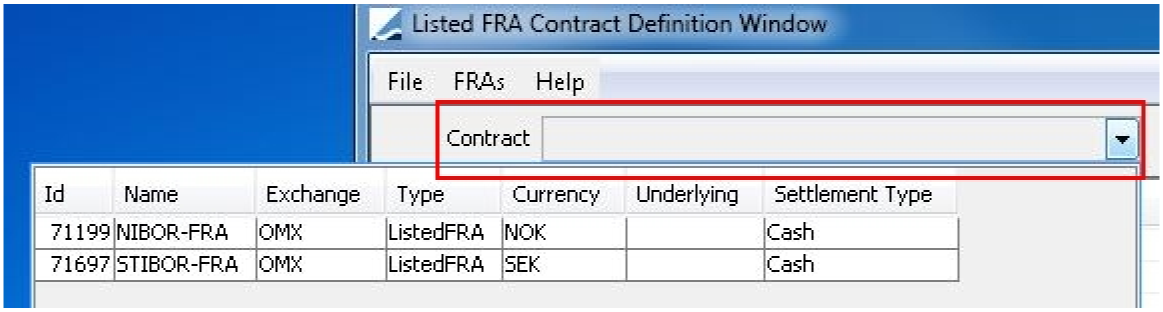
Name	Value
Contract Summary	
Exchange	OMX
Currency	SEK
Name	STIBOR-FRA
Type	ListedFRA

Name	Value
General	
Quote Type	Yield
Quote Decimals	4
Contract Size	1,000,000
No. of Futures in Contract	12
Settle Type	Cash
Dates/Time	
Holidays	STO
Last Trading Time	17:0
TimeZone	Europe/Stockholm
Last Trade Date Schedule	DateRule: OMX FRA Last Trade Date
Expiration Fix Date Lag(to Final Settl…	-2BD
Expiration Settlement Date Schedule	DateRule: OMX FRA Final Settlement
Periodic Settlement Date Schedule	DateRule: OMX FRA EOM Settlement
Periodic Settlement Discount Reset Fi…	1BD
Periodic Settlement Payment Lag	3BD
Periodic Settlement Discount Rate	SEK/STIBOR/SIDE
Tenors	3M

From Date 02/12/2016

Quote Name	Last Trade Date	Expiration Fix Date	Expiratio
ListedFRA.SEK.OMX.STIBOR-FRA.MAR.16	03/14/2016	03/14/2016	03/16/2
ListedFRA.SEK.OMX.STIBOR-FRA.JUN.16	06/13/2016	06/13/2016	06/15/2
ListedFRA.SEK.OMX.STIBOR-FRA.SEP.16	09/19/2016	09/19/2016	09/21/2
ListedFRA.SEK.OMX.STIBOR-FRA.DEC.16	12/19/2016	12/19/2016	12/21/2
ListedFRA.SEK.OMX.STIBOR-FRA.MAR.17	03/13/2017	03/13/2017	03/15/2
ListedFRA.SEK.OMX.STIBOR-FRA.JUN.17	06/19/2017	06/19/2017	06/21/2
ListedFRA.SEK.OMX.STIBOR-FRA.SEP.17	09/18/2017	09/18/2017	09/20/2
ListedFRA.SEK.OMX.STIBOR-FRA.DEC.17	12/18/2017	12/18/2017	12/20/2
ListedFRA.SEK.OMX.STIBOR-FRA.MAR.18	03/19/2018	03/19/2018	03/21/2
ListedFRA.SEK.OMX.STIBOR-FRA.JUN.18	06/18/2018	06/18/2018	06/20/2
ListedFRA.SEK.OMX.STIBOR-FRA.SEP.18	09/17/2018	09/17/2018	09/19/2
ListedFRA.SEK.OMX.STIBOR-FRA.DEC.18	12/17/2018	12/17/2018	12/19/2

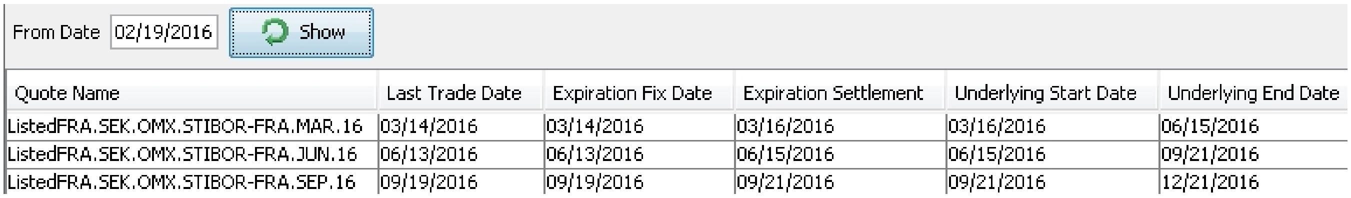
- To create a new contract, make settings in the Contract Summary, Details and Underlying fields described below and click **Save**.
- To load an existing contract, select an available contract from the Contract field's drop-down list at the top of the contract window.



Id	Name	Exchange	Type	Currency	Underlying	Settlement Type
71199	NIBOR-FRA	OMX	ListedFRA	NOK		Cash
71697	STIBOR-FRA	OMX	ListedFRA	SEK		Cash

- To use an existing contract as the basis for a new one, make preferred changes to the contract and click **Save Contract As New**. This preserves the existing contract and creates another.
- To delete a contract, select it in the Contract field and click **Delete**.

- To view the schedule of essential dates and associated quotes to be used for a particular Listed FRA contract, enter a From Date in the top central portion of the contract window and click **Show**.



Quote Name	Last Trade Date	Expiration Fix Date	Expiration Settlement	Underlying Start Date	Underlying End Date
ListedFRA.SEK.OMX.STIBOR-FRA.MAR.16	03/14/2016	03/14/2016	03/16/2016	03/16/2016	06/15/2016
ListedFRA.SEK.OMX.STIBOR-FRA.JUN.16	06/13/2016	06/13/2016	06/15/2016	06/15/2016	09/21/2016
ListedFRA.SEK.OMX.STIBOR-FRA.SEP.16	09/19/2016	09/19/2016	09/21/2016	09/21/2016	12/21/2016

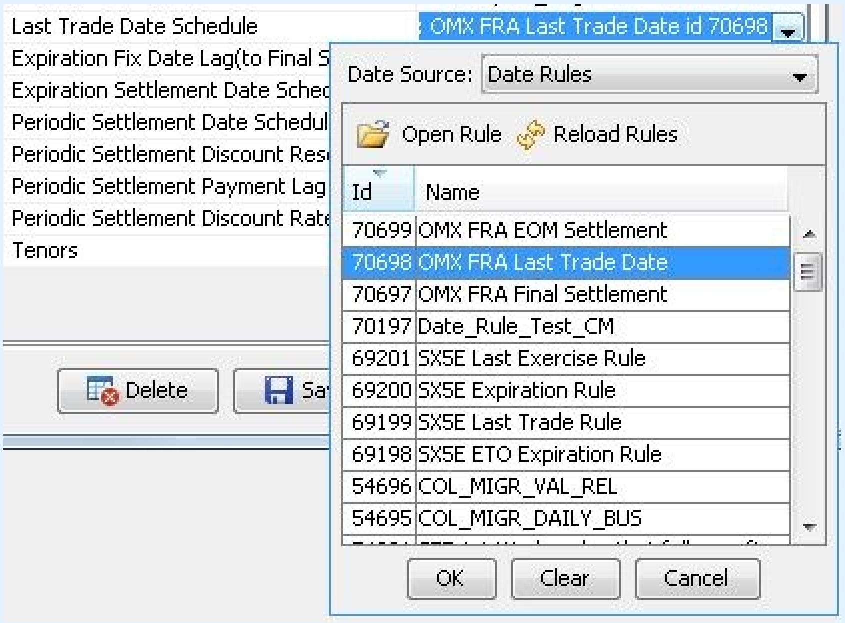
[NOTE: The schedule of dates is a tabular representation of key dates derived from date rule and lag settings defined in the contract. The schedule is provided so that parties to the agreement can verify and validate important dates included in the life of the trade. See Details Tab properties below.]

Contract Summary

Properties	Description
Exchange	Select the exchange where the FRA is listed.
Currency	Select the currency for the contract.
Name	Provide a unique name for the contract.
Type	ListedFRA is populated by default.

Details Tab

Properties	Description
Quote Type	Select Yield for the Listed FRA.
Quote Decimals	Define the decimal precision at the contract level. The system uses this decimal precision in the Price field in the trade window and in quote rounding when calculating the NPV.
Contract Size	Enter the Contract Size specified by the exchange.
No. of Futures in Contract	Enter the total number of future products traded in the contract.
Settle Type	Settlement type for the Listed FRA is "Cash".
Holidays	Select a holiday calendar.
Last Trading Time	Enter the time of day that trading will end on the last trading day. Use twenty-four hour time notation (for example 16:30 is four-thirty in the afternoon).
Last Trade Date Schedule Expiration Settlement Date Schedule	Select a date rule to generate the dates for each schedule. Date specifications are provided by the exchange.

Properties	Description
Periodic Settlement Date Schedule	 Expiration Fix Date Lag(to Final S Expiration Settlement Date Sched Periodic Settlement Date Schedul Periodic Settlement Discount Res Periodic Settlement Payment Lag Periodic Settlement Discount Rat Tenors Delete Sa Open Rule Reload Rules OK Clear Cancel Last Trade Date Schedule: OMX FRA Last Trade Date id 70698 Date Source: Date Rules Id | Name 70699 | OMX FRA EOM Settlement 70698 | OMX FRA Last Trade Date 70697 | OMX FRA Final Settlement 70197 | Date_Rule_Test_CM 69201 | SX5E Last Exercise Rule 69200 | SX5E Expiration Rule 69199 | SX5E Last Trade Rule 69198 | SX5E ETO Expiration Rule 54696 | COL_MIGR_VAL_REL 54695 | COL_MIGR_DAILY_BUS » To select a date rule, click the down arrow in the date property's Value field, select and highlight a date rule from the list, and click **OK**. » You can click **Open Rule** to view the selected date rule in the Date Rules window. » You can sort the rules by ID or by Name by clicking the corresponding header. Date rules are defined and created in the Date Rules window. To open the window from Calypso Navigator, point to **Configuration > Definitions > Date Schedule Definitions > Date Rules** - Help is available from that window.
Expiration Fix Date Lag (to Final Settlement)	Enter the lag to be used for the expiration fixing date.
Periodic Settlement Discount Reset Fixing Lag	Enter the lag to be used for periodic settlement discount reset fixing.
Periodic Settlement Payment Lag	Enter the lag for periodic settlement payment.
Periodic Settlement Discount Rate	Select the Rate Index to be used as the Discount Rate on the monthly settlement.
Tenors	Lists the available tenors configured in the system for the Rate Index that is used to determine the Discount Rate. Select the tenors that are valid for use interpolating the correct Discount Rate.

Underlying Tab

Properties	Description
Start/End Date	Select the date rule that corresponds to the start and end of interest periods specified by the exchange. For example, the start and end dates based on IMM date rules (the third Wednesday of each month ending the quarter) would fall on the third Wednesday of a month ending any given quarter and the third Wednesday of the month ending the next quarter, respectively (e.g., March 16th, 2016 to June 15th, 2016).
Rate Index	Select the Rate Index to be used as underlying for the trade.
DayCount	Select the Daycount convention.

13.4.2 Capturing a Listed FRA Trade

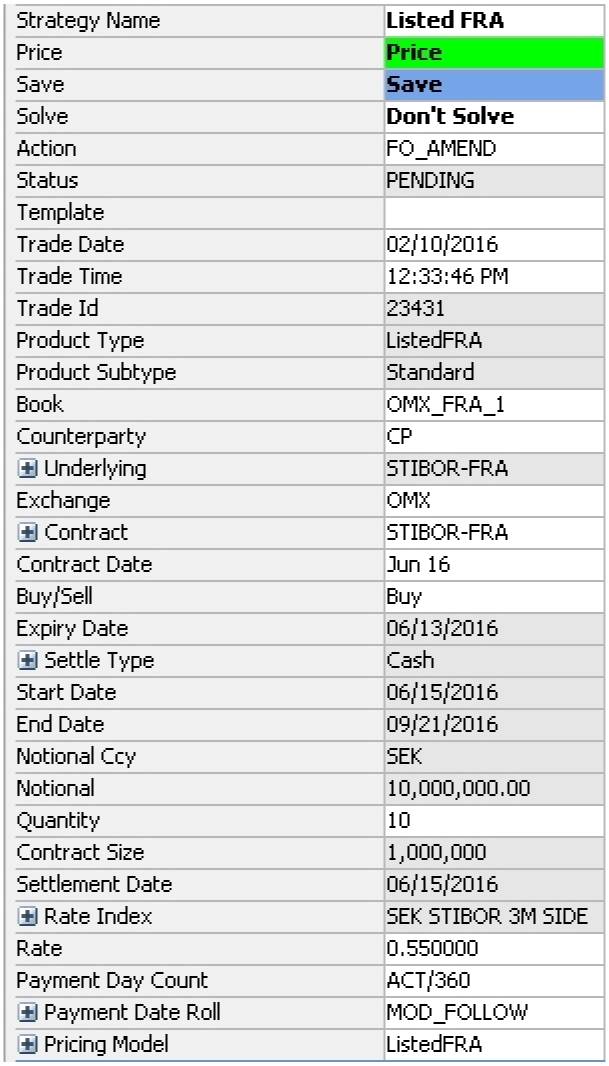
This section covers the key properties that need to be entered to capture a trade.

Basic Steps for Capturing a Listed FRA Trade

- Make sure a contract has been defined.
- Specify the Exchange, Contract, and Contract Date properties in the Pricing Sheet - this will load information from the contract and populate other related properties.
- Select an option for Buy/Sell, specify the Quantity of the trade, and add a value for Rate.
- Define other basic properties such as Book and Counterparty.

