



Nasdaq Calypso

Fees, Haircuts and Sales Margins

Version 18

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Approved

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Document History

Revision	Published	Summary of Changes
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This document describes the setup and generation of fees, haircuts and sales margins.

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1. Fees, Haircuts, and Sales Margins

Overview

The Calypso system allows computing various types of fees, haircuts, and sales margins:

- Contract fees - Contract fees are associated with trades upon trade capture - They are also referred to as Trade fees - They can be manually entered, or automatically generated.

Contract fees require a fee type definition configured from the Calypso Navigator using **Configuration > Fees, Haircuts, & Margin Calls > Fee Definition**.

▶ See [Defining Fees](#) for details.

▶ See [Defining Automatic Contract Fees](#) for details on generating automatic fees.

▶ See [Capturing Fees](#) for details on entering fees manually.

- Invoice fees - Invoice fees can be generated on trades, transfers, messages and accounts on a periodic basis - They are also referred to as Billing fees.

▶ See [Defining Invoice Fees](#) for details on generating invoice fees.

- Withholding Tax fees - Withholding tax fees are automatically generated on interest cashflows.

▶ See [Defining Withholding Tax Fees](#) for details.

- Haircut fees - Haircut fees are computed based on haircut rules for Collateral management and repo-based trades.

▶ See [Defining Haircut Rules](#) for details.

The actual haircut fee capture is described in Calypso Collateral Management documentation, and Calypso Security Finance documentation.

- Sales Margins - Sales margins are associated with trades in the Pricing Sheet and the FX Deal Station, based on Sales Margins Configurations - They can also be set at trade capture.

▶ See [Defining Sales Margins](#) for details.

Viewing Fees

- Contract (trade) fees can be viewed in the Fee Report.

▶ See [Trade Fees Report](#) for details.

- Invoice (billing) fees can be viewed in the Billing Report.

▶ See [Billing Fees Report](#) for details.

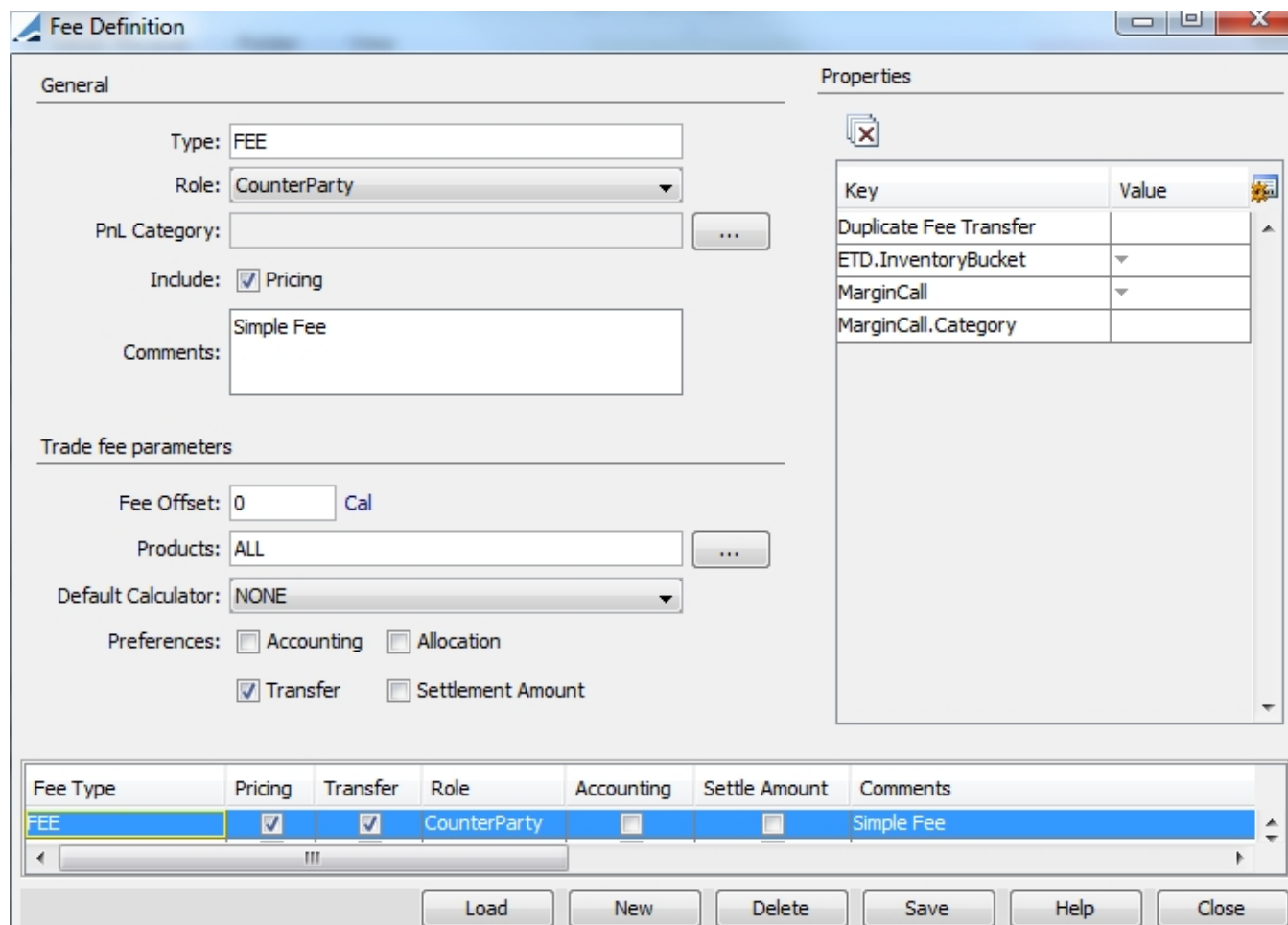
- Contract fees and invoice fees can be viewed in the Consolidated Fee Report.

▶ See [Consolidated Fees Report](#) for details.

2. Defining Fees

The Fee Definition window allows defining fee types. Fee types can be selected in trades and be associated with fee amounts. Fee amounts can be calculated automatically according to a fee grid, or can be entered at the time of the trade.

Open the Fee Definition window from the Calypso Navigator using **Configuration > Fees, Haircuts, & Margin Calls > Fee Definition** (menu action `trading.FeeDefinitionWindow`).





Fee Type	Pricing	Transfer	Role	Accounting	Settle Amount	Comments
FEE	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	CounterParty	<input type="checkbox"/>	<input type="checkbox"/>	Simple Fee

When you open the Fee Definition window, all existing fee types are loaded by default.

2.1 Creating a Fee Type

- » Click **New** to create a new fee type, and enter a type in the Type field. Then enter information into the fields as applicable. The fields are described below.
- » Click **Save** to save your changes.

Fields Details

Fields	Description
Type	Enter the type of the fee, for example, COMMISSION, BROKERAGE, etc. It will identify the fee throughout the system.
Role	Select the role of the receiver/payer of the fee.
PnL Category	Click  to select the P&L bucket to which the fee will be added in the Official P&L report. The possible values are: <ul style="list-style-type: none"> MTM, Accrual, Accretion, MV, Other - The fee will be added to the corresponding P&L bucket in the Official P&L report. ExcludePnL - The fee is not included in the Official P&L report. If one of these P&L buckets is not available for selection, it indicates that the corresponding domain is not available. The values come from the domains in the form "<P&L bucket>FeeType". A fee should have only one PnL category.
Include	If the Pricing checkbox is checked, the corresponding fee amount will be included in the pricing of the trade, provided the pricing parameter INCLUDE_FEES is set to true. If Pricing is unchecked, the corresponding fee amount will not be included in the pricing of the trade, regardless of the value of the pricing parameter INCLUDE_FEES.
Comments	Enter a free form fee description.
Fee Offset	By default, Fee Date = Trade Date + Spot Days (from Fee currency). However, you can enter a number of days lag to compute the fee date. By default, the days are business days. You can double-click the Bus label to change to Cal as needed. Business days are computed using the product's holiday calendar. In case a fee offset is defined, Fee Date = Trade Date + Spot Days (from Fee currency) + Fee Offset. Assigning different lags to different products with the same fee type can be done through the Fee Grid, provided the fee definition uses the FeeGrid calculator. ► See Defining Automatic Contract Fees for details.
Products	Click  to select the product types to which this fee applies, or ALL.
Default Calculator	Select the calculation method of the fee. The following methods are provided out-of-the-box: <ul style="list-style-type: none"> NONE - The fee amount is manually entered in the trade. Actualize, ActualizeAlternate, ActualizeComplete, ActualizeLinear, Linear - Not supported. AnnualPercentage - The fee amount is nominal * (fee percentage * daycount/365). The fee percentage is entered in the trade.

Fields	Description
	<ul style="list-style-type: none"> BaseQuoting - Only applies to FX Option trades. The fee amount is the quoting currency amount * fee bps, expressed in Base currency. The fee bps is entered in the trade. BPNominalRepo - Only applies to Repo trades. The fee amount is ((basis points * repo nominal)/10,000) * (repo duration / daycount). The basis points are entered in the trade. The repo duration is the number of calendar days between the start and end dates. BPPrincipalRepo - Only applies to Repo trades. The fee amount is ((basis points * repo principal)/10,000) * (repo duration / daycount). The basis points are entered in the trade. The repo duration is the number of calendar days between the start and end dates. Brokerage - Used to compute broker fees. Refer to <i>Calypso FX documentation</i> for details. CFD - Only applies to CFD trades. The fee amount is calculated using the CFD financial grid and country grid. Refer to <i>Calypso CFD documentation</i> for details. Commodity - Only applies to Commodity trades. Refer to <i>Calypso Commodities documentation</i> for details. CustomerTransfer - Only applies to Customer Transfer trades. This is the base method for calculating REMITTANCE, CABLE, CORRESPONDANCE, and LIFTING fees. EquityLinkedSwapPercentage - To be used for Equity Linked Swaps instead of Percentage when the settlement currency is different from the underlying currency. The fee is in settlement currency. FeeConfig - The fee amount is calculated based on a fee configuration (fee configurations are defined from the Calypso Navigator using Configuration > Fees, Haircuts, & Margin Calls > Fee Set Up, Fee Config panel). Fee configurations allow defining fee schedules. It is used in the context of automatic fees and invoice fees. <ul style="list-style-type: none"> ► See Defining Contract Fee Schedules for details on defining fee schedules for contract fees. ► See Defining Invoice Fee Schedules for details on defining fee schedules for invoice fees. FeeGrid - The fee amount is calculated based on a fee grid (fee grids are defined from the Calypso Navigator using Configuration > Fees, Haircuts, & Margin Calls > Fee Set Up, Fee Grid panel). <ul style="list-style-type: none"> ► See Defining Automatic Contract Fees for details. FeePercentage - The fee amount is related fee amount * percentage. This is used to calculate fees on fees. For example, you want to calculate FEEB as a percentage of FEEA - Define FEEB with the FeeGrid calculator. In the fee grid, select the FeePercentage calculator, and set the attribute RELATED_FEE to FEEA. [NOTE: RELATED_FEE can contain a comma-separated list of fee types]


Fields	Description
	<ul style="list-style-type: none"> ISDARisklessAccrual, ISDARiskyAccrual - Not supported. MarginPts* - All MarginPts fees apply to sales margins. ▶ See Defining Sales Margins for details. NoticeWithdrawalPenalty - Used for Customer Transfer penalty fee. Refer to <i>Calypso Client Custody documentation</i> for details. PctBase - Only applies to FX Option trades. The fee amount is base currency amount * fee percentage, expressed in base currency. The fee percentage is entered in the trade. PctQuoting - Only applies to FX Option trades. The fee amount is quoting currency amount * fee percentage, expressed in quoting currency. The fee percentage is entered in the trade. Percentage - The fee amount is nominal * fee percentage. The fee percentage is entered in the trade. PhysicalSettlementPct - To be used for Commodities instead of SettlementPct to set the fee date to the Physical Settle Date. PortfolioSwapCommission - Used internally by Portfolio Swap trades to compute upfront commissions based on the rates specified in the Portfolio Swap Contracts. PrincipalPct - Same as Percentage for repos but takes into account principal changes. Quantity - The fee amount is trade quantity * fee unit. The fee unit is entered in the trade. QuotingBase - Only applies to FX Option trades. The fee amount is base currency amount * fee bps, expressed in quoting currency. The fee bps is entered in the trade. SettlementPct - The fee amount is settlement amount * fee percentage. The fee percentage is entered in the trade. TransferSettleDate - Sets the fee settlement date to Booking Date + Settle Lag. <p>You can create custom fee calculators and register them in the feeCalculator domain. Refer to the <i>Calypso Developer's Guide</i> for details.</p>
Preferences	<p>Check or clear the following checkboxes as needed.</p> <p>Accounting</p> <p>If checked, the corresponding fee amount will generate an accounting event, provided accounting generation is enabled on your system.</p> <p>In addition, in the accounting configuration, you should have the following:</p> <ul style="list-style-type: none"> The accounting event type for the fee should be the same as the fee type. For example, if you have a fee definition named PREMIUM, you should have an accounting event type named PREMIUM as well. <p>You can also configure the following accounting event types:</p>

Fields	Description
	<ul style="list-style-type: none"> – <FEE TYPE> - To book the fee amount with an Effective Date equal to the Fee Date. It will not be generated if the Fee is after a Termination Date or if the Fee has already been settled when coming from a Partial Termination or Novation (if the Fee has been propagated and is already settled). – <FEE TYPE>_AM - To book the accrual fee amount between the start and end dates. – <FEE TYPE>_INC - To book the fee amount with an Effective Date equal to the Trade Date or to the Transfer Trade Date. – <FEE TYPE>_ACCRUAL_YIELD - To book the accrual fee amount calculated using constant yield. – <FEE TYPE>_ACCRUAL_SETTLE - To book the accrual fee amount between the settlement date and the end date. – <FEE TYPE>_ACCRUALREC - To book the Accrued Fee Amount on the Maturity Date / Termination Date. – <FEE TYPE>_PREMDISC_YIELD - To book the amortized fee amount based on a constant yield between the start and end dates. If the fee calculator is FeeABSContractualYield. If the Input is 0, set keyword.YIELD to null. Otherwise take the input and set it in the keyword.YIELD. The scheduled task FEE_YIELD_COMPUTATION allows computing and updating the Fee Yield. – <FEE TYPE>_REAL - To book the fee amount on the end date. – <FEE TYPE>_REC - To book the fee amount on the maturity date, exercise date or termination date based on the event. – <FEE TYPE>_START - To book the fee amount with an Effective Date equal to the Fee Start Date. – <FEE TYPE>_TA - To book <FEE TYPE> – ACCRUAL_BS on Trade Settle Date. For example, UPFONT_FEE – ACCRUAL_BS. – <FEE TYPE>_TERMREC - To book (Fee Amount - Accrued Fee Amount) on the Maturity Date or Termination Date. <ul style="list-style-type: none"> • The “Fee Related Event” checkbox must be checked for these accounting event types. <p>Allocation</p> <p>Economic Based Fees can be defined with the Allocation flag. These are fees that are calculated based on the valuation of the parent trade, such as the premium of an option. This type of fee would require recalculation if any allocated attribute is changed.</p> <p>The fee attaches to the parent trade, and when the trade is allocated, the fee is allocated to the children trades in the same proportions as the parent trade's notional. The fees roll back up to the parent trade and are re-allocated in the case of an amendment to the parent.</p>

Fields	Description
	<p>Transfer</p> <p>If checked, the corresponding fee amount will have its own transfer (generated by the transfer engine), to represent the payment or receipt of the fee.</p> <p>Otherwise, the fee amount can be added to the settlement amount (see “Settlement Amount”).</p> <p>Therefore, when Transfer is checked, “Settlement Amount” should be unchecked, otherwise the fee will be counted twice.</p> <p>Note: Fees with Transfer unchecked are not represented in Forward Ladder.</p> <p>Settlement Amount</p> <p>If checked, the fee amount will be included in the settlement amount, therefore no specific transfer will be generated for the fee.</p> <p>Including the fee amount in the settlement amount has many important impacts on the system:</p> <ul style="list-style-type: none"> • The fee will not appear in the cashflows, as it will be part of the settlement amount itself. • The fee currency must be the same as either the trade currency or the settlement currency of the trade. • The trade will be incorporated into the position with a price that includes the fee amount. <p>Note that currently, only bond, money market, future and equity trades use this checkbox. If you want to add the fee amount to the settlement amount, without any impact on the position, you should uncheck “Settlement Amount”, and check “Transfer” instead with Trade Netting for these trades.</p> <p>Otherwise, the fee amount can have its own transfer (see “Transfer”).</p> <p>Therefore, when “Settlement Amount” is checked, “Transfer” should be unchecked, otherwise the fee will be counted twice.</p>

2.2 Defining Fee Properties

Double-click a value cell to specify the value of the corresponding property, then press Enter.

To create new properties, click . You will be prompted to enter a property name. They are stored in the domain “feeDefinitionAttributes”.

Fee Dates

You can use the following Fee Definition properties to set the default date per date type: FeeStartDate / FeeEndDate / FeeDate with the values Trade Date / Settle Date / Maturity Date. When any or all of the FeeDate, FeeStartDate,

FeeEndDate properties are specified with a trade, settle, or maturity date, the corresponding date property fields will be automatically populated on the trade's Fee panel when the defined fee type is selected.

Key	Value
Duplicate Fee Transfer	
ETD.InventoryBucket	▼
Exclude from EIR	▼
FeeDate	▼ Settle Date
FeeEndDate	▼ Settle Date
FeeKnownDate	▼
FeeStartDate	Settle Date ▼
MarginCall	Maturity Date
MarginCall.Cateend	Settle Date
MarginCall.Category	Trade Date

[NOTE: The Pricing Sheet also supports this default date feature in the Trade Fees Details window for fee types CA_SALES_MARGIN and UPFRONT_FEE.]

Alternate Fee Dates

Alternatively, you can create a domain "FeeDefinition.<fee type>" with:

Value = <date type>

Comment = < default date>

The date type can be: FeeStartDate / FeeEndDate / FeeDate

The default date can be: Trade Date / Settle Date / Maturity Date

The Fee Definition properties have priority over the domain definition. When FeeStartDate, FeeEndDate, FeeDate are defined as described above, they override the "spot days" logic.

Fee Dates by Product Type

Fee Definition attributes can be defined in the domain "feeDefinitionAttributes" by product type as <fee date>.<product type or product group>. For example, FeeEndDate.FRA.

The values for the attributes can be defined in the domains "feeDefinitionAttributes.<attribute name>". For example, "feeDefinitionAttributes.FeeEndDate.FRA" may contain the following values:

Maturity Date

Settle Date

Trade Date

If a given fee date is defined at the product type level (attribute <fee date>.<product type or product group>), it takes priority over the fee date defined at the fee type level (attribute <fee date>).

2.3 Defining ETD Properties

The ETD panel will appear if ETD Clearing is enabled on your system.

► Please refer to Calypso ETD Clearing documentation for details.

2.4 Defining Fee Pricer Measures

The following fee pricer measures can be created from the Calypso Navigator using [Configuration > System > Add Pricer Measure](#):

- **<FEE TYPE>** - Fee amount attached to the trade.
- **<FEE TYPE>_ACCRUAL_SETTLE** - Fee accrual calculated between the settlement date and the end date.
- **<FEE TYPE>_ACCRUAL_YIELD** - Fee accrual calculated using constant yield.
- **<FEE TYPE>_AM** - Fee accrual (amortized fee).
- **<FEE TYPE>_AM_DC_<DAYCOUNT>** - Amortized fee using specified daycount.
- **<FEE TYPE>_CASH** - Fee P&L.
- **<FEE TYPE>_CASH_YIELD** - Fee P&L based on yield amortization.
- **<FEE TYPE>_NPV** - Fee NPV.
- **<FEE TYPE>_PREMDISC_YIELD** - Fee yield-based amortization.
- **<FEE TYPE>_REC** - Fee amount on the Termination Trade Date or on the end date of the Fee.
- **<FEE TYPE>_REMAIN** - **<FEE TYPE>** - **<FEE TYPE>_AM** (remaining fee to amortize).
- **<FEE TYPE>_REMAIN_DC_<DAYCOUNT>** - Remaining fee to amortize using specified daycount.
- **<FEE TYPE>_TA** – **<FEE TYPE>** – **ACCRUAL_BS** on Trade Settle Date. For example, **UPFONT_FEE** – **ACCRUAL_BS**.
- **<FEE TYPE>_UNREALIZED_JAS** - **< FEE TYPE >_NPV** - **<FEE TYPE>_AM**
- **<FEE TYPE>_EXCLUDED_<all of the above>** - Combines all the fees attached to a trade into one pricer measure, except for **<FEE TYPE>**.

Example: You have a trade with PREMIUM, COMMISSION, and ADJUST fees. Pricer measure PREMIUM_EXCLUDED will combine COMMISSION and ADJUST fees.

- **FEES_ALL_<all of the above>** - Combines all the fees attached to a trade into one pricer measure.

You can then use these pricer measures for any trade.

Example:

DAYONE_FEE	200	tk.pricer.PricerMeasureGenericFee
DAYONE_FEE_AM	201	tk.pricer.PricerMeasureGenericFee
DAYONE_FEE_NPV	202	tk.pricer.PricerMeasureGenericFee
DAYONE_FEE_CASH	203	tk.pricer.PricerMeasureGenericFee
DAYONE_FEE_REC	204	tk.pricer.PricerMeasureGenericFee
DAYONE_FEE_REMAIN	205	tk.pricer.PricerMeasureGenericFee

The class is `tk.pricer.PricerMeasureGenericFee`, and the ID should be an ID not already in use.

Yield Based Amortization

<FEE TYPE>_AM is calculated using straight-line amortization by default.

When pricing parameter `FEE_AM_DISCOUNT = true`, <FEE TYPE>_AM is calculated using yield based amortization based on trade keyword `FeeDiscountRate`.

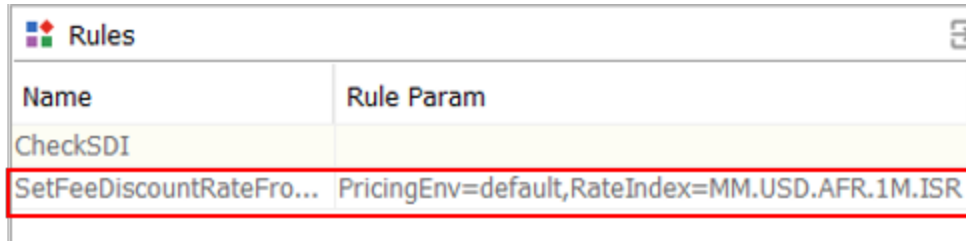
This only applies to fees with fee attribute `UseFeeDiscountRate = true`.

The trade keyword `FeeDiscountRate` can be set by the workflow rule `SetFeeDiscountRateFromAFR` based on the AFR rate index. You need to define the pricing environment and the rate index quote name in the rule parameters as:

`PricingEnv=<pricingenvironment>,RateIndex=<rate index quote name>.`

Example:

`PricingEnv=default,RateIndex=MM.USD.AFR.1M.ISR`



Name	Rule Param
CheckSDI	
SetFeeDiscountRateFrom...	PricingEnv=default,RateIndex=MM.USD.AFR.1M.ISR

It requires the definition of the AFR rate index with a 1M tenor and ISR source.

If you want to select a different index quote name based on the contract duration, you can define the quote name as:

`<contract duration>=<rate index quote name>` instead

Example:

`PricingEnv=default,0-3Y=MM.USD.AFR.1M.ISR,3-9Y=MM.USD.AFRMD.1M.ISR`

It requires the definition of each AFR rate index with a 1M tenor and ISR source.

2.5 Specifying Round Turn Fees

Round turn fees can be setup on Future and Future Option trades. They are computed by the `ROUND_TURN_FEES` scheduled task when the trades are liquidated, expired, or exercised.

► Refer to Calypso Futures documentation for details.

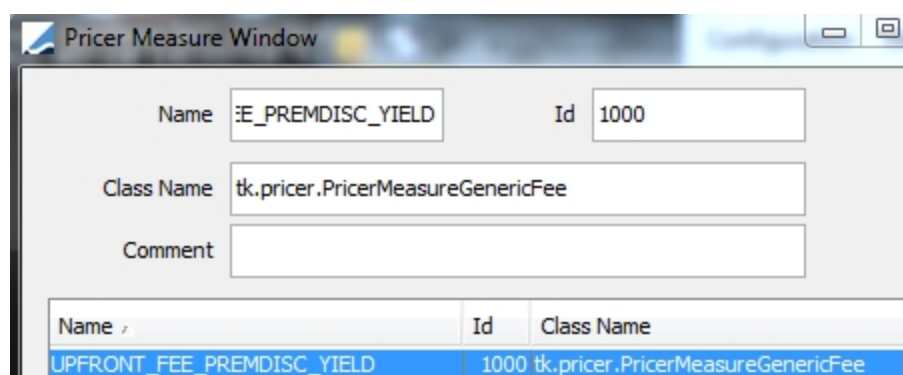
2.6 Amortizing Fees Based on Effective Yield Methodology

2.6.1 Pricer Measures

Add the following pricer measures from the Calypso Navigator using **Configuration > System > Add Pricer Measure**.

To calculate the UPFRONT_FEE amortization based on a constant yield, define the additional pricing measure with the format "<FEE TYPE>_PREMDISC_YIELD" and attach the class name `tk.pricer.PricerMeasureGenericFee`.

For example, UPFRONT_FEE_PREMDISC_YIELD.



The screenshot shows the 'Pricer Measure Window' with the following fields:

- Name:** FE_PREMDISC_YIELD
- Id:** 1000
- Class Name:** tk.pricer.PricerMeasureGenericFee
- Comment:** (empty)

Below the fields is a table with the following data:

Name	Id	Class Name
UPFRONT_FEE_PREMDISC_YIELD	1000	tk.pricer.PricerMeasureGenericFee

In addition to the pricer measure linked to constant yield amortization, you can also see the ACCRUAL calculated using the constant yield (UPFRONT_FEE_ACCRUAL_YIELD) and the ACCRUAL calculated between the settle date and end date (UPFRONT_FEE_ACCRUAL_SETTLE_DATE) using the same logic.

2.6.2 Bond Templates

Define Bond Templates named <ProductType>-Currency in the Bond Definition window.

For money market products, you need to define a "reference" bond template named <product type>-<currency>. For example, for your Cash trades (product type = CASH) in EUR, you should refer to the Bond Template "cash-eur" as shown below.

The "reference" bond template is used to store the information to convert yield/price and price type, which are missing on a money market trade to correctly perform the constant yield based on the contract rate/cashflows and initial settlement amount.

2.6.3 Pricing Parameters

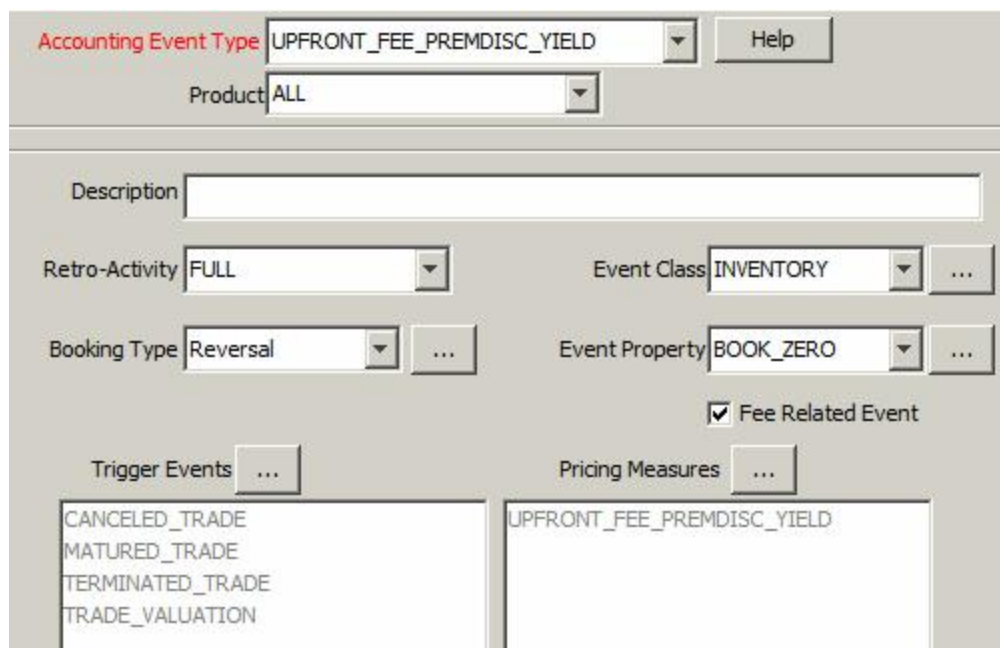
Set pricing parameters HYBRID_AMORTIZATION and FORECAST_FROM_CURVE:

- HYBRID_AMORTIZATION = true
- FORECAST_FROM_CURVE = false

2.6.4 Accounting Events

To define the related accounting event, from the Calypso Navigator, navigate to **Configuration > Accounting > Events** and add the <FEE TYPE>_PREMDISC_YIELD accounting event. For example, UPFRONT_FEE_PREMDISC_YIELD, and attach the pericer measures UPFRONT_FEE_PREMDISC_YIELD to that event. The Triggering events for this Accounting Event should be TRADE_VALUATION, CANCELED_TRADE, TERMINATED_TRADE and MATURED_TRADE.

Note that you can use the same logic to define the related accounting events for UPFRONT_FEE_ACCRUAL_YIELD and UPFRONT_FEE_ACCRUAL_SETTLE_DATE.



The screenshot shows the 'Accounting Event' configuration window. At the top, 'Accounting Event Type' is set to 'UPFRONT_FEE_PREMDISC_YIELD' and 'Product' is set to 'ALL'. Below these are fields for 'Description', 'Retro-Activity' (set to 'FULL'), 'Event Class' (set to 'INVENTORY'), 'Booking Type' (set to 'Reversal'), and 'Event Property' (set to 'BOOK_ZERO'). A checkbox for 'Fee Related Event' is checked. At the bottom, there are two lists: 'Trigger Events' containing 'CANCELED_TRADE', 'MATURED_TRADE', 'TERMINATED_TRADE', and 'TRADE_VALUATION'; and 'Pricing Measures' containing 'UPFRONT_FEE_PREMDISC_YIELD'.

2.7 Modifying a Fee Type

- » Select a fee type, and make changes as applicable.
- » Then click **Save** to save your changes.

2.8 Deleting a Fee Type

- » Select a fee type, and click **Delete**.

3. Defining Automatic Contract Fees

Fee types associated with the FeeGrid calculator can be automatically generated on a trade if:

Option 1 (Recommended option for clearing fees, when Fees are known at the inception of the trade) - You set the action on which you want to generate automatic fees using the domain "AutomaticFeesTradeEnricher.TradeAction". The default value is NEW.