Key Properties

Exchange - Contract - Contract Date - Buy/Sell - Quantity - Rate



Strategy Name	**Listed FRA**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Action	FO_AMEND
Status	PENDING
Template	
Trade Date	02/10/2016
Trade Time	12:33:46 PM
Trade Id	23431
Product Type	ListedFRA
Product Subtype	Standard
Book	OMX_FRA_1
Counterparty	CP
⊞ Underlying	STIBOR-FRA
Exchange	OMX
⊞ Contract	STIBOR-FRA
Contract Date	Jun 16
Buy/Sell	Buy
Expiry Date	06/13/2016
⊞ Settle Type	Cash
Start Date	06/15/2016
End Date	09/21/2016
Notional Ccy	SEK
Notional	10,000,000.00
Quantity	10
Contract Size	1,000,000
Settlement Date	06/15/2016
⊞ Rate Index	SEK STIBOR 3M SIDE
Rate	0.550000
Payment Day Count	ACT/360
⊞ Payment Date Roll	MOD_FOLLOW
⊞ Pricing Model	ListedFRA

"Product: Style" Properties

Properties	Description
Exchange	The Exchange where the contract is listed. OMX is currently the only exchange used for the Listed FRA product.
Contract	Select the contract name.
Contract Date	Select a date from those provided by the Date Rules definitions included in the Listed FRA contract.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Quantity	Enter the number of Listed FRA contracts to be traded.

Properties	Description
Product Type	Displays the product type based on the selected strategy.
Trade Date	Determines which contracts can be traded by making available those contracts that are effective on or after the Trade Date.
Notional	Calculates a total value that is equal to Quantity multiplied by Contract Size.
Notional Ccy	Displays the contract currency.
Underlying	Displays the contract name and refers to the interest periods, rate index and day count specified by the contract.
Settle Type	Settlement type is Cash for the Listed FRA.
Contract Size	Displays the size of the contract as defined in the Listed FRA Contract.

"Product: Rate" Properties

Properties	Description
Rate	Enter the price of the trade in yield (the strike price as a rate).
Rate Index	Displays the rate index defined in the Listed FRA contract.

"Date" Properties

Properties	Description
Expiry Date	The day on which the contract's final settlement interest is fixed. Defined by Date Rules included in the Listed FRA contract and populated automatically once a contract is chosen in the Pricing Sheet.
Start Date	The start of the interest period specified by the exchange. Defined by Date Rules included in the Listed FRA contract and populated automatically once a contract is chosen in the Pricing Sheet.
End Date	The end of the interest period specified by the exchange. Defined by Date Rules included in the Listed FRA contract and populated automatically once a contract is chosen in the Pricing Sheet.
Settlement Date	Expiration settlement, which coincides with the Start Date. Defined by Date Rules included in the Listed FRA contract and populated automatically once a contract is chosen in the Pricing Sheet.

Events Panel Columns

Two additional columns are included in the Events Panel for the Listed FRA.

- **Periodic Settlement**: the unadjusted monthly settlement amount based on the EOM ListedFRA fixing.

- **Discount Rate**: The linearly interpolated Discount Rate based on the relevant rate index tenor quotes for the number of days to final settlement.

▶ For details on using the Events Panel, see "Viewing Trade Cash Flows" on page 39.

▶ For details on configuring columns for the Events Panel, see "Events Panel" in *Pricing Sheet Setup Guide* documentation.

13.5 Future Structured Flows

Future Structured Flows are exotic legs.

Properties

Product: Info = Exchange, Contract, Contract Date - Product: Price = Strike, Notional

» Select an exchange, a contract, a contract date , and a strike to select a Future Option product.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the strategy.
Ccy Pair	Displays the currency pair of the contract.
Notional	Displays the notional based on the quantity.
Notional Ccy	Select the currency of the notional.
Settle Ccy	Select the settlement currency.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Expiry Date	Displays the expiration date from the future contract
Delivery Date	Displays the delivery date from the future contract.
Settle Type	Displays the settlement type of the contract: Cash or Physical.
Strike	Enter the strike.
Contract ID Type Contract ID	You can select a security code of the Future product, and the corresponding value will be displayed in the Contract ID field.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays the contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.
Contract Date	Select the expiration date.

Properties	Description
	Once you have entered a trade, you can type the following shortcuts into the Contract Date to duplicate the trade for additional contracts. • +*n*y - For example "+2y" - To add trades for all available contracts over the next *n* years. • +*n*yq - For example "+2yq" - To add trades for all quarterly contracts over the next *n* years. • +*n*q - For example "+2q" - To add trades for the next *n* quarterly contracts. • +*n*s - For example "+2s" - To add trades for the next *n* contracts.

13.6 Future Swap Trades

Swap Futures combine the economic exposure of an interest rate swap with the benefits of a standardized futures contract. To book and price a trade, the Future Swap strategy requires a futures contract that uses the contract Type Swap or SwapPerpetual.

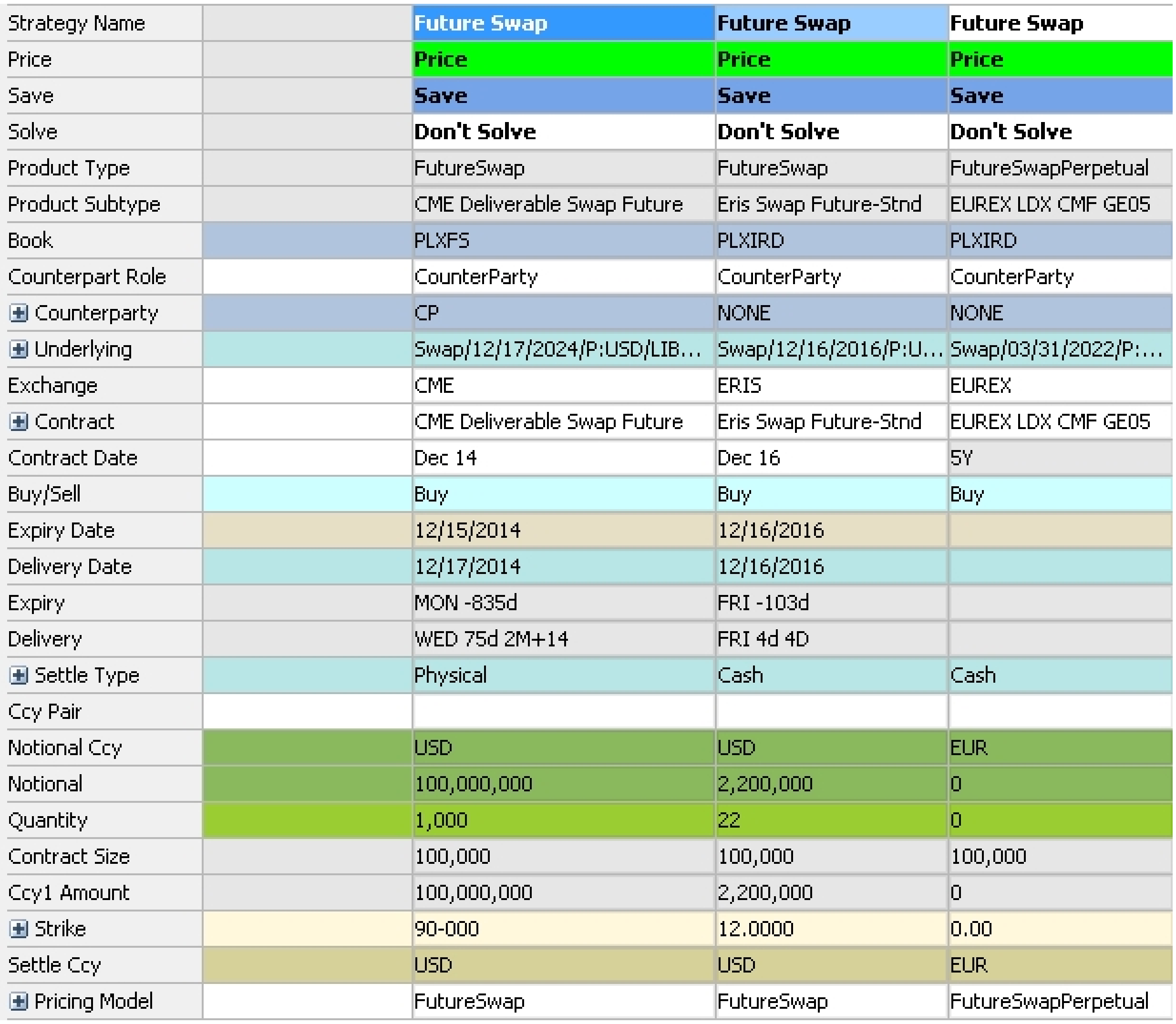
▶ For details on defining a futures contract, see "Defining Future Contracts" in Setup Requirements for Futures in Calypso *Asset Classes* documentation.

Basic Steps for Capturing a Future Swap Trade

- Make sure a contract has been defined.
- Specify the Exchange, then the Contract, and Contract Date properties in the Pricing Sheet - this will load information from the contract and populate other related properties.
- Define other basic properties such as Book and Counterparty.

Key Properties

Exchange - Contract - Contract Date



Strategy Name		Future Swap	Future Swap	Future Swap
Price		Price	Price	Price
Save		Save	Save	Save
Solve		Don't Solve	Don't Solve	Don't Solve
Product Type		FutureSwap	FutureSwap	FutureSwapPerpetual
Product Subtype		CME Deliverable Swap Future	Eris Swap Future-Stnd	EUREX LDX CMF GE05
Book		PLXFS	PLXIRD	PLXIRD
Counterpart Role		CounterParty	CounterParty	CounterParty
Counterparty		CP	NONE	NONE
Underlying		Swap/12/17/2024/P:USD/LIB...	Swap/12/16/2016/P:U...	Swap/03/31/2022/P:...
Exchange		CME	ERIS	EUREX
Contract		CME Deliverable Swap Future	Eris Swap Future-Stnd	EUREX LDX CMF GE05
Contract Date		Dec 14	Dec 16	5Y
Buy/Sell		Buy	Buy	Buy
Expiry Date		12/15/2014	12/16/2016	
Delivery Date		12/17/2014	12/16/2016	
Expiry		MON -835d	FRI -103d	
Delivery		WED 75d 2M+14	FRI 4d 4D	
Settle Type		Physical	Cash	Cash
Ccy Pair				
Notional Ccy		USD	USD	EUR
Notional		100,000,000	2,200,000	0
Quantity		1,000	22	0
Contract Size		100,000	100,000	100,000
Ccy1 Amount		100,000,000	2,200,000	0
Strike		90-000	12.0000	0.00
Settle Ccy		USD	USD	EUR
Pricing Model		FutureSwap	FutureSwap	FutureSwapPerpetual

Description of Key Properties

Properties	Description
Exchange	Select the exchange where the contract is listed.
Contract	Select the futures contract name.
Contract Date	Select a date from those provided by the Date Rules definitions or enter a manual date schedule. Contract Date is not used for the product FutureSwapPerpetual.
Quantity	Enter the number of futures and the Notional will be calculated accordingly. Or enter the Notional and the Quantity will be calculated accordingly.
Product Type	Displays the product type based on the contract.

Properties	Description
Notional	Calculates a total value that is equal to Quantity multiplied by Contract Size.
Underlying	Displays product, maturity, and leg details of the underlying swap.
Contract Size	The face value of the underlying product represented by one future.

13.7 Future Forward Start FX Trades

The Future Forward Start FX strategy (Forward Points on US Dollar Futures, or FRP) involves the trading of the first available maturity date of US Dollar Contract (basis month) and adding or subtracting a number of points from the FX spot rate, represented by the Central Bank of Brazil's PTAX rate (the FX rate is released on the same day for settlement in two business days). At the end of a trading session, forward point transactions are transformed into a trade in the US Dollar Futures Contract for the basis month. In the Pricing Sheet this generates a "Child" trade (the underlying DOL Future) and expires the initial "Parent" trade (the FRP product).

The basis month is the first US Dollar Futures Contract month, up to the second business day that precedes the expiration date, meaning that the contract is valid and can be traded up to 2 business days prior to the contract expiration date. After that, the basis month will be the second month, which will be the basis month up to the second business day that precedes the expiration date, and so on.

[NOTE: The FRP strategy does not create a new future contract. It is only an alternative way to trade the vanilla US Dollar Futures Contract. All cash transfers will be calculated for the US Dollar Futures Contracts. There is no daily variation margin payment until the contract becomes a US Dollar Future Contract.]

[NOTE: Until the actual PTAX fixing, the spot rate is an estimated rate - the estimated spot rate can also be derived from the Casado.]

13.7.1 Before You Begin

Certain requirements need to be met, and considerations taken, before you can begin capturing Future Forward Start FX trades in the Pricing Sheet. This section covers these requirements and considerations.

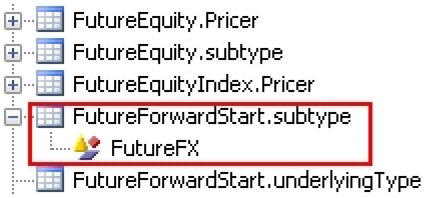
[NOTE: In addition to standard Calypso servers, users need to run the Position Keeping Server and the Liquidation Engine (required for all Futures) before managing these trades.]

Trade Domain Values

- Under the domain "domainName", add the following values:
  - FutureForwardStart.subtype
  - FutureForwardStart.underlyingType
  - FutureForwardStartKeywordsToCopy

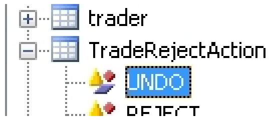
[NOTE: See *Parent/Child Trade Keywords* below for keyword considerations.

» Once the new domain "FutureForwardStart.subtype" has been added, add the value "FutureFX" to it.



FutureEquity.Pricer
FutureEquity.subtype
FutureEquityIndex.Pricer
FutureForwardStart.subtype
FutureFX
FutureForwardStart.underlyingType

» Also, add the domain value "UNDO" to the "TradeRejectAction" domain.



trader
TradeRejectAction
UNDO
REJECT

▶ For details on working with domain data, see "Defining Domain Data" in the *Getting Started* documentation.

Parent/Child Trade Keywords

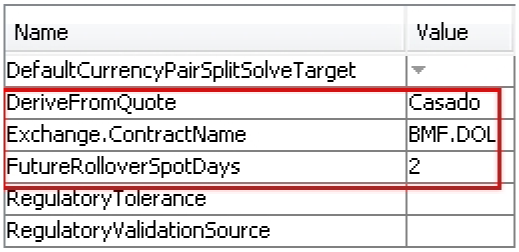
- The linking keyword on the parent Future Forward Start trade is "FutureForwardStartChildTradeId" and is only populated when the underlying child trade (FutureFX) is created. The parent will also include the keyword "FutureForwardStartFixingRate".
- The child trade is created when the forward start reset is fixed.
- The keyword on the child trade that links back to the parent Future Forward Start trade is "FutureForwardStartParentTradeID". The child trade will also have keywords "FutureForwardStartFixingRate" and "FutureForwardStartParentTradeDate".
- The keywords listed under the domain "FutureForwardStartKeywordsToCopy" will be copied over from the parent Future Forward Start trade to the new child underlying trade when the future forward start reset is fixed.

Currency Pair Attributes

For the currency pair USD/BRL, make the following settings for currency pair attributes.

- DeriveFromQuote = Casado (The FX Spot FX.USD.BRL quote is derived from the "Casado" front DOL Future.)
- Exchange.ContractName = BMF.DOL
- FutureRolloverSpotDays = 2

[NOTE: The front FX future contract for any valuation date in month N, except the last 2 business days of month N, is the future contract for delivery on the 1st business day of month N+1. The front FX future contract for a valuation date on the last 2 business days of month N, is the future contract for delivery on the 1st business day of month N+2.]

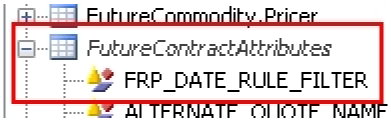


Name	Value
DefaultCurrencyPairSplitSolveTarget	
DeriveFromQuote	Casado
Exchange.ContractName	BMF.DOL
FutureRolloverSpotDays	2
RegulatoryTolerance	
RegulatoryValidationSource	

▶ For details on working with default currency pairs, see "Defining Currencies and Currency Pairs" in the *Getting Started* documentation.

Date Rule Setup for Attributes

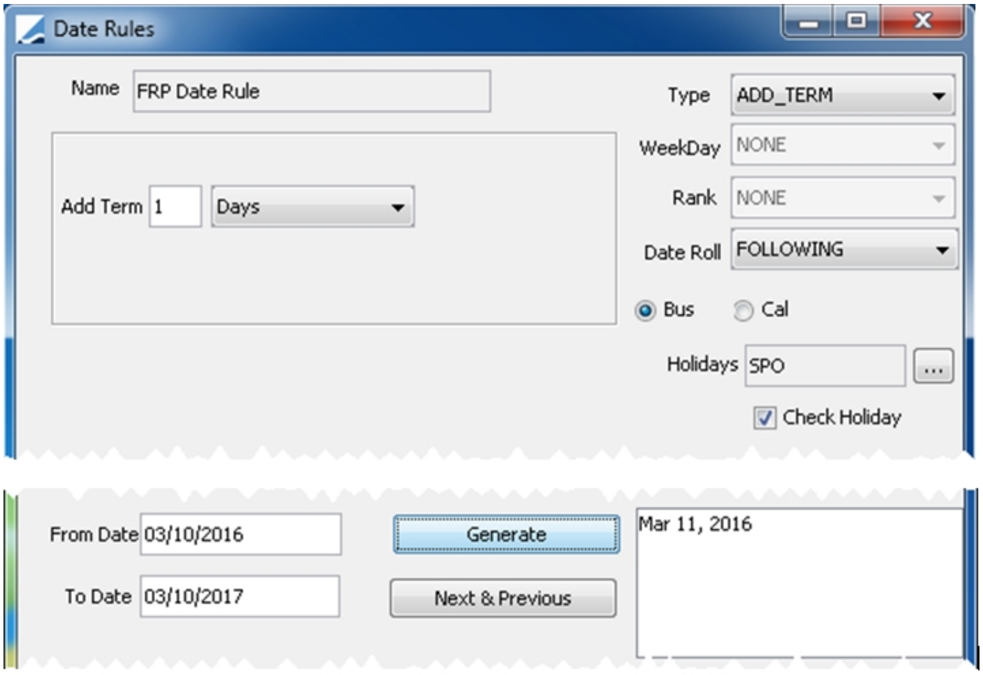
» First, add the value FRP_DATE_RULE_FILTER to the "FutureContractAttributes" domain.



FutureCommodity.Pricer
FutureContractAttributes
FRP_DATE_RULE_FILTER
ALTERNATE_QUOTE_NAME

» Second, set up a date rule for the attribute added above. In Navigator point to **Configuration > Definitions > Date Schedule Definitions > Date Rules** to open the Date Rules window.

For this step, any date rule that adds one business day to the reset date can be used. Also be sure to select a Holiday calendar. The following example illustrates just one way to set up a date rule that meets the requirement.



Name: FRP Date Rule
Type: ADD_TERM
WeekDay: NONE
Rank: NONE
Add Term: 1 Days
Date Roll: FOLLOWING
● Bus ○ Cal
Holidays: SPO
☑ Check Holiday
From Date: 03/10/2016
To Date: 03/10/2017

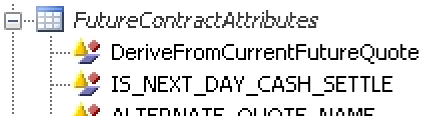
Mar 11, 2016

Example Date Rule for attribute configuration

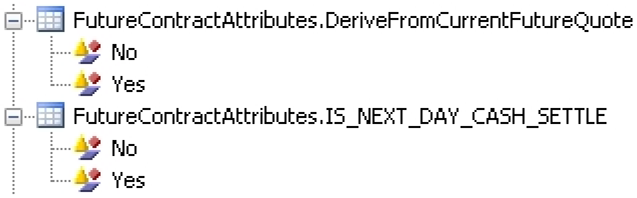
▶ For details on setting up date rules, see "Defining Date Rules" in the *Getting Started* documentation.

Future Contract Attributes Preconfiguration

- Add the following values to the "FutureContractAttributes" domain:
  - DeriveFromCurrentFutureQuote
  - IS_NEXT_DAY_CASH_SETTLE


FutureContractAttributes
DeriveFromCurrentFutureQuote
IS_NEXT_DAY_CASH_SETTLE
ALTERNATE_QUOTE_NAME

- Add the following values to the "domainName" domain:
  - FutureContractAttributes.DeriveFromCurrentFutureQuote
  - FutureContractAttributes.IS_NEXT_DAY_CASH_SETTLE
- Once these domains are available, add values "Yes" and "No" to them.

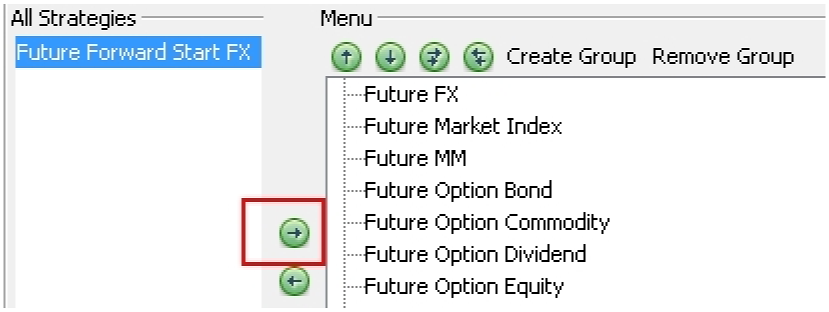

FutureContractAttributes.DeriveFromCurrentFutureQuote
No
Yes
FutureContractAttributes.IS_NEXT_DAY_CASH_SETTLE
No
Yes

- If the attribute "FutureQuoteMultiplier" doesn't already exist under the domain "FutureContractAttributes", add it as a value.

▶ For details on working with domain data, see "Defining Domain Data" in the *Getting Started* documentation.

Pricing Sheet Preconfiguration

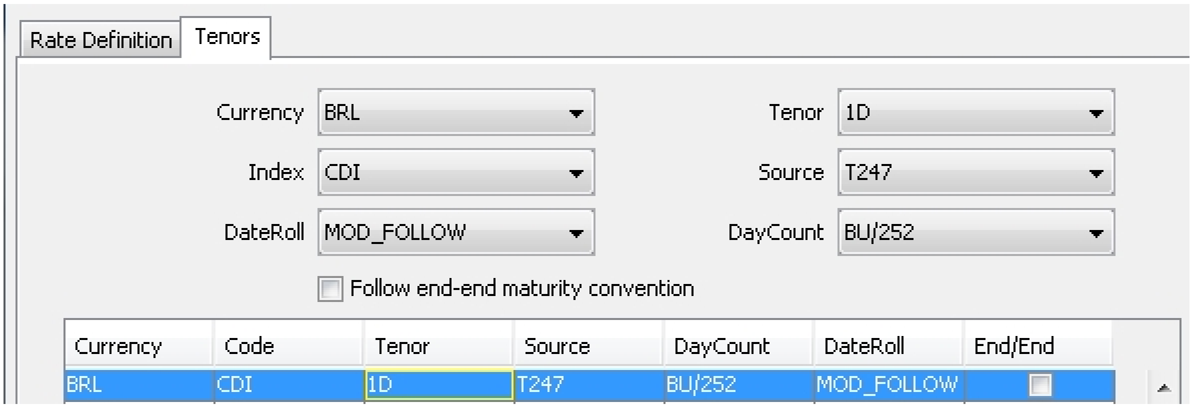
- In Pricing Sheet Profiles, add the Future Forward Start FX strategy to the Menu so that it becomes available in the list of leg strategies.


All Strategies
Future Forward Start FX
Menu
Create Group
Remove Group
Future FX
Future Market Index
Future MM
Future Option Bond
Future Option Commodity
Future Option Dividend
Future Option Equity

▶ For details on Configuring Profiles in the Pricing Sheet, see "Configuring Profiles" in *Pricing Sheet Setup Guide* documentation.

Rate Index Definition

Prior configuration of a rate index for a 1-day interbank deposit rate for currency BRL is required.



Currency: BRL
Index: CDI
DateRoll: MOD_FOLLOW
Tenor: 1D
Source: T247
DayCount: BU/252
☐ Follow end-end maturity convention

Currency	Code	Tenor	Source	DayCount	DateRoll	End/End
BRL	CDI	1D	T247	BU/252	MOD_FOLLOW	☐

Example rate index definition

▶ For details on configuring rate indices, see "Defining Rate Indices" in the *Getting Started* documentation.

Rate Reset Definitions

Following the market conventions for FRP, it is necessary to create two FX Rate Resets. The first (e.g., FRP0) should have the "Reset Days" parameter set as 0 (zero) and the second (e.g., FRP1) should have the parameter set as 1.

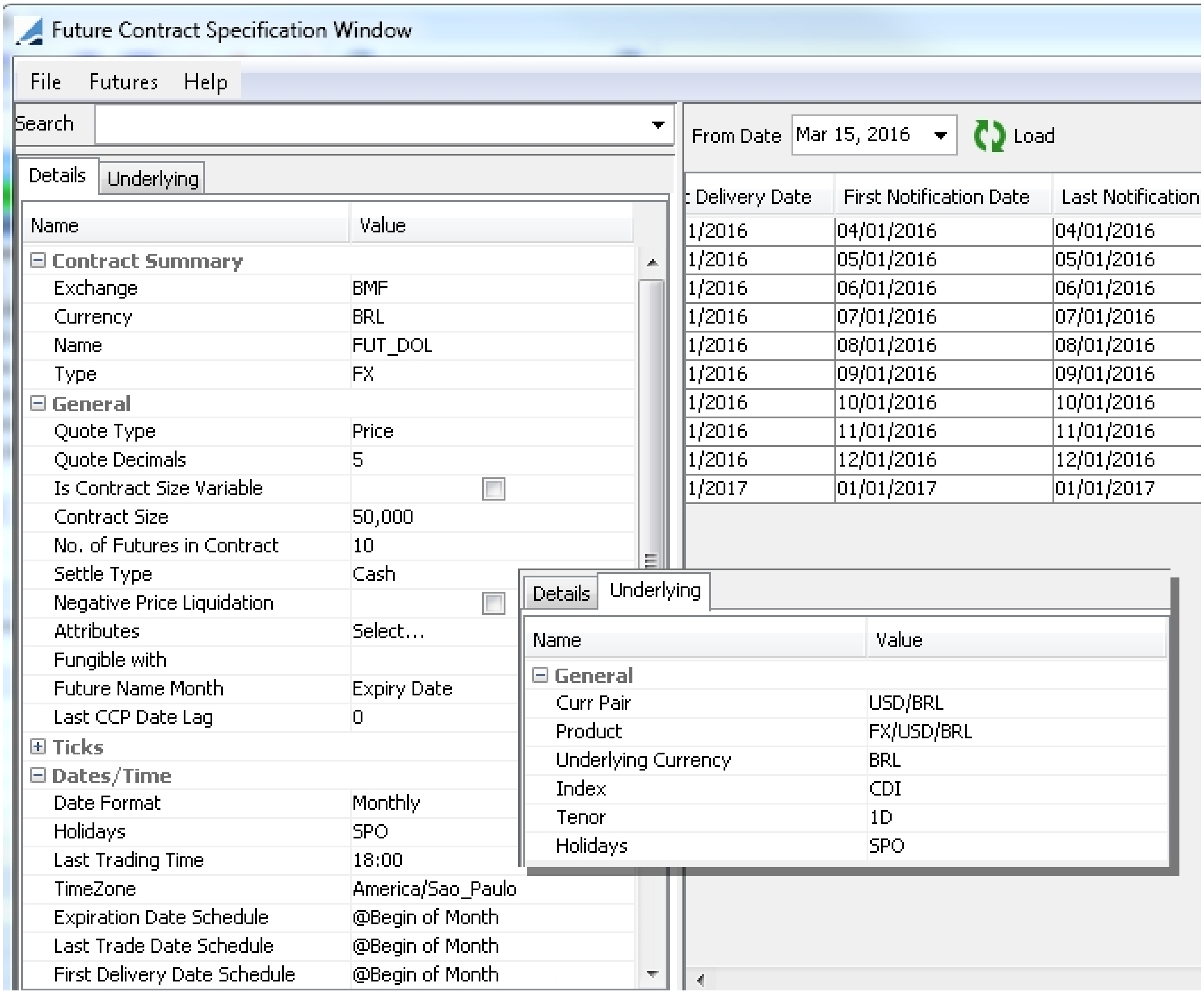
▶ For details on configuring FX rate resets, see "Defining FX Rate Fixings" in the *Getting Started* documentation.

13.7.2 Defining Future Contracts

Defining the future contract in Calypso creates the US Dollar Future Contract for the Future Forward Start FX strategy. For detailed information needed to define the contract, refer to specifications provided by the exchange.

To open the Future Contract from Calypso Navigator, point to **Configuration > Listed Derivatives > Future Contracts**.