Option 2 (Recommended option when the fee generation requires trade keywords for example) - The AutomaticFees rule is set on a workflow transition in the trade workflow, for example PRICING - EXECUTE - PENDING, and PENDING - AMEND - PENDING for the fee recalculation in case of trade amendment.

The fee amount will be automatically calculated based on the fee grid.

Fee grids are created from the Calypso Navigator using **Configuration > Fees, Haircuts, & Margin Calls > Fee Setup** (menu action `refdata.FeeSetUpWindow`), Fee Grid panel.

By default, you can define fees for the ProcessingOrg role and for the trade counterparty role (CounterParty, or another role if you change it in the trade). The role must be the same in the Fee Definition and the Fee Grid.

For example, the fee type FEE has a fee definition and a fee grid for the role Agent. The fee will only be calculated if the role of the trade counterparty is changed to Agent on the trade, and an agent is selected as trade counterparty.

However, you can setup an automatic fee for any role, provided you add a trade keyword of specified role, and populate the trade keyword on the trade.

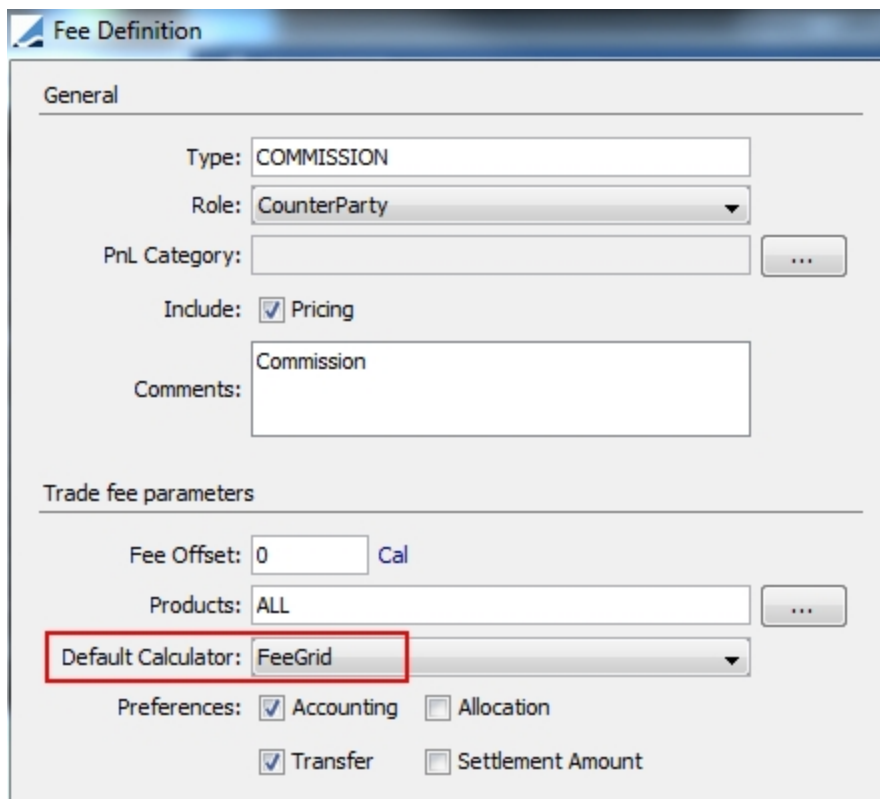
In the previous example, you can keep the trade counterparty role as "CounterParty", and add a trade keyword "Agent" that contains an Agent legal entity. In this case, the corresponding "Agent" fee will be generated.

The product type can be a group of products. From the Calypso Navigator, navigate to **Configuration > Product > Group** (menu action `refdata.ProductGroupWindow`) for information on creating groups of products. Note that the environment property `USE_PRODUCT_GROUP` should be set to true in order to allow specifying fee grids by product group.

3.1 Setup Example

The fee type COMMISSION is defined for the counterparty role with the FeeGrid calculator.

► See [Defining Fees](#) for details on the Fee Definition window.



Fee Definition

General

Type: COMMISSION

Role: CounterParty

PnL Category: ...

Include: ☒ Pricing

Comments: Commission

Trade fee parameters

Fee Offset: 0 Cal

Products: ALL

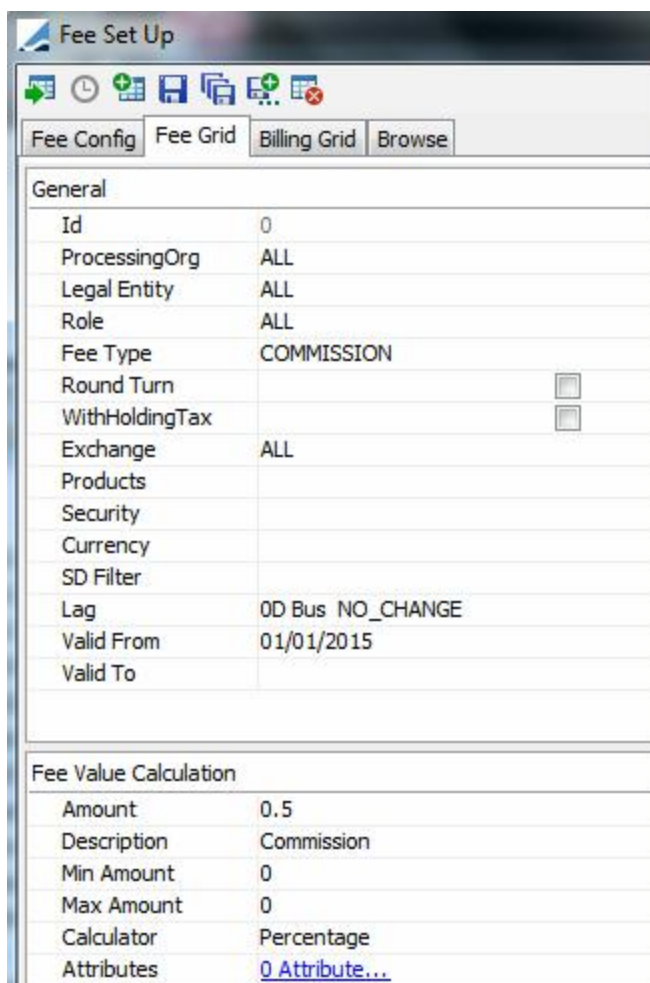
Default Calculator: FeeGrid

Preferences: ☒ Accounting ☐ Allocation

☒ Transfer ☐ Settlement Amount

[Sample fee type with FeeGrid calculator](#)

The fee grid can be defined as shown below.



General	
Id	0
ProcessingOrg	ALL
Legal Entity	ALL
Role	ALL
Fee Type	COMMISSION
Round Turn	<input type="checkbox"/>
WithHoldingTax	<input type="checkbox"/>
Exchange	ALL
Products	
Security	
Currency	
SD Filter	
Lag	0D Bus NO_CHANGE
Valid From	01/01/2015
Valid To	

Fee Value Calculation	
Amount	0.5
Description	Commission
Min Amount	0
Max Amount	0
Calculator	Percentage
Attributes	0 Attribute...

Sample fee grid

- » The fee will be calculated based on the selected amount and calculator.

► See [Defining Fees](#) for a description of the various calculators.

Note that the description is mandatory.

By default, the direction of the fee will be “received” by the selected legal entity (“paid” by the processing organization). To make the fee “paid” by the legal entity (“received” by the processing organization), you need to enter a negative amount in the fee grid.

- » You can click **Attributes** to set attributes for the fee grid.

► See [Fee Grid Attributes](#) for details.

- » The minimum amount and maximum amount can be specified if:

- The currency selection field (Ccy field) is different from ANY - In that case these amounts will be expressed in the selected currency.

- The currency selection field is set to ANY, and the FeeCurrency attribute is set to a specific currency - In that case these amounts will be expressed in the FeeCurrency.

If you want to specify a fee schedule instead of a flat fee, or use a more complex calculator, select the FeeConfig calculator, and configure a fee grid.

► See [Defining Contract Fee Schedules](#) for details on defining fee schedules for contract fees.

- » The fee date defaults to "trade date + spot days (from the fee currency) + fee offset (from the fee definition)".

You can define a date lag and date roll between the trade date and the fee date in the fee grid - It overrides the setting of the fee definition if any. It can be used in particular in the context of terminations.

In case a lag is specified in the fee grid, Fee Date = Trade Date + Spot Days (from Fee currency) + Lag (from Fee Grid).

► Refer to Calypso Termination documentation for details.

You can also force the fee date by setting the fee grid attribute TRADE_DATE_TYPE - See details below.

You can also use the Fee Definition properties FeeStartDate / FeeEndDate / FeeDate (if set, they override the "spot days" logic).

- » Round turn setup is described in Calypso Futures documentation.
- » Withholding tax setup is described under [Defining Withholding Tax Fees](#).
- » If the Authorization mode is enabled, an authorized user must approve your entry.

3.2 Fee Grid Attributes

The following attributes can be set out-of-the-box.

AdjustmentRelatedFees

Used in the computation of a trade overall minimum fee.

Let's say you have a trade for which three types of fees are computed (COMMISSION, EXCHANGE_FEE, CLEARING_FEE) and you want to ensure an overall minimum fee for the trade, taking into account all three fees.

You can select one of the fees as the "main" fee, COMMISSION for example, configure a fee formula that contains the other fee amounts using the variable RelatedFeesAmount, and set the fees to be taken into account in the fee grid attribute AdjustmentRelatedFees of the "main" fee.

Example:

The formula for the COMMISSION fee is: **Max(3.10*Quantity + RelatedFeesAmount, 3.50*Quantity) – RelatedFeesAmount**

- The commission is 3.10*Quantity
- The overall minimum fee is 3.50*Quantity
- Attribute AdjustmentRelatedFees = EXCHANGE_FEE, CLEARING_FEE
- RelatedFeesAmount is the sum of EXCHANGE_FEE and CLEARING_FEE

The COMMISSION fee will be adjusted to reflect the overall minimum fee if applicable.

ApplyFeeOffset

Only applies to related fees - See below.

DefaultLegalEntity

Short name of the legal entity that will receive/pay the fee, if different from the trade counterparty. This can be used to pay/receive a fee to/from a specific legal entity.

FeeCurrency

You can use this attribute to set the fee currency to a specific currency. Otherwise, the fee currency defaults to the trade currency.

FeeSettleCurrency

You can use this attribute to set the fee settlement currency to a specific currency. Otherwise, the fee settlement currency defaults to the fee currency.

In this case, you can also set the following attributes:

- FeeSettleCurrency.PricingEnv or FeeSettleCurrency.FXRateName
FeeSettleCurrency.PricingEnv – Pricing environment to retrieve the FX quote. The User Defaults pricing environment is used if not set.
FeeSettleCurrency.FXRateName – FX Reset used to retrieve the FX quote. If empty FX.<original ccy>.<fee settle ccy> is used.
- FeeSettleCurrency.FixingDate = TradeDate or FeeDate - It allows defining the fixing date used to retrieve the FX quote. If empty, FeeDate is used.


FEE_PAYREC

Only applies to related fees - See below.

RELATED_FEE

This is used to compute fees on fees using the FeePercentage calculator.

Say you want to calculate FEEB as a percentage of FEEA - Define FEEB with the FeeGrid calculator. In the fee grid, select the FeePercentage calculator, and set the attribute RELATED_FEE=FEEA.

 **[NOTE: RELATED_FEE can contain a comma-separated list of fee types]**

You can also generate the fee on fee based on the direction of the related fee by setting the fee grid attribute FEE_PAYREC to REC or PAY (on the fee on fee, FEEB in this example). Otherwise, the fee is generated for each related fee.

In order to apply the Lag Days of the Fee Definition to the fee on fee, you need to set the fee grid attribute ApplyFeeOffset = true (on the fee on fee, FEEB in this example).

You can use the fee grid attribute RelatedFeeCheckRole to control the legal entity to be used by the fee on fee.

- When true (default value), the fee on fee uses the role of its definition. The legal entity is taken from the trade keyword of selected role.
- When false, the fee on fee is generated on the same legal entity and role as the related fee.

RelatedFeeCheckRole

Only applies to related fees - See above.

TRADE_DATE_TYPE

You can use this attribute to force the fee date:

- TRADE_DATE_TYPE = CLEARED DATE: The system sets the fee date to the date stored in the trade keyword CCPClearedDate.
- TRADE_DATE_TYPE = TRADE DATE: The system sets the fee date to the trade date.
- TRADE_DATE_TYPE = ALTERNATE DATE: The system sets the fee date to the trade's alternate date for FX trades.
- TRADE_DATE_TYPE = DATE RULE: The fee date is set using the Date Rule defined in the attribute DateRuleName.

DateRuleName

Date Rule used to set the fee date when attribute TRADE_DATE_TYPE = DATE RULE.

WHT_USE_CALCULATOR

If set to true, the calculator specified on the Fee grid must be used to compute the withholding task, instead of the hard-coded calculator.

This fee calculator must implement the interface `com.calypso.tk.bo.WHTFeeCalculator`.

A specific fee calculator has been implemented to handle rounding conventions different than the Ccy decimals.

► See [Defining Withholding Tax Fees](#) for details.

ZeroAmount

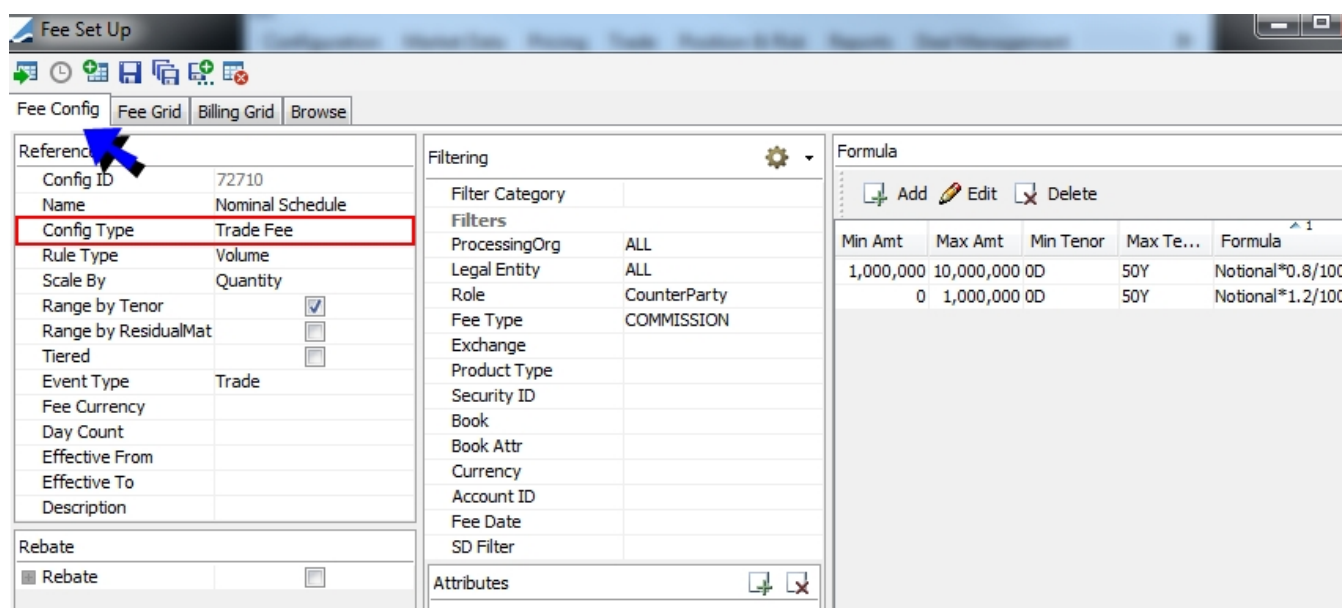
The fee grid attribute ZeroAmount should be set to false to prevent the generation of fees with a 0 amount. If true, the system will generate a fee with a 0 amount if a valid fee grid exists.

4. Defining Contract Fee Schedules

The Fee Set Up window allows defining fee schedules for the FeeConfig calculator in the context of automatic contract fees. When the FeeConfig calculator is set on the Fee Grid, the fee schedule defined in the Fee Config panel is used to compute the fee.


4.1 Fee Schedule Definition

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Fee Setup** (menu action `refdata.FeeSetUpWindow`) to open the Fee Set Up window, Fee Config panel.



Sample contract fee schedule

In this example, if the trade notional is below 1,000,000, the fee rate is 1.2% - If the notional is 1,000,000 or above (and below 10,000,000), the fee rate is 0.8%.

- » Enter a configuration name and set the fee parameters as needed. They are described below.
- » Then click **Add** to add an entry to the fee schedule. It brings up the Formula Definition dialog. It is described below.
- » Click  to save the configuration. The configuration will be used when the FeeConfig calculator is set on a Fee Grid, based on the selected filters.

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

You can also click  to bring up the Browse panel for loading existing configurations.

References

These parameters are used to specify the fee.

Fields	Description
Config ID	ID of the configuration given by the system upon saving.
Name	Enter a configuration name.
Config Type	Select "Trade Fee" to generate contract fees.
Rule Type	Select the reference amount unit: <ul style="list-style-type: none"> Avg Price (unit amount). Volume (trade amount).
Scale By	Select the reference amount of the fee schedule: <ul style="list-style-type: none"> For Avg Price, you can select Price. For Volume, you can select Quantity, MarketValue (Trade Quantity * Trade Price), Notional, Premium, or MADVQuantity (Monthly Average Daily Volume). <p>The fee rate used to compute the fee at trade capture depends on the trade's price / quantity / notional / premium. A fixed rebate may be applied at the end of the billing period to adjust the fee as needed.</p> <p>► See Contract Rebate Process for details.</p>
Range by Tenor	Check to set the fee range by tenor, or clear to set the fee range by number of days.
Range by ResidualMat	Check to set the fee range by residual maturity, or clear to set the fee range by product maturity.
Tiered	Check to indicate that the reference amount is distributed over the range, rather than applied to the absolute range. <p>For example, you have the following range:</p> <ul style="list-style-type: none"> 0 to 1,000 - Fee rate is 10% 1,000 to 5,000 - Fee rate is 5% 5,000 and up - Fee rate is 2% <p>The reference amount is 7,000.</p> <ul style="list-style-type: none"> For the non-tiered method, the fee rate is 2% (5,000 and up range). For the tiered method, the fee rate is 10% for the first 1,000 - Then 5% for the next 4,000 - Then 2% for the remaining 2,000.
Event Type	Select Trade. <p>The fee is computed on trade events.</p>
Fee Currency	You can select a fee currency, or leave empty for ANY.

Fields	Description
Day Count	Select a daycount as needed.
Effective From	Enter the effective start date of the configuration.
Effective To	Enter the effective end date of the configuration (optional).
Description	Enter a free form description as needed.

Rebate

Check the Rebate checkbox to compute a fixed rebate on the contract fees, or a global rebate amount over a group of trades.


► See [Contract Rebate Process](#) for details.

Fields	Description
Rebate Type	Select Fixed for a fixed rebate, or Default for a global rebate amount over a group of trades.
Rebate %	For the Fixed rebate type, enter the rebate percentage.
Rebate Period	For the Default rebate type, select the rebate period: Trade - The rebate is computed at the end of the trade. Daily - The rebate is computed daily.



Filtering


These parameters are used to determine the conditions of application of the fee. You can use pre-defined filtering criteria, or a filter template.

Pre-defined criteria:

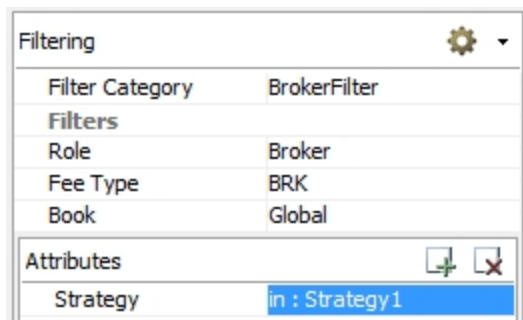
Filtering


Filter Category	
Filters	
ProcessingOrg	ALL
Legal Entity	ALL
Role	Broker
Fee Type	BRK
Exchange	
Product Type	
Security ID	
Book	
Book Attr	
Currency	
Account ID	
Fee Date	
SD Filter	

Attributes





Fields	Description
Processing Org	Select a processing organization as needed, or ALL.
Legal Entity	Select a legal entity of specified role, or ALL.
Role	Select a role.
Fee Type	Enter the fee type - The fee type must be defined in the Fee Definition window.
Exchange	Select one or multiple exchanges (legal entity of role MarketPlace), or leave empty for ALL.
Product Type	Select one or multiple product types, or leave empty for ALL. Product groups are identified as "G. <group name>" and are created using Configuration > Product > Group .
Security ID	Enter one or multiple product IDs (separated by commas), or leave empty for ALL.
Book	Select one or multiple books, or leave empty for ALL.
Book Attr	Select one or multiple book attribute / attribute value, or leave empty for ALL.
Currency	Select one or multiple currencies, or leave empty for ALL.
Account ID	Only applies to account management fees.
Fee Date	Only applies to account management fees.
SD Filter	Select a static data filter as needed, or leave empty.
Attributes	Click  to add attribute criteria as needed.

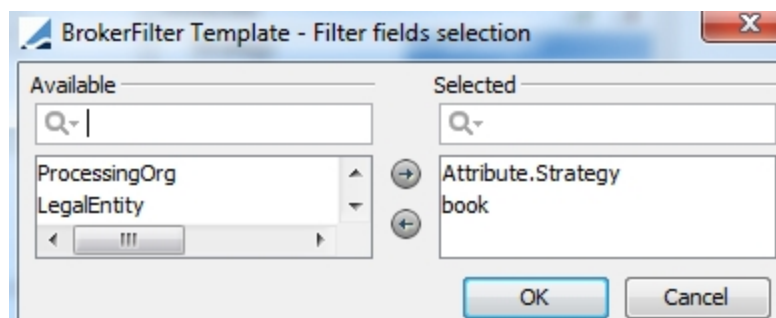
Filter template:



The Filtering dialog box shows the following configuration:

Filtering	
Filter Category	BrokerFilter
Filters	
Role	Broker
Fee Type	BRK
Book	Global
Attributes	
Strategy	in : Strategy1

- » To add a new filter template, choose  > **Filter category > Add**. You will be prompted to enter a filter category name. Enter a name and click **OK**.
- » Then choose  > **Filter fields template**. You will be prompted to select a filter category previously created, and to select the filter criteria you want to use.




The BrokerFilter Template - Filter fields selection dialog box shows the following configuration:

BrokerFilter Template - Filter fields selection	
Available	Selected
ProcessingOrg LegalEntity	Attribute.Strategy book
<div>OK Cancel</div>	

Fields	Description
Filter Category	Select a filter template previously created.
Role	Select a role.
Fee Type	Enter the fee type - The fee type must be defined in the Fee Definition window.
Filter Template Criteria	Select the values for the filter criteria defined in the filter template. In this example, the filter template contains the filter criteria Book and Strategy attribute.

Formula Definition

Click **Add** to bring up the Formula Definition dialog.


Formula Definition
✕

Ranges

Min Amount	0
Max Amount	1,000,000
Min Tenor	0D
Max Tenor	50Y
Calc Unit	

Formula

Notional*1.2/100

Variables		Operators	
UnitNotional	↑	*	↑
Notional		/	
Premium		+	
TradeAccrual		-	
LegalEntityWHT		^	
WHTRate		ABS	
Quantity	↓	MAX	↓

Functions

DayCountFactor ▼ Add

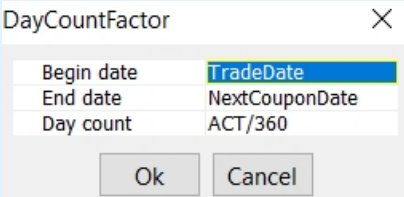
OK
Cancel

Sample formula

- » Enter the parameters to define the ranges of the fee schedule. They are described below.
- » You can type in the formula, or double-click variables and operators to add them to the formula. Only the displayed variables and operators can be used in the formula.
- » Click **OK** when you are done.

Fields	Description
Min Amount	Enter the minimum and maximum amounts of the range. It refers to the reference amount defined by the Rule Type and Scale By parameters: Quantity, Notional, or Price.
Max Amount	No value is considered as 0 for the minimum amount, and infinite for the maximum amount.
	The minimum amount is inclusive.
	The maximum amount is non inclusive.

Fields	Description
Min Tenor Max Tenor	You can also select a minimum tenor and a maximum tenor to scale the fee rates by product maturity ("Range by ResidualMat" is not checked), or by residual maturity ("Range by ResidualMat" is checked).
Min Days Max Days	<p>📌 [NOTE: For products without maturity date, the fee rates are scaled by settlement date instead]</p> <p>The minimum tenor is non-inclusive.</p> <p>The maximum tenor is inclusive.</p> <p>When the "End Date" falls on a non-business day, its is rolled to the following business day. So in this situation the minimum tenor becomes inclusive and the maximum tenor becomes non-inclusive.</p> <p>If "Range by Tenor" is not checked, you can enter a number of days instead of selecting a tenor.</p>
Calc Unit	<p>Enter a calculation unit when defining a fee expressed as an amount per unit.</p> <p>For example 2 per million of notional: Calc Unit = 1000000 and Formula = 2*UnitNotional.</p>
Variables	<p>You can use the following variables in the formula depending on the selected reference amount:</p> <p>Quantity</p> <p>Price</p> <p>ContractSize</p> <p>FaceValue</p> <p>Duration</p> <p>UnitNotional</p> <p>Notional</p> <p>NotionalInFeeCurrency (uses the trade keywords <fee>.FeeCCY, <fee>.FeeLeg and <fee>.FXRate to compute the trade notional in Fee currency)</p> <p>Markup - The Markup allows setting a markup percentage per legal entity. You can define the legal entity attribute "Client Markup" and set a markup percentage on the attribute. For example, Client Markup = 120 for 120%. The Markup variable in the formula will be multiplied by 120%.</p> <p>Premium</p> <p>RelatedFeesAmount (see Fee Grid Attribute AdjustmentRelatedFees for details on using this variable)</p> <p>MADVQuantity (Monthly Average Daily Volume)</p> <p>TradeAccrual (trade Accrual field)</p> <p>LegalEntityWHT (WHT rate from legal entity attribute LegalEntityTaxRate_<COUNTRY>)</p> <p>WHTRate (WHT rate from Withholding Tax Configuration).</p>

Fields	Description
Operators	<p>You can use the following operators in the formula: Subtract (-), Multiply (*), Add (+), Divide (/), Exponent (^), Absolute Value, Max, Min, Round, Round Up, Round Down.</p> <p>[NOTE: If the fee is always paid, the formula should be defined as an absolute value]</p>
Functions	<p>You can select a function in Functions area and click Add to add it to the formula.</p> <p>Currently, only the DayCountFactor function is available, you will be prompted to select the start date, end date and daycount.</p> 

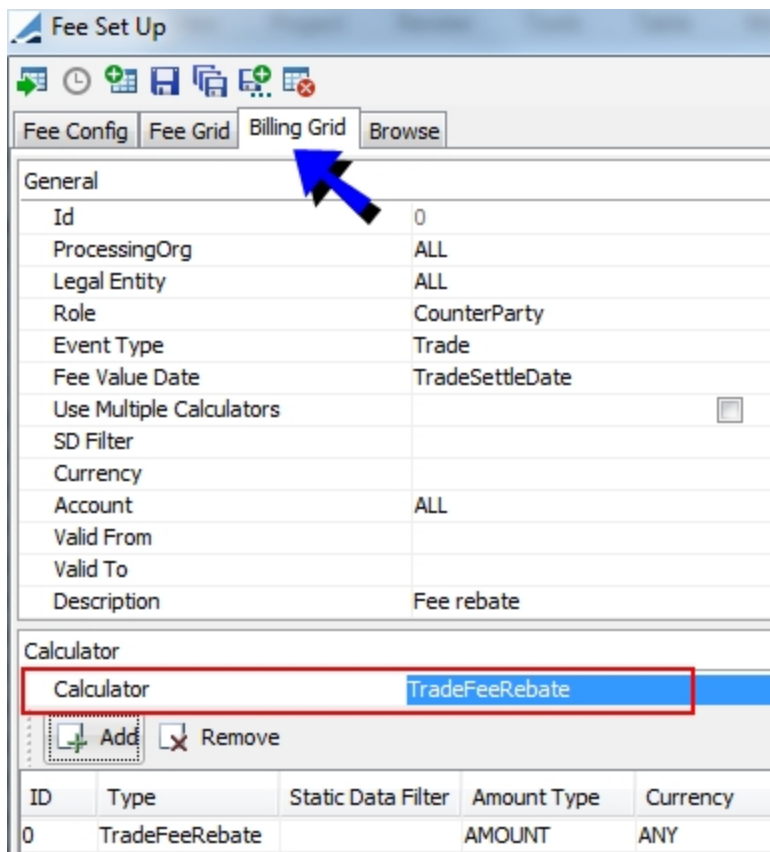
4.2 Contract Rebate Process

The rebate of contract fees is computed as soon as contract fees are generated but are settled periodically. The billing function is therefore used to generate contract rebate fees.

The billing function requires the setup of a billing grid and a billing rule. Then based on this setup, the Billing engine creates billing trades for the rebate fees.

4.2.1 Defining a Billing Grid

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Fee Set Up**, and select the Billing Grid panel to define a billing grid as shown below.



Fee Set Up				
Fee Config Fee Grid Billing Grid Browse				
General				
Id	0			
ProcessingOrg	ALL			
Legal Entity	ALL			
Role	CounterParty			
Event Type	Trade			
Fee Value Date	TradeSettleDate			
Use Multiple Calculators	<input type="checkbox"/>			
SD Filter				
Currency				
Account	ALL			
Valid From				
Valid To				
Description	Fee rebate			
Calculator				
Calculator	TradeFeeRebate			
<input type="button" value="Add"/> <input type="button" value="Remove"/>				
ID	Type	Static Data Filter	Amount Type	Currency
0	TradeFeeRebate		AMOUNT	ANY

Sample billing grid for contract fee rebate

- » Select the "Trade" event type, the same role as the role defined for the fee configuration, and the calculator: "TradeFeeRebate" or "TradeFeeConfigRebate" - See below for calculator details.
- » You can check "Use Multiple Calculators" to generate a fee for each applicable calculator. Otherwise, a fee is generated only for the first applicable calculator.
- » Click **Add** to add the calculator to the billing grid - It will bring up a dialog, just click **Apply**.
- » Then click **Save** to save the billing grid.

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

TradeFeeRebate

This calculator allows computing a fixed rebate based on the rebate percentage specified in the Fee Config.

TradeFeeConfigRebate

This calculator allows computing a rebate (if applicable) over a group of trades that share the same billing criteria. The rebate will be the sum of the individual trade fees minus the fee amount for the group of trades (in the case where it falls in a different fee bracket).

Example:

The fee range is defined as:

Trade Qty 0-100 - Fee Formula= Qty*5

Trade Qty 100-200 - Fee Formula= Qty*2

You have the following trades:

Trade1 Qty=70 => Fee=70*5=350

Trade2 Qty=80 => Fee=80*5=400

Total Fee Amount=350+400=750

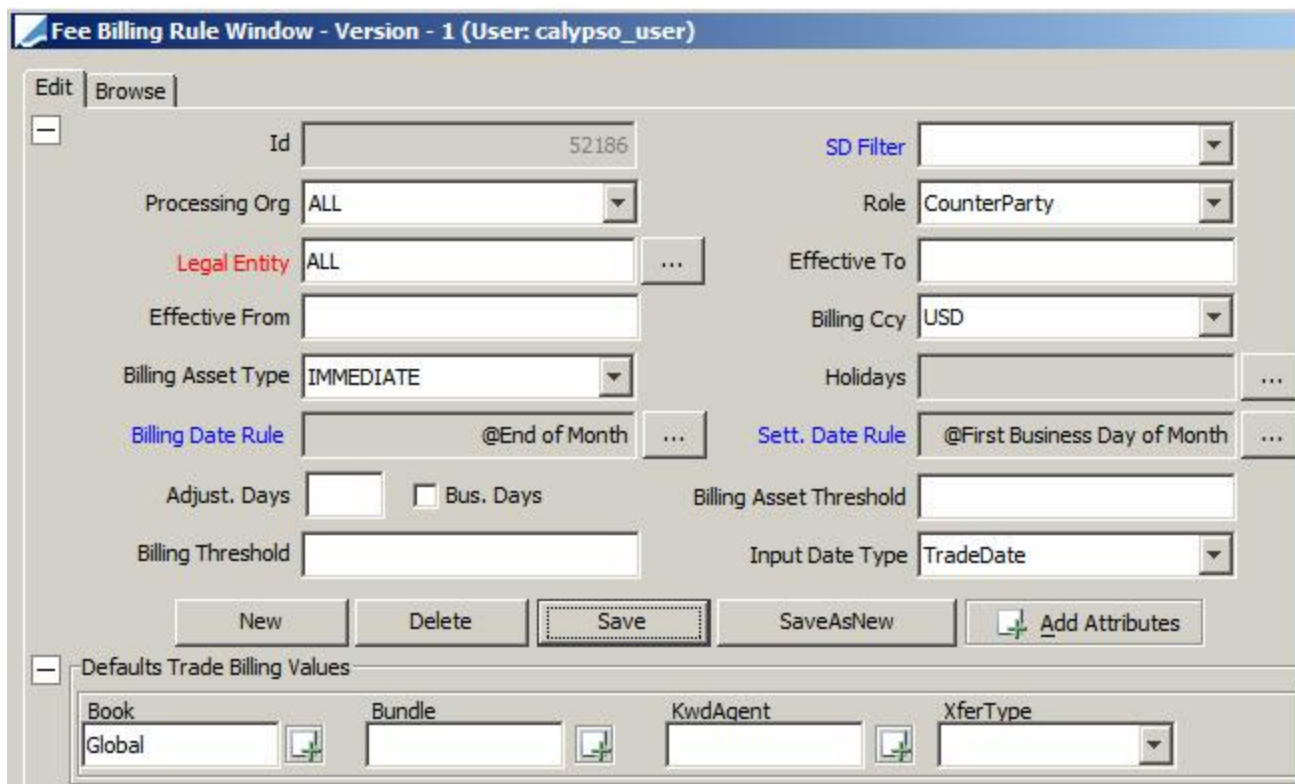
Now, if grouping these trades to compute the fee globally, the fee amount is: Fee=100*5+50*2=600

Therefore there is a rebate of Rebate = 750-600 = 150

4.2.2 Defining a Billing Rule

A billing rule must be defined to set the rebate currency and rebate settlement date.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Fee Billing Rule** to define a billing rule.



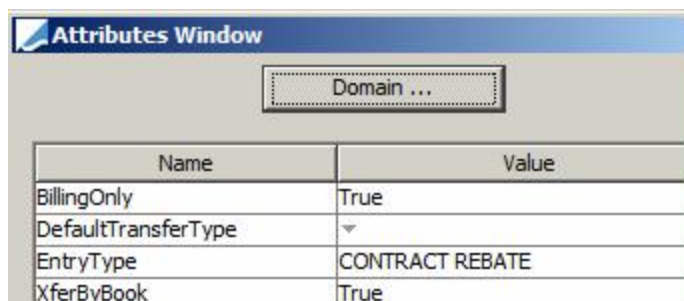
Sample billing rule for contract fee rebate

» Enter the following fields:

- Select a legal entity, or double-click the Legal Entity label to set the legal entity to ALL.
- Select the same role as in the billing grid.
- Select the billing currency - This is the settlement currency of the fee.
- Select the billing date rule to determine the billing frequency.
- Select the settlement date rule to determine the settlement frequency of the fee.
- Input Date Type - Select the reference date to load the trades, messages, transfers:
 - TradeDate - Trade date
 - SettleDate - Trade value date
 - FeeDate - Fee date (Fee Value Date defined in the Billing Grid)
 - EnteredDate - Trade entered date
- Open the "Defaults Trade Billing Values" panel, and select the transfer type of the billing trade as needed. If not set, the transfer type is set to INTEREST. Note that transfer types are defined in the domain "flowType".

[NOTE: If the attribute EntryType is set, and the Default Transfer Type is not set, the transfer type defaults to the EntryType]

» You also need to define the following attributes:



Name	Value
BillingOnly	True
DefaultTransferType	▼
EntryType	CONTRACT REBATE
XferByBook	True

- BillingOnly - Set to True so that it is only used for billing trades.
- EntryType - Set to "CONTRACT REBATE".
- XferByBook - Set to True to create a transfer by trading book (using the book of the original trade on which the contract fee was computed).

» Save the billing rule.

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

4.2.3 Generating the Billing Fees

Make sure the Billing engine subscribes to PSEventTrade events using the Engine Manager in Web Admin.

The Billing engine can be started from the Engine Manager as well.

The Billing engine creates a billing fee to book the rebate amount in the original fee currency.

You can set the book attribute "Rebate Book" on the book of the original billing trade to book the rebate fee in the rebate book. If this book attribute is not set, the rebate fee is booked in the same book as the original billing trade.

► See [Example of Broker Fees with Rebate](#) for a full example.

For the TradeFeeRebate calculator, you need to run the scheduled task EOD_REBATE_FEE to convert the fee into the rebate currency if applicable, and settle the rebate fee. The rebate fee is converted using the FX rate of the last day of the billing.

For the TradeFeeConfigRebate, you need to run the scheduled task EOD_REBATE_FEE to compute the global rebate amount.

Task Description	
Task Type:	EOD_REBATE_FEE
External Reference:	
Comments:	
Description:	
Execution Parameters	
Attempts:	1
Retry After:	0 min
JVM Settings:	-Xms512m -Xmx1024m -XX:MaxPermSize=
Log Settings:	
Task Notification Options	
<input type="checkbox"/> Send Emails	<input type="checkbox"/> Publish Business Events To Us
+ Common Attributes	
- Task Attributes	
Contract Fee	True
Process	
APPLY ACTION	
LegalEntity	

Sample EOD_REBATE_FEE scheduled task setup

You need to set the following attributes:

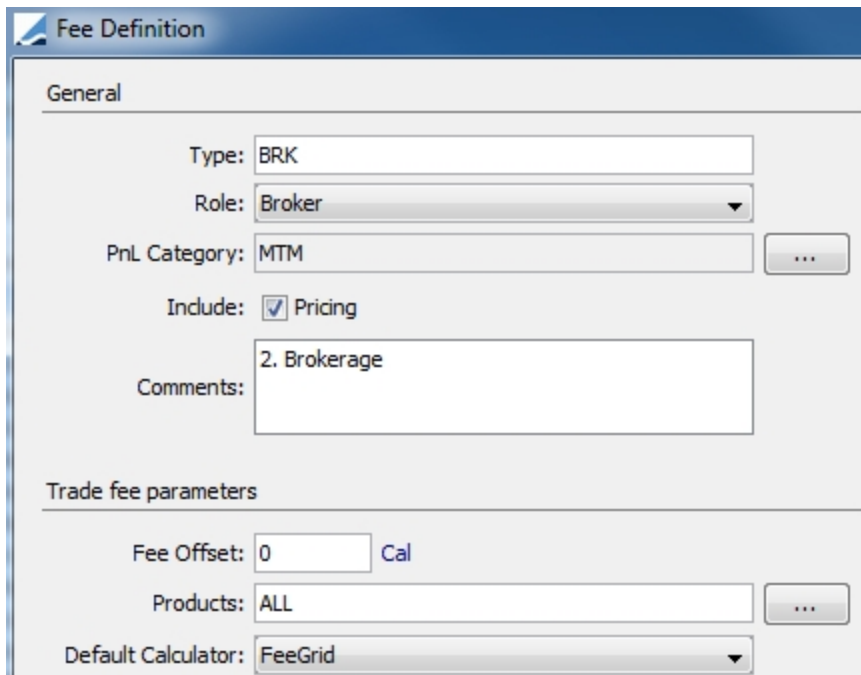
- **Contract Fee = True.**
- Process - Not used.
- APPLY ACTION - It is possible to specify the action to be applied in the scheduled task. For example, the billing trade could stay in PENDING status during the billing period and move to VERIFIED status once the conversion is done. This could be achieved by setting the action to AUTHORIZE for example.
- LegalEntity - You can enter a legal entity ID as needed.

4.3 Example of Broker Fees with Rebate

This example uses the volume rule on the quantity amount. The volume rule is triggered by trade events and can be used for contract or invoice fees.

The fee rate used to compute the fee at trade capture depends on the trade quantity.

Fee Definition



Fee Definition

General

Type: BRK

Role: Broker

PnL Category: MTM

Include: ☒ Pricing

Comments: 2. Brokerage

Trade fee parameters

Fee Offset: 0 Cal

Products: ALL

Default Calculator: FeeGrid

Sample contract fee definition for automatic fee

- » Calculator set to FeeGrid.

Fee Grid

Fee Set Up

Fee Config **Fee Grid** Billing Grid Browse

General

Id	0
ProcessingOrg	ALL
Legal Entity	ALL
Role	Broker
Fee Type	BRK
Round Turn	<input type="checkbox"/>
WithHoldingTax	<input type="checkbox"/>
Exchange	ALL
Products	
Security	
Currency	ANY
SD Filter	
Lag	OD Bus NO_CHANGE
Valid From	
Valid To	

Fee Value Calculation

Amount	0
Description	BRK contract fee based on fee schedule
Min Amount	0
Max Amount	0
Calculator	FeeConfig
Attributes	0 Attribute...

Sample automatic contract fee grid based on fee schedule

» Calculator set to FeeConfig

Fee configuration with Rebate

Fee Config | Fee Grid | Billing Grid | Browse

References		Filtering		Formula	
Config ID	73197	Filter Category			
Name	BRK TRICOM	Filters			
Config Type	Trade Fee	ProcessingOrg	ALL		
Rule Type	Volume	Legal Entity	ALL		
Scale By		Role	Broker		
Range by Tenor	<input checked="" type="checkbox"/>	Fee Type	BRK		
Range by ResidualMat	<input type="checkbox"/>	Exchange			
Tiered	<input type="checkbox"/>	Product Type	Equity		
Event Type	Trade	Security ID			
Fee Currency	USD	Book			
Day Count		Book Attr			
Effective From		Currency			
Effective To		Account ID			
Description		Fee Date			
		SD Filter			
		Attributes			

Rebate	
<input checked="" type="checkbox"/> Rebate	<input checked="" type="checkbox"/>
Rebate Type	Fixed
Rebate %	15

Min Amt	Max Amt	Min Tenor	Max Tenor	Formula
0	15,000	0D	50Y	ABS(Quantity*Price*0.00015)
15,000	50,000	0D	50Y	ABS(Quantity*Price*0.00008)
50,000	200,000	0D	50Y	ABS(Quantity*Price*0.00006)
200,000		∞ 0D	50Y	ABS(Quantity*Price*0.00005)

Sample contract fee schedule configuration

Billing Grid for Rebate Process

Fee Set Up

Fee Config | Fee Grid | Billing Grid | Browse

General

Id	0
ProcessingOrg	ALL
Legal Entity	ALL
Role	Broker
Event Type	Trade
Fee Value Date	TradeDate
Use Multiple Calculators	<input type="checkbox"/>
SD Filter	
Currency	ANY
Account	ALL
Valid From	
Valid To	
Description	Rebate for contract fee

Calculator

ID	Type	Static Data Filter	Amount Type	Currency
0	TradeFeeRebate		AMOUNT	ANY

Sample billing grid for contract rebate process

- » Select the calculator "TradeFeeRebate".

Fee Billing Rule for Rebate Process

Fee Billing Rule Window (User: calypso_user)

Edit **Browse**

Id: 0

Processing Org: ALL

Legal Entity: TRICOM

Effective From:

Billing Asset Type: NEXT_BILLING_DATE

Billing Date Rule: @End of Month

Adjust. Days:

Billing Threshold:

SD Filter:

Role: Broker

Effective To:

Billing Ccy: AUD

Holidays:

Sett. Date Rule: 14th Calendar Day of the Month

Billing Asset Threshold:

Input Date Type: TradeDate

New **Delete** **Save** **SaveAsNew** **Add Attributes**

Defaults Trade Billing Values

Book:

Bundle:

KwdAgent:

XferType: BRK FEES

Sample contract fee rebate billing rule

Attributes Window

Domain ...

Name	Value
BillingOnly	True
DefaultTransferType	BRK FEES
EntryType	CONTRACT REBATE
XferByBook	True

Equity Trade and associated Fees

Equity.GOOG -PO is Default Processing Organisation (25228) - Version : 0 Mod User :(calypso_user) [130000/LAPTOP_R

Trade Back Office Equity Analytics Pricing Env Market Data View Utilities Help

Trade Details Fees

Cpty CP CounterParty Delete during implementation
Book Global Status PENDING ID 25228
Broker TRICOM Template NONE

Trade Entry
Buy Name Equity.GOOG Show
Quantity 10,000 Price 55 USD Settle 03/25/2012 Cash Date

Proceeds
Negotiated Price 55 Gross Price USD
Settlement -550,000.00 USD

Trade Details Fees

Type BRK REC Fee Date 03/25/2012
Amount 82.5 USD Start Date 03/25/2012
☐ Manual Amount ☒ With Override End Date 03/25/2012
Legal Entity TRICOM
Fee Calculation
Method FeeGrid ?
Input 0 Calc
Role Broker
Known Date
Description

Generate Add Modify Remove

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec
BRK	03/25/2012	03/25/2012	03/25/2012	USD	82.5	TRICOM	REC

Billing(-10.52 AUD) -PO is Default Processing Organisation (25230) - Version : 0 Mod User :(calypso_user) [130000/LAP

Trade Back Office Billing Analytics Pricing Env Market Data Utilities Help Template

Trade | Details | Fees | Billing Fees

To ... Broker Book Status ID

From ... ProcessingOrg Trade Date 3:19:02 PM Settle Date

Start Date End Date

Pay Transfer Type Account Id

Fee Billing Id

Principal Ccy Template

Adjustment

Trade | Details | Fees | Billing Fees

Legal Entity

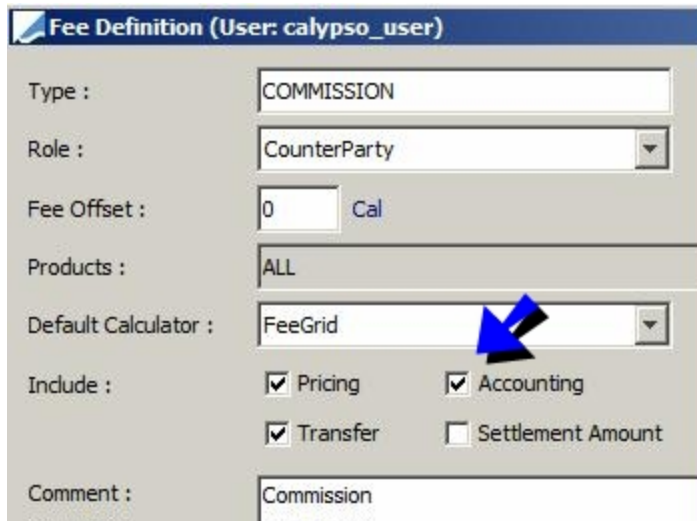
Billing Event Billing Grid

Date	Value Date	Amount Type	Amount	Currency	Converted Amount
03/25/2012	03/31/2012	CONTRACT REBATE	(12.38)	USD	(10.52)

4.4 Contract Fees - Accounting Events

4.4.1 Accounting of Contract Fee

Make sure that the Accounting checkbox is checked in the fee definition.



Fee Definition (User: calypso_user)

Type : COMMISSION

Role : CounterParty

Fee Offset : 0 Cal

Products : ALL

Default Calculator : FeeGrid

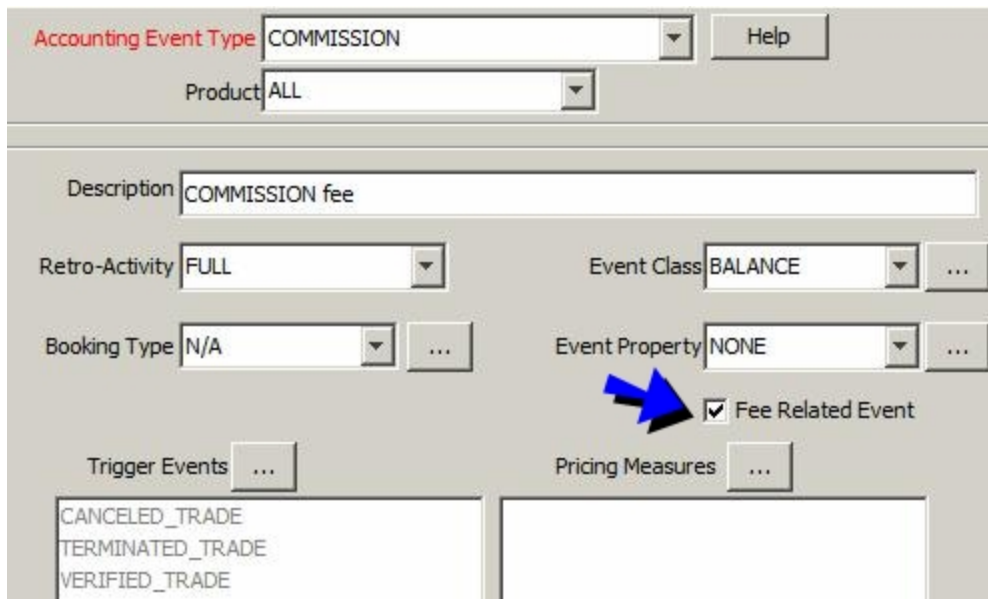
Include : ☒ Pricing ☒ Accounting
☒ Transfer ☐ Settlement Amount

Comment : Commission

Sample contract fee definition

Then from the Calypso Navigator, navigate to **Configuration > Accounting > Events** to create an accounting event that has the same name as the fee type - COMMISSION in this example.

Make sure that "Fee Related Event" is checked.



Accounting Event Type COMMISSION Help

Product ALL

Description COMMISSION fee

Retro-Activity FULL Event Class BALANCE

Booking Type N/A Event Property NONE

☒ Fee Related Event

Trigger Events ... Pricing Measures ...

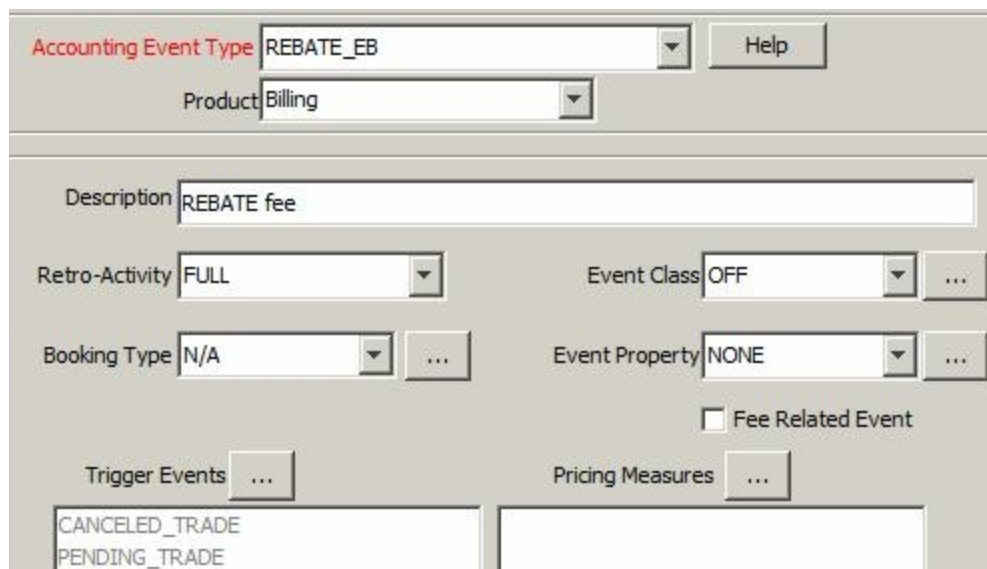
CANCELED_TRADE
TERMINATED_TRADE
VERIFIED_TRADE

Sample fee accounting event

4.4.2 Accounting of Rebates

From the Calypso Navigator, navigate to **Configuration > Accounting > Events** to create an accounting event to book the rebate amount in original fee currency with effective date = rebate settle date.

The posting is booked on the original trading book.

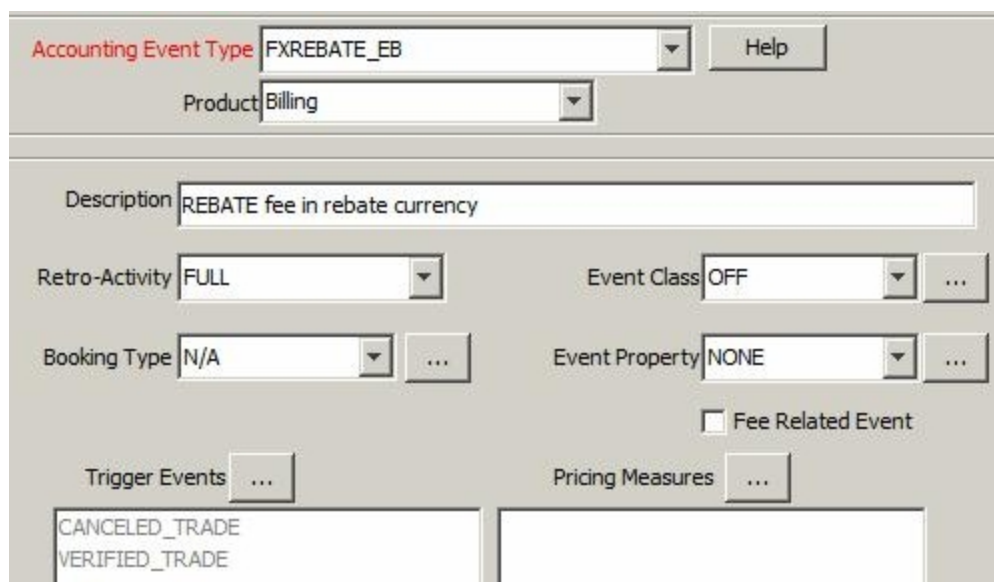


The screenshot shows the 'Accounting Event Type' configuration window. The 'Accounting Event Type' dropdown is set to 'REBATE_EB'. The 'Product' dropdown is set to 'Billing'. The 'Description' field contains 'REBATE fee'. The 'Retro-Activity' dropdown is set to 'FULL'. The 'Event Class' dropdown is set to 'OFF'. The 'Booking Type' dropdown is set to 'N/A'. The 'Event Property' dropdown is set to 'NONE'. There is an unchecked checkbox for 'Fee Related Event'. Below these fields are buttons for 'Trigger Events' and 'Pricing Measures'. At the bottom, there are two lists: 'CANCELED_TRADE' and 'PENDING_TRADE'.

[Sample rebate accounting event in fee currency](#)

Then create a second accounting event to book the rebate amount in settlement currency with effective date = rebate settle date.

The posting is booked on the original trading book.

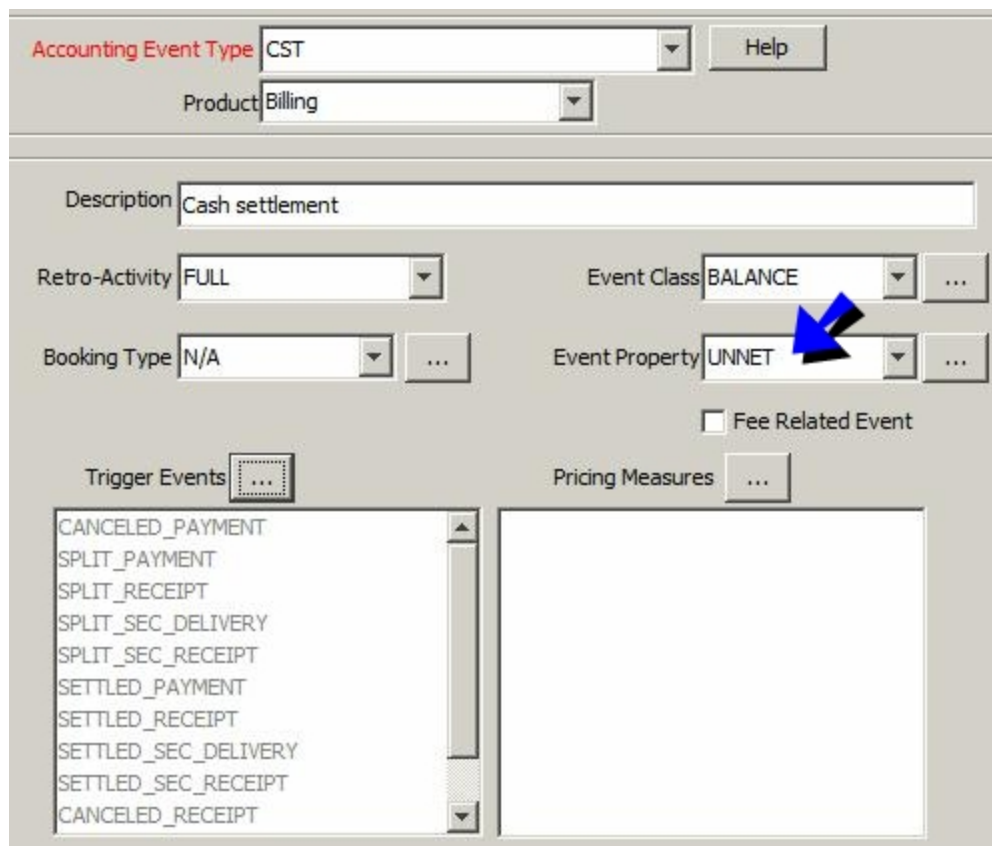


The screenshot shows the 'Accounting Event Type' configuration window. The 'Accounting Event Type' dropdown is set to 'FXREBATE_EB'. The 'Product' dropdown is set to 'Billing'. The 'Description' field contains 'REBATE fee in rebate currency'. The 'Retro-Activity' dropdown is set to 'FULL'. The 'Event Class' dropdown is set to 'OFF'. The 'Booking Type' dropdown is set to 'N/A'. The 'Event Property' dropdown is set to 'NONE'. There is an unchecked checkbox for 'Fee Related Event'. Below these fields are buttons for 'Trigger Events' and 'Pricing Measures'. At the bottom, there are two lists: 'CANCELED_TRADE' and 'VERIFIED_TRADE'.

Sample rebate accounting event in settlement currency

CST postings: For the billing trade, it is necessary to book CST postings on the underlying transfers in order to book the correct fee amount on each original trading book.

To do so, you need to configure a CST event type (with property UNNET) as shown below.



Accounting Event Type: CST

Product: Billing

Description: Cash settlement

Retro-Activity: FULL

Event Class: BALANCE

Booking Type: N/A

Event Property: UNNET

☐ Fee Related Event

Trigger Events: ...

Pricing Measures: ...

Trigger Events List:

- CANCELED_PAYMENT
- SPLIT_PAYMENT
- SPLIT_RECEIPT
- SPLIT_SEC_DELIVERY
- SPLIT_SEC_RECEIPT
- SETTLED_PAYMENT
- SETTLED_RECEIPT
- SETTLED_SEC_DELIVERY
- SETTLED_SEC_RECEIPT
- CANCELED_RECEIPT

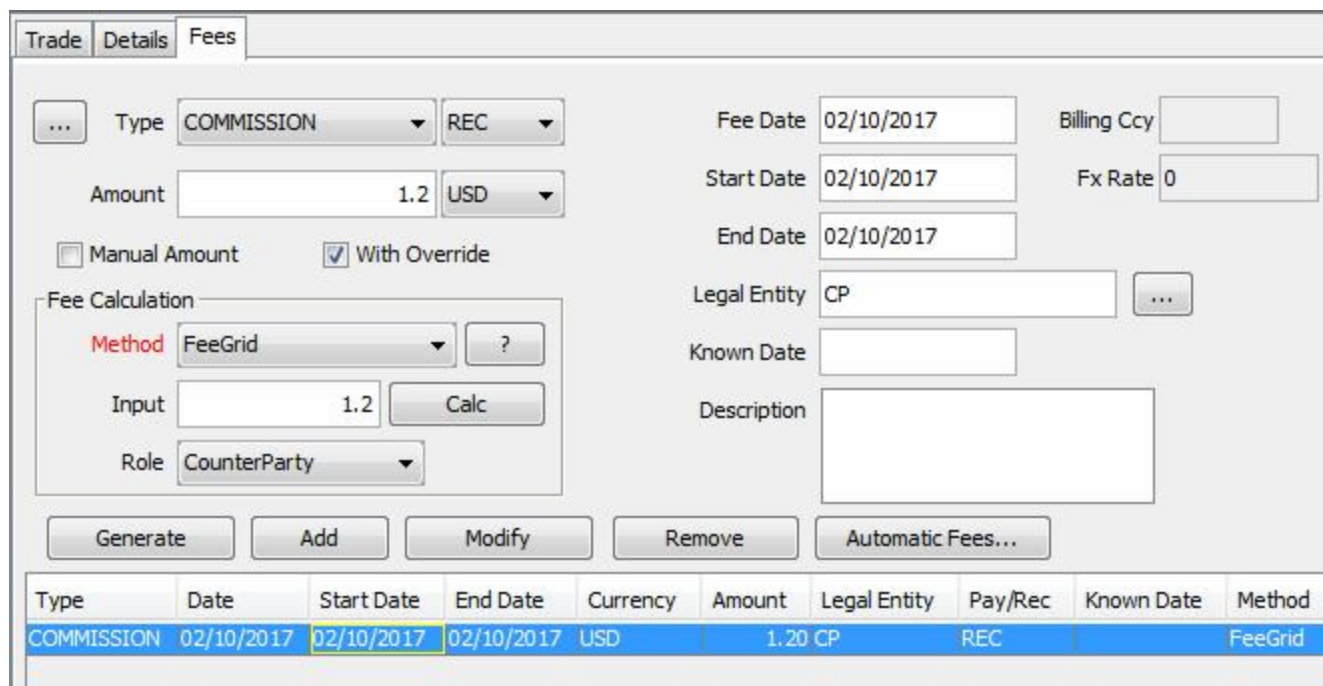
Sample CST accounting event

The postings will be generated from the underlying transfers, provided the engine filter PaymentOnlyEventFilter is not set on the Accounting engine in Web Admin.