▶ For further details on defining the future contract, see "Defining Future Contracts" in the *Futures and Future Options Trading* documentation.



Name	Value
Contract Summary	
Exchange	BMF
Currency	BRL
Name	FUT_DOL
Type	FX
General	
Quote Type	Price
Quote Decimals	5
Is Contract Size Variable	☐
Contract Size	50,000
No. of Futures in Contract	10
Settle Type	Cash
Negative Price Liquidation	☐
Attributes	Select...
Fungible with	
Future Name Month	Expiry Date
Last CCP Date Lag	0
Ticks	
Dates/Time	
Date Format	Monthly
Holidays	SPO
Last Trading Time	18:00
TimeZone	America/Sao_Paulo
Expiration Date Schedule	@Begin of Month
Last Trade Date Schedule	@Begin of Month
First Delivery Date Schedule	@Begin of Month

From Date: Mar 15, 2016

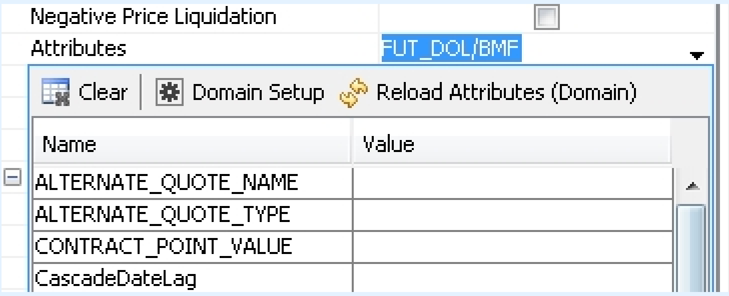
Delivery Date	First Notification Date	Last Notification
1/2016	04/01/2016	04/01/2016
1/2016	05/01/2016	05/01/2016
1/2016	06/01/2016	06/01/2016
1/2016	07/01/2016	07/01/2016
1/2016	08/01/2016	08/01/2016
1/2016	09/01/2016	09/01/2016
1/2016	10/01/2016	10/01/2016
1/2016	11/01/2016	11/01/2016
1/2016	12/01/2016	12/01/2016
1/2017	01/01/2017	01/01/2017

Name	Value
General	
Curr Pair	USD/BRL
Product	FX/USD/BRL
Underlying Currency	BRL
Index	CDI
Tenor	1D
Holidays	SPO

Details Tab

Properties	Description
Exchange	Select the legal entity configured for the exchange. ("BMF" in the example above)
Currency	Select "BRL" for the currency.
Name	Enter a unique name for the future contract.
Type	Select "FX".
Quote Type	Select "Price".
Attributes	» To open contract attributes, click **Select** and then ▾ in the Value column. The Attributes

<table>
<tr><th>Properties</th><th>Description</th></tr>
<tr><td></td><td>
window opens.



Negative Price Liquidation ☐
Attributes FUT_DOL/BMF

Name	Value
ALTERNATE_QUOTE_NAME	
ALTERNATE_QUOTE_TYPE	
CONTRACT_POINT_VALUE	
CascadeDateLag	

» Make settings for the following attributes.

- **DeriveFromCurrentFutureQuote**: When "Yes", the rollover quote is created over this future.
- **FutureQuoteMultiplier**: Enter the value 1000. The value entered in this field allows the system to accommodate quotes expressed in one format so that they can be interpreted and used in another. For example, if live market data provides a quote in the format 3,620 and the attribute is set to 1000, the system can convert this to 3.620 so that it can be used in functions such as curve generation without causing calculation errors.
- **IS_NEXT_DAY_CASH_SETTLE**: When "Yes", cash is settled on the following business day. Applicable for Brazilian futures. (Determined by BM&F rules and regulations, positions outstanding at the end of each session are settled according to the day's settlement price.)
- **FRP_DATE_RULE_FILTER**: Add the Date Rule that was created in *Date Rule Setup for Attributes* section above.

ⓘ **[NOTE: You can add new attributes directly from the Attributes window by selecting Domain Setup at the top. However, for those attributes that require lower level values (such as "Yes" or "No"), you will need to add new attributes as described in the *Future Contract Attributes Preconfiguration* section above.]**
</td></tr>
<tr><td>Future Name Month</td><td>Select "Expiry Date".</td></tr>
<tr><td>Tick Type</td><td>Select "Fixed".</td></tr>
<tr><td>Date Format</td><td>Select "Monthly".</td></tr>
<tr><td>Expiration Date Schedule</td><td>Enter "@Begin of Month" for the date rule.</td></tr>
<tr><td>Last Trade Date Schedule</td><td>Enter "@Begin of Month" for the date rule.</td></tr>
<tr><td>First Delivery Date Schedule</td><td>Enter "@Begin of Month" for the date rule.</td></tr>
</table>

Underlying Tab

Properties	Description
Curr Pair	Select "USD/BRL".
Product	Select "FX/USD/BRL" for the product.
Underlying Currency	Select "BRL".
Index	Select the rate index previously configured for a 1-day interbank deposit rate for currency BRL.
Tenor	Select "1D" for the tenor.
Holidays	Select "SPO" for the holiday schedule.

13.7.3 Capturing Future Forward Start FX Trades

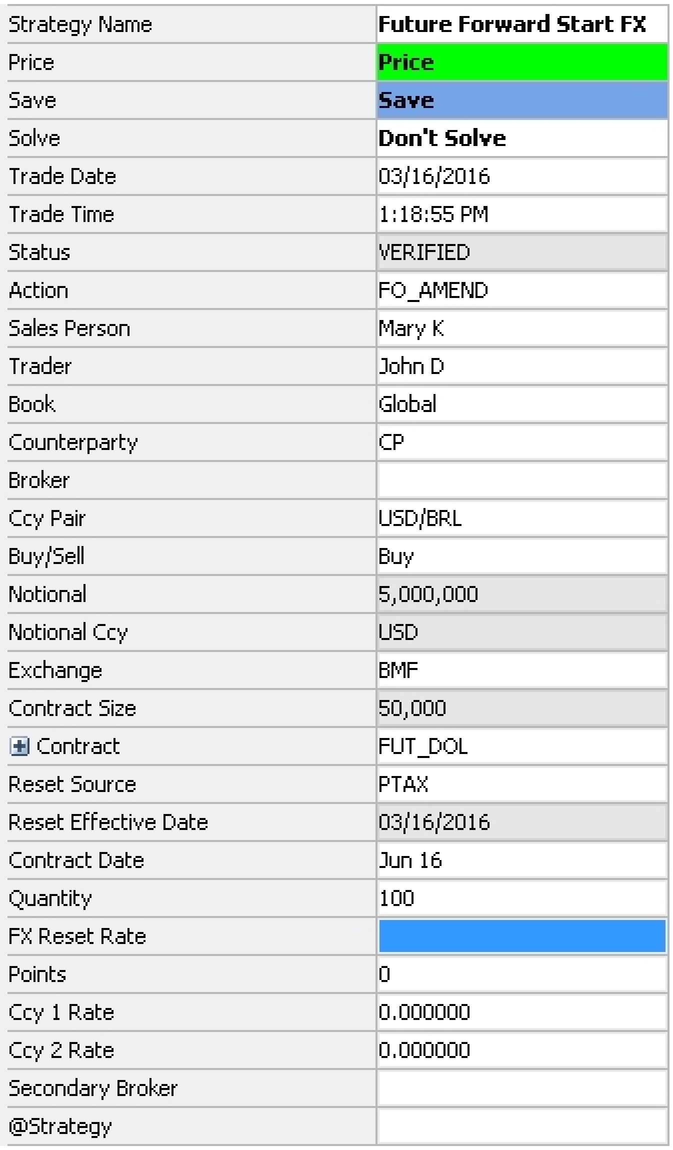
This section covers the key properties that need to be entered to capture a trade.

Basic Steps for Capturing a Future Forward Start FX Trade

- Make sure a future contract has been defined.
- Specify the Ccy Pair, Exchange, Contract, Contract Date, and Reset Source properties in the Pricing Sheet - this will load information from the contract and populate other related properties.
- Select an option for Buy/Sell and specify the Quantity of the trade.
- Define other basic properties such as Book, Counterparty, Broker, etc.

Key Properties

Ccy Pair - Exchange - Contract - Contract Date - Buy/Sell - Quantity - Reset Source



Strategy Name	**Future Forward Start FX**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Date	03/16/2016
Trade Time	1:18:55 PM
Status	VERIFIED
Action	FO_AMEND
Sales Person	Mary K
Trader	John D
Book	Global
Counterparty	CP
Broker	
Ccy Pair	USD/BRL
Buy/Sell	Buy
Notional	5,000,000
Notional Ccy	USD
Exchange	BMF
Contract Size	50,000
⊞ Contract	FUT_DOL
Reset Source	PTAX
Reset Effective Date	03/16/2016
Contract Date	Jun 16
Quantity	100
FX Reset Rate	
Points	0
Ccy 1 Rate	0.000000
Ccy 2 Rate	0.000000
Secondary Broker	
@Strategy	

"Product: Style" Properties

Properties	Description
Exchange	Select the exchange where the trade is listed.
Contract	Select the underlying futures contract.
Contract Date	Select the underlying futures contract date from the list. These are generated from the contract.
Ccy Pair	Enter USD/BRL.

Properties	Description
Buy/Sell	Select the direction of the trade: Buy or Sell.
Quantity	Enter the number of future contracts to be traded.
Contract Size	Automatically populated and based on information defined in the underlying future contact.
Notional	Calculated automatically from contract size and quantity. (contract size * quantity = notional)
Notional Ccy	Automatically populated as USD.

"Product: Rate" Properties

Properties	Description
Reset Source	Select the reset source for fixing. You can also configure a custom strategy to have a default reset source populated when opening a new strategy. ▶ For details on customizing strategies, see "Building Custom Strategies" in *Pricing Sheet Setup Guide* documentation.
FX Reset Rate	Displays the reset rate from the FX Quote window. Typically, this is the last reset value.

"Date" Properties

Properties	Description
Reset Effective Date	This date is based on the selected reset source and is populated automatically.

"Market Data" Properties

Properties	Description
Points	Enter the number of points being traded.
FX Spot	Automatically populated with the market spot rate from the Market Data panel. It can be manually overridden.
FX Fwd	Automatically populated with the calculated outright forward rate based on the spot and interest rates for each currency in the pair.
Ccy 1 Rate Ccy 2 Rate	Automatically populated with the respective currency's interest rate derived from the specified curve.

"Keyword" Properties

Properties	Description
@Strategy	Identifies whether the trade is to be used for hedging.

13.8 Brazilian FRC Trades

Prior to capturing Brazilian DDI Futures trades, you need to specify Future contracts from the Calypso Navigator using **Configuration > Listed Derivatives > Future Contracts** and generate the Future products. The DDI Future can be traded as a standard future trade or as an FRC trade.

An FRC future is a future with two legs.

Properties

Product: Info = Exchange, Contract, Contract Date - Product: Price = Strike, Notional

- Select an exchange, a contract, a contract date , and a strike to select a Future Option product.

"Product: Style" Properties

Properties	Description
Product Type	Displays the product type based on the FRC strategy.
Ccy Pair	Displays the currency pair of the contract.
Notional	Displays the notional based on the quantity.
Notional Ccy	Select the currency of the notional.
Settle Ccy	Select the settlement currency.
Buy/Sell	Select the direction of the trade: Buy or Sell.
Expiry Date	Displays the expiration date from the future contract
Delivery Date	Displays the delivery date from the future contract.
Settle Type	Displays the settlement type of the contract: Cash or Physical.
Strike	Enter the strike.
Contract ID Type Contract ID	You can select a security code of the Future product, and the corresponding value will be displayed in the Contract ID field.
Exchange	Select the Exchange where the contract is quoted.
Contract Size	Displays the contract size.
Quantity	Enter the traded quantity.
Contract	Select the contract.
Contract Date	Select the expiration date.

Properties	Description
	Once you have entered a trade, you can type the following shortcuts into the Contract Date to duplicate the trade for additional contracts. • +*ny* - For example "+2y" - To add trades for all available contracts over the next *n* years. • +*nyq* - For example "+2yq" - To add trades for all quarterly contracts over the next *n* years. • +*nq* - For example "+2q" - To add trades for the next *n* quarterly contracts. • +*ns* - For example "+2s" - To add trades for the next *n* contracts.

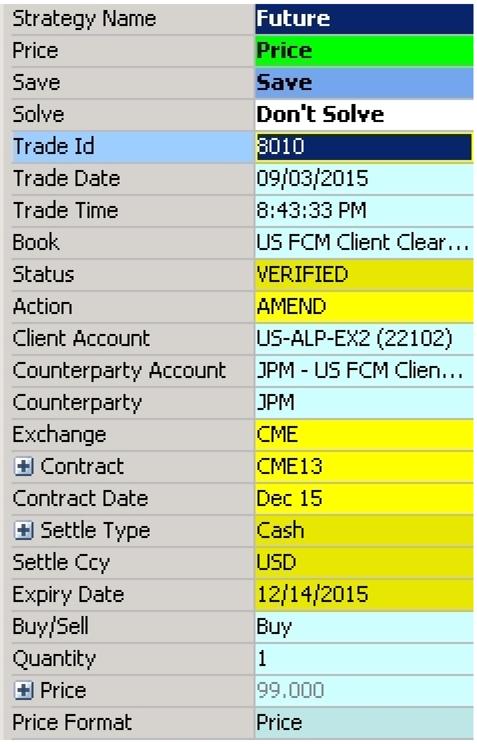
13.9 Generic Future and Generic Option

Select the strategy Future or Option for ETD Clearing.

Please refer to the *Calypso ETD Clearing Installation and Setup Guide* for complete setup details.

Properties

Exchange - Contract - Contract Date - Strike - Quantity - Buy/Sell - Put/Call - Product ID Type - Product ID



Strategy Name	**Future**
Price	**Price**
Save	**Save**
Solve	**Don't Solve**
Trade Id	3010
Trade Date	09/03/2015
Trade Time	8:43:33 PM
Book	US FCM Client Clear...
Status	VERIFIED
Action	AMEND
Client Account	US-ALP-EX2 (22102)
Counterparty Account	JPM - US FCM Clien...
Counterparty	JPM
Exchange	CME
⊞ Contract	CME13
Contract Date	Dec 15
⊞ Settle Type	Cash
Settle Ccy	USD
Expiry Date	12/14/2015
Buy/Sell	Buy
Quantity	1
⊞ Price	99.000
Price Format	Price

» Select an exchange, a contract, a contract date , and a strike to select a product.