5. Capturing Trade Fees

The Fees panel of a Trade window allows entering fees for the trade. It also shows contract fees that have been automatically computed based on a Fee Grid.



- ▶ See [Defining Fees](#) for details on defining fee types.
- ▶ See [Defining Automatic Contract Fees](#) for details on setting up automatic fees.



Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec	Known Date	Method
COMMISSION	02/10/2017	02/10/2017	02/10/2017	USD	1.20	CP	REC		FeeGrid

Sample fee capture

A number of fee types are provided out-of-the-box.

- » Select a fee type from the Type field, or click  next to the Type field to create a new fee type. The Fee Definition window will appear.
 - Select PAY or REC next to the fee type as applicable. This indicates whether the processing org pays or receives the fee to / from the recipient.
 - Select the payment currency of the fee from the field next to the Amount field.
 - Enter the payment date of the fee in the Fee Date field.
The fee date defaults to trade date + spot days (from the fee currency) + fee offset (from the fee definition). For automatic fees, the fee date can be overridden by the attributes of the fee grid.
 - ▶ See [Defining Automatic Contract Fees](#) for details on setting up automatic fees.
 - Select the role of the fee recipient from the Role field, and click  next to the Legal Entity field to select the fee recipient. You will be prompted to select a legal entity of specified role.

If the fee LE role is the same as the trade counterparty LE role, when you click **Add** in the Fees panel, the fee legal entity will default to the trade counterparty, you do not need to select the fee legal entity.

Enter the other fields as applicable. The fee entry depends on the selected method as described below.

- » Click **Add** to add a fee row, or click **Generate** to amortize the fee over a given period.

When amortizing a fee, you will be prompted to enter a start date, an end date, and an amortization frequency.

Note that the amortization frequency should be at least the coupon frequency.

Click **Apply** to generate fee rows as applicable.

The PV column represents the fee present value. It will only be populated if the trade is priced, and if FEES_NPV is added to the pricer measures. Note that this currently only applies to interest rate derivatives and credit derivatives.

[NOTE: When the Broker Fee is removed from a trade, the user is prompted to remove the Broker field as well]

Fields Details

Fields	Description
Amount	Enter the fee amount for a flat fee only (method NONE). Otherwise the amount will be calculated as described below.
Method	<p>Select a fee calculation method, and enter an input (fee rate for example) as needed. Then click Calc to calculate the fee. Note that the NONE method does not require calculation.</p> <p>When defining a fee type, you can select a default fee calculator. Refer to the <i>Calypso Developer's Guide</i> for information on adding custom fee calculators.</p> <p>You can click ? for information on a given method.</p>
Start Date End Date	The Start Date and End Date will be set to the Fee Date unless you choose to amortize the fee over a given period.
Known Date	<p>Allows you to enter a fee for a given date when you choose to amortize the fee over a given period.</p> <p>Enter a fee with a known date and click Add. A fee row will be added for that date. The known date must be between the start and end date.</p>
Description	Enter a comment as applicable.

Automatic Fees Computation

Provided you have configured automatic fees, you can click **Automatic Fees** to generate the fees before saving the trade.

They will be generated upon saving otherwise.

► See [Defining Automatic Contract Fees](#) for information on defining automatic fees.

Automatic Fees Override

When viewing automatic fees, you can override the fee amount.

- » Select an automatic fee and enter the modified amount in the Amount field. Then click **Modify**. The "Manual Amount" column will appear checked.
- » To prevent the fee from being automatically recomputed upon saving the trade, clear the Override column.
- » Save the trade.

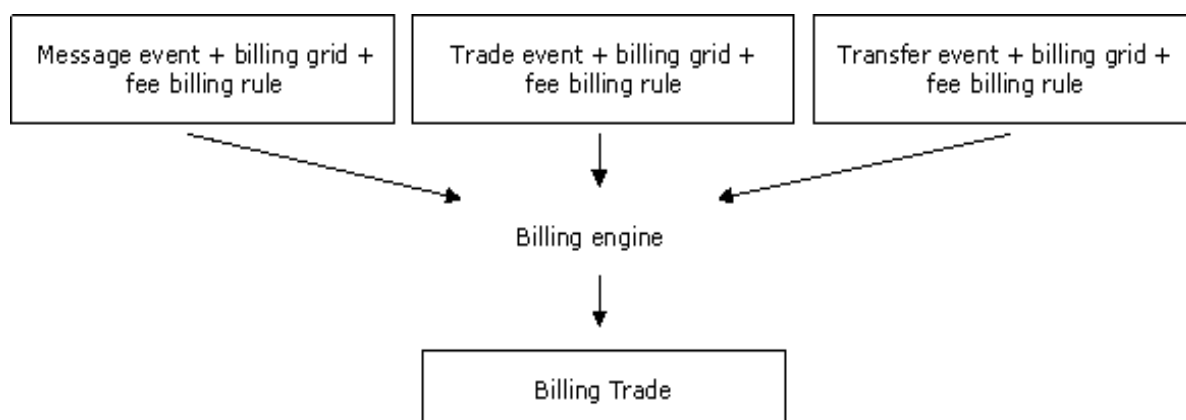
Configuring Fee Columns

You can configure the display of the fee columns using **Back Office > Configure Fee Columns**.

6. Defining Invoice Fees

The system allows generating invoice fees relating to various transactions such as trades, payments, and messages.

The Billing engine subscribes to trade events, message events, and transfer events to generate **invoice fees** (billing trades) based on **billing grids** and **fee billing rules**.

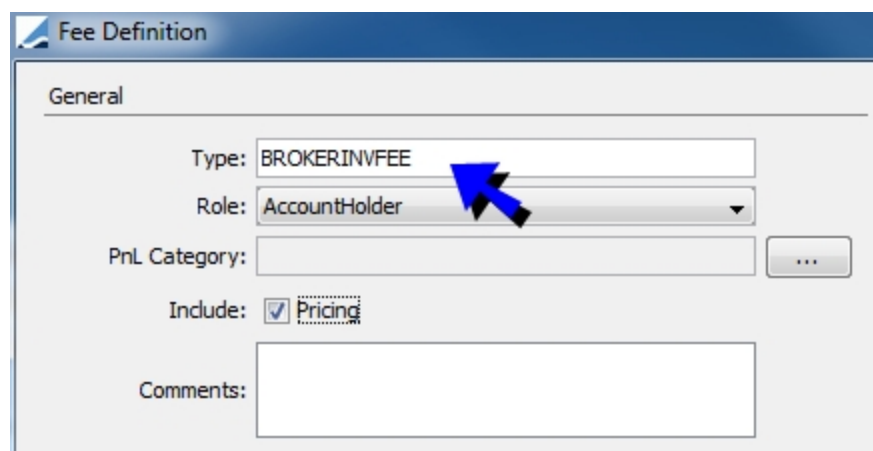


Before you Begin

You can set a default book for billing trades in the legal entity attribute "FUNDING BOOK" of the legal entity that pays / receives the fee (broker, counterparty, agent, etc.).

The fee types for billing fees are created in the Fee Definition.

Example:



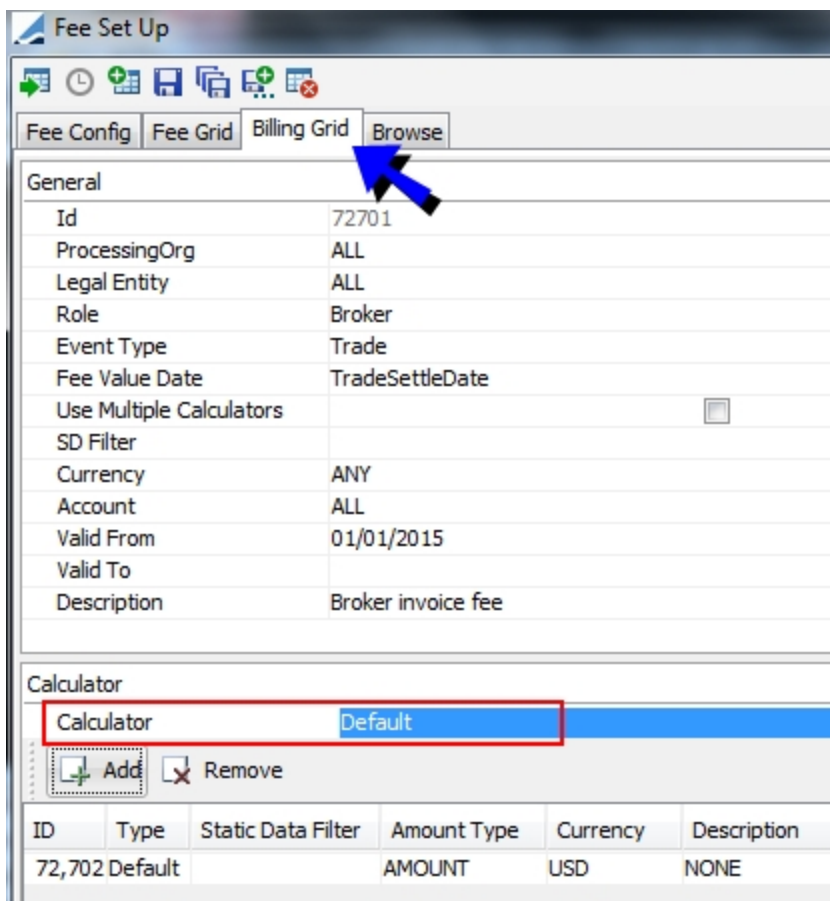
Billing Trade Workflow

Billing trades follow the standard trade workflow. However, make sure that the AMEND action is available, as new billing fees will be added to the same trade during the billing period, and the billing trade will therefore be amended. Also, it is recommended to move the billing trade to a status that can no longer be amended at the end of the billing period.

6.1 Defining Billing Grids

The billing grid allows automating the fee calculation for trades, messages, and transfers.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts & Margin Calls > Fee Set Up** (menu action `refdata.FeeSetUpWindow`), and select the Billing Grid panel.



Fee Set Up					
Fee Config Fee Grid Billing Grid Browse					
General					
Id	72701				
ProcessingOrg	ALL				
Legal Entity	ALL				
Role	Broker				
Event Type	Trade				
Fee Value Date	TradeSettleDate				
Use Multiple Calculators	<input type="checkbox"/>				
SD Filter					
Currency	ANY				
Account	ALL				
Valid From	01/01/2015				
Valid To					
Description	Broker invoice fee				
Calculator					
Calculator	Default				
<input type="button" value="Add"/>	<input type="button" value="Remove"/>				
ID	Type	Static Data Filter	Amount Type	Currency	Description
72,702 Default			AMOUNT	USD	NONE

[Sample billing grid for invoice fee](#)

- » Enter the fee application criteria as needed and select the event type for which the fee will be generated: Message, Trade, or Transfer.

Enter the validity dates of the grid - They apply to the selected "Fee Value Date" of the related object.

► See [Note on "Fee Value Date"](#) for details.

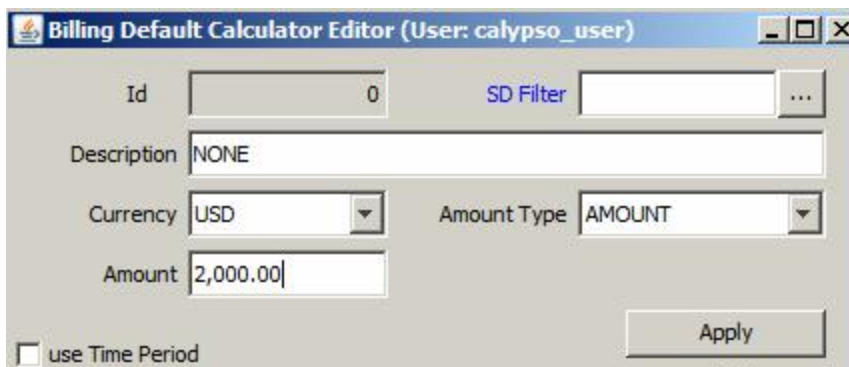
Fill in the Description field to describe the grid. This field is mandatory.

You can check "Use Multiple Calculators" to generate a fee for each applicable calculator. Otherwise, a fee is generated only for the first applicable calculator.

The event types Account and MaintenanceTrade apply to account management fees.

► Refer to Cash Management documentation for details on account management fees.

- » Select a calculator (Default, FeeConfig, FTT), and click **Add** to define the calculator.
 - For the Default calculator, the fee will be computed based on the amount defined here.



The screenshot shows the 'Billing Default Calculator Editor' window. It contains the following fields and controls:

- Id:** A text box containing the value '0'.
- SD Filter:** A text box with a dropdown arrow.
- Description:** A text box containing the value 'NONE'.
- Currency:** A dropdown menu currently set to 'USD'.
- Amount Type:** A dropdown menu currently set to 'AMOUNT'.
- Amount:** A text box containing the value '2,000.00'.
- use Time Period:** An unchecked checkbox.
- Apply:** A button at the bottom right.

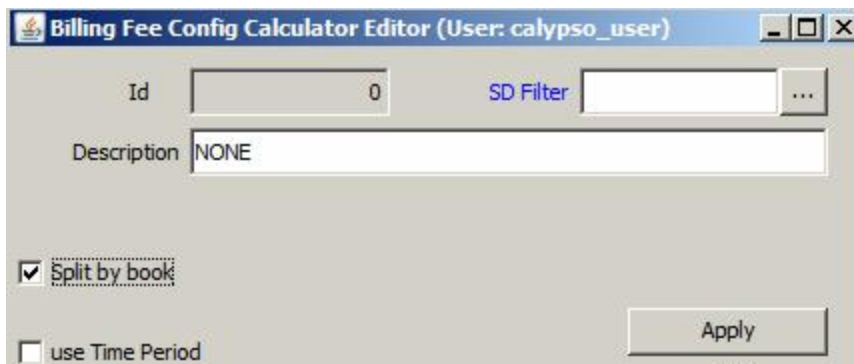
Enter a description and an amount. The amount can be signed: "-" means the PO pays the fees, "+" means the PO receives the fee.

You can check "use Time Period" to select a date rule to generate the fee.

Then click **Apply**.

- For the FeeConfig calculator, the fee will be computed based on a fee schedule defined in the Fee Config panel.

► See [Defining Invoice Fee Schedules](#) for details on defining fee schedules for invoice fees.



The screenshot shows the 'Billing Fee Config Calculator Editor' window. It contains the following fields and controls:

- Id:** A text box containing the value '0'.
- SD Filter:** A text box with a dropdown arrow.
- Description:** A text box containing the value 'NONE'.
- Split by book:** A checked checkbox.
- use Time Period:** An unchecked checkbox.
- Apply:** A button at the bottom right.

You can check the "Split by book" checkbox to allocate the fees to the original books, and click **Apply**.

- FTT allows computing the Financial Transaction Tax on the physical settlement of securities.

► See [Computing the Financial Transaction Tax](#) for full setup details.

- » Save the billing grid.

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

Note on “Fee Value Date”

The “Fee Value Date” determines which date on the billing event should be used to select the Billing Grid and the Billing Rule.

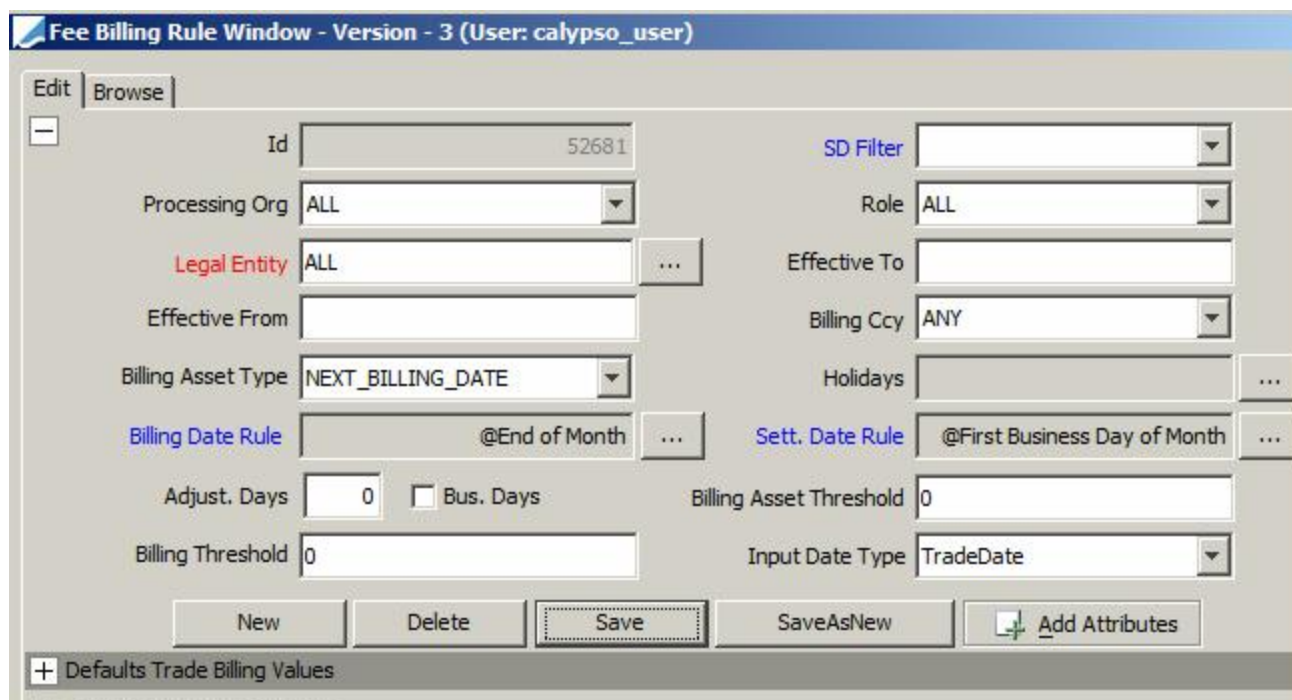
By default, it can be set to the following values based on the type of event:

- Messages: CurrentDate (Today), CustomDate (if the Fee Value Date of the billing event has been customized), MessageCreationDate, or MessageSettleDate – You can add more types of dates to the domain “billingMessage.feeValueDates”.
- Trades: CurrentDate, CustomDate, TradeDate, or TradeSettleDate – You can add more types of dates to the domain “billingTrade.feeValueDates”.
- Transfers: CurrentDate, CustomDate, TransferValueDate, or TransferSettleDate – You can add more types of dates to the domain “billingTransfer.feeValueDates”.

6.2 Defining Fee Billing Rules

The billing rule allows defining the billing frequency, and a billing threshold if needed.

Define the Billing rules from the Calypso Navigator using [Configuration > Fees, Haircuts & Margin Calls > Fee Billing Rule](#) (menu action `refdata.FeeBillingRuleWindow`).



[Sample billing rule for invoice fee](#)

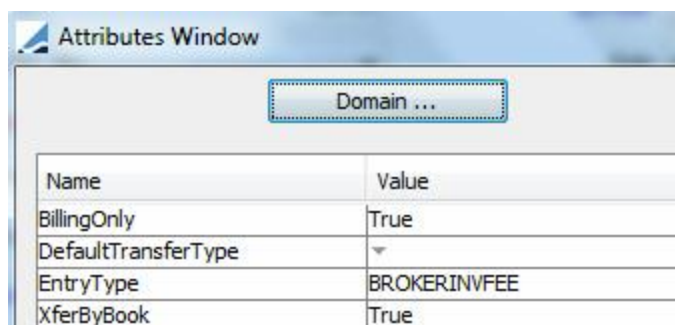
» Enter the following fields:

- Select a legal entity, or double-click the Legal Entity label to set the legal entity to ALL.

- Select the same role as in the billing grid.
- Select the billing currency or ANY.
- Select the billing date rule to determine the billing frequency.
- Select the settlement date rule to determine the settlement frequency of the fee.
- Input Date Type - Select the reference date to load the trades, messages, transfers:
 - TradeDate - Trade date
 - SettleDate - Trade value date
 - FeeDate - Fee date (Fee Value Date defined in the Billing Grid)
 - EnteredDate - Trade entered date
- Open the "Defaults Trade Billing Values" panel, and select the transfer type of the billing trade as needed. If not set, the transfer type is set to INTEREST. Note that transfer types are defined in the domain "flowType".

[NOTE: If the attribute EntryType is set, and the Default Transfer Type is not set, the transfer type defaults to the EntryType]

- » You also need to define the following attributes - This only applies if you have selected the FeeConfig calculator in the Billing Grid.



Name	Value
BillingOnly	True
DefaultTransferType	▼
EntryType	BROKERINVLEE
XferByBook	True

- BillingAggregation - When set to true, the system does not create the billing fees. It creates billing fee details that can be aggregated into a single billing fee using the scheduled task EOD_BILLING_AGGREGATION.
 - See [Aggregating Billing Fees](#) for details.
- BillingOnly - Set to True so that it is only used for billing trades.
- EntryType - Set to the fee type , "BROKERINVLEE" for example.
- XferByBook - Set to True to create a transfer by book.

You can click **Domain** to add an attribute if it is not available.

- » Save the billing rule.

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

6.3 Generating Invoice Fees

The Billing engine is used to create the billing fees.

6.3.1 Configuring the Billing Engine

The Billing engine is configured in the Engine Manager of Web Admin: event subscription and engine parameters.

You may need to add this engine if it is not available for configuration: Create a new engine called BillingEngine, with class name `com.calypso.engine.billing.BillingEngine`.

The Billing engine must subscribe to the following events: PSEventTrade, PSEventMessage, PSEventTransfer.

The behavior of the Billing engine may be modified with the following engine parameters.

If a parameter is not available for setup, you can register it in the domain "engineParam".

Parameters	Description
IGNORE_ACTION	Comma-separated list of trade actions to be ignored by the engine.
MAX_BATCH_EVENT	Maximum number of persistent events loaded at one time by an engine in batch mode. The engine will load events in MAX_BATCH_EVENT chunks until all events are processed. Persistent events received after MAX_QUEUE_SIZE is reached will be processed in batch mode. Allows controlling engine memory usage, therefore improving the performance.
MAX_QUEUE_SIZE	Maximum number of events buffered on an engine event queue. When this number is exceeded, real time events are discarded and the engine restarts based on the restart timer (TIMEOUT_RESTART), in order to process the unprocessed persistent events using batch mode. This parameter can be useful for controlling the engine's memory usage. If not set, the default value for this parameter is no limit on queue size. Allows controlling engine memory usage, therefore improving the performance.
PricingEnv	Pricing environment used by the engine. If not set, the default Pricing Environment of the user running the engine will be used.
TIMEOUT_RESTART	Number of seconds to wait before an engine restarts after MAX_QUEUE_SIZE has been reached. The default value is 3600 seconds (1 hour).

6.3.2 Starting the Billing Engine

The Billing engine can be started from the Engine Manager in Web Admin.

► Please refer to Calypso Web Admin documentation for complete details.

In order to update the same billing trade for a given counterparty, account ID and billing rule ID, you need to provide the account ID in a trade keyword. The trade keyword that holds the account ID information must be defined in the domain "BillingAccountTradeKeyword".

6.3.3 Aggregating Billing Fees

When the Fee Billing Rule attribute "BillingAggregation=true" the billing fees are not created directly. The system publishes a PSEventTrade, processed by the Billing engine, when a trade is booked. If valid Billing Grid, Fee Config (optional) and Billing Rule are found, the system creates billing fee details. Billing fee details can then be aggregated into a single billing entry (creation of a new billing trade, or update of an existing one) using the scheduled task EOD_BILLING_AGGREGATION.

Task Description	
Task Type:	EOD_BILLING_AGGREGATION
External Reference:	
Comments:	
Description:	
Execution Parameters	
Attempts:	1
Retry After:	0 minutes
JVM Settings:	-Xms512m -Xmx1024m -XX:MaxPermSize=256m
Log Settings:	
Task Notification Options	
<input type="checkbox"/> Send Emails	<input type="checkbox"/> Publish Business Events
To User: []	
Common Attributes	
Task Attributes	
APPLY ACTION	
LegalEntity	

You can set the following attributes:

- APPLY ACTION - It is possible to specify the action to be applied by the scheduled task. It is AMEND by default.
- LegalEntity - Enter the Legal Entity short name to reduce the scope of the Scheduled Task or leave blank.

6.3.4 Billing Fees for Trade Events

When a trade is booked, the system publishes a PSEventTrade which is processed by the Billing engine. If valid Billing Grid, Fee Config (optional) and Billing Rule are found, the system creates a billing entry (creation of a new billing trade, or update of an existing one). This billing entry is linked to the original trade.

6.3.5 Billing Fees for Transfer events

When a transfer is created by the transfer engine, the system publishes a PSEventTransfer which is processed by the Billing engine. If valid Billing Grid, Fee Config (optional) and Billing Rule are found, the system creates a billing entry (creation of a new billing trade, or update of an existing one) linked to this transfer. This billing entry is linked to the original transfer (and trade if known).

6.3.6 Billing Fees for Message Events

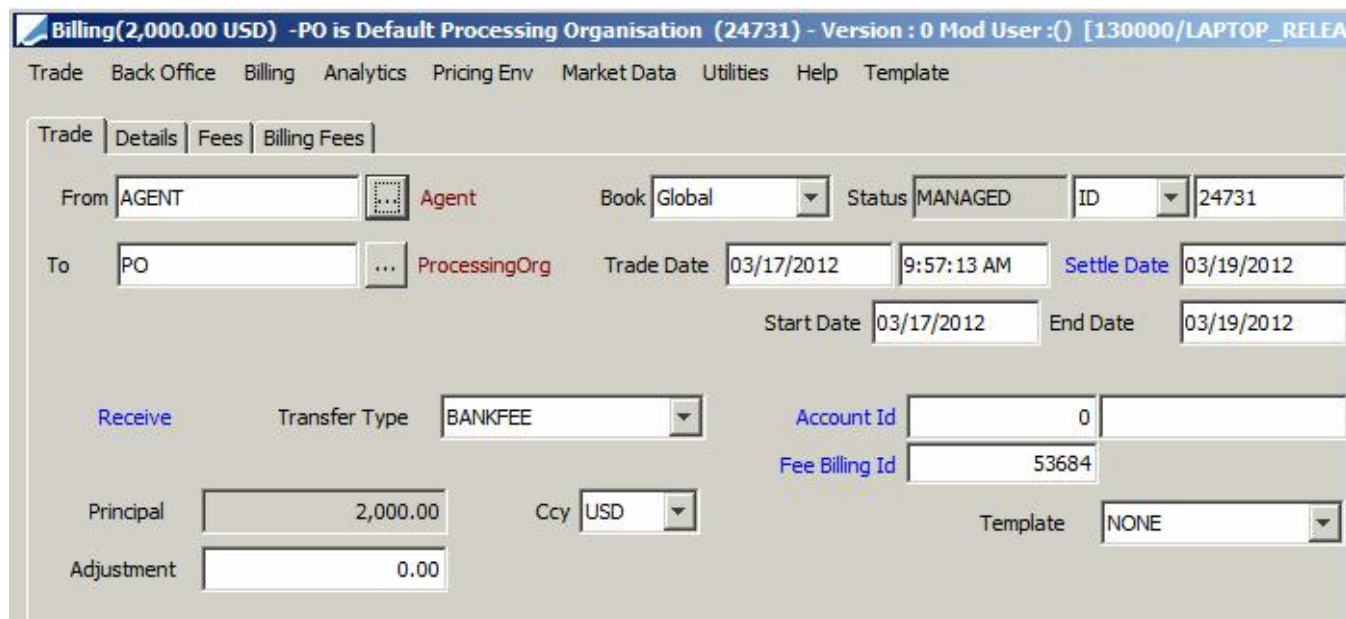
When a message is created by the message engine, the system publishes a PSEventMessage which is precessed by the Billing engine. If valid Billing Grid, Fee Config (optional) and Billing Rule are found, the system creates a billing entry (creation of a new billing trade, or update of an existing one) linked to this message. This billing entry is linked to the original message (and transfer or trade if known).

6.3.7 Example

For example, the processing organization, receives \$2,000 each time it generates a message for the agent.

The Billing engine subscribes to message events and generates a Billing trade. The system generates one trade per billing period. So, every new message will create an update of this Billing trade.

From the Calypso Navigator, navigate to **Processing > Accounting Operations > Billing > Trade > Open** (menu action `trading.TradeBillingWindow`). It opens the Trade Selector. Click **Show Trades** to view all billing trades. Double-click a trade to view its details.



Billing(2,000.00 USD) - PO is Default Processing Organisation (24731) - Version : 0 Mod User :() [130000/LAPTOP_RELEASE]

Trade Back Office Billing Analytics Pricing Env Market Data Utilities Help Template

Trade Details Fees Billing Fees

From AGENT Agent Book Global Status MANAGED ID 24731

To PO ProcessingOrg Trade Date 03/17/2012 9:57:13 AM Settle Date 03/19/2012

Start Date 03/17/2012 End Date 03/19/2012

Receive Transfer Type BANKFEE Account Id 0

Fee Billing Id 53684

Principal 2,000.00 Ccy USD Template NONE

Adjustment 0.00

Sample billing fee trade

- » Select the Billing Fees panel to see the details of each fee:

Trade Details Fees Billing Fees						
Legal Entity		PO		Agent		
Billing Event				Billing Grid		
Date	Value Date	Amount Type	Amount	Currency	Converted Amount	Manual Amount
03/23/2012	03/19/2012	AMOUNT	2,000.00	USD	2,000.00	<input type="checkbox"/>

You can select a row and click **Billing Event** to open the corresponding event report - Message report in this case.

You can click **Billing Grid** to see the detail of the grid used for this calculation.

Billing Fee Override

Trade Details Fees Billing Fees							
Legal Entity		PO		Agent			
Billing Event				Billing Grid			
Date	Value Date	Amount Type	Amount	Currency	Converted Amount	Manual Amount	Override Amount
03/23/2012	03/19/2012	AMOUNT	2,000.00	USD	2,500.00	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Sample billing fee override

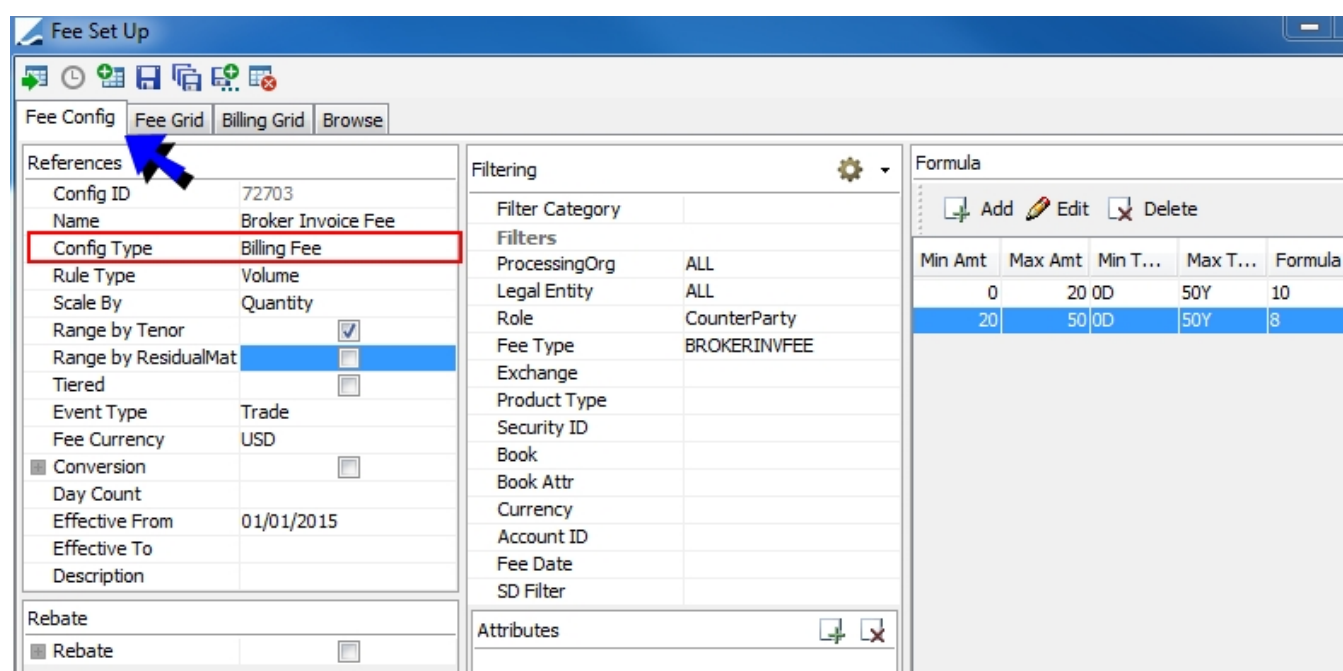
- » Check the "Manual amount" column and enter the modified amount in the "Converted Amount" column.
- » To prevent the fee from being automatically recomputed upon saving the trade, clear the Override column.
- » Save the trade.

7. Defining Invoice Fee Schedules

The Fee Set Up window allows defining fee schedules for the FeeConfig calculator in the context of billing fees. When the FeeConfig calculator is set on the Billing Grid, the fee schedule defined in the Fee Config panel will be used to compute the billing fee.

7.1 Fee Schedule Definition


From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Fee Set Up** (menu action `refdata.FeeSetUpWindow`) to open the Fee Set Up window, Fee Config panel.



Min Amt	Max Amt	Min T...	Max T...	Formula
0	20	0D	50Y	10
20	50	0D	50Y	8

Sample invoice fee schedule

In this example, if the number of trades for a given broker is below 20, the fee rate will be 10, and if the number of trades is 20 or above (and below 50), the fee rate will be 8.

- » Enter a configuration name and set the fee parameters as needed. They are described below.
- » Then click **Add** to add an entry to the fee schedule. It brings up the Formula Definition dialog. It is described below.
- » Click  to save the configuration. The configuration will be used when the FeeConfig calculator is set on a Billing Grid, based on the selected filters.

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

You can also click  to bring up the Browse panel for loading existing configurations.

References

These parameters are used to compute the fee.

Fields	Description
Config ID	ID of the configuration given by the system upon saving.
Name	Enter a configuration name.
Config Type	Select "Billing Fee" to generate invoice fees.
Rule Type	<p>Select the reference amount unit:</p> <ul style="list-style-type: none"> Avg Price (unit amount). Transactional (number of transactions). Volume (trade amount). <p>[NOTE: The Maintenance and Safekeeping rules only apply to account management fees and are generated by the ACCOUNT_BILLING scheduled task on inventory positions - Please refer to Calypso Cash Management documentation "Generating Account Fees" for details]</p>
Scale By	<p>Select the reference amount of the fee schedule:</p> <ul style="list-style-type: none"> For Avg Price, you can select Price. For Transactional, you can select Count. For Volume, you can select Quantity, ConvQuantity (Trade Quantity converted to the fee currency), MarketValue (Trade Quantity * Trade Price), Notional, ConvNotional (Trade Notional converted to the fee currency), or MADVQuantity (Monthly Average Daily Volume). <p>The fee rate used to compute the fee at fee creation depends on the event's reference amount (notional, quantity, etc.). At the end of the billing period, a rebate can be applied to adjust the fee rate based on all the events of the period.</p> <p>► See Invoice Rebate and Conversion Process for details.</p>
Range by Tenor	Check to set the fee range by tenor, or clear to set the fee range by number of days.
Range by ResidualMat	Check to set the fee range by residual maturity, or clear to set the fee range by product.

Fields	Description
Tiered	<p>Check to indicate that the reference amount is distributed over the range, rather than applied to the absolute range.</p> <p>For example, you have the following range:</p> <ul style="list-style-type: none"> 0 to 1,000 - Fee rate is 10% 1,000 to 5,000 - Fee rate is 5% 5,000 and up - Fee rate is 2% <p>The reference amount is 7,000.</p> <ul style="list-style-type: none"> For the non-tiered method, the fee rate is 2% (5,000 and up range). For the tiered method, the fee rate is 10% for the first 1,000 - Then 5% for the next 4,000 - Then 2% for the remaining 2,000.
Event Type	<p>Select the event type:</p> <ul style="list-style-type: none"> For Avg Price and Volume, you can only select Trade - The fee is computed on trade events. For Transactional, you can select Message, Trade or Transfer - The fee is computed on message events, transfers events, or trade events. <p>► Refer to Cash Management documentation for details on account management fees.</p>
Fee Currency	You can select a fee currency, or leave empty for ANY.
Conversion	<p>Check if you want to convert the fee using the FX rate at the end of the billing cycle. It is converted using the fee date FX rate otherwise.</p> <p>For computing the converted fee at the end of the billing cycle, you need to run the scheduled task EOD_REBATE_FEE.</p> <p>► See Invoice Rebate and Conversion Process for details.</p> <p>Select the pricing environment for loading the FX rates. If not set, the pricing environment defined in the Billing engine will be used.</p>
Day Count	Select a daycount as needed.
Effective From	Enter the effective start date of the configuration.
Effective To	Enter the effective end date of the configuration (optional).
Description	Enter a free form description as needed.

Rebate

Check the Rebate checkbox to compute a rebate on the invoice fees.

► See [Invoice Rebate and Conversion Process](#) for details.

Fields	Description																				
Rebate Type	<div>Select the Rebate type:</div> <ul style="list-style-type: none">Default - At the end of the billing period, a rebate is applied to adjust the fee rate based on all the events of the period (Trade period), or for each billing entry (Daily period). <div><div>Rebate</div><table><tr><td><input checked="" type="checkbox"/> Rebate</td><td><input checked="" type="checkbox"/></td></tr><tr><td>Rebate Type</td><td>Default</td></tr><tr><td>Rebate Period</td><td>Trade</td></tr><tr><td>Add Fee Amount By Range</td><td>No</td></tr><tr><td>Range Amount Type</td><td></td></tr></table></div> <div><div>Rebate Period</div> - Select the rebate period: Trade or Daily.</div> <div><div>Add Fee Amount By Range</div> - To compute a billing fee by range as needed - You can select:<ul style="list-style-type: none">No - No billing fee by range.Yes, on the fly - Billing fee by range is computed by the billing engine each time a new billing fee is attached/removed to the Billing trade. Event type is FeeConfigRange.Yes, on rebate - Billing fee by range is computed by EOD_REBATE_FEE scheduled task. Event type is FeeConfigRange.</div> <div>Range Amount Type - To define the amount type of the billing fee by range - It is set to RANGE by default. You can set to another value as needed.</div> <ul style="list-style-type: none">Discount - A discount rebate is applied based on the total fee amount of the billing period (Trade period) or for each billing entry (Daily period), and the discount schedule. <div>Select the rebate period: Trade or Daily.</div> <div>Click Add to add a discount entry.</div> <div><div>Rebate</div><div><div><input checked="" type="checkbox"/> Rebate</div><table><tr><td>Rebate Type</td><td>Discount</td></tr><tr><td>Rebate Period</td><td>Trade</td></tr></table><div><div><input checked="" type="checkbox"/> Add</div><div><input checked="" type="checkbox"/> Delete</div></div><table><tr><td>Fee Min</td><td>Fee Max</td><td>Percentage</td></tr><tr><td>0</td><td>10,000</td><td>0.5</td></tr></table></div></div> <div>Enter a minimum fee and a maximum fee and enter the discount percentage.</div> <ul style="list-style-type: none">CapFloor - At the end of the billing period (Trade period) or for each billing entry (Daily period), a rebate is applied if the fee is not within the minimum and maximum amounts. <div>Select the rebate period, the currency, the cap amount, and the floor amount.</div>	<input checked="" type="checkbox"/> Rebate	<input checked="" type="checkbox"/>	Rebate Type	Default	Rebate Period	Trade	Add Fee Amount By Range	No	Range Amount Type		Rebate Type	Discount	Rebate Period	Trade	Fee Min	Fee Max	Percentage	0	10,000	0.5
<input checked="" type="checkbox"/> Rebate	<input checked="" type="checkbox"/>																				
Rebate Type	Default																				
Rebate Period	Trade																				
Add Fee Amount By Range	No																				
Range Amount Type																					
Rebate Type	Discount																				
Rebate Period	Trade																				
Fee Min	Fee Max	Percentage																			
0	10,000	0.5																			

Fields	Description												
	<div> <div>Rebate</div> <table> <tr> <td><input type="checkbox"/> Rebate</td><td><input checked="" type="checkbox"/></td></tr> <tr> <td>Rebate Type</td><td>CapFloor</td></tr> <tr> <td>Rebate Period</td><td>Trade</td></tr> <tr> <td>Currency</td><td>USD</td></tr> <tr> <td>Cap</td><td>30,000</td></tr> <tr> <td>Floor</td><td>5,000</td></tr> </table> </div> <p>The FX rate used to convert the cap or floor amount into the settlement currency is the one available on the end date of the billing trade.</p>	<input type="checkbox"/> Rebate	<input checked="" type="checkbox"/>	Rebate Type	CapFloor	Rebate Period	Trade	Currency	USD	Cap	30,000	Floor	5,000
<input type="checkbox"/> Rebate	<input checked="" type="checkbox"/>												
Rebate Type	CapFloor												
Rebate Period	Trade												
Currency	USD												
Cap	30,000												
Floor	5,000												

Billing Fee by Range

Fee billing entries are generated for each range in addition to fee billing entries for each event when Add Fee Amount By Range = "Yes, on the fly" or "Yes, on rebate".

The transfer attribute AccountHolderAccountId is set to the GL Account of the DDA transfer for DDA transfers of Customer Transfer trades.

The Account ID of the billing trade is set to the GL Account of the external transfer by default. If domain "BillingEvent.TransferMessageAccountSelector" contains Value = AccountHolderAccount, it is fetched from the "AccountHolderAccount" transfer attribute instead.


If billing account attribute LastBillingInvoiceNumber is set, the trade keyword InvoiceNumber is set to LastBillingInvoiceNumber + 1.

You can use the trade workflow rule UpdateAccountBillingInvoiceNumber to update the account attribute LastBillingInvoiceNumber from the trade keyword InvoiceNumber. It should be used on a transition where the result status is VERIFIED.



Filtering


These parameters are used to determine the conditions of application of the fee. You can use pre-defined filtering criteria, or a filter template.

Pre-defined criteria:

Filtering


Filter Category	
Filters	
ProcessingOrg	ALL
Legal Entity	ALL
Role	Broker
Fee Type	BRK
Exchange	
Product Type	
Security ID	
Book	
Book Attr	
Currency	
Account ID	
Fee Date	
SD Filter	

Attributes





Fields	Description
Processing Org	Select a processing organization as needed, or ALL.
Legal Entity	Select a legal entity of specified role, or ALL.
Role	Select a role.
Fee Type	Enter the fee type - The fee type must be defined in the Fee Definition window.
Exchange	Select one or multiple exchanges (legal entity of role MarketPlace), or leave empty for ALL.
Product Type	Select one or multiple product types, or leave empty for ALL. Product groups are identified as "G. <group name>" and are created using Configuration > Product > Group .
Security ID	Enter one or multiple product IDs (separated by commas), or leave empty for ALL.
Book	Select one or multiple books, or leave empty for ALL.
Book Attr	Select one or multiple book attribute / attribute value, or leave empty for ALL.
Currency	Select one or multiple currencies, or leave empty for ALL.
Account ID	Only applies to account management fees.
Fee Date	Only applies to account management fees.
SD Filter	Select a static data filter as needed, or leave empty.
Attributes	Click  to add attribute criteria as needed.

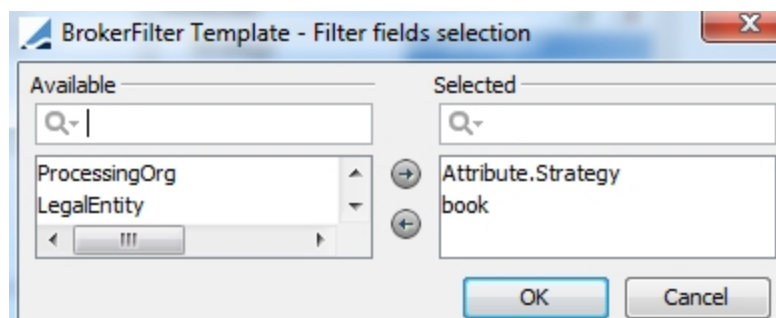
Filter template:



The Filtering dialog box shows the following configuration:

Filtering	
Filter Category	BrokerFilter
Filters	
Role	Broker
Fee Type	BRK
Book	Global
Attributes	
Strategy	in : Strategy1

- » To add a new filter template, choose  > **Filter category > Add**. You will be prompted to enter a filter category name. Enter a name and click **OK**.
- » Then choose  > **Filter fields template**. You will be prompted to select a filter category previously created, and to select the filter criteria you want to use.



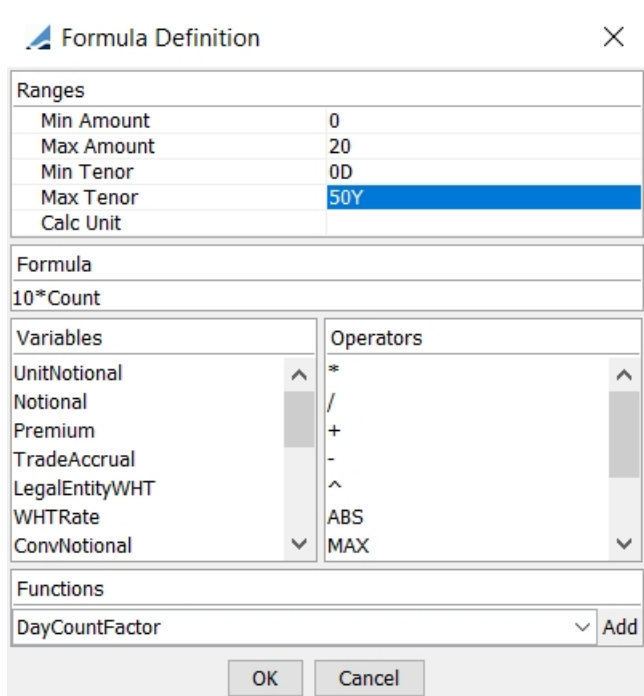
The BrokerFilter Template - Filter fields selection dialog box shows the following configuration:

BrokerFilter Template - Filter fields selection	
Available	Selected
ProcessingOrg LegalEntity	Attribute.Strategy book
<input type="button" value="OK"/> <input type="button" value="Cancel"/>	

Fields	Description
Filter Category	Select a filter template previously created.
Role	Select a role.
Fee Type	Enter the fee type - The fee type must be defined in the Fee Definition window.
Filter Template Criteria	Select the values for the filter criteria defined in the filter template. In this example, the filter template contains the filter criteria Book and Strategy attribute.

Formula Definition

Click **Add** to bring up the Formula Definition dialog.



Formula Definition

Ranges	
Min Amount	0
Max Amount	20
Min Tenor	0D
Max Tenor	50Y
Calc Unit	

Formula
10*Count

Variables	Operators
UnitNotional	*
Notional	/
Premium	+
TradeAccrual	-
LegalEntityWHT	^
WHTRate	ABS
ConvNotional	MAX

Functions
DayCountFactor

OK Cancel

Sample formula

- » Enter the parameters to define the ranges of the fee schedule. They are described below.
- » You can type in the formula, or double-click variables and operators to add them to the formula. Only the displayed variables and operators can be used in the formula.
- » Click OK **OK** when you are done.

Fields	Description
Min Amount	Enter the minimum and maximum amounts of the range. It refers to the reference amount defined by the Rule Type and Scale By parameters: Count, Quantity, Notional, or Price.
Max Amount	No value is considered as 0 for the minimum amount, and infinite for the maximum amount. The minimum amount is inclusive. The maximum amount is non inclusive.

Fields	Description						
Min Tenor Max Tenor	You can also select a minimum tenor and a maximum tenor to scale the fee rates by product maturity ("Range by ResidualMat" is not checked), or by residual maturity ("Range by ResidualMat" is checked).						
Min Days Max Days	<p>① [NOTE: For products without maturity date, the fee rates are scaled by settlement date instead]</p> <p>The minimum tenor is non-inclusive.</p> <p>The maximum tenor is inclusive.</p> <p>When the "End Date" falls on a non-business day, its is rolled to the following business day. So in this situation the minimum tenor becomes inclusive and the maximum tenor becomes non-inclusive.</p> <p>If "Range by Tenor" is not checked, you can enter a number of days instead of selecting a tenor.</p>						
Calc Unit	<p>Enter a calculation unit when defining a fee expressed as an amount per unit.</p> <p>For example 2 per million of notional: Calc Unit = 1000000 and Formula = 2*UnitNotional.</p>						
Variables	<p>You can use the following variables in the formula depending on the selected reference amount:</p> <p>Quantity</p> <p>ConvQuantity (Trade Quantity converted to fee currency)</p> <p>MarketValue (Trade Quantity * Trade Price)</p> <p>Notional</p> <p>ConvNotional (Trade Notional converted to fee currency)</p> <p>MADVQuantity (Monthly Average Daily Volume)</p> <p>TradeAccrual (trade Accrual field)</p> <p>LegalEntityWHT (WHT rate from legal entity attribute LegalEntityTaxRate_<COUNTRY>)</p> <p>WHTRate (WHT rate from Withholding Tax Configuration).</p>						
Operators	<p>You can use the following operators in the formula: Subtract (-), Multiply (*), Add (+), Divide (/), Exponent (^), Absolute Value, Max, Min, Round, Round Up, Round Down.</p> <p>① [NOTE: If the fee is always paid, the formula should be defined as an absolute value]</p>						
Functions	<p>You can select a function in Functions area and click Add to add it to the formula.</p> <p>Currently, only the DayCountFactor function is available, you will be prompted to select the start date, end date and daycount.</p> <div data-bbox="240 1608 646 1806"> <p>DayCountFactor ✕</p> <table> <tr> <td>Begin date</td> <td>TradeDate</td> </tr> <tr> <td>End date</td> <td>NextCouponDate</td> </tr> <tr> <td>Day count</td> <td>ACT/360</td> </tr> </table> <p>Ok Cancel</p> </div>	Begin date	TradeDate	End date	NextCouponDate	Day count	ACT/360
Begin date	TradeDate						
End date	NextCouponDate						
Day count	ACT/360						

7.2 Invoice Rebate and Conversion Process

Rebate entries and conversion entries are generated using the scheduled task EOD_REBATE_FEE.

The rebate process adjusts the fee rate / amount at the end of the billing period based on the selected rebate type.

- Default - The fee rate is adjusted based on all the events of the billing period
- Discount - A discount is applied based on the total fee amount and the discount schedule
- CapFloor - The fee amount is adjusted if it is not within the minimum and maximum fee amount

The conversion process converts the fee using the FX rate at the end of the billing cycle.

The scheduled task EOD_REBATE_FEE must be run daily. It retrieves the billing trades for which the end date falls on the scheduled task valuation date.

The system creates new billing entries of type REBATE to book the difference between the billing fee amount originally computed and the billing fee amount computed at the end of the period, once the actual fee rate or FX rate is known, or the discount or cap floor is applied. There is one REBATE billing entry per trading book.

You can set the book attribute "Rebate Book" on the book of the original billing trade to book the rebate fee in the rebate book. If this book attribute is not set, the rebate fee is booked in the same book as the original billing trade.

Task Description	
Task Type:	EOD_REBATE_FEE
External Reference:	
Comments:	
Description:	
Execution Parameters	
Attempts:	1
Retry After:	0 minutes
JVM Settings:	-Xms512m -Xmx1024m -XX:MaxPermSize=256m
Log Settings:	
Task Notification Options	
<input type="checkbox"/> Send Emails	<input type="checkbox"/> Publish Business Events
To User:	
Common Attributes	
Task Attributes	
Contract Fee	False
Process	
APPLY ACTION	
LegalEntity	

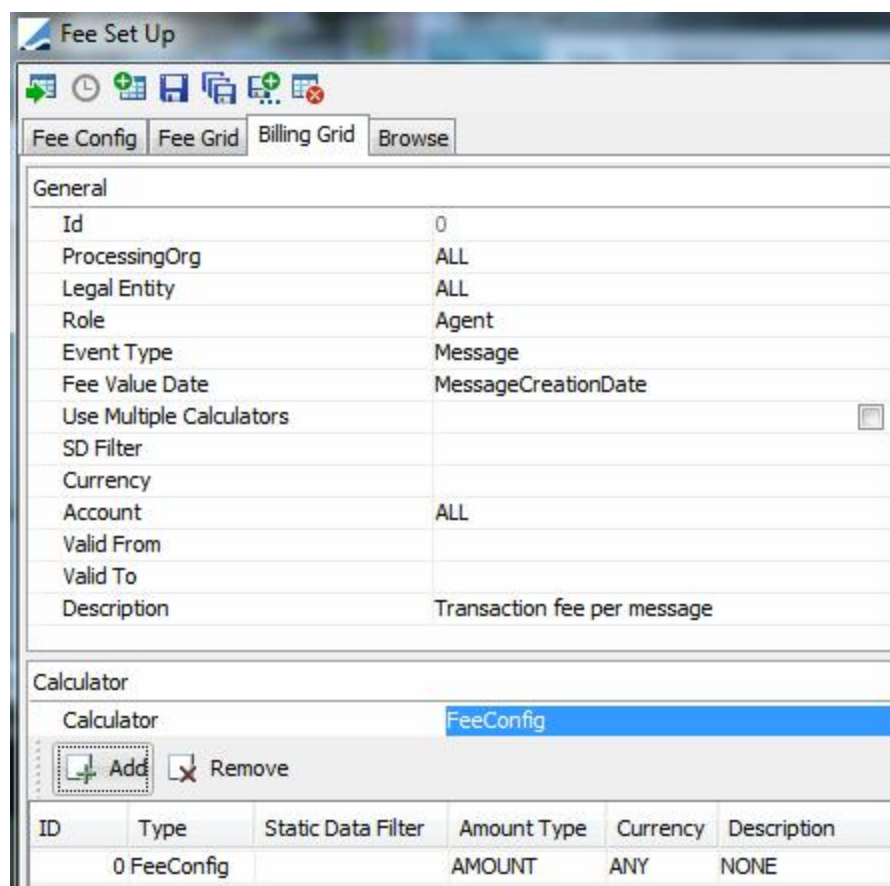
[Sample EOD_REBATE_FEE scheduled task setup](#)

You need to set the following attributes:

- **Contract Fee = False.**
- **Process** - Select "Amount Recalc" to compute rebates, or "Conversion" to convert the fee using the FX rate at the end of the billing period.
- **APPLY ACTION** - It is possible to specify the action to be applied in the scheduled task. For example, the billing trade could stay in PENDING status during the billing period and move to VERIFIED status once the rebate is computed, if any. This could be achieved by setting the action to AUTHORIZE for example.
- **LegalEntity** - You can enter a legal entity ID as needed.

7.3 Example of Transactional Fee for Messages

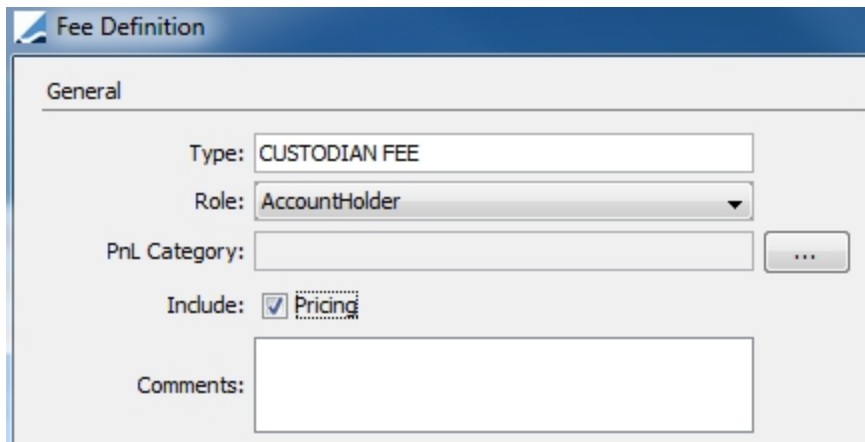
Define a generic billing grid valid for any agent with the FeeConfig calculator.



ID	Type	Static Data Filter	Amount Type	Currency	Description
0 FeeConfig			AMOUNT	ANY	NONE

[Sample invoice billing grid](#)

Make sure that the fee billing type is defined within Fee Definition.
For example, CUSTODIAN FEE.



Fee Definition

General

Type: CUSTODIAN FEE

Role: AccountHolder

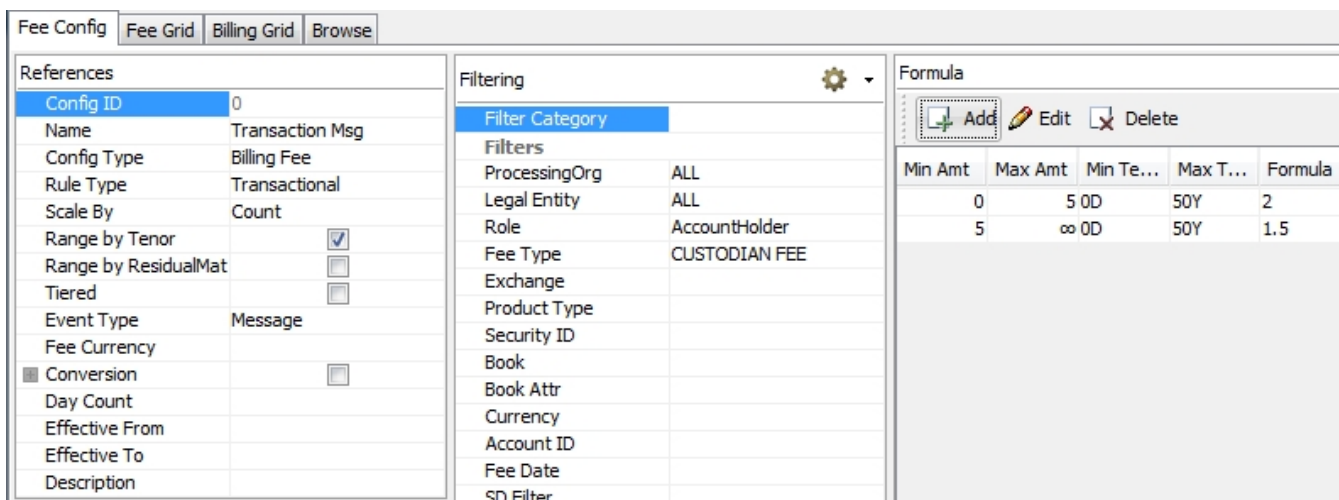
PnL Category: ...

Include: ☒ Pricing

Comments:

Define the fee config with financial conditions specific to the agent.

Each message will be charged 2 USD. The final fee amount will depend on the number of messages sent at the end of the period (Scale By = Count).



Fee Config | Fee Grid | Billing Grid | Browse

References

Config ID	0
Name	Transaction Msg
Config Type	Billing Fee
Rule Type	Transactional
Scale By	Count
Range by Tenor	<input checked="" type="checkbox"/>
Range by ResidualMat	<input type="checkbox"/>
Tiered	<input type="checkbox"/>
Event Type	Message
Fee Currency	
Conversion	<input type="checkbox"/>
Day Count	
Effective From	
Effective To	
Description	

Filtering

Filter Category	
ProcessingOrg	ALL
Legal Entity	ALL
Role	AccountHolder
Fee Type	CUSTODIAN FEE
Exchange	
Product Type	
Security ID	
Book	
Book Attr	
Currency	
Account ID	
Fee Date	
SD Filter	

Formula

Min Amt	Max Amt	Min Te...	Max T...	Formula
0	5 0D	50Y	2	
5	∞ 0D	50Y	1.5	

[Sample invoice fee schedule configuration](#)

Define a billing rule with the settlement ccy (AUD in this example, meaning all fees will have to be converted from USD to AUD).

Fee Billing Rule Window - Version - 0 (User: calypso_user)

Edit | Browse

Id: 54195

Processing Org: ALL

Legal Entity: ALL

Effective From:

Billing Asset Type: NEXT_BILLING_DATE

Billing Date Rule: @End of Month

Adjust. Days:

Billing Threshold:

SD Filter:

Role: Agent

Effective To:

Billing Ccy: AUD

Holidays:

Sett. Date Rule: 14th Calendar Day of the Month

Billing Asset Threshold:

Input Date Type: TradeDate

New | Delete | Save | SaveAsNew | Add Attributes

Defaults Trade Billing Values

Book:

Bundle:

KwdAgent:

XferType: CUSTODIAN FEE

Sample contract fee rebate billing rule

Attributes Window

Domain ...