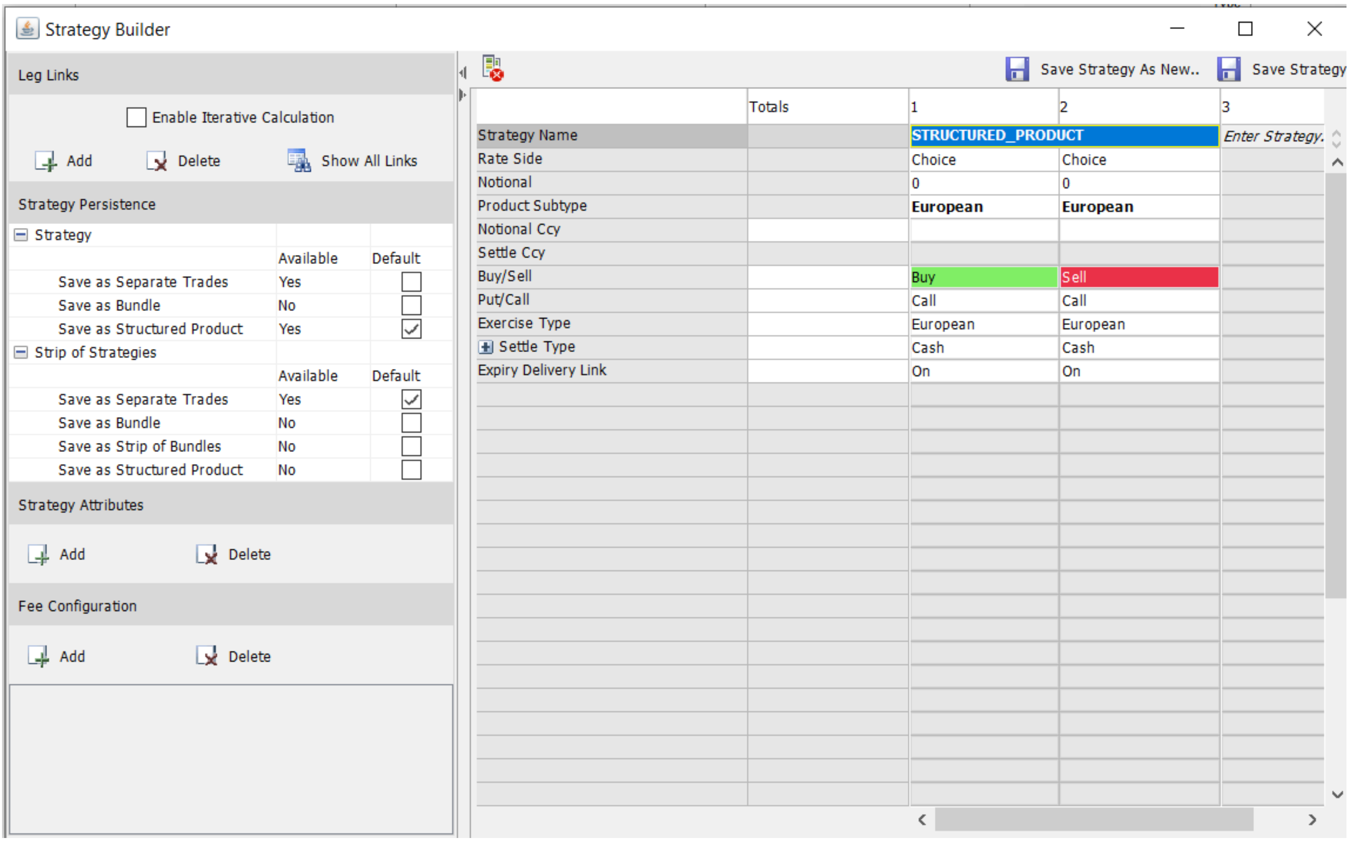
» You can also select a Product ID Type, and enter a Product ID to select the corresponding product.

14. Capturing Structured Product Trades

To book Structured Product Trades in pricing sheet, you need to create strategy using Strategy Builder. While creating strategy, you need to tick ‘Save as Structured Product’ option to create multilegged strategy to save as a single trade id. If the strategy is saved as Structured Product, it will create single trade. Currently only Equity Options are supported as sub type of structured product in pricing sheet.

For Structured Product trades on Pricing Sheet, when detailed data is checked for saved trade then leg wise pricer measure value will be populated. if it's unchecked then consolidated value of all legs will be populated in last leg of Structured Product on Pricing Sheet.

Strategy created for booking Structured Product Trade:

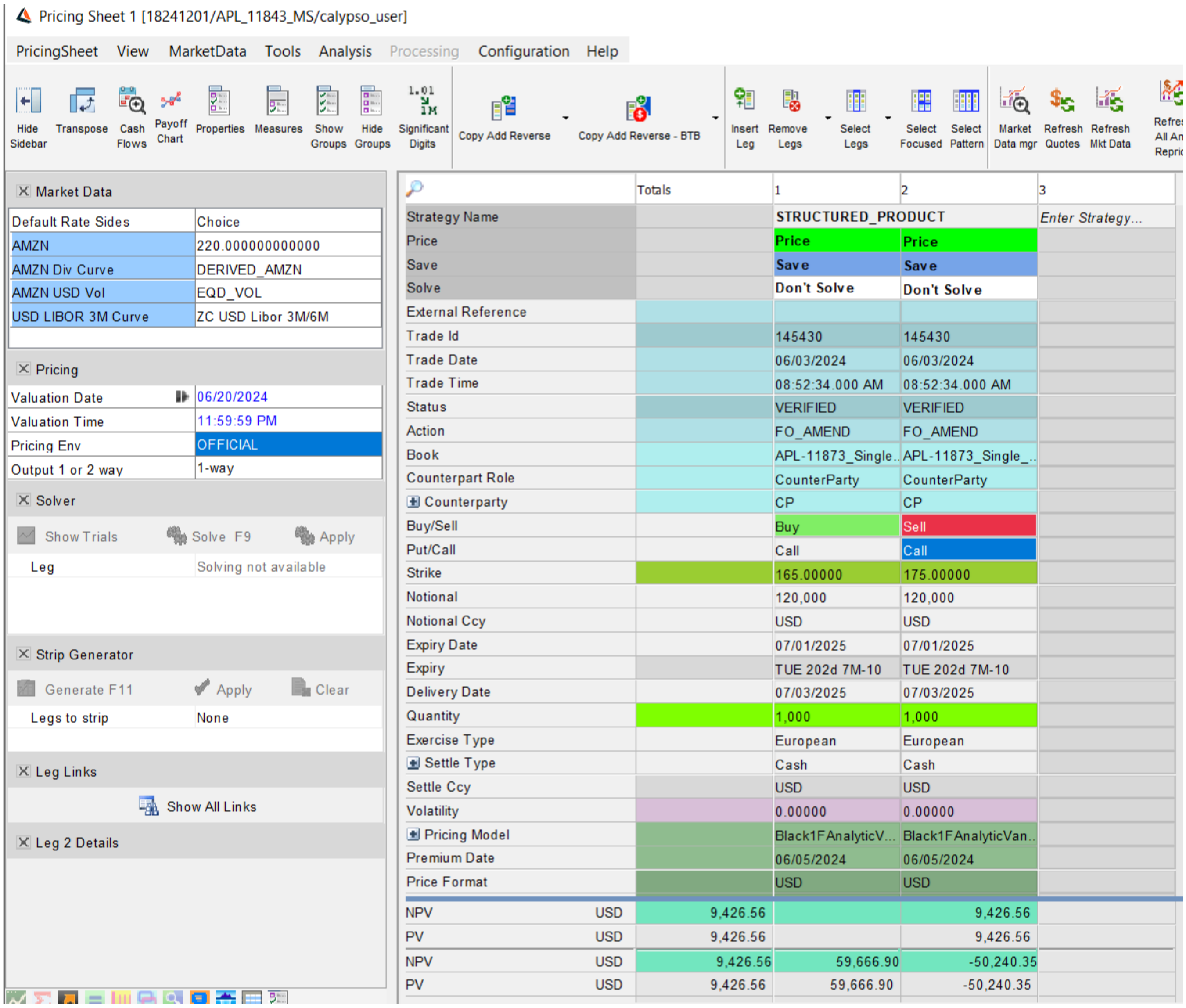

Strategy Builder
Leg Links
Add
Delete
Show All Links
Strategy Persistence
Strategy Attributes
Add
Delete
Fee Configuration
Add
Delete
Save Strategy As New..
Save Strategy

☐ Enable Iterative Calculation

	Available	Default
⊟ Strategy		
Save as Separate Trades	Yes	☐
Save as Bundle	No	☐
Save as Structured Product	Yes	☑
⊟ Strip of Strategies		
Save as Separate Trades	Yes	☑
Save as Bundle	No	☐
Save as Strip of Bundles	No	☐
Save as Structured Product	No	☐

	Totals	1	2	3
Strategy Name		STRUCTURED_PRODUCT		*Enter Strategy.*
Rate Side		Choice	Choice	
Notional		0	0	
Product Subtype		**European**	**European**	
Notional Ccy				
Settle Ccy				
Buy/Sell		Buy	Sell	
Put/Call		Call	Call	
Exercise Type		European	European	
⊞ Settle Type		Cash	Cash	
Expiry Delivery Link		On	On	

Sample trade saved as structured product is shown below:


Pricing Sheet 1 [18241201/APL_11843_MS/calypso_user]
PricingSheet
View
MarketData
Tools
Analysis
Processing
Configuration
Help
Hide Sidebar
Transpose
Cash Flows
Payoff Chart
Properties
Measures
Show Groups
Hide Groups
Significant Digits
Copy Add Reverse
Copy Add Reverse - BTB
Insert Leg
Remove Legs
Select Legs
Select Focused
Select Pattern
Market Data mgr
Refresh Quotes
Refresh Mkt Data
Refres All An Repric
Market Data
Pricing
Solver
Show Trials
Solve F9
Apply
Strip Generator
Generate F11
Apply
Clear
Leg Links
Show All Links
Leg 2 Details

Default Rate Sides	Choice
AMZN	220.000000000000
AMZN Div Curve	DERIVED_AMZN
AMZN USD Vol	EQD_VOL
USD LIBOR 3M Curve	ZC USD Libor 3M/6M

Valuation Date	06/20/2024
Valuation Time	11:59:59 PM
Pricing Env	OFFICIAL
Output 1 or 2 way	1-way

Leg	Solving not available

Legs to strip	None

	Totals	1	2	3
Strategy Name		STRUCTURED_PRODUCT		Enter Strategy...
Price		Price	Price	
Save		Save	Save	
Solve		Don't Solve	Don't Solve	
External Reference				
Trade Id		145430	145430	
Trade Date		06/03/2024	06/03/2024	
Trade Time		08:52:34.000 AM	08:52:34.000 AM	
Status		VERIFIED	VERIFIED	
Action		FO_AMEND	FO_AMEND	
Book		APL-11873_Single..	APL-11873_Single_..	
Counterpart Role		CounterParty	CounterParty	
⊞ Counterparty		CP	CP	
Buy/Sell		Buy	Sell	
Put/Call		Call	Call	
Strike		165.00000	175.00000	
Notional		120,000	120,000	
Notional Ccy		USD	USD	
Expiry Date		07/01/2025	07/01/2025	
Expiry		TUE 202d 7M-10	TUE 202d 7M-10	
Delivery Date		07/03/2025	07/03/2025	
Quantity		1,000	1,000	
Exercise Type		European	European	
⊞ Settle Type		Cash	Cash	
Settle Ccy		USD	USD	
Volatility		0.00000	0.00000	
⊞ Pricing Model		Black1FAnalyticV...	Black1FAnalyticVan..	
Premium Date		06/05/2024	06/05/2024	
Price Format		USD	USD	
NPV USD	9,426.56		9,426.56	
PV USD	9,426.56		9,426.56	
NPV USD	9,426.56	59,666.90	-50,240.35	
PV USD	9,426.56	59,666.90	-50,240.35	

15. Solving

The pricing sheet offers two types of solving capabilities:

- Solving shortcuts
- Advanced solving

15.1 Solving Shortcuts

Solving shortcuts are available for the Strike field, to solve for strike in order to obtain at-the-money trades, or a target delta.

A shortcut can be applied to a single trade, to a set of selected trades in a strategy, or to all the trades in a strategy.

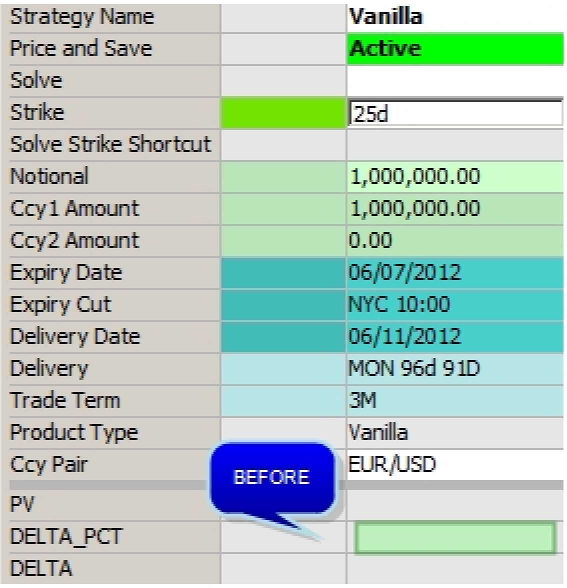
15.1.1 Single Trade Shortcuts

On a single trade, you can enter any of the following in the Strike field, then click Σ.

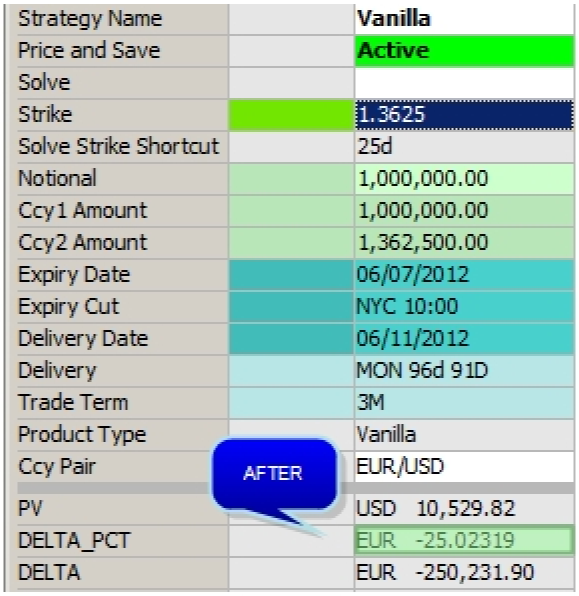
- atm or atmf: To solve for an at the money forward trade.
- atms: To solve for an at the money spot trade.
- #d: To solve for target delta (25d, 10d, 0d, etc.).
- #% itmf: To solve for a percentage of the in-the-money forward (102% itmf).