Name	Value
BillingOnly	True
DefaultTransferType	▼ CUSTODIAN FEE
XferByBook	True

FX.AUD.USD (10/17/2011)=1.52

FX.AUD.USD (10/24/2011)=1.51

FX.AUD.USD (10/28/2011)=1.50

The following billing trade is created:

Billing(-10.59 AUD) -PO is MSG (3302) - Version : 7 Mod User (calypso_user) [120000/REL1200] (User)

Trade Back Office Billing Analytics Pricing Env Market Data Utilities Help Template

Trade Details Fees Billing Fees

To CITIBANK NY Agent Book MSG_BOO... Status PENDING ID 3302

From MSG ProcessingOrg Trade Date 10/01/2011 4:35:40 PM Settle Date 11/14/2011

Start Date 10/01/2011 End Date 10/31/2011

Pay Transfer Type CUSTODIAN FEE Account Id 1002 MSG USD

Fee Billing Id 1905

Principal 10.59 Ccy AUD Templ... NONE

Adjustment

Billing(-10.59 AUD) -PO is MSG (3302) - Version : 7 Mod User (calypso_user) [120000/REL1200] (User)

Trade Back Office Billing Analytics Pricing Env Market Data Utilities Help Template

Trade Details Fees Billing Fees

Legal Entity CITIBANK NY Agent

Billing Event Billing Grid

Date	Value Date	Amount Type	Amount	Currency	Converted Amount	Manual Amount	Override Amount	Billing Event	Grid Id	Calculator Id	Calc. Descriptio
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE
10/24/2011	10/24/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE

Run the scheduled task EOD_REBATE_FEE on the end date of the billing period to compute the rebate. The rebate amount is computed globally but is then allocated by original trading book.

FX rate on 10/31/2011 is 1.05

Billing(-6.78 AUD) -PO is MSG (3302) - Version : 8 Mod User (calypso_user) [120000/REL1200] (User)

Trade Back Office Billing Analytics Pricing Env Market Data Utilities Help Template

Trade Details Fees Billing Fees

Legal Entity CITIBANK NY Agent

Billing Event Billing Grid

Date	Value Date	Amount Type	Amount	Currency	Converted Amount	Manual Amount	Override Amount	Billing Event	Grid Id	Calculator Id	Calc. Description	Fee Book	Extra Match
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE	MSG_BOOKA	2027
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE	MSG_BOOKA	2027
10/24/2011	10/24/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE	MSG_BOOKC	2027
10/28/2011	10/28/2011	TRANSACTIONAL	(2.00)	USD	(1.33)			Message	1806	1807	NONE	MSG_BOOKA	2027
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE	MSG_BOOKA	2027
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE	MSG_BOOKA	2027
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE	MSG_BOOKB	2027
10/17/2011	10/17/2011	TRANSACTIONAL	(2.00)	USD	(1.32)			Message	1806	1807	NONE	MSG_BOOKC	2027
10/31/2011	10/31/2011	REBATE	2.50	USD	2.38			Message	0	0		MSG_BOOKA	
10/31/2011	10/31/2011	REBATE	0.50	USD	0.48			Message	0	0		MSG_BOOKB	
10/31/2011	10/31/2011	REBATE	1.00	USD	0.95			Message	0	0		MSG_BOOKC	

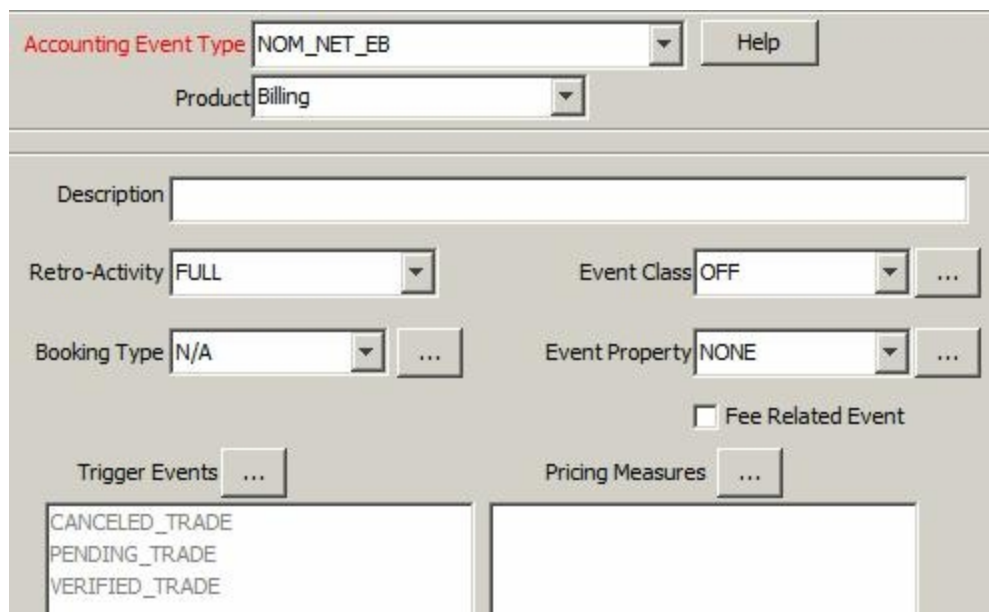
Market Data Pricer Params Results

Val Date 01/18/2012 4:35:52 PM Pricing Env default Price Close

7.4 Invoice Accounting Events

7.4.1 Trade Capture

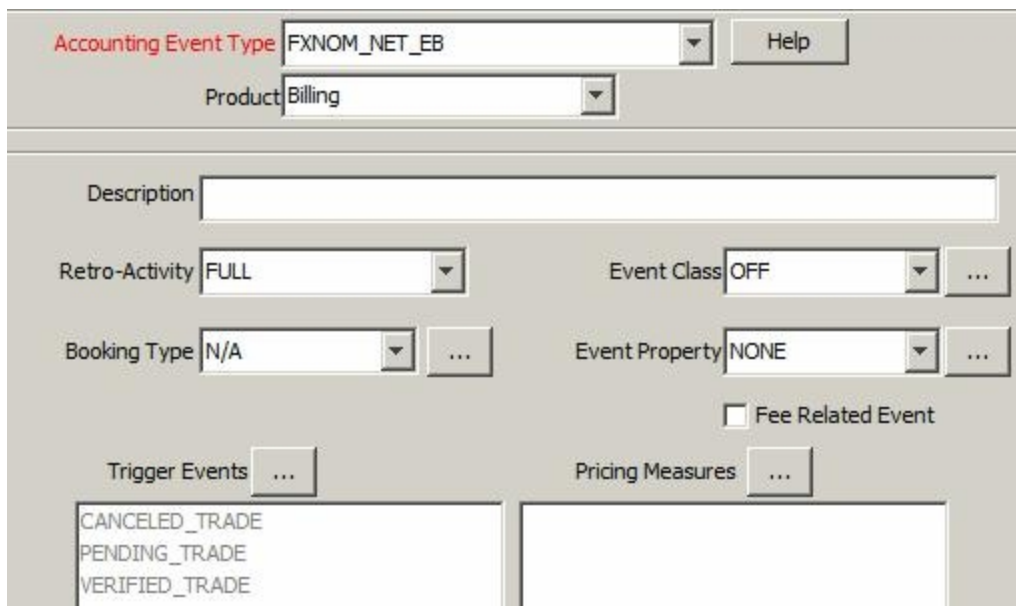
The accounting event NOM_NET_EB is used to book the entry amount, on entry date, using the original trading book. The amount booked is the theoretical fee amount.



The screenshot shows the 'Accounting Event Type' configuration window for 'NOM_NET_EB'. The 'Product' is set to 'Billing'. The 'Description' field is empty. The 'Retro-Activity' is set to 'FULL', 'Event Class' is 'OFF', 'Booking Type' is 'N/A', and 'Event Property' is 'NONE'. There is an unchecked checkbox for 'Fee Related Event'. Below these are buttons for 'Trigger Events' and 'Pricing Measures'. The 'Trigger Events' list includes 'CANCELED_TRADE', 'PENDING_TRADE', and 'VERIFIED_TRADE'.

Sample NOM_NET_EB accounting event

To book the converted amount, it is possible to use the accounting event FXNOM_NET_EB.



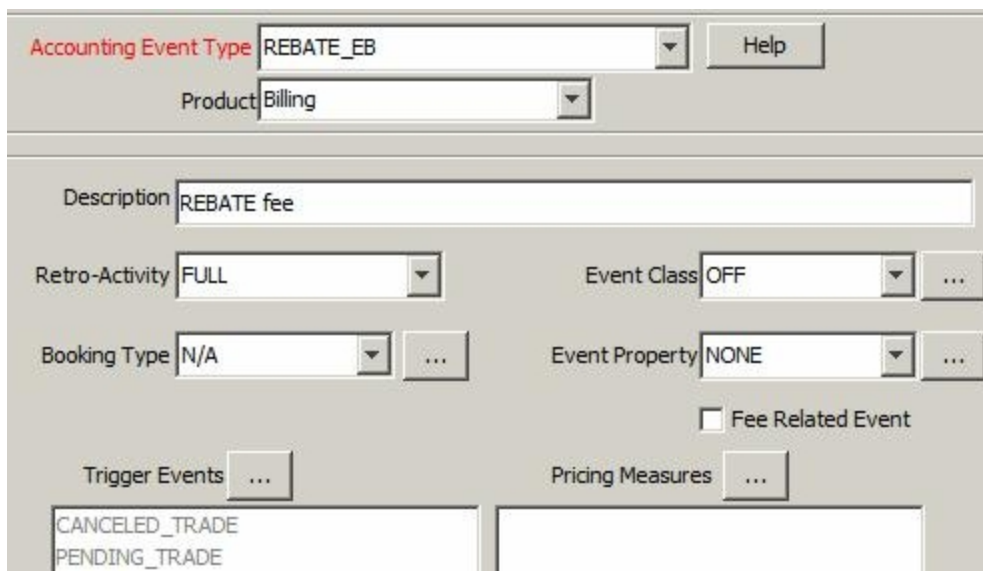
The screenshot shows the 'Accounting Event Type' configuration window. The 'Accounting Event Type' dropdown is set to 'FXNOM_NET_EB'. The 'Product' dropdown is set to 'Billing'. The 'Description' field is empty. The 'Retro-Activity' dropdown is set to 'FULL'. The 'Event Class' dropdown is set to 'OFF'. The 'Booking Type' dropdown is set to 'N/A'. The 'Event Property' dropdown is set to 'NONE'. The 'Fee Related Event' checkbox is unchecked. The 'Trigger Events' button is visible, and the 'Pricing Measures' button is also visible. The 'Trigger Events' list contains 'CANCELED_TRADE', 'PENDING_TRADE', and 'VERIFIED_TRADE'.

Sample FXNOM_NET_EB accounting event

7.4.2 End of Billing Period

The rebate amount if any, is booked using the accounting event REBATE_EB on settle date of the billing trade, using the original trading book.

[NOTE: Rebate amounts can only be computed if you are using a Fee Config]

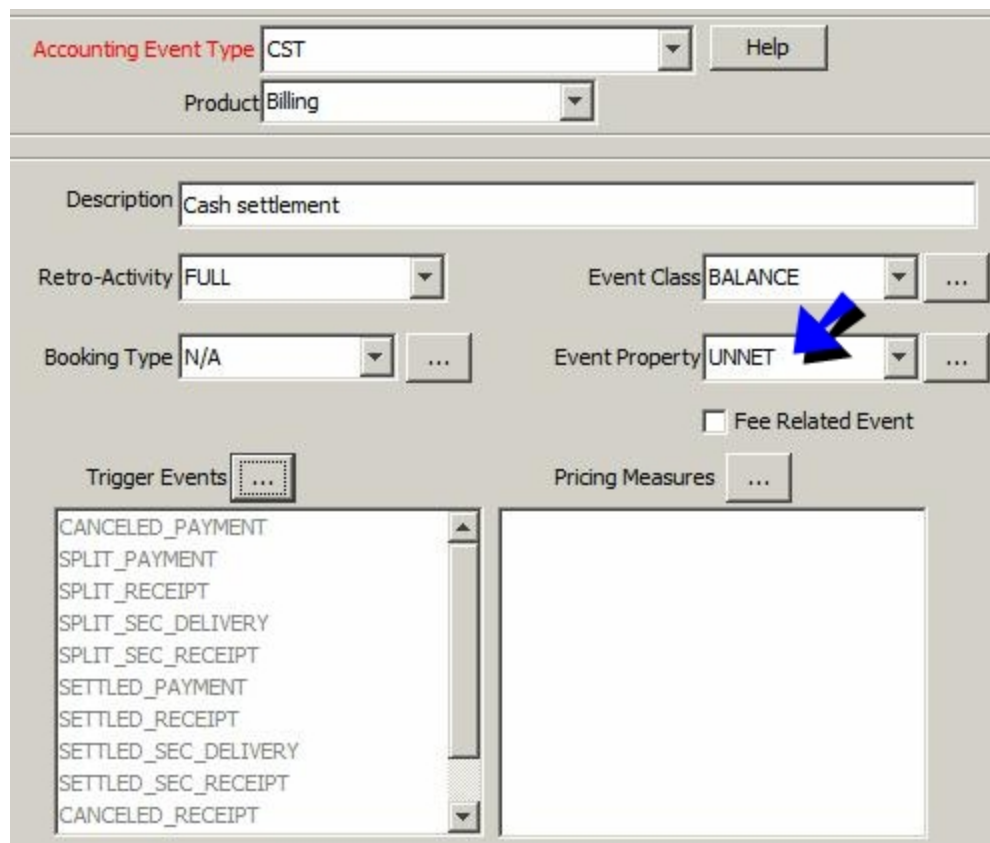


The screenshot shows the 'Accounting Event Type' configuration window. The 'Accounting Event Type' dropdown is set to 'REBATE_EB'. The 'Product' dropdown is set to 'Billing'. The 'Description' field is set to 'REBATE fee'. The 'Retro-Activity' dropdown is set to 'FULL'. The 'Event Class' dropdown is set to 'OFF'. The 'Booking Type' dropdown is set to 'N/A'. The 'Event Property' dropdown is set to 'NONE'. The 'Fee Related Event' checkbox is unchecked. The 'Trigger Events' button is visible, and the 'Pricing Measures' button is also visible. The 'Trigger Events' list contains 'CANCELED_TRADE' and 'PENDING_TRADE'.

Sample REBATE_EB accounting event

7.4.3 Settlement

The CST UNNET accounting event can be used to book the settlement amount per original trading book.



Accounting Event Type: CST

Product: Billing

Description: Cash settlement

Retro-Activity: FULL

Event Class: BALANCE

Booking Type: N/A

Event Property: UNNET

☐ Fee Related Event

Trigger Events: ...

Pricing Measures: ...

Trigger Events List:

- CANCELED_PAYMENT
- SPLIT_PAYMENT
- SPLIT_RECEIPT
- SPLIT_SEC_DELIVERY
- SPLIT_SEC_RECEIPT
- SETTLED_PAYMENT
- SETTLED_RECEIPT
- SETTLED_SEC_DELIVERY
- SETTLED_SEC_RECEIPT
- CANCELED_RECEIPT

Sample CST accounting event

8. Computing the Financial Transaction Tax

The Financial Transaction Tax (FTT) is calculated on the physical settlement of securities when:

- Underlying security transfer going to SETTLED (delivery / receipt of securities)
- Underlying security transfer going to CANCELED

The FTT calculation is performed separately on each group of sales and purchases that satisfy the following criteria:

- Real settlement date
- Processing Organization
- Security
- GL Account of security transfer
- Custodian

The FTT is calculated as follows:

$$\text{FTT Amount} = \text{roundup}(\text{Basis} * \text{Buy Average Price}; 2) * \text{Fee Rate}$$

Where:

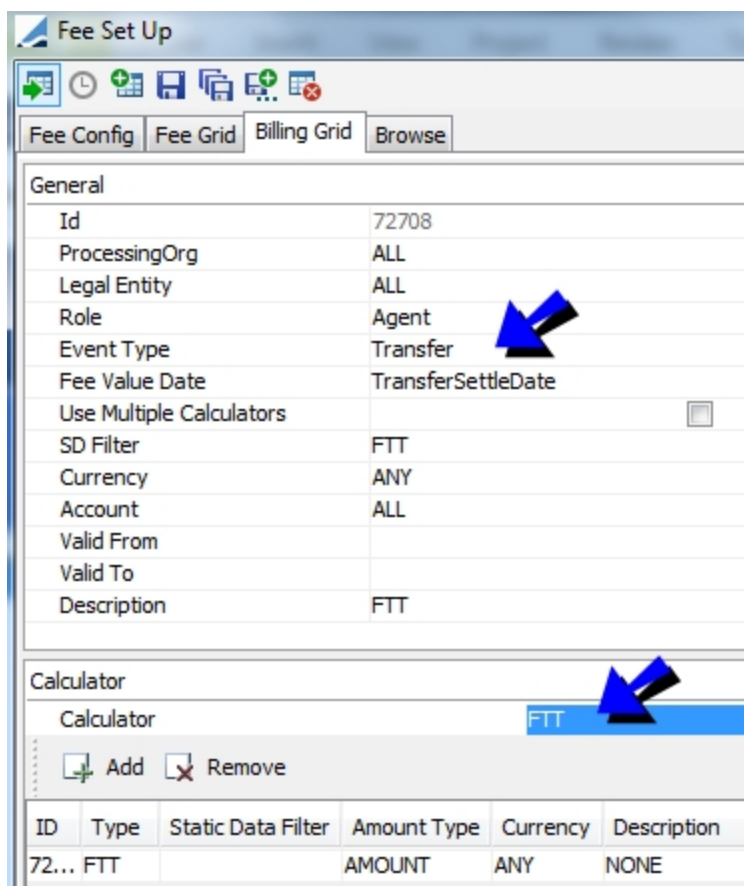
$$\text{Basis} = \max(0, \text{sum}(\text{nominal_purchased}) - \text{sum}(\text{nominal_sold}))$$

The FTT is computed by the scheduled task EOD_FTT_FEE using the billing calculator FTT.

8.1 Setup Requirements

Step 1 - Define a billing grid with the FTT calculator.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts & Margin Calls > Fee Set Up**, and select the Billing Grid panel (menu action `refdata.FeeSetUpWindow`).



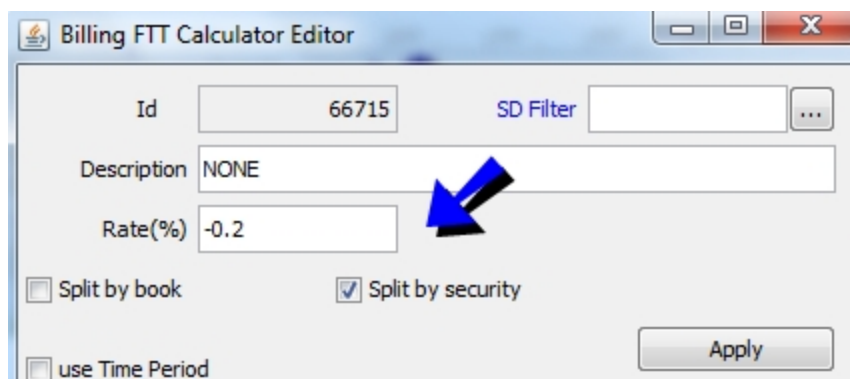
The 'Fee Set Up' window is shown with the 'Fee Config' tab selected. The 'General' section contains the following fields:

Id	72708
ProcessingOrg	ALL
Legal Entity	ALL
Role	Agent
Event Type	Transfer
Fee Value Date	TransferSettleDate
Use Multiple Calculators	<input type="checkbox"/>
SD Filter	FTT
Currency	ANY
Account	ALL
Valid From	
Valid To	
Description	FTT

The 'Calculator' section shows a list of calculators with 'FTT' selected. Below the list are 'Add' and 'Remove' buttons. The calculator list table is as follows:

ID	Type	Static Data Filter	Amount Type	Currency	Description
72... FTT			AMOUNT	ANY	NONE

- » Select the event type "Transfer", and any application criteria as needed.
Any eligibility criteria for the security should be defined in a static data filter.
- » Select the calculator FTT and click **Add**.
You will be prompted to define the calculation parameters.



The 'Billing FTT Calculator Editor' window is shown with the following fields and controls:

Id	66715	SD Filter	
Description	NONE		
Rate(%)	-0.2		
<input type="checkbox"/> Split by book	<input checked="" type="checkbox"/> Split by security		
<input type="checkbox"/> use Time Period			

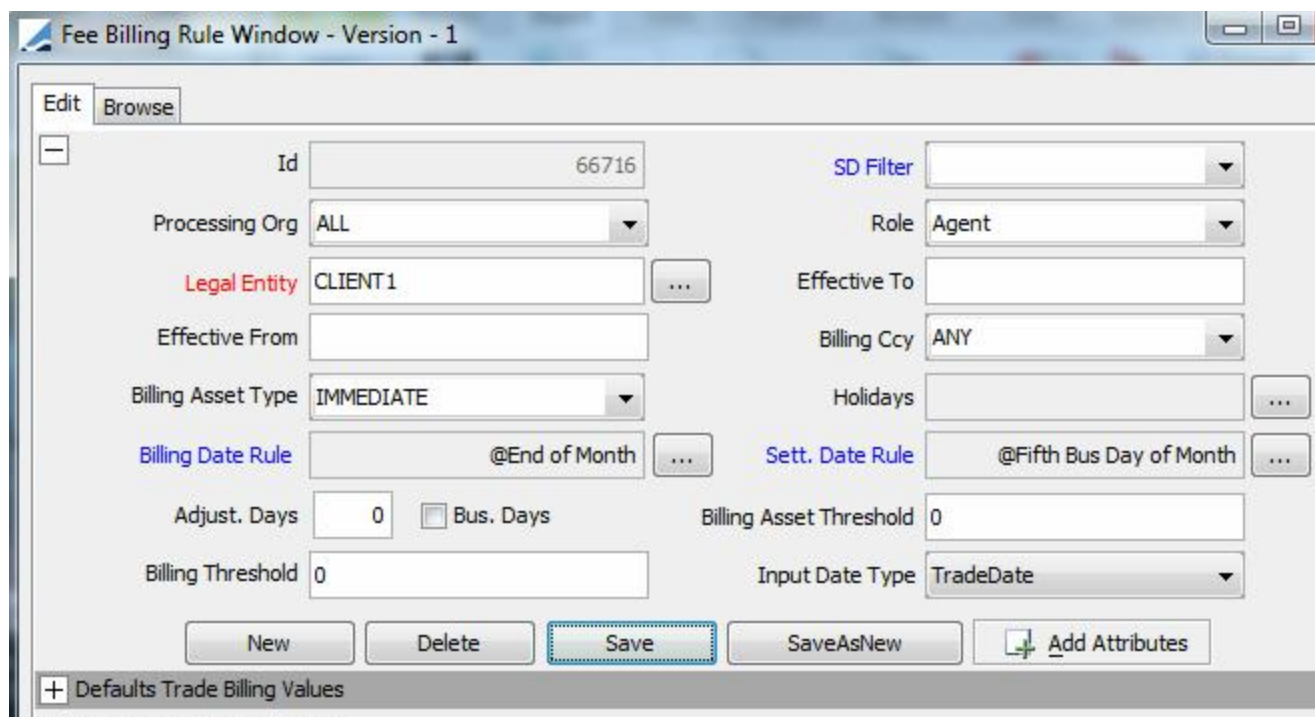
An 'Apply' button is located at the bottom right of the window.

- Click **Apply** when you are done.
- » Save the billing grid.

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

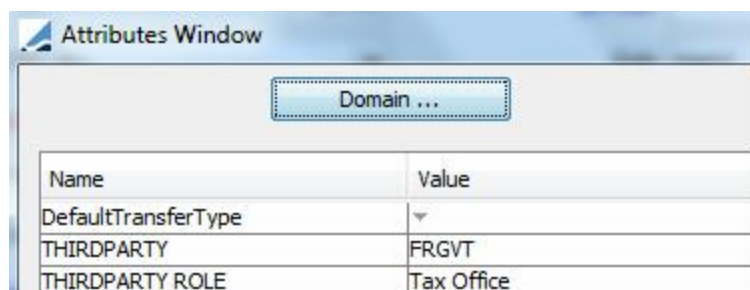
Step 2 - Define a fee billing rule to drive the calculation period and settlement dates.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts & Margin Calls > Fee Billing Rule** (menu action `refdata.FeeBillingRuleWindow`).



The screenshot shows the 'Fee Billing Rule Window - Version - 1'. It contains various fields for configuring a fee billing rule. The 'Id' field is set to 66716. The 'Processing Org' is set to ALL. The 'Legal Entity' is set to CLIENT1. The 'Effective From' field is empty. The 'Billing Asset Type' is set to IMMEDIATE. The 'Billing Date Rule' is set to @End of Month. The 'Adjust. Days' is set to 0. The 'Billing Threshold' is set to 0. The 'SD Filter' is empty. The 'Role' is set to Agent. The 'Effective To' field is empty. The 'Billing Ccy' is set to ANY. The 'Holidays' field is empty. The 'Sett. Date Rule' is set to @Fifth Bus Day of Month. The 'Billing Asset Threshold' is set to 0. The 'Input Date Type' is set to TradeDate. At the bottom, there are buttons for New, Delete, Save, SaveAsNew, and Add Attributes. A status bar at the bottom indicates '+ Defaults Trade Billing Values'.

It is possible to settle the tax to a third party using the fee billing rule attributes THIRDPARTY and THIRDPARTY ROLE.



The screenshot shows the 'Attributes Window'. It has a 'Domain ...' button at the top. Below it is a table with two columns: Name and Value.

Name	Value
DefaultTransferType	▼
THIRDPARTY	FRGVT
THIRDPARTY ROLE	Tax Office

The scheduled task EOD_FTT_FEE must be run daily to compute the tax amount based on the daily traded quantity and average price.

8.2 Computing the FTT

The FTT is computed by the scheduled task EOD_FTT_FEE based on the daily traded quantity and average price.

Task Description	
Task Type:	EOD_FTT_FEE
External Reference:	FTT
Comments:	
Description:	
Execution Parameters	
Attempts:	1
Retry After:	0 minutes
JVM Settings:	-Xms512m -Xmx1024m -XX:MaxPermSize=256m
Log Settings:	
Task Notification Options	
<input type="checkbox"/> Send Emails	<input type="checkbox"/> Publish Business Events
To User:	
Common Attributes	
Task Attributes	
APPLY ACTION	AMEND
LegalEntity	

- » Select a processing org and a trade filter as needed.
- » Select the action to be applied, and a legal entity.

Run the scheduled task daily.

For each underlying security SETTLED transfer, the system will create an entry in the billing trade to store the corresponding trade quantity and price. There's a billing trade per account, period and security.

9. Trade Fees Report

The Fee Report displays fee details associated with the trades entered in the system.

From the Calypso Navigator, navigate to **Reports > Fees & Settlements > Fee Report** to access the Fee Report.

Fee Report PE: INTRADAY Filter: ALL (6/11/15 3:22:31 PM)

Report Data View Export Market Data Fee Utilities Help

Criteria

Fee Type < Date < ☐ Rule

Currency < Amount <

Product Type < Known Date < ☐ Rule

Filter Set ☒ Pay ☒ Receive ☒ Display Signed Amount


Legal Entity ALL Book ☐ FX Reset only

Trade Filter ALL ☐ Missing FX Reset only

Fee Type	Fee Currency	Fee Date	Fee Start Date	Fee End Date	Fee Amount	Fee Legal Entity	Fee Pay/Rec
Fee Type: CA_SALES_MARGIN	Fee Currency: USD						
CA_SALES_MARGIN	USD	03/04/2015	03/04/2015	03/04/2015	1,257.58	NONE	REC
Fee Type: FEE	Fee Currency: USD						
FEE	USD	10/20/2005	10/20/2005	10/20/2005	(2,900,000.00)	CP	PAY
Fee Type: PL_TRANSFER	Fee Currency: USD						
PL_TRANSFER	USD	05/01/2015	05/01/2015	05/01/2015	2,050.38	PO	REC
PL_TRANSFER	USD	05/01/2015	05/01/2015	05/01/2015	(43.81)	PO	PAY
PL_TRANSFER	USD	05/01/2015	05/01/2015	05/01/2015	43.81	PO	REC
PL_TRANSFER	USD	05/01/2015	05/01/2015	05/01/2015	(2,050.38)	PO	PAY

[Sample fee report](#)

[NOTE: The columns of this picture have been configured. Sort columns, subheadings and subtotals have to be explicitly specified. See [Help > Menu Items](#) for details]

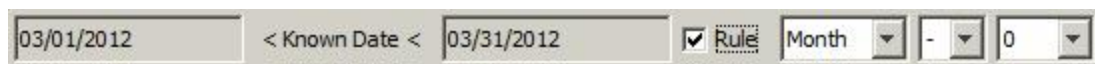
- » You can check / uncheck **View > Show Frame > Criteria** to display / hide the search criteria.
- » You can change the pricing details at the bottom of the window - By default, the pricing environment comes from the User Defaults, and the valuation date is the current date and time.
- » Specify search criteria as applicable and click  to load the corresponding fees.

The dates can be specified either as specific dates or using a rule. To use a rule, check the Rule checkbox. The Period, -/+ , and Tenor fields should appear.



The period can be "Month" or "Year". If Tenor is 0, then the start and end dates of the current month or year are automatically displayed.

-1 means the previous month/year, etc.

+1 means the next month/year, etc.



Check the Display Signed Amount checkbox to display the following:

- If REC Fee, then display Positive amount.
 - If PAY Fee, then display Negative amount.
- » You can select a template, and click  to display the number of objects that will be loaded from the database, before loading the report.
- » You can click  to print the report results.

NOTE: For the Pivot view and the Aggregation view, the print icon is disabled.

You can use [Ctrl+P] or [Ctrl+L] to print the report, or you can export the report to Excel and print it from there.

Fee Report Results

You can click any column heading to sort the results based on that column.

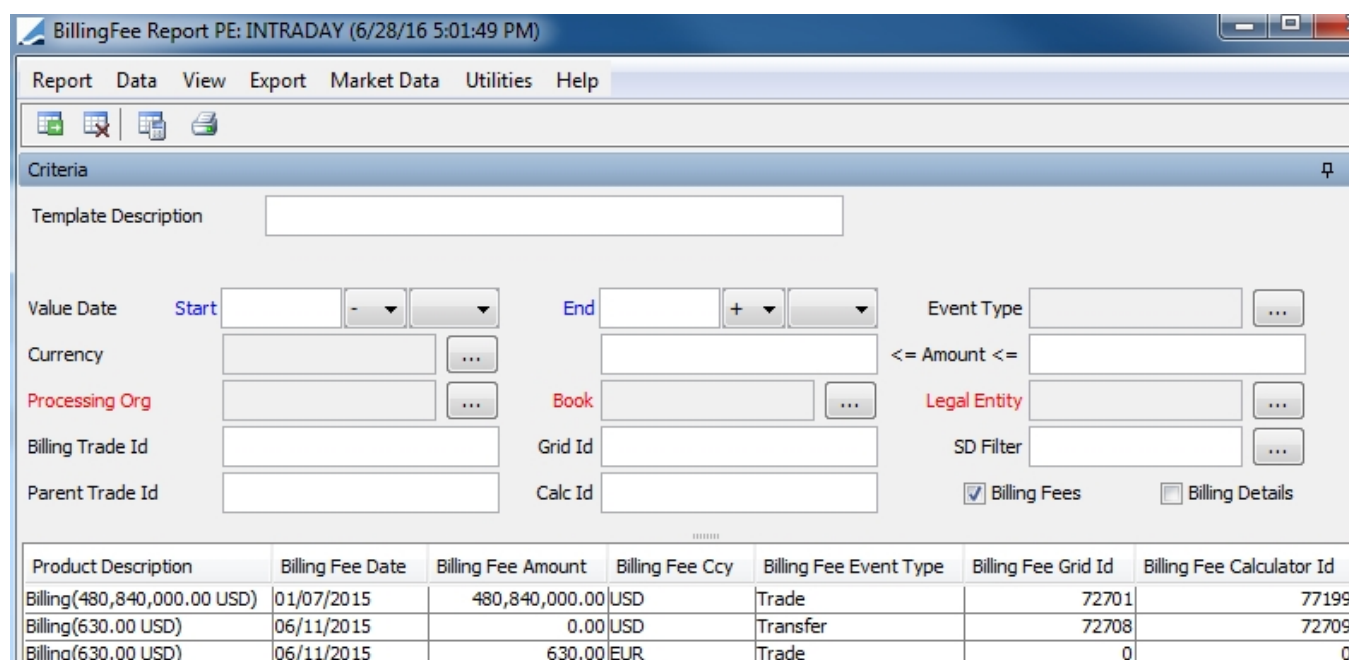
You can right-click any row to invoke the functions of the report menus. See [Help > Menu Items](#) for details.

10. Billing Fee Report

The Billing Fee Report allows viewing billing trades created by the Billing engine for invoice fees.

► See [Defining Invoice Fees](#) for information on generating invoice fees.

From the Calypso Navigator, navigate to **Reports > Fees & Settlement > Billing Fee Report** to access the Billing Fee Report.



Criteria

Template Description:

Value Date: Start - End + Event Type: ...

Currency: ... <= Amount <=



Processing Org: ... Book: ... Legal Entity: ...

Billing Trade Id: Grid Id: SD Filter: ...

Parent Trade Id: Calc Id: ☒ Billing Fees ☐ Billing Details

Product Description	Billing Fee Date	Billing Fee Amount	Billing Fee Ccy	Billing Fee Event Type	Billing Fee Grid Id	Billing Fee Calculator Id
Billing(480,840,000.00 USD)	01/07/2015	480,840,000.00	USD	Trade	72701	77199
Billing(630.00 USD)	06/11/2015	0.00	USD	Transfer	72708	72709
Billing(630.00 USD)	06/11/2015	630.00	EUR	Trade	0	0

Sample Billing fee report

- » Enter search criteria as needed and click  to load the corresponding billing trades.
You can configure the display using the Data and View menus - Choose **Help > Menu Items** for complete details.
For transaction fees, you can display information on the related transactions using the columns under Trade > Linked Object.
For account management fees, you can display information on the accounts using the columns under Trade > Account.
- » You can uncheck the menu item **View > Criteria** to hide the search criteria (this menu item operates as a checkbox).
- » Check "Billing Fees" to view billing fees, and/or check "Billing Details" to view billing details related to billing fees aggregation. See [Defining Invoice Fee](#) for details on aggregating billing fees.
- » You can select a template, and click  to display the number of objects that will be loaded from the database, before loading the report.

» You can click  to print the report results.

NOTE: For the Pivot view and the Aggregation view, the print icon is disabled.

You can use [Ctrl+P] or [Ctrl+L] to print the report, or you can export the report to Excel and print it from there.

Billing Fee Results

The Billing Fee report does not allow opening the corresponding Billing trade but you can use the Trade Browser to display billing trades for the Billing product type.

11. Consolidated Fees Report

The Consolidated Fee Report displays fee details for trade fees and billing fees.

► See [Fee Overview](#) for details on capturing fees.

From the Calypso Navigator, navigate to **Reports > Fees & Settlements > Consolidated Fee Report** to access the Consolidated Fee Report.

ConsolidatedFee Report PE: INTRADAY (6/28/16 4:57:48 PM)

Report
Data
View
Export
Market Data
Utilities
Help

Criteria

Template Description

Settle Date
Start
End
Grid Id

Event Type
Event Id
Calc

Processing Org
Book
Config Id

Legal Entity
Role
Status

Settle CCY
Fee CCY
Fee Type

☒ Trade Fees




☒ Billing Fees
☐ Billing Details
Billing Trade Id
Rule Id

Fee Type	Billing Ccy	Fee Legal Entity	Fee Date	Fee Amount	Billing Fee Event Type	Billing Rule
Fee Type: AMOUNT	Billing Ccy: USD					
AMOUNT	USD	NOSTRO AGENT	06/11/2015	0.00	Transfer	77197
AMOUNT	USD	NOSTRO AGENT	06/11/2015	0.00	Transfer	77197
AMOUNT	USD	NOSTRO AGENT	06/11/2015	0.00	Transfer	77197
AMOUNT	USD	NOSTRO AGENT	06/11/2015	0.00	Transfer	77197
Fee Type: BRK	Billing Ccy: USD					
BRK	USD	BROKER A	06/11/2015	0.00	Trade	N/A

Sample consolidated fee report

[NOTE: The columns of this picture have been configured. Sort columns, subheadings and subtotals have to be explicitly specified. See [Help > Menu Items](#) for details]

» You can check / uncheck **View > Show Frame > Criteria** to display / hide the search criteria.

- » You can change the pricing details at the bottom of the window - By default, the pricing environment comes from the User Defaults, and the valuation date is the current date and time.
- » Specify search criteria as applicable and click  to load the corresponding fees.
- » You can check the "Billing Details" checkbox to select multiple event types.
- » You can select a template, and click  to display the number of objects that will be loaded from the database, before loading the report.
- » You can click  to print the report results.

NOTE: For the Pivot view and the Aggregation view, the print icon is disabled.

You can use [Ctrl+P] or [Ctrl+L] to print the report, or you can export the report to Excel and print it from there.

Consolidated Fee Report Results

You can click any column heading to sort the results based on that column.

You can right-click any row to invoke the functions of the report menus. See [Help > Menu Items](#) for details.

Report Columns

Columns	Trade Fee Description	Billing Fee Description
Fee Amount	Trade fee amount.	Billing fee amount.
Billing Fee	No	Yes
Billing Ccy	Fee settlement ccy.	Fee settlement ccy (coming from the billing rule).
Billing Rule	N/A	ID of the billing rule.
Billing TradeId	N/A	Id of the billing trade.
Book	Trading book of the corresponding trade.	Book of the billing trade.
Fee Config Id	ID of the Fee Config used to compute the trade fee, if any.	ID of the Fee Config used to compute the trade fee, if any.
Fee Converted Amount	Fee amount converted in billing currency.	Fee amount converted in billing currency.
Fee Currency	Currency of the trade fee.	Currency of the billing fee.
Fee Date	Trade fee date.	Settlement date.
Fee Type	Trade fee type.	Billing entry type.
FX Rate	FX rate used to convert the fee in case fee currency is different from fee settlement currency.	FX rate used to convert the fee in case fee currency is different from billing currency.

Columns	Trade Fee Description	Billing Fee Description
Fee Grid Id	ID of the Fee Grid used to compute the trade fee, if any.	ID of the Billing Grid used to compute the trade fee.
Fee Legal Entity	Short name of the legal entity that pays / receives the fee.	Short name of the legal entity that pays / receives the fee.
Fee Role	Role of the legal entity that pays / received the fee.	Role of the legal entity that pays / received the fee.
Billing Fee Event Type	Set to Trade.	Event type selected in the billing grid.
Manual Amount	Checked, if the fee amount has been modified manually, or unchecked otherwise.	Checked, if the fee amount has been modified manually, or unchecked otherwise.

12. Defining Withholding Tax Fees

Withholding tax fees can be applied automatically to interest cashflows. This section describes the setup and generation of withholding tax fees for INTEREST cashflows on Money Market trades and Sec Finance trades.

[NOTE: The Withholding Tax setup for corporate actions on bonds is described in the Calypso Fixed Income documentation and is a different process]

12.1 Before you Begin

The following settings are required to generate Withholding Tax fees.

Environment Property

The withholding tax process is enabled if the environment property WITHHOLDINGTAX is set to true.

Counterparty

You can identify multiple categories of withholding taxes using the legal entity attribute WHT-Category, and use it in a static data filter in the fee grid definition.

Flow Type

You need to add WITHHOLDINGTAX to the domain "flowType". A cashflow of type WITHHOLDINGTAX will be generated based on the fee grid criteria.

[NOTE: The flow type must be the same as the fee type]

Authorizing Withholding Tax Attributes

In order for the Authorization mode to apply to withholding tax attributes, you need to add "WithholdingTaxAttribute" to the domain "classAuthMode".

12.2 Fee Definition

Define a fee type WITHHOLDINGTAX for the role Counterparty as shown below. You can define multiple fees with different names.

Fee Definition

General

Type: WITHHOLDINGTAX

Role: CounterParty

PnL Category: ...

Include: ☐ Pricing

Comments:

Trade fee parameters

Fee Offset: -1 Bus

Products: ALL

Default Calculator: FeeGrid

Preferences: ☒ Accounting ☐ Allocation ☒ Transfer ☐ Settlement Amount

- » Check only Transfer and Accounting.
- » Select the FeeGrid calculator.

12.2.1 Withholding Tax Attributes

You can define a number of withholding tax attributes with a validity period. Multiple fee grids can be defined based on the values of these attributes (through the use of static data filters). Changes to these attributes will be reflected in the WHT calculation.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Withholding Tax Attributes** (menu action `refdata.WithholdingTaxAttributeWindow`) to define withholding tax attributes.

Withholding Tax Attribute Window - Version - 0 [100400/release/calypso_user]

Legal Entity WITHHOLDINGTAX_CPTY	Role ALL	Attribute Id 10661
Processing Org ALL	Effective From 04/15/2008	Effective To 10/15/2008
Entity Type Account	Entity Name WHT_ACCOUNT	
Attribute Type Registration	Attribute Value Yes	

ID	Legal Entity	Role	Processing Org	EntityType	EntityName	AttributeType	AttributeValue	Effective From	Effective To
10660	WITHHOLDINGTAX_CPTY	CounterParty	ALL	LegalEntity	WITHHOLDINGTAX_CPTY	Residency	FRANCE	04/15/2008	10/15/2008
10661	WITHHOLDINGTAX_CPTY	ALL	ALL	Account	WHT_ACCOUNT	Registration	Yes	04/15/2008	10/15/2008

☐ Authorization

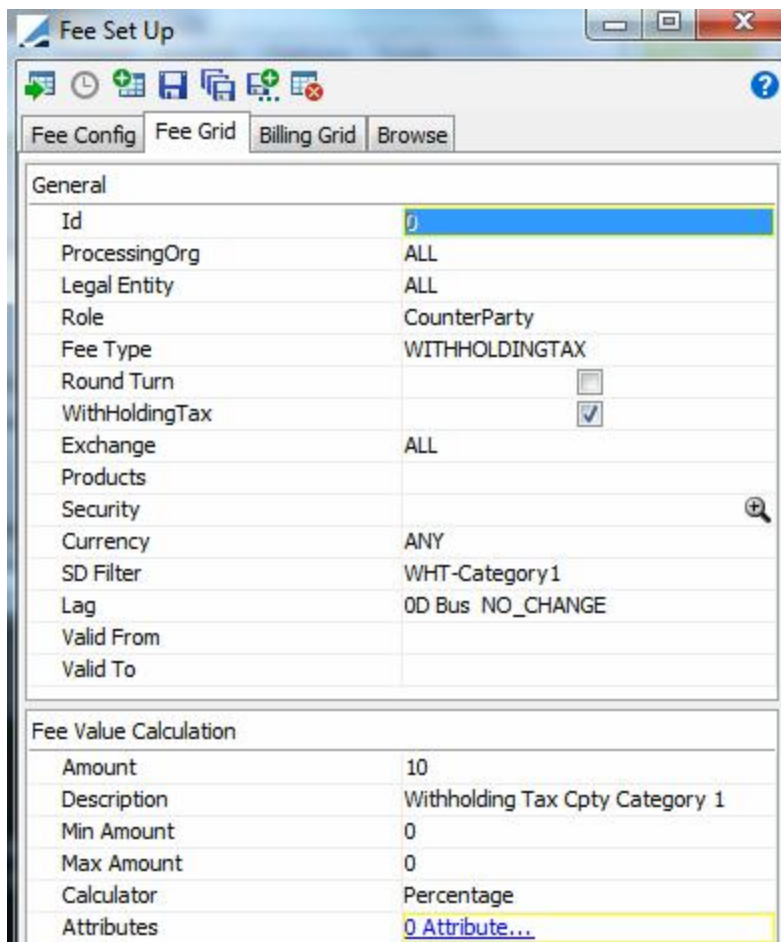
Valid On: 06/02/2008

12.2.2 Tax Registration

In order to register Cash trades with the tax office (Japanese and Indonesian requirements), the event type action “Tax Registration” has been added to cash trades. Choose **Cash > Tax Registration** in the Trade Cash window to apply the “Tax Registration” action. The static data filter element “Is Tax Registered” allows applying different fee grids whether the trade is registered or not.

12.2.3 Fee Grid Definition

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Fee Set Up**, and select the Fee Grid panel to define a fee grid for the counterparty.



Fee Set Up

Fee Config | Fee Grid | Billing Grid | Browse

General

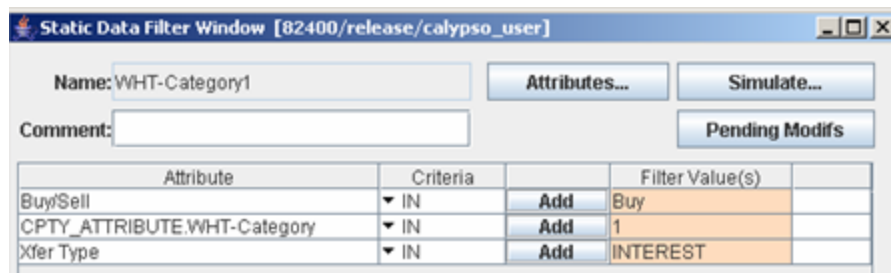
Id	0
ProcessingOrg	ALL
Legal Entity	ALL
Role	CounterParty
Fee Type	WITHHOLDINGTAX
Round Turn	<input type="checkbox"/>
WithHoldingTax	<input checked="" type="checkbox"/>
Exchange	ALL
Products	
Security	
Currency	ANY
SD Filter	WHT-Category1
Lag	0D Bus NO_CHANGE
Valid From	
Valid To	

Fee Value Calculation

Amount	10
Description	Withholding Tax Cpty Category 1
Min Amount	0
Max Amount	0
Calculator	Percentage
Attributes	0 Attribute...

- » Check the “WithHolding Tax” checkbox.
- » Select the WITHHOLDINGTAX fee type.
- » You can set the fee grid attribute DefaultLegalEntity to a legal entity short name to pay the tax to a given legal entity. Otherwise, the tax will be paid to the counterparty.
- » You can set a static data filter on the legal entity attribute WHT-Category, the flow type INTEREST, and the direction.

For example:



Static Data Filter Window [82400/release/calypso_user]

Name: WHT-Category1 Attributes... Simulate...

Comment: Pending Modifs

Attribute	Criteria		Filter Value(s)
Buy/Sell	▼ IN	Add	Buy
CPTY_ATTRIBUTE.WHT-Category	▼ IN	Add	1
Xfer Type	▼ IN	Add	INTEREST

- CPTY_ATTRIBUTE.WHT-Category = 1

- Buy/Sell = Buy
- Xfer Type = INTEREST
- » You can set static data filters based on the withholding tax attributes using the static data filter elements: PO_WHT_BOOK_ATTRIBUTE, PO_WHT_LE_ATTRIBUTE, CPTY_WHT_ACCOUNT_ATTRIBUTE, and CPTY_WHT_LE_ATTRIBUTE.

[NOTE: These static data filter elements only apply to CASH interest cashflows, not SECURITY cashflows]

- » You can set static data filters based on the “Is Tax Registered” static data filter element to apply different fee grids whether the trade is registered or not.
- » If the Authorization mode is enabled, an authorized user must approve your entry.

Rounding by Unit

A specific fee calculator has been implemented to handle rounding conventions different than the Ccy decimals: WHTRoundToUnit. In order to use this fee calculator, you must configure the WITHHOLDINGTAX fee with:

- Feed Grid attribute WHT_USE_CALCULATOR = true
- Fee Grid Calculator = WHTRoundToUnit (you may need to add it to the domain “feeCalculator”)

Truncating by Unit

A specific fee calculator has been implemented to allow truncating the tax amount: WHTTruncateToUnit. In order to use this fee calculator, you must configure the WITHHOLDINGTAX fee with:

- Feed Grid attribute WHT_USE_CALCULATOR = true
- Fee Grid Calculator = WHTTruncateToUnit (you may need to add it to the domain “feeCalculator”)

12.3 Netting

INTEREST and WITHHOLDINGTAX transfers should be netted.

12.4 Pricer Measures

The WITHHOLDINGTAX pricer measures can be created from the Calypso Navigator using [Configuration > System > Add Pricer Measure](#). The class is `tk.pricer.PricerMeasureWithholdingTax`, and the ID should be an ID not already in use.

12.5 Accounting

The accounting event WITHHOLDINGTAX is triggered by VERIFIED_TRADE, CANCELED_TRADE, TERMINATED_TRADE, and RATE_RESET.

If you have defined multiple fees, define multiple accounting events with "Fee Related Event" checked, in the form:

"<CAPITALIZE_INT_TAX>_<Name of WHT Tax Fee>".

For example: CAPITALIZE_INT_TAX_WHT if the fee is defined as "WHT".

13. Defining Haircut Rules

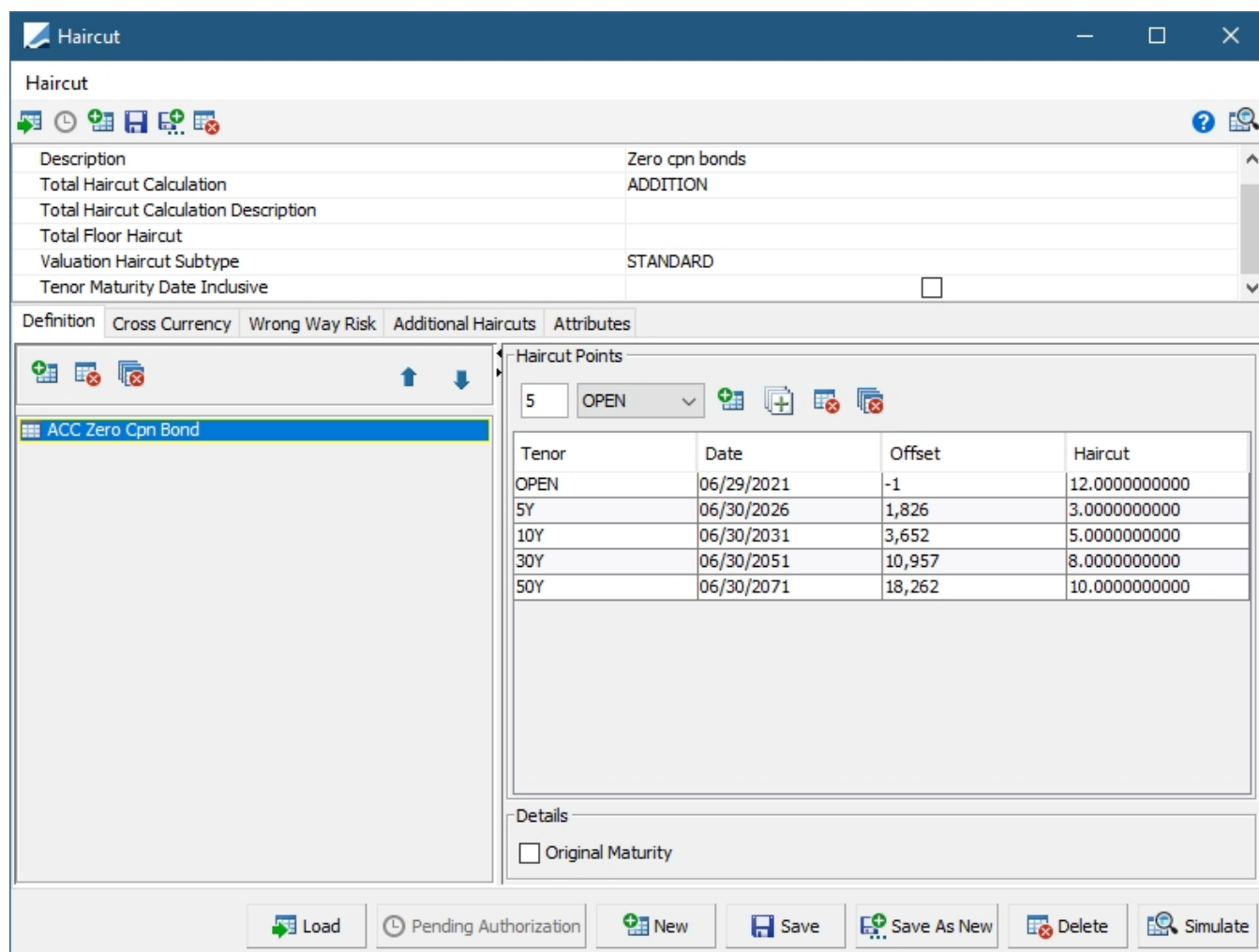
The Haircut window allows defining haircut rules to apply haircut percentages based on security maturities.

A haircut rule can be associated with a collateral upon trade capture. The haircut amount is added / subtracted to / from the collateral value.

The following trades and processes support haircut rules: repos, security loans, and margin calls.

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts, & Margin Calls > Haircut Rule** for defining haircut rules.

13.1 Sample Haircut Rule



Tenor	Date	Offset	Haircut
OPEN	06/29/2021	-1	12.0000000000
5Y	06/30/2026	1,826	3.0000000000
10Y	06/30/2031	3,652	5.0000000000
30Y	06/30/2051	10,957	8.0000000000
50Y	06/30/2071	18,262	10.0000000000

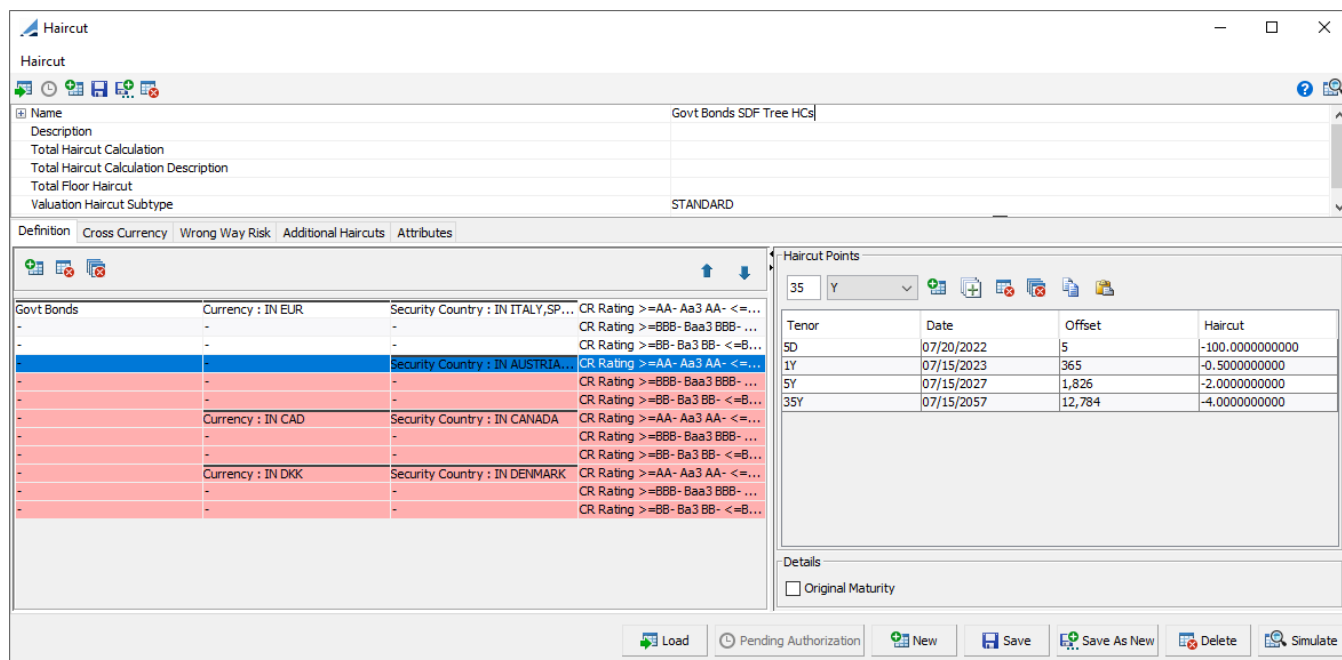
In this sample rule, the market values of the collaterals will be increased or decreased by the following percentages:

- Maturity ≤ 5Y, Haircut is 3%

- Maturity > 5Y and ≤ 10Y, Haircut is 5%
- Maturity > 10Y and ≤ 30Y, Haircut is 8%
- Maturity > 30Y and ≤ 50Y, Haircut is 10%
- Collaterals with no expiration, Haircut is 12%

Note that in this example, the haircut percentage is applied based on the remaining maturity of the collaterals as of the trade date.

13.2 Sample Haircut Rule Using a Static Data Filter Tree



Tenor	Date	Offset	Haircut
5D	07/20/2022	5	-100.0000000000
1Y	07/15/2023	365	-0.5000000000
5Y	07/15/2027	1,826	-2.0000000000
35Y	07/15/2057	12,784	-4.0000000000

When defining a haircut rule using a static data filter tree instead of a standard static data filter, the tree is displayed in an exploded view in the Definition panel where each row represents a node of the tree. Initially, every row is displayed in red. You need to click on each row and define its haircut points as described in [Definition Panel](#). Once the haircut points are defined for the node, the row turns white. The haircut rule can only be saved when all of the rows are white.

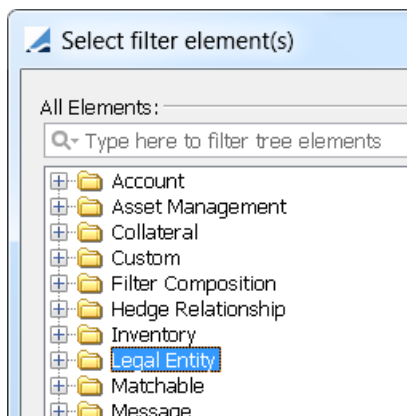
► Please refer to Calypso Trading Environment documentation for details on defining a static data filter tree.

13.3 Static Data Filter Attributes

You can enable filtering based on the pledger (processing org or counterparty, depending on the direction).

Add "LegalEntity" to the domain `sdFilterCriterion.Factory` to create the Legal Entity static data filter attributes.





13.4 Creating a Haircut Rule

13.4.1 Total Haircut Calculation

Click **New** to create a new haircut rule, and enter a name in the Name field. Enter a description in the Description field as needed.

Select a *Total Haircut Calculation* type:

- **ADDITION:** Total Haircut = Definition Haircut + Cross Currency Haircut + Wrong Way Risk Haircut + Additional Haircut_1 + Additional Haircut_2...
- **MULTIPLICATION:** Total Haircut = 1 - (1 - Definition Haircut) * (1 - Cross Currency Haircut) * (1 - Wrong Way Risk Haircut) * (1 - Additional Haircut_1) * (1 - Additional Haircut_2)...
- **HIGHEST:** The system looks across all the panels of the haircut rule and applies the one which corresponds to the highest haircut value.
- **LOWEST:** The system looks across all the panels of the haircut rule applies the one which corresponds to the lowest value.
- **AVERAGE:** The system looks across all the panels of the haircut rule and calculates an average haircut.

Note: If more than one 'Additional Haircut' is defined, each is considered individually.

Enter a description in the *Total Haircut Calculation Description* field as needed.

Example 1:

Total Haircut Calculation	Average						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	7.75
Collateral 2	5.00			20.00	2.00	4.00	7.75
Collateral 3	5.00	10.00		20.00			11.67
Collateral 4	5.00	10.00		20.00			11.67

Total Haircut Calculation	Highest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	20.00
Collateral 2	5.00			20.00	2.00	4.00	20.00
Collateral 3	5.00	10.00		20.00			20.00
Collateral 4	5.00	10.00		20.00			20.00

Total Haircut Calculation	Lowest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	2.00
Collateral 2	5.00			20.00	2.00	4.00	2.00
Collateral 3	5.00	10.00		20.00			5.00
Collateral 4	5.00	10.00		20.00			5.00

Example 2:

Total Haircut Calculation	Average						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00		100.00	20.00	2.00	4.00	26.20
Collateral 2	5.00		100.00	20.00	2.00	4.00	26.20
Collateral 3	5.00	10.00	100.00	20.00			33.75
Collateral 4	5.00	10.00	100.00	20.00			33.75

Total Haircut Calculation	Highest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00		100.00	20.00	2.00	4.00	100.00
Collateral 2	5.00		100.00	20.00	2.00	4.00	100.00
Collateral 3	5.00	10.00	100.00	20.00			100.00
Collateral 4	5.00	10.00	100.00	20.00			100.00

Total Haircut Calculation	Lowest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00		100.00	20.00	2.00	4.00	2.00
Collateral 2	5.00		100.00	20.00	2.00	4.00	2.00
Collateral 3	5.00	10.00	100.00	20.00			5.00
Collateral 4	5.00	10.00	100.00	20.00			5.00

13.4.2 Total Floor Haircut

The *Total Floor Haircut* applies to the total haircut and is the haircut used if the total haircut is lower than this floor. It is a non-mandatory, editable field that can contain values between 0 and 100 %.

Example 3:

Total Floor Haircut is 8%

Total Haircut Calculation	Average						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	8.00
Collateral 2	5.00			20.00	2.00	4.00	8.00
Collateral 3	5.00	10.00		20.00			11.67
Collateral 4	5.00	10.00		20.00			11.67

Total Haircut Calculation	Highest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	20.00
Collateral 2	5.00			20.00	2.00	4.00	20.00
Collateral 3	5.00	10.00		20.00			20.00
Collateral 4	5.00	10.00		20.00			20.00

Total Haircut Calculation	Lowest						
Description	Definition	Xccy	WWR	Additional HC 1	Additional HC 2	Additional HC 3	Haircut
Collateral 1	5.00			20.00	2.00	4.00	8.00
Collateral 2	5.00			20.00	2.00	4.00	8.00
Collateral 3	5.00	10.00		20.00			8.00
Collateral 4	5.00	10.00		20.00			8.00

13.4.3 Valuation Haircut Subtype

Choose a *Valuation Haircut Subtype*:

- STANDARD: Only one haircut applies regardless of how many static data filters are accepted. (Default behavior)
- HIGHEST: The system looks for all accepted static data filters and applies the one which corresponds to the highest haircut value.
- LOWEST: The system looks for all accepted static data filters and applies the one which corresponds to the lowest value.
- AVERAGE: The system looks for all accepted static data filters and calculates an average haircut.
- ADDITION: The system looks for the accepted static data filters and adds the related haircuts.