Scenario 1 - Single Trade - Solve for Strike to get 25% Delta

Enter "25d" in the Strike field, then click Σ.



Strategy Name		**Vanilla**
Price and Save		**Active**
Solve		
Strike		25d
Solve Strike Shortcut		
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		0.00
Expiry Date		06/07/2012
Expiry Cut		NYC 10:00
Delivery Date		06/11/2012
Delivery		MON 96d 91D
Trade Term		3M
Product Type		Vanilla
Ccy Pair		EUR/USD
PV		
DELTA_PCT		
DELTA		



Strategy Name		**Vanilla**
Price and Save		**Active**
Solve		
Strike		1.3625
Solve Strike Shortcut		25d
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,362,500.00
Expiry Date		06/07/2012
Expiry Cut		NYC 10:00
Delivery Date		06/11/2012
Delivery		MON 96d 91D
Trade Term		3M
Product Type		Vanilla
Ccy Pair		EUR/USD
PV		USD 10,529.82
DELTA_PCT		EUR -25.02319
DELTA		EUR -250,231.90

Scenario 1 - Solving Shortcut (Single trade - Solve for strike with target 25% Delta)

The strike shortcut is stored in the property "Solve Strike Shortcut".

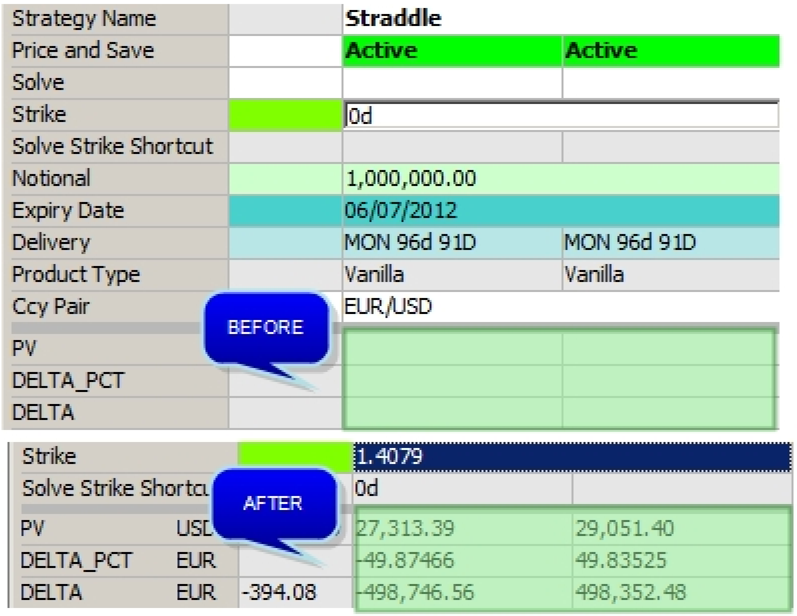
15.1.2 Out-of-the-box Strategies Shortcuts

For out-of-the-box strategies, the following solving shortcuts are predefined. Enter the strike, then click Σ.

Strategy	Strike	Expected Results			
Straddle	“0d” or “atm”	Vanilla Buy PUT S	Vanilla Buy CALL S		
Strangle	“25d” or "#d" (# can be any number)	Vanilla Buy PUT S1 (-25d)	Vanilla Buy CALL S2 (25d)		
Butterfly	“25d” or "#d" (# can be any number)	Vanilla Buy PUT S1 (-25d)	Vanilla Buy CALL S2 (25d)	Vanilla Buy PUT S3 (atm)	Vanilla Buy CALL S3 (atm)
Risk reversal (collar)	“25d” or "#d" (# can be any number)	Vanilla Buy PUT S1 (-25d)	Vanilla Sell CALL S2 (-25d)		

Scenario 2- Out-of-the-box Strategy - Solve for Strike to get 0% Delta over Strategy

Enter "0d" in the Strike field of the first trade, then click Σ.



Strategy Name		Straddle	
Price and Save		Active	Active
Solve			
Strike		0d	
Solve Strike Shortcut			
Notional		1,000,000.00	
Expiry Date		06/07/2012	
Delivery		MON 96d 91D	MON 96d 91D
Product Type		Vanilla	Vanilla
Ccy Pair		EUR/USD	
PV			
DELTA_PCT			
DELTA			

Strike			1.4079	
Solve Strike Shortcut			0d	
PV	USD		27,313.39	29,051.40
DELTA_PCT	EUR		-49.87466	49.83525
DELTA	EUR	-394.08	-498,746.56	498,352.48

Scenario 2 - Solving Shortcut (Out-of-the-box Strategy- Solve for strike with target 0% Delta)

DELTA_PCT is null over the strategy.

15.1.3 Multiple Trades Shortcuts

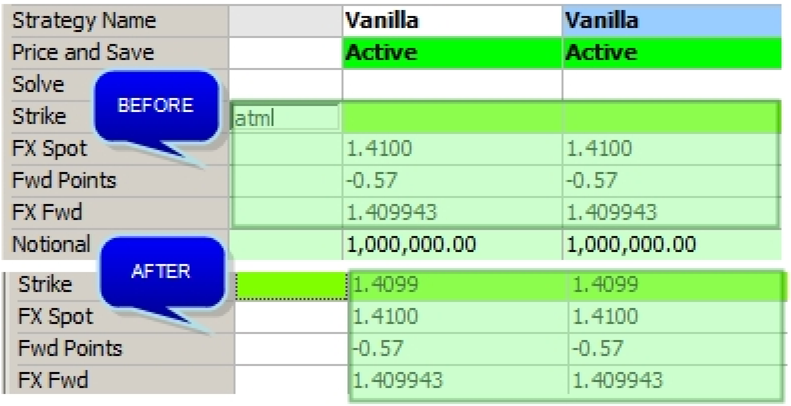
Now, if you have multiple trades in a strategy, you can still apply a solving shortcut to a single trade, or to a set of selected trades, or to all the trades at once.

To do so, select a set of trades, enter any of the following in the Totals column of the Strike field.

- atm or atmf: To solve for an at the money forward trade.
- atms: To solve for an at the money spot trade.
- #d: To solve for delta (25d, 10d, 0d, etc.).
- #% itmf: To solve for a percentage of the in-the-money forward (102% itmf).

Scenario 3 - Multiple Trades - Solve for at-the-money Forward

Enter "atm" in the Totals column of the Strike field, then click Σ.



Strategy Name		Vanilla	Vanilla
Price and Save		Active	Active
Solve			
Strike	atml		
FX Spot		1.4100	1.4100
Fwd Points		-0.57	-0.57
FX Fwd		1.409943	1.409943
Notional		1,000,000.00	1,000,000.00

Strike		1.4099	1.4099
FX Spot		1.4100	1.4100
Fwd Points		-0.57	-0.57
FX Fwd		1.409943	1.409943

Scenario 3 - Solving Shortcut (Multiple trades- Solve for at-the-money forward)

15.2 Advanced Solving

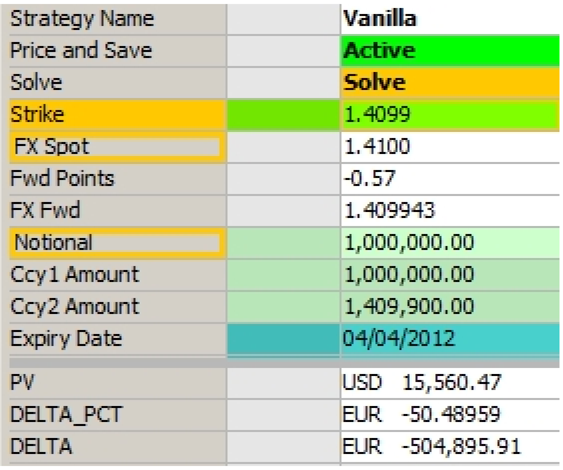
To enable the advanced solving capability, set the Solve property to "Solve".

Advanced solving can be applied to a single trade, to selected trades in Solve mode in a strategy, or to all trades in Solve mode in a strategy.

All the properties you can solve for are outlined in orange.

[NOTE: In case you have trades with different types of strategies, only the common properties will be available for solving. For example, if you have a Vanilla trade and a Barrier trade, you will not be able to solve for Barrier for the whole strategy, whereas if you only have Barrier trades, you will be able to solve for Barrier]

The pricer measures can be set as targets.



Strategy Name		Vanilla
Price and Save		Active
Solve		Solve
Strike		1.4099
FX Spot		1.4100
Fwd Points		-0.57
FX Fwd		1.409943
Notional		1,000,000.00
Ccy1 Amount		1,000,000.00
Ccy2 Amount		1,409,900.00
Expiry Date		04/04/2012
PV		USD 15,560.47
DELTA_PCT		EUR -50.48959
DELTA		EUR -504,895.91

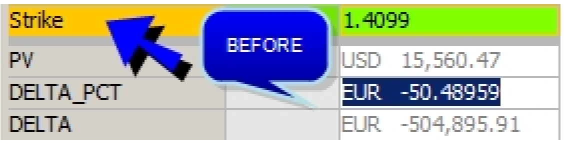
Pricing sheet (Solve mode)

[NOTE: Even though the Customer Premium is not outlined in orange, it is possible to solve for a target customer premium - You can select the Target "Customer Premium" in the Solver window]

» Price the trades before getting started.

15.2.1 Advanced Solving - Single Trade

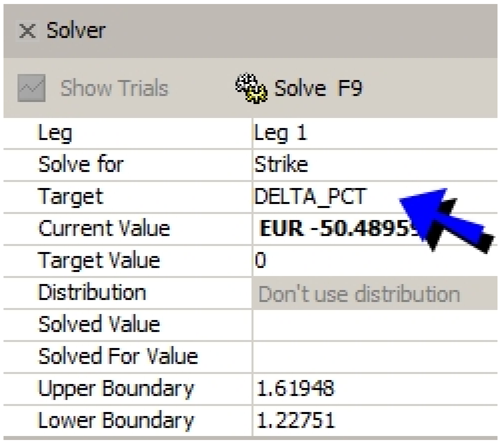
Double-click the property you want to solve for, Strike in this example. The background turns orange.



Strike	1.4099
PV	USD 15,560.47
DELTA_PCT	EUR -50.48959
DELTA	EUR -504,895.91

Pricing sheet (Solve mode - Select property to solve for)

Then double-click the pricer measure that you want to set as target, DELTA_PCT in this example. The solving information is displayed in the Solver window.



Leg	Leg 1
Solve for	Strike
Target	DELTA_PCT
Current Value	**EUR -50.4895**
Target Value	0
Distribution	Don't use distribution
Solved Value	
Solved For Value	
Upper Boundary	1.61948
Lower Boundary	1.22751

Pricing sheet (Solve)

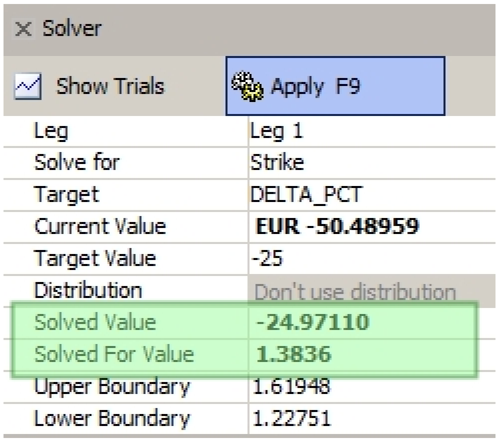
» Enter the Target Value, and click **Solve**.

You can also enter the target value directly in the pricer measure, and it sets the Target Value in the Solver window.

A solution is computed and displayed - The Solver window shows the solved value (Strike in this example), and the new pricer measure computed with the solved value (DELTA_PCT in this example).

At this point, you can:

- Try another solution by changing the target value and clicking **Solve** again.
- Tune the solver parameters: Upper Boundary and Lower Boundary.
- Exit the solver without any change if none of the solutions are satisfying.
- Apply the solution to the trade.

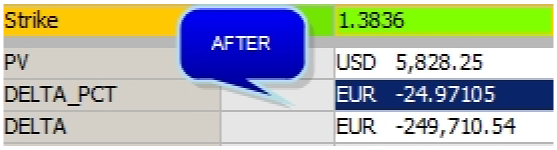


Leg	Leg 1
Solve for	Strike
Target	DELTA_PCT
Current Value	**EUR -50.48959**
Target Value	-25
Distribution	Don't use distribution
Solved Value	**-24.97110**
Solved For Value	**1.3836**
Upper Boundary	1.61948
Lower Boundary	1.22751

Pricing sheet (Solving results)

- To apply the solution to the trade, click **Apply**.

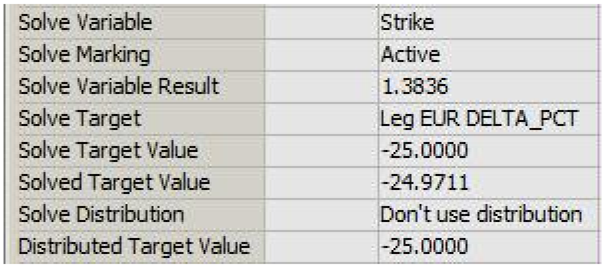
  The solved properties are updated accordingly.