For example: German bonds 5%, Pharmaceutical bonds 10%

If the Valuation Haircut Subtype is ADDITION and a German bond issued by a pharmaceutical firm is being processed, a 15% haircut is required, not 5% or 10% depending on which rule is applied first (which would be the result if the rules were listed in the Definition tab and not in Additional Haircuts).

[NOTE: The order is important in the Definition panel as only ONE definition haircut will apply when using STANDARD Valuation Haircut Subtype. - The first applicable rule / filter in the list will be used]

13.4.4 Tenor Maturity Date Inclusive

Select the *Tenor Maturity Date Inclusive* checkbox to make the lower limit of the haircut tenor inclusive and the upper limit tenor exclusive. Otherwise, if un-checked, the lower limit tenor is exclusive and the upper limit tenor is inclusive.

13.5 Panel Descriptions



Enter haircuts on the various panels as needed. Each panel is described below.


Click **Save** when you are done.

Note: If the Authorization mode is enabled, an authorized user must approve your entry.

13.5.1 Definition Panel

The Definition panel allows defining base haircut rules to apply haircut percentages based on security maturities.

- » Click  to add a rule definition to the Haircut Configuration. You can choose to create the definition from either a static data filter or from a quote set.
- » To define a rule using a static data filter, select "Haircut rule" from the Rule Type drop down, then click  next to the Filter field. Select a filter as needed. The securities filter is a static data filter to filter the collaterals to which the rule applies (bonds, equities, or currencies). For a haircut rule that applies to a cash collateral, in the static data filter used in the haircut rule, select a product currency and designate the Product Type as Cash.

In the Haircut Points area, add a tenor by entering an integer and selecting D, W, M, or Y, then click . You can select OPEN to define a haircut for collaterals with no expiration.

The tenor is added to the table below. Enter a haircut percentage.

Tenor	Date	Offset	Haircut
OPEN	07/09/2015	-1	12.0000000000
5Y	07/10/2020	1,827	3.0000000000
10Y	07/10/2025	3,653	5.0000000000
30Y	07/10/2045	10,958	8.0000000000
50Y	07/10/2065	18,263	10.0000000000

You can check "Original Maturity" to apply the haircut percentage based on the original maturity of the collateral. Otherwise, it is applied based on the remaining maturity as of the trade date.

- » To use a quote set, select "Haircut from quote" from the Rule Type drop down. A definition using a quote set rule handles a security (it can't handle cash) if the quote set has a quote on that day for that security in the CLOSE column.



The dialog box titled "New Haircut Definition" contains the following fields:

- Rule Type : Haircut from quote (dropdown menu)
- Static Data Filter : (empty text box with a search icon)
- QuoteSet name : default (dropdown menu)
- Buttons: Apply, Cancel

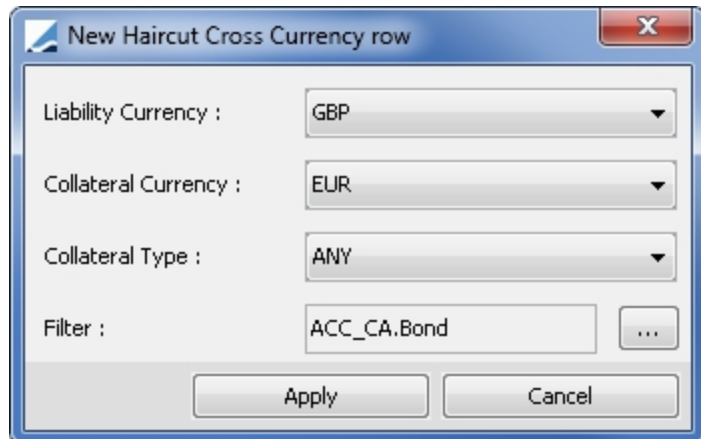
If a haircut from quote is either defined at the legal agreement or the margin call contract level, the applicable haircut quote is picked up to value the inventory of type "Balance * Haircut".

The haircut quotes must be defined with the quote type "Haircut".

13.5.2 Cross Currency Panel

The Cross Currency panel allows defining haircut add-on amounts to be applied based on currency pairs.

- » Click  to add a cross currency haircut. Complete the fields in the popup window as needed, then click **Apply**.



The dialog box titled "New Haircut Cross Currency row" contains the following fields:

- Liability Currency : GBP (dropdown menu)
- Collateral Currency : EUR (dropdown menu)
- Collateral Type : ANY (dropdown menu)
- Filter : ACC_CA.Bond (text box with a search icon)
- Buttons: Apply, Cancel

- Liability Currency: The currency of the contract.
- Collateral Currency: The currency of the collateral. You can select a currency here or select ANY, SAME, or CROSS. If SAME is selected, the Liability and Collateral currencies must be the same for the haircut add-on to be applied. If CROSS is selected, the Collateral Currency must be different from the Liability Currency for the haircut add-on to be applied.

If ANY is selected for both the Liability Currency and the Collateral Currency, the haircut is applied anywhere the Liability and Collateral currency are different.

- Collateral Type: The type of collateral, either Cash, Security, or ANY.

- Filter: Click  next to the Filter field and select a filter as needed.

» The currency pair is added to the table below. Enter a haircut add-on.




Liability Ccy	Collateral Ccy	Type	Filter	Haircut Add-on
GBP	EUR	ANY	ACC_CA.Bond	4.0000000000

[NOTE: The order is important in the Cross Currency panel as only ONE cross currency haircut will apply - The first applicable filter in the list will be used]

13.5.3 Wrong Way Risk Panel

The Wrong Way Risk panel allows applying an additional haircut in the case of wrong way risk. This type of risk occurs when the legal entity pledges as collateral a security issued by itself or by a closely related party. Wrong way risk can also arise if the legal entity country is the same as the country of issuance of the security.

Note that wrong way risk haircut is only applicable when receiving collateral.

- » Click  to add a wrong way risk haircut.
- » Select "Haircut rule" from the Rule Type drop down, then click  next to the Filter field. Select a filter as needed. The static data filters added in this panel must have at least one Wrong Way Risk attribute.
 - ▶ See [Wrong Way Risk Setup](#) for details on Wrong Way Risk attributes.
- » Add a tenor by entering an integer and selecting D, W, M, or Y, then click . You can select OPEN to define a haircut for collaterals with no expiration.

The tenor is added to the table below. Enter a haircut percentage.

Tenor	Date	Offset	Haircut
OPEN	07/12/2015	-1	90.0000000000

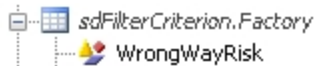
You can check "Original Maturity" to apply the haircut percentage based on the original maturity of the collateral. Otherwise, it is applied based on the remaining maturity as of the trade date.

[NOTE: The order is important in the Wrong Way Risk panel as only ONE wrong way risk haircut will apply - The first applicable filter in the list will be used]

Wrong Way Risk Setup

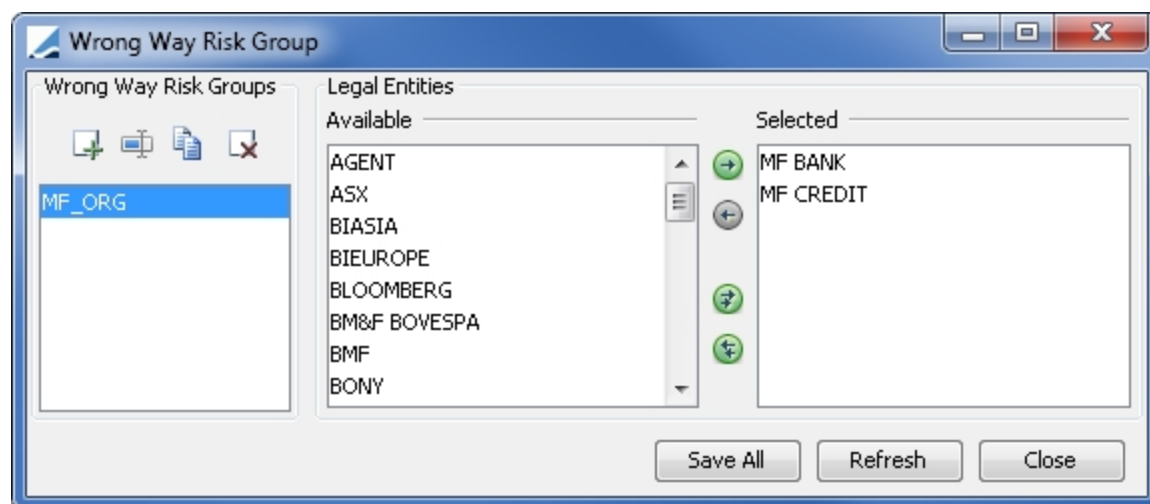
Before you can create a wrong way risk haircut rule, some configuration is required.


- » Add "WrongWayRisk" to the domain *sdFilterCriterion.Factory* to create the wrong way risk static data filter attributes.



- » Create wrong way risk static data filters. These static data filter attributes return true or false.
 - Wrong Way Risk.Issuer: Compares the counterparty of the trade to the issuer of the security.
 - Wrong Way Risk.Industry: Compares the legal entity attribute INDUSTRY of the counterparty and the product issuer.
 - Wrong Way Risk.Country: Compares the counterparty country (on the Legal Entity window) to the country of issuance of the security (on the product definition window).
 - Wrong Way Risk.Group: Checks whether the counterparty of the trade and the issuer of the security are part of the same Wrong Way Risk Group. These groups are described in the next step.
- » Create Wrong Way Risk Groups to group together legal entities that have a close link.

Add a menu item for the Wrong Way Risk Group window (menu action `refdata.WrongWayRiskGroupWindow`).



Click  to add a new group. You will be prompted to enter a name.

Select the legal entities to be grouped together, then click **Save All**.

If the Authorization mode is enabled on your system, you can enforce authorization for Wrong Way Risk Groups by adding "WrongWayRiskGroup" to the domain `classAuthMode`.

In order to view audits related to Wrong Way Risk Groups, add "WrongWayRiskGroup" to the domain `classAuditMode`.

13.5.4 Additional Haircuts Panel


The Additional Haircuts panel allows defining additional haircuts based on other haircut rules. The restriction is that these haircut rules can only have the base haircut rule defined on the Definition panel - They cannot have haircut rules defined on the Cross Currency, Wrong Way Risk, or Additional Haircuts panels.

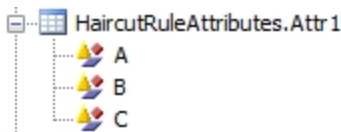
As opposed to the other panels, more than one additional haircut can be applied.

- » Click  to add an additional haircut. You will be prompted to select a rule name.


13.5.5 Attributes Panel

The Attributes panel allows adding custom haircut rule attributes.



- » Select **SetUp > Domain** to add haircut rule attributes. Or you can add them directly in the Domain Values window using the *HaircutRuleAttributes* domain.
- » Select **SetUp > Favorites** to add haircut rule attributes to your list of favorites. Or you can add them directly in the Domain Values window using the *HaircutRuleAttributes.favorites* domain.
- » Click  to toggle between loading all haircut rule attributes, or only those on your favorites list.
- » Enter values for the haircut rule attributes as needed. By default, the values are free text fields. You can create a drop down menu of choices by creating a domain for each haircut rule attribute as needed in the form *HaircutRuleAttributes.<attribute name>* with the possible values.



13.6 Modifying a Haircut Rule

- » Click  to load an existing rule. You will be prompted to select a rule name. Select a rule definition and modify as needed.
- » Click **Save** to save your changes.

13.7 Deleting a Haircut Rule

- » Click  to load an existing rule. You will be prompted to select a rule name.
- » Select a rule definition, and click . You will be prompted to confirm that you want to delete the rule.

13.8 Simulating a Haircut Rule

- » Click  to load an existing rule. You will be prompted to select a rule name.
- » Click **Simulate** to test the haircut rule. (Menu action `reporting.ReportWindow$HaircutRuleSimulate.`)

Simulate Static Data filter / HCRule

ReportDataViewExportMarket DataUtilitiesHelp

Criteria

Haircut rule NameHCRule

CandidateBondDANSKEMortgageSeniorityA/0D/05/20/2019/4%

Legal entityDANSKE

Contract CurrencyUSD

Contract Currency

Haircut rule Name	Candidate	Candidate Type	Value Path	Value	Total	Operator Type
HCRule	DANSKEMortgageSeniorityA	Bond	Additional/add_hcr_1435326561579/ProductCodeOutstandingNominalValue < 10m	2.0	68.88	ADDITION
HCRule	DANSKEMortgageSeniorityA	Bond	Additional/WWRIssuer	50.0	68.88	ADDITION
HCRule	DANSKEMortgageSeniorityA	Bond	Additional/add_hcr_1435326577011/ProductCodeSyntheticPriceNEW	2.0	68.88	ADDITION
HCRule	DANSKEMortgageSeniorityA	Bond	Cross Currency/HCRule/null	8.88	68.88	ADDITION
HCRule	DANSKEMortgageSeniorityA	Bond	Base/SenioritySensitiveSecurityIssuerMoodyMortgageAaa	6.0	68.88	ADDITION

Load completed successfully

Pricing Details: 6/29/15 2:18:05 PM CEST

13.9 Haircut Menu

The menu items of the Haircut menu are described below.

Menu Items	Description
Load	To load an existing rule. You will be prompted to select a rule name.
Pending Authorization	To display any haircut pending authorization. This only applies if the Authorization mode is enabled.
New	To create a new rule. ► See Creating a Haircut Rule .
Save	To save the rule currently loaded, or to save a new rule.
Save As New	To save the rule currently loaded as a new rule. You will be prompted to enter a rule name.
Delete	To delete a given haircut rule for all securities filters. ► See Deleting a Haircut Rule .
Simulate	To test the haircut rule. ► See Simulating a Haircut Rule .

14. Defining Sales Margins

Sales margins can be automatically added to trades in the Pricing Sheet and the FX Deal Station based on Sales Margin Configurations.

14.1 Configuring Sales Margins

From the Calypso Navigator, navigate to **Configuration > Fees, Haircuts & Margin Calls > Sales Margin Configuration** to configure Sales Margins. Menu action `refdata.SalesMarginConfigurationWindow`.

Sales Margin Configuration (User: calypso_user)

Processing Org

EUFIBO1

...

Counterparty

CCP

...

Product

Swap

▼

Product Subtype

Exotic

▼

Product Code

ANY

▼

Attribute Value

Currency / Pair

AUD, CAD

▼

Channel Type

ANY

▼

<= Tenor

2Y

<= Amount/Quantity

750,000

Buy / Sell

Buy

▼

Principal/Agent

ANY

▼

Margin Price Format

Flat Amount

▼

Margin

1000.0

Clean/Dirty/Gross

▼

Rounding Method

NEAREST

▼

Effective From

6/11/13

▼

Effective To

6/4/18

▼

Processing Org	CounterParty Group	CounterParty	Product	Product SubType	Currency / Pair	Product Code	Attribute Value	Channel	
PO	Gold		FXSwap	ANY	EUR/JPY;EUR/USD	ANY		ANY	1
PO	Silver		FX	ANY	EUR/USD	ANY		ANY	6
US BOND FUND		BONY	Bond	UST	USD	ANY		ANY	3
EUFIBO1		CCP	Swap	Exotic	AUD;CAD	ANY		ANY	2

Load

New

Remove

Save

Add

Import from csv

Export to csv

Close

» Enter the fields described below as needed, and click **Save**.

The default sales margin can be configured based on the following fields:

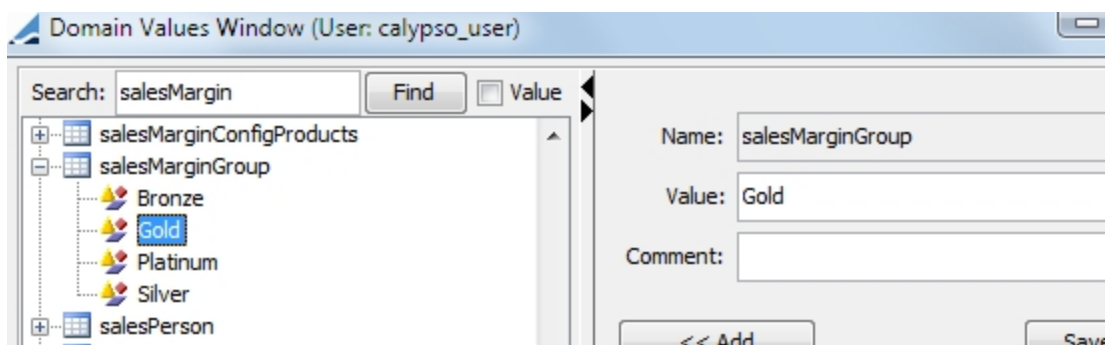
Fields	Description
Processing Org	The processing organization assigned to the trade. (Required field)
Counterparty / Margin Group	Select either a trading Counterparty or a Margin Group. ► See Configuring Margin Groups for more information. (Required field)
Product	Select the product to which the sales margin applies. (Required field)
Product Subtype	Select a product subtype related to the specified product if desired.
Product Code / Trade Keyword	Select either a product code associated with the product or a trade keyword.
Attribute Value	Enter a trade attribute or keyword for the product depending on the selection of the Product Code/Trade Keyword field.
Currency / Pair	Choose currencies or currency pairs depending on the product selected. (required field)
Channel Type	This is the platform for the trade. This is set in the <i>salesMarginChannelType</i> domain.
<= Tenor	Enter a tenor for which the margin is valid for trades with a value date up until or equal to the tenor date.
<= Amount/Quantity	The specified margin is valid for trades up to or equal to this amount or quantity. For FX swaps, this is the near leg notional amount.
Buy / Sell	Specify whether the trade has to be a buy or sell, or either.
Principal / Agent	This is required for bonds, displayed on Pricing Sheet only.
Margin Price Format	Depending on the product selected, then choose the format of the margin price. <ul style="list-style-type: none"> • Points • Basis Points/Yield - For interest rate products. The margin is calculated off of the interest rate or yield. • Basis Points/Price - For some interest rate products, such as bonds, the margin is calculated off of the price. • Percentage • Flat Amount
Margin / Margin Breakdown	Amount of margin. Margin Breakdown can be selected when the Product is FX Forward, FX Swap or FX NDF. When selected, Margin Breakdown adjust Margin entry to dual entry for Spot Margin and Points Margin. If a trade is entered in FOWS Quick Trade Entry or Deal Station Quick Deal Entry that fulfills the parameters designed in the Same Margin Configuration, the designated margin for spot and/or points will populate the QTE or QDE fields automatically.
Clean / Dirty / Gross	Select the Clean Price, Dirty Price or Gross Price. Required for bonds, displayed on Pricing Sheet only.

Fields	Description
Rounding Method	Select the rounding method to be used for the margin.
Effective From	Enter the date from which the margin rule is valid.
Effective To	Enter the expiration date of the margin rule.

14.2 Configuring Margin Groups

A margin group allows you to include many counterparties in one group for the purpose of assigning sales margins. A margin group is defined through a domain value and added as an attribute in the Legal Entity window.

Assign the margin group name to the domain *salesMarginGroup*.



Then add the attribute type and value to the desired counterparty in the Legal Entity Attributes window.

Legal Entity Attributes Window - Version - 0 (User: calypso_user)

Legal Entity: CP
Role: ALL
Processing Org: ALL
Attribute Type: salesMarginGroup
Value: Gold

Id	Processing Org	Legal Entity	Role	Attribute Type	Attribute Value
13877	ALL	CP	ALL	DTCC_BOUGHTBACK	Y
13880	ALL	CP	ALL	DTCC_FREEFORM_NAME	DTCC_CP
13878	ALL	CP	ALL	DTCC_INCREASE	Y
13879	ALL	CP	ALL	DTCC_LE_ID	00003333
13881	ALL	CP	ALL	DTCC_PAYREC_PARTICIPANT	Y
12272	ALL	CP	ALL	MAIL_ADV_REQD	Yes
12265	ALL	CP	ALL	SWIFT_CONF_REQD	No
28983	ALL	CP	ALL	SwapsWireParticipant	AARBIE21XXX_SSP
59196	ALL	CP	ALL	salesMarginGroup	Gold

Load
Delete
Save
☐ Authorization
Close

Show Pending Authorizations

14.3 Applying a Default Sales Margin

The sales margin can be applied in FX Deal Station and the Pricing Sheet using either a Points or Percentage format. Below are example for how to apply default sales margins in the FX Deal Station and the Pricing Sheet.

14.3.1 Sales Margin in FX Deal Station

Sample Sales Margin Configuration

Sales Margin Configuration (User: calypso_user)

Processing Org	ANY	...	Buy / Sell	Buy
Counterparty	CP	...	Principal/Agent	ANY
Product	FX		Margin Price Format	Points
Product Subtype	ANY		Margin	50.0
Product Code	ANY		Clean/Dirty/Gross	
Attribute Value			Rounding Method	
Currency / Pair	EUR/USD		Effective From	6/26/13
Channel Type	ANY		Effective To	6/26/18
<= Tenor	6M			
<= Amount/Quantity	1,000,000			

Select Points or Percentage

Processing Org	CounterParty Group	CounterParty	Product	Product SubType	Currency / Pair	Product Code	Attribute Value
PO	Gold		FXSwap	ANY	EUR/JPY;EUR/USD	ANY	
US BOND FUND		BONY	Bond	UST	USD	ANY	
EUFIBO1		CCP	Swap	Exotic	AUD;CAD	ANY	
ANY		CP	FX	ANY	EUR/USD	ANY	

Load New Remove Update Add Import from csv Export to csv Close






In the FX Deal Station, when you enter a trade that fulfills the parameters designated in the Sales Margin configuration, the margin amount will automatically populate in the Margin field.

FX Comments Trade Id: <enter> Status: NONE 2:56:19 PM

Trade Type	Buy/Sell	Ccy Pair	Book	Counterparty
Outright	Buy	EUR/USD	Global	CP
Ccy	EUR	Traded Amt	1,000,000.00	Date
		Other Amt	-1,295,900.00	06/28/2013
		Spot	1.3009	Margin
		Final	1.295900	50.00
Comments	Final Margin: (USD)	5,000.00	Delivery Known	Limits
			DEAL(F5)	NEW(F6)

You can override the margin amount.

After the trade is saved, the fee amount is displayed in the Results panel.

<div>  Market Data  Results  Pricing Parameters  B.O. Back Office </div>	
As Of: 6/26/13 3:04:30 PM  [Auto-price is ON]	
Result	Trade Results
NPV	9,849.95
FEES_ALL	5,000.00

You are also able to see the fees in the Fee Details window. This window can be displayed by selecting **Trade > Fee Details** from the Title Bar drop-down menu.

Trade Fees Details

Type

ADJUSTMEN...

PAY

Amount

0

USD

Method

NONE

?

Input

0.00

Calc

Role

CounterParty

Fee Date

06/26/2013

Start Date

06/26/2013

End Date

06/26/2013

Legal Entity

Known Date

Description

Generate

Add

Modify

Remove

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Re
SPOT_MARGIN	06/28/2013	06/28/2013	06/28/2013	USD	5,000.00	CP	REC

For the FX Deal Station, only the FAR_MARGIN and SPOT_MARGIN fee types are supported. You can configure the calculators used for these fee types in the Fee Definition window.

The calculators provide variations to the default calculation:

If Fee ccy = Trade Quote Ccy, then Fee Amount = [input value] * Quantity (that is, Trade Base Amount).

If Fee ccy <> Trade Base Ccy, then Fee Amount = [input value] * Quantity (that is, Trade Basis Amount = Trade Base Amount converted using the Trade Spot Price).

The supported calculators are:

- **MarginPtsNoDiscounting** - Computes the amount as the above computed margin basis amount and sets the margin date as the trade settle date.
- **MarginPtsNoDiscountingBookBase** - Converts the above computed margin basis amount to the book base currency and sets the margin amount as the same.
The margin date is set as the trade settle date.
Equivalent to the sales user creating a forward for the basis amount against the base currency.
- **MarginPtsSpotDiscounted** - Computes the margin as the spot discounted amount of the above computed margin basis amount.
The margin date is set as the spot date of the trade currency pair.
- **MarginPtsSpotDiscountedBookBase** - Computes the margin as the spot discounted amount of the above computed margin basis amount against the base currency.
The margin date is set as the spot date of the trade currency pair.
Equivalent to the sales user selling the spot risk against the base currency for the margin basis amount.
The margin basis amount is first discounted to spot of the currency pair and then converted to the base.
- **MarginPtsTodayDiscounted** - This calculator computes the margin as the today discounted amount of the above computed margin basis amount.
The margin date is the spot date of the trade currency pair.
- **MarginPtsTodayDiscountedBookBase** - Computes the margin as the today discounted amount of the above computed margin basis amount against the base currency.
The margin date is set as today.
Equivalent to the sales user doing a trade today against the margin basis amount currency/base currency pair for the discounted margin basis amount.

 **[NOTE: The calculators used for FAR_MARGIN and SPOT_MARGIN must be the same]**

14.3.2 Sales Margin in Pricing Sheet

Sample Sales Margin Configuration

Processing Org

PO

...

Counterparty

CP

...

Product

Swap

▼

Product Subtype

ANY

▼

Product Code

ANY

▼

Attribute Value

Currency / Pair

USD

▼

Channel Type

ANY

▼

<= Tenor

<= Amount/Quantity

Buy / Sell

ANY

▼

Principal/Agent

ANY

▼

Margin Price Format

Points

▼

Margin

25.0

Clean/Dirty/Gross

▼

Rounding Method

NEAREST

▼

Effective From

1/1/14

▼

Effective To

3/4/20

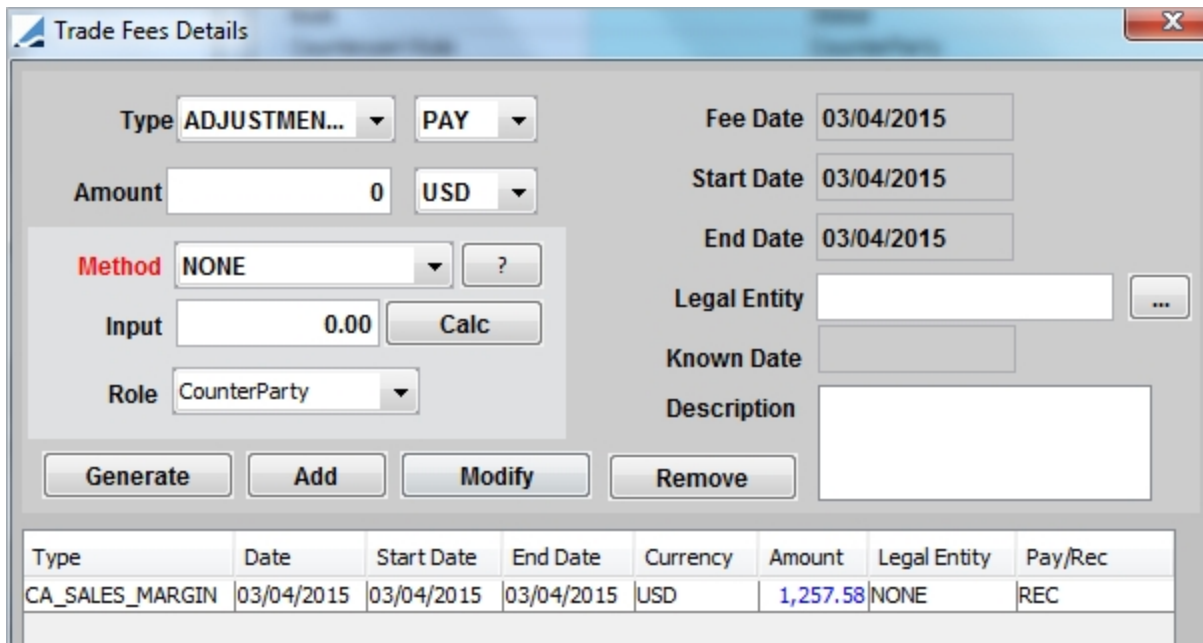
▼

In the Pricing Sheet, when you enter a trade that fulfills the parameters designated in the Sales Margin configuration, the margin amount will automatically populate in the Sales Fee field.

Find Property...	Totals	1	2
Strategy Name		Swap	
Price		Price	
Save		Save	
Solve		Don't Solve	Don't Solve
Sales Person		Clare T	
Trader		John D	
Book		Global	
Counterpart Role		CounterParty	
Counterparty		CP	
Notional Ccy		USD	USD
Notional		1,000,000.00	
Pay/Receive		Pay	Rec
Start Date		03/06/2015	
End Date		09/06/2015	
Leg Type		Fixed	Float
Notional Exchange		None	None
Rate Index Factor			1.00000
<input type="checkbox"/> Rate Index			USD LIBOR 3M LIB...
Rate		1.320000	0 bps
<input type="checkbox"/> Reset Frequency			QTR
Payment Frequency		SA	QTR
Payment Day Count		30/360	ACT/360
<input type="checkbox"/> Payment Date Roll		MOD_FOLLOW	MOD_FOLLOW
<input type="checkbox"/> Stub Type		NONE	NONE
<input type="checkbox"/> Compounding Type		None	None
Amortization		Bullet	Bullet
<input type="checkbox"/> Pricing Model		Swap	
Sales Price		25.00000 bps	
Internal Reference			
Trade Version		-1	
<input type="checkbox"/> Sales Fee		-1,257.58	

You can override the margin amount.

After the trade is saved, the fee amount is displayed in the Trade Fees Details window. This window can be selected by right clicking in the trade leg (or legs) and selecting **Trade Details > Trade Fees**. You can also click Ctrl + F.



The screenshot shows the 'Trade Fees Details' window. It contains several input fields and buttons. The 'Type' dropdown is set to 'ADJUSTMEN...', 'PAY' is selected, 'Fee Date' is '03/04/2015', 'Start Date' is '03/04/2015', and 'End Date' is '03/04/2015'. The 'Amount' is '0' and 'USD' is selected. The 'Method' is 'NONE', 'Input' is '0.00', and 'Role' is 'CounterParty'. There are buttons for 'Generate', 'Add', 'Modify', and 'Remove'. A table at the bottom shows the following data:

Type	Date	Start Date	End Date	Currency	Amount	Legal Entity	Pay/Rec
CA_SALES_MARGIN	03/04/2015	03/04/2015	03/04/2015	USD	1,257.58	NONE	REC

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.

14.4 Viewing Sales Margins

For sales margin fee reporting, you can use the Fee report window which is accessed through the Calypso Navigator under **Reports > Fees & Settlements > Fee Report**.

► See [Trade Fees Report](#) for details.

You can also use the Sales Margin analysis which configured in the Analysis Designer.

► Please refer to Sales Margin Analysis documentation for details.