Strike		1.3836
PV		USD 5,828.25
DELTA_PCT		EUR -24.97105
DELTA		EUR -249,710.54

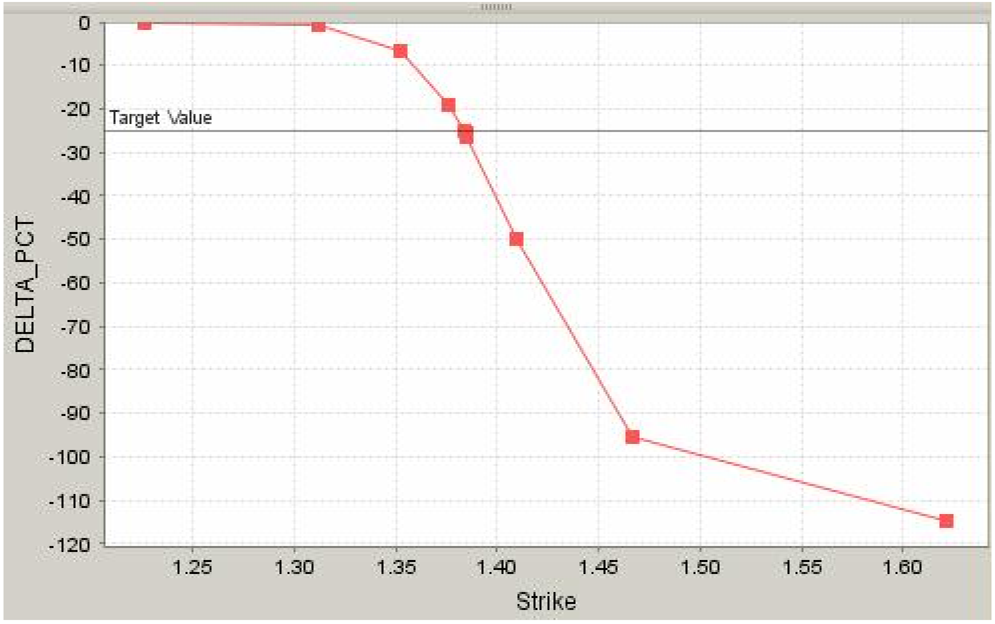
Pricing sheet (Apply solving)

Solving details are stored in the solving properties:



Solve Variable		Strike
Solve Marking		Active
Solve Variable Result		1.3836
Solve Target		Leg EUR DELTA_PCT
Solve Target Value		-25.0000
Solved Target Value		-24.9711
Solve Distribution		Don't use distribution
Distributed Target Value		-25.0000

You can also click **Show Trials** to view the solver trials.

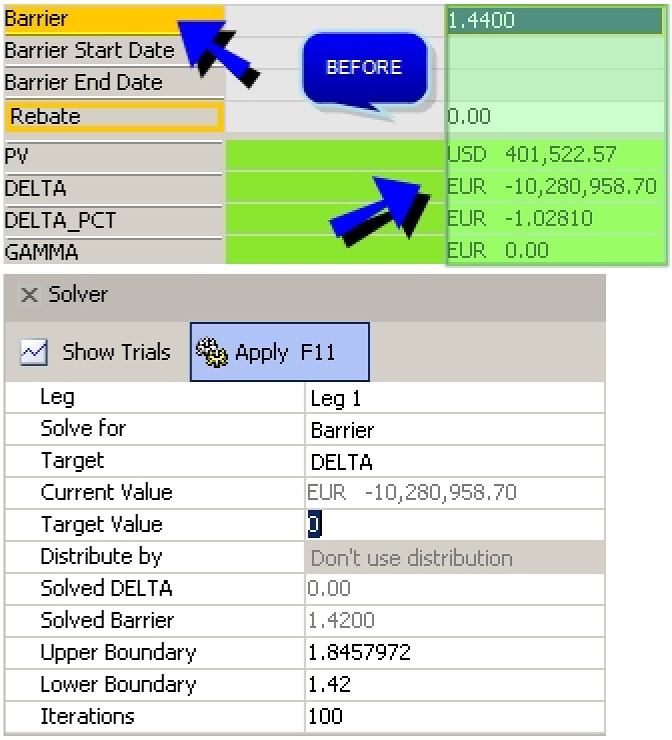


Pricing sheet (Solve - Trials details)

- You can right-click the graph and a popup menu appears with a number of options, including the ability to zoom in and out on the various axes.

Scenario 4 - Solve for Barrier with Target DELTA

Double-click the Barrier property to solve for barrier, and select the DELTA pricer measure.



Barrier	1.4400
Barrier Start Date	
Barrier End Date	
Rebate	0.00
PV	USD 401,522.57
DELTA	EUR -10,280,958.70
DELTA_PCT	EUR -1.02810
GAMMA	EUR 0.00

Solver

Show Trials | Apply F11

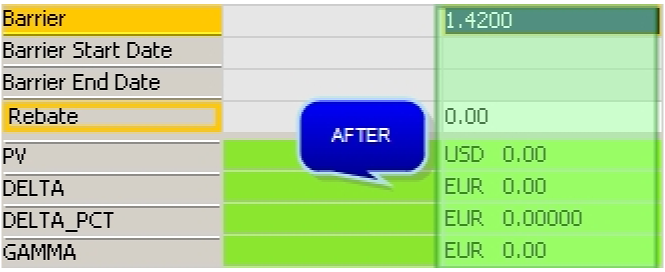
Leg	Leg 1
Solve for	Barrier
Target	DELTA
Current Value	EUR -10,280,958.70
Target Value	0
Distribute by	Don't use distribution
Solved DELTA	0.00
Solved Barrier	1.4200
Upper Boundary	1.8457972
Lower Boundary	1.42
Iterations	100

Scenario 4 - Solve for Barrier with Target DELTA

- Enter the target DELTA in "Target Value", and click **Solve**.

  The solving results are displayed. You can exit without any change, or apply the results to the trades.

- Then click **Apply**.



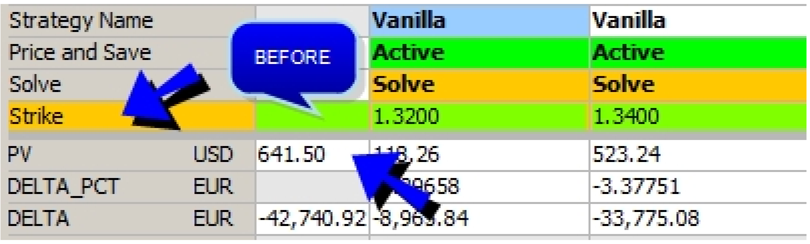
Barrier	1.4200
Barrier Start Date	
Barrier End Date	
Rebate	0.00
PV	USD 0.00
DELTA	EUR 0.00
DELTA_PCT	EUR 0.00000
GAMMA	EUR 0.00

Scenario 4 - Solving results

15.2.2 Advanced Solving - Multiple Trades

You can select a set of trades, or solve all the trades in solving mode. Make sure to price the trades.

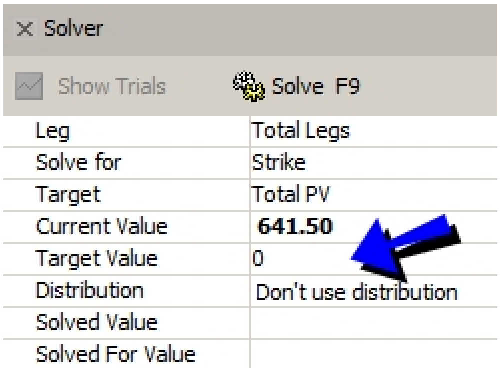
Double-click the property you want to solve for, Strike in this example. The background turns orange.



Strategy Name			Vanilla	Vanilla
Price and Save			Active	Active
Solve			Solve	Solve
Strike			1.3200	1.3400
PV	USD	641.50	118.26	523.24
DELTA_PCT	EUR		[illegible]9658	-3.37751
DELTA	EUR	-42,740.92	-8,96[illegible].84	-33,775.08

Pricing Sheet (Solve mode - Multiple trades - Select property to solve for)

Then, select the Totals column of the pricer measure that you want to set as target, PV in this example.



Leg	Total Legs
Solve for	Strike
Target	Total PV
Current Value	**641.50**
Target Value	0
Distribution	Don't use distribution
Solved Value	
Solved For Value	

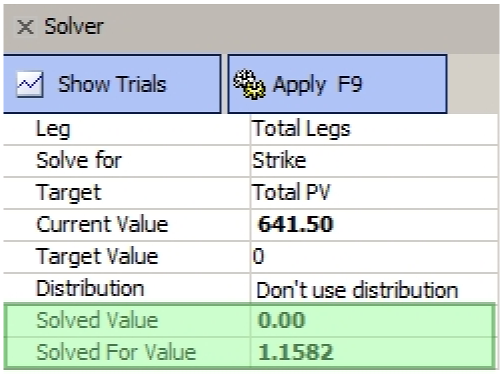
Pricing Sheet (Solve)

» Enter the target value (0 for example), and click **Solve**.

A solution is computed and displayed - The Solver dialog shows the solved value (Strike in this example), and the new pricer measure computed with the solved value (PV in this example).

At this point, you can:

- Try another solution by changing the target value and clicking **Solve** again.
- Exit the solver without any change if none of the solutions are satisfying.
- Apply the solution to the trade.

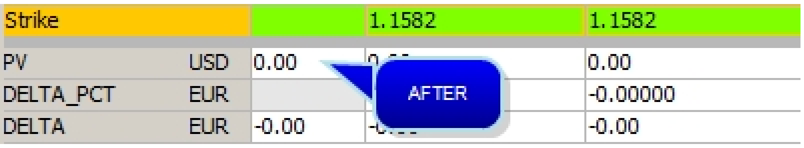


Leg	Total Legs
Solve for	Strike
Target	Total PV
Current Value	**641.50**
Target Value	0
Distribution	Don't use distribution
Solved Value	**0.00**
Solved For Value	**1.1582**

Pricing sheet (Solving results)

» To apply the solution to the trades, click **Apply**.

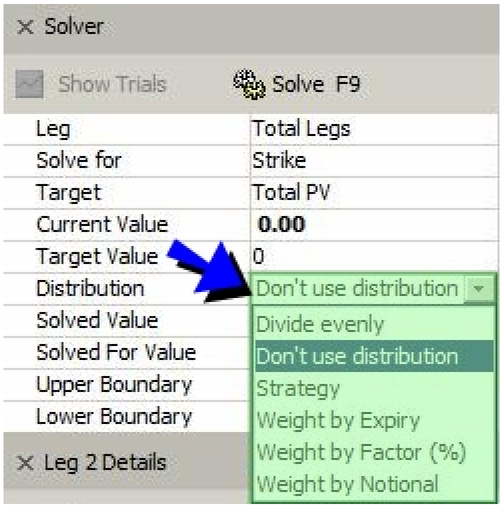
The solved properties are updated accordingly.



Strike			1.1582	1.1582
PV	USD	0.00	[illegible]	0.00
DELTA_PCT	EUR		[illegible]	-0.00000
DELTA	EUR	-0.00	[illegible]	-0.00

Pricing sheet (Apply solving results)

When solving for multiple trades, you can select the distribution method over the trades:



Leg	Total Legs
Solve for	Strike
Target	Total PV
Current Value	**0.00**
Target Value	0
Distribution	Don't use distribution
Solved Value	
Solved For Value	
Upper Boundary	
Lower Boundary	

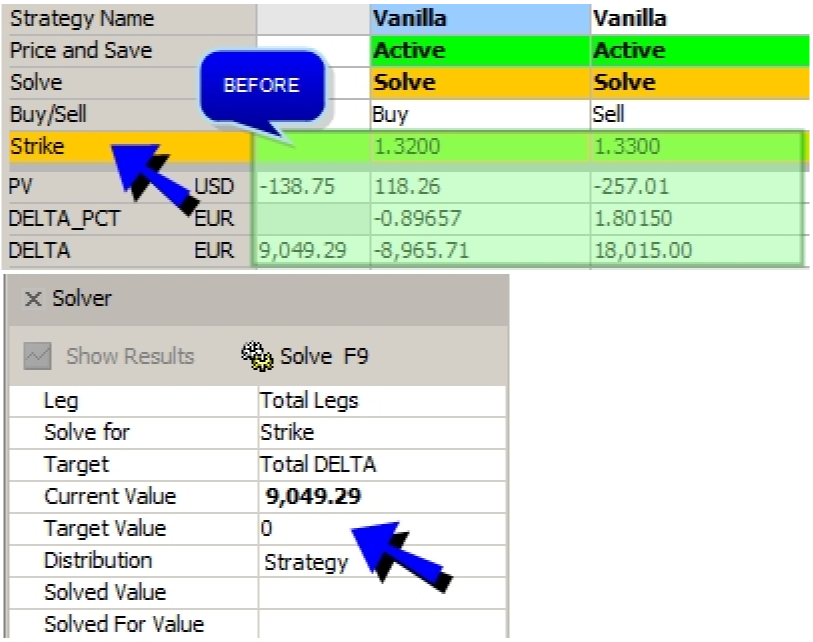
Pricing sheet (Solve - Distribution)

- "Don't use Distribution" - Default selection - The solver will find the solution common to all selected trades that gives the target value - The same solved value is applied to all trades.
- For the other distribution methods, the targeted value is split by trade according to the selected method, then the solving process is applied trade by trade to determine the solution that will make the target pricer measure equal to the split amount.
  - "Divide evenly" - The target value is divided by the number of selected trades (target value / number of trades).
  - "Weight by Notional" - The target value is proportional to the notional of the trade with respect to the total notional amount of the selected trades (target value * trade notional / total notional).
  - "Weight by Factor (%)" - You will be prompted to enter a factor for each leg - The target value is proportional to the user-defined factors (target value * factor %).
  - "Weight by Expiry" - The target value is proportional to the number of days to expiration of the trade with respect to the total number of days to expiration of the selected trades (target value * trade number of days to expiration / total number of days to expiration).
  - "Strategy" - The target value is applied to each selected strategy. For example, you have selected 2 straddles (4 trades) - The target value is applied to each straddle independently.

[NOTE: It does not make sense to select a distribution method for a null target value]

Scenario 5 - Multiple Trades - Solve for Strike to get 0% DELTA

Double-click the Strike property to solve for strike, and select the Totals column for the DELTA pricer measure.



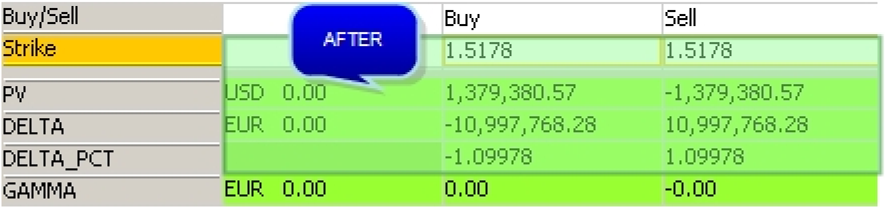
Strategy Name			Vanilla	Vanilla
Price and Save			Active	Active
Solve			Solve	Solve
Buy/Sell			Buy	Sell
Strike			1.3200	1.3300
PV	USD	-138.75	118.26	-257.01
DELTA_PCT	EUR		-0.89657	1.80150
DELTA	EUR	9,049.29	-8,965.71	18,015.00

Leg	Total Legs
Solve for	Strike
Target	Total DELTA
Current Value	**9,049.29**
Target Value	0
Distribution	Strategy
Solved Value	
Solved For Value	

Scenario 5 - Solve for 0% DELTA

- Enter the target delta in "Target Value", and click **Solve**.

  The solving results are displayed. You can exit without any change, or apply the results to the trades.
- Then click **Apply**.



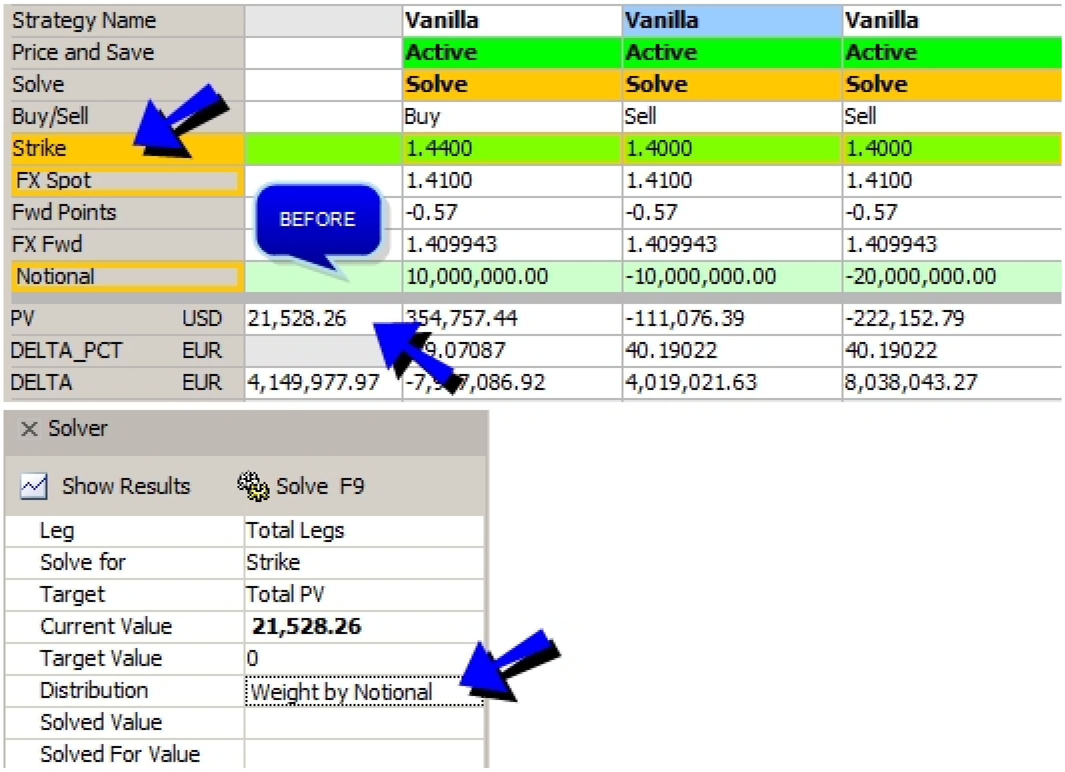
Buy/Sell			Buy	Sell
Strike			1.5178	1.5178
PV	USD	0.00	1,379,380.57	-1,379,380.57
DELTA	EUR	0.00	-10,997,768.28	10,997,768.28
DELTA_PCT			-1.09978	1.09978
GAMMA	EUR	0.00	0.00	-0.00

Scenario 5 - Solving results

Scenario 6 - Multiple Trades - Solve for Strike to get 0 PV with Notional Distribution

In this scenario, the trader wants to solve for strike to obtain a 0 PV weighted by notional.

Double-click the Strike field to solve for strike, and select the Totals column for the PV pricer measure.



Strategy Name			**Vanilla**	**Vanilla**	**Vanilla**
Price and Save			**Active**	**Active**	**Active**
Solve			**Solve**	**Solve**	**Solve**
Buy/Sell			Buy	Sell	Sell
Strike			1.4400	1.4000	1.4000
FX Spot			1.4100	1.4100	1.4100
Fwd Points			-0.57	-0.57	-0.57
FX Fwd			1.409943	1.409943	1.409943
Notional			10,000,000.00	-10,000,000.00	-20,000,000.00
PV	USD	21,528.26	354,757.44	-111,076.39	-222,152.79
DELTA_PCT	EUR		[illegible]9.07087	40.19022	40.19022
DELTA	EUR	4,149,977.97	-7,[illegible]7,086.92	4,019,021.63	8,038,043.27

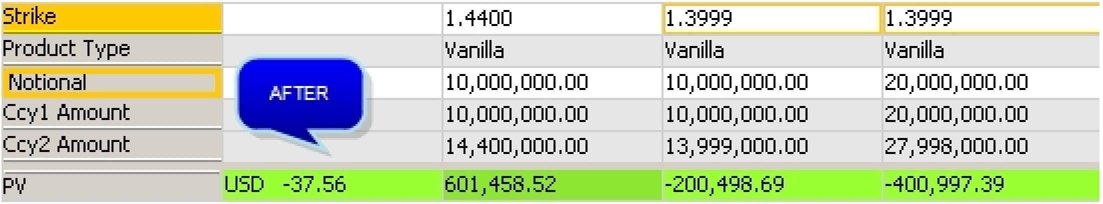
Leg	Total Legs
Solve for	Strike
Target	Total PV
Current Value	**21,528.26**
Target Value	0
Distribution	Weight by Notional
Solved Value	
Solved For Value	

Scenario 6 - Solve for 0 PV

» Enter the target PV in "Target Value", and click **Solve**.

The solving results are displayed. You can exit without any change, or apply the results to the trades.

» Then click **Apply**.



Strike		1.4400	1.3999	1.3999
Product Type		Vanilla	Vanilla	Vanilla
Notional		10,000,000.00	10,000,000.00	20,000,000.00
Ccy1 Amount		10,000,000.00	10,000,000.00	20,000,000.00
Ccy2 Amount		14,400,000.00	13,999,000.00	27,998,000.00
PV	USD -37.56	601,458.52	-200,498.69	-400,997.39

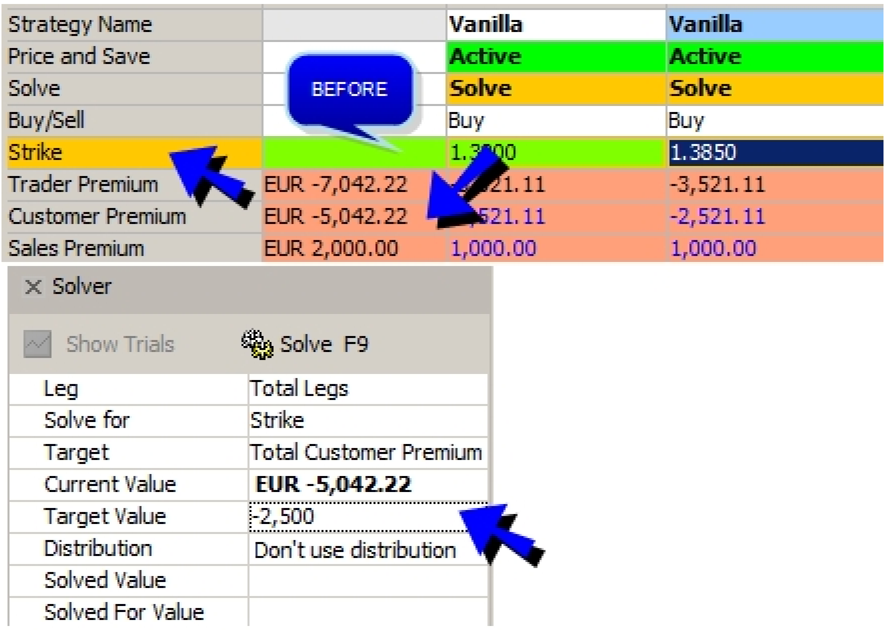
Scenario 6 - Solving results

The PV of the trade in Price mode has not changed, and is distributed by notional over the trades in Solve mode.

Scenario 7 - Multiple Trades - Solve for Target Customer Premium with Constant Sales Premium

In this scenario, the trader wants to obtain a target customer premium by keeping the sales premium constant.

Double-click the Strike field to solve for strike, and select the target Total Customer Premium in the Solver window.



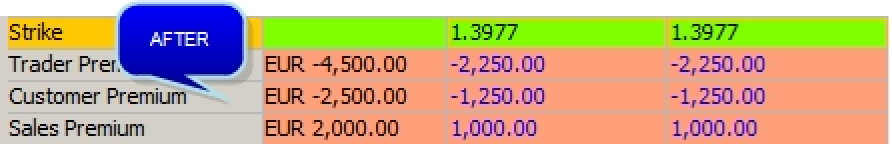
Strategy Name		Vanilla	Vanilla
Price and Save		Active	Active
Solve		Solve	Solve
Buy/Sell		Buy	Buy
Strike		1.3800	1.3850
Trader Premium	EUR -7,042.22	-3,521.11	-3,521.11
Customer Premium	EUR -5,042.22	-2,521.11	-2,521.11
Sales Premium	EUR 2,000.00	1,000.00	1,000.00

Leg	Total Legs
Solve for	Strike
Target	Total Customer Premium
Current Value	EUR -5,042.22
Target Value	-2,500
Distribution	Don't use distribution
Solved Value	
Solved For Value	

Scenario 7 - Solve for target premium

- Select the distribution method as needed.
- Enter the target premium in "Target Value", and click **Solve**.

  The solving results are displayed. You can exit without any change, or apply the results to the trades.
- Then click **Apply**.

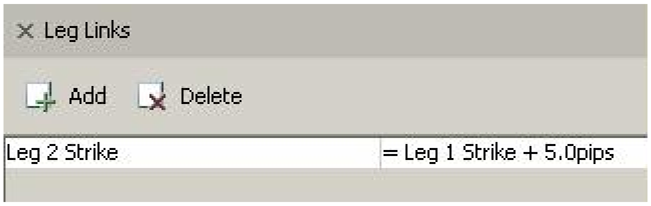


Strike		1.3977	1.3977
Trader Premium	EUR -4,500.00	-2,250.00	-2,250.00
Customer Premium	EUR -2,500.00	-1,250.00	-1,250.00
Sales Premium	EUR 2,000.00	1,000.00	1,000.00

Scenario 7 - Solving results

Scenario 8 - Multiple Trades - Solving with Linked Properties

In this example, Strike (second trade) = Strike (first trade) + 5 pips.



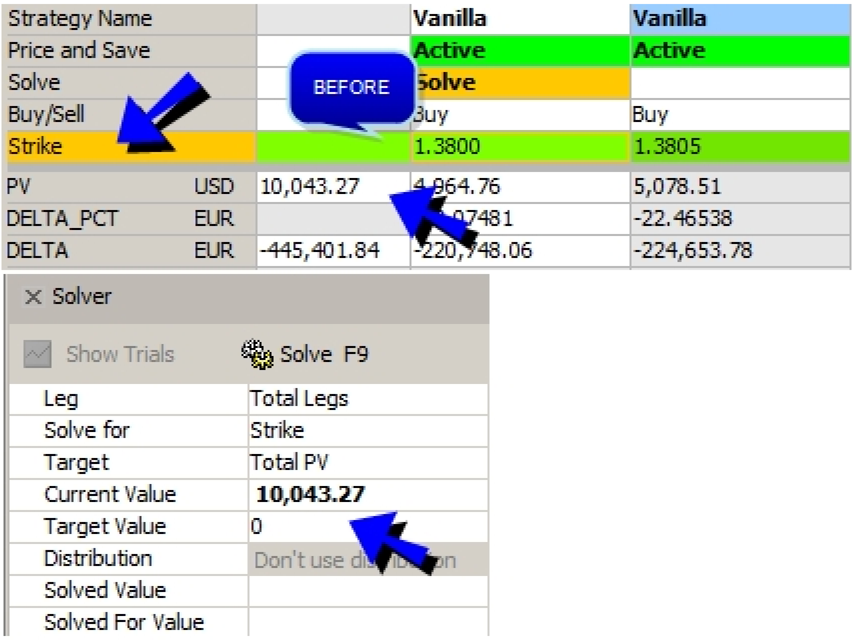
Leg 2 Strike = Leg 1 Strike + 5.0pips

Scenario 8 - Linked strikes

▶ Please refer to "Strategy Attributes" in Calypso Building Custom Strategies documentation for details on defining property links.

Now, the user want to solve for Strike to get a 0 PV on the whole strategy.

In this case, since the second trade is linked to the first trade, you only need to set the first trade in Solve mode.



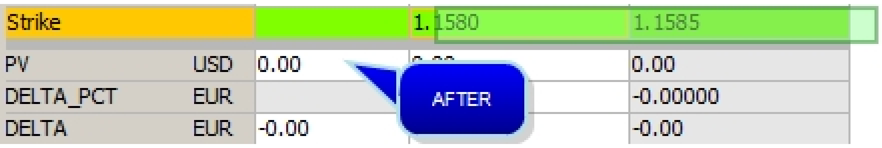
Strategy Name		Vanilla	Vanilla
Price and Save		Active	Active
Solve		Solve	
Buy/Sell		Buy	Buy
Strike		1.3800	1.3805
PV USD	10,043.27	4,964.76	5,078.51
DELTA_PCT EUR		[illegible]07481	-22.46538
DELTA EUR	-445,401.84	-220,748.06	-224,653.78

Leg	Total Legs
Solve for	Strike
Target	Total PV
Current Value	**10,043.27**
Target Value	0
Distribution	Don't use distribution
Solved Value	
Solved For Value	

Scenario 8 - Solve with Linked Properties

» Enter the target PV in "Target Value", and click **Solve**.

» Then click **Apply**.



Strike		1.1580	1.1585
PV USD	0.00	[illegible]	0.00
DELTA_PCT EUR			-0.00000
DELTA EUR	-0.00		-0.00

Scenario 8 - Solving results - Strike (second trade) = Strike (first trade) + 5 pips