Nasdaq Calypso

Cash Settlement

Version 18

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Approved

1. Cash Settlement

This document describes the settings of the Cash Settlement window (**Product menu >Cash Settle Info** in trade windows). It allows defining a termination schedule (or break clauses) for a trade.

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

▶ See Cash Settlement Defaults for details.

You can review trades with break clauses using **Trade Lifecycle > Termination > Cash Settlement**.

Note that the definition and review of break clauses is for information purposes only. They do not control when a trade can actually be terminated. The termination process is manual in any case.

Environment Property

If the environment property CASH_SETTLEMENT_TRADE is set to True, and cash settlement details are defined for a trade, the trade status bar will display "Cash Settled Trade".

Contents

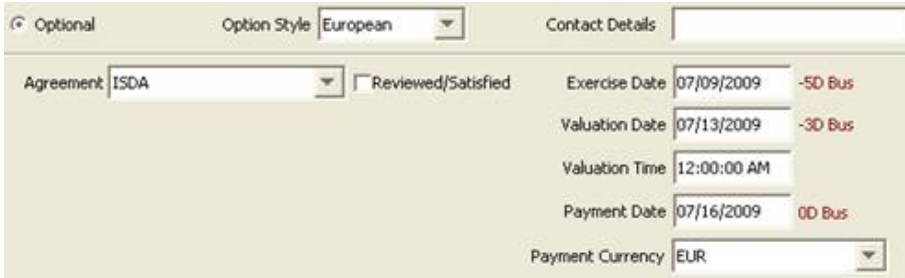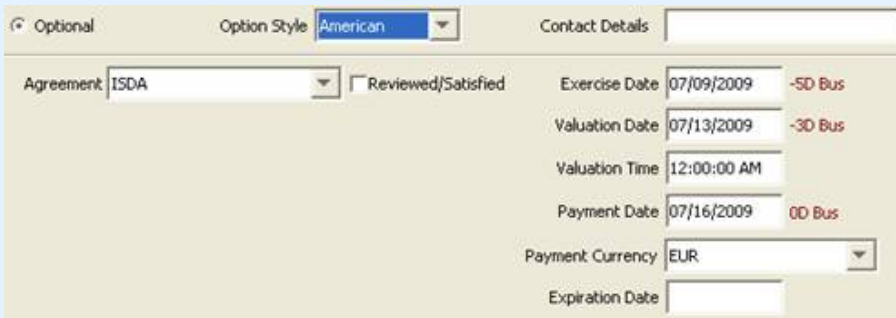## 1.1 Entering Cash Settlement Details

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

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

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

Fields	Description
Mandatory / Optional	Click the Mandatory or Optional radio button as needed.
Event Type	Select the event type that triggers the cash settlement. The event type is populated for SwapsWire trades. Custom default values can be populated based on the event type. Refer to the *Calypso Developer's Guide* for details. You can register new event types in the domain

Fields	Description
	"cashSettleEvent".
Comment	Enter a free form comment related to the event.
Option Style	Only applies to optional cash settlements. Select the option style: European, American, or Bermudan.
Contact Details	Enter free form contact information as needed.

Agreement	You can select an agreement type, or ANY.
	
	It defaults to the agreement type defined in domain "CashSettleDefaultsAgreements".
	
	If Cash Settlement Defaults exist for the selected agreement, rate index and currency, they will be loaded.
	
	If a legal agreement of specified type is defined between the counterparty and the processing organization for the specified currency and product type, it can also drive default values on the settlement details.
	
	[NOTE: The legal agreement CANNOT be defined as "Master"]
	
	Attribute TERMINATION_APPENDIX_MID
	
	The attribute TERMINATION_APPENDIX_MID drives the following default values:
	
	• Quotation Rate
	
	   If TERMINATION_APPENDIX_MID = Yes or not set, it is set to MID.
	
	   If TERMINATION_APPENDIX_MID = No, it is set to BID/ASK.
	
	• Exercise Party Pays
	
	   If TERMINATION_APPENDIX_MID = Yes or not set, it is set to False (unchecked).
	
	   If TERMINATION_APPENDIX_MID = No, it is set to True (checked).
	
	Attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL
	
	The attributes CASH_SETTLE_MANDATORY_DATEROLL (mandatory agreement) and CASH_SETTLE_OPTIONAL_DATEROLL (optional agreement) drive the default value of the Date Roll conventions (Ex Date and Pay Date).
	
	You can create domains "laAdditionalField.CASH_SETTLE_MANDATORY_DATEROLL" and "laAdditionalField.CASH_SETTLE_OPTIONAL_DATEROLL" to hold the possible values.
	
	Attribute BermudanTradeDate
	
	The attribute "BermudanTradeDate" controls the Bermudan "From Date". If true, the From Date is the Trade Date, otherwise, it is the start date of the swap.

Reviewed / Satisfied	This checkbox appears checked when the trade has been reviewed in **Trade Lifecycle > Termination > Cash Settlement** (menu action `reporting.CashSettlementWindow`). For the Bermudan option style, the Reviewed/Satisfied checkbox can be set for each date.

Fields	Description
	▶ See [Reviewing Break Clauses](#) for details.
Dates	The label on the right-hand side of the dates defaults to Cash Settlement Defaults if any.
	• Exercise Date = Effective date of the early termination. The label shows the number of days between the trade's end date and the early termination date.
	• Valuation Date and Time = Valuation date and time used to determine the cash settlement amount. The label shows the number of days between the trade's end date and the valuation date.
	• Payment Date = Payment date of the cash settlement amount.
	You can enter dates as "t\<tenor>" to apply Trade Date + tenor, for example "t5d" is "Trade Date + 5 days".
	European » Enter the exercise date, valuation date, valuation time, payment date, and payment currency. You can double-click the label that appears to the right of the dates to modify the lag. It brings up the OptionCalcDialog. See OptionCalcDialog below for details.
	American » Enter the first exercise date, valuation date, valuation time, payment date, payment currency, and last expiration date. You can double-click the label that appears to the right of the dates to modify the lag. It brings up the OptionCalcDialog. See OptionCalcDialog below for details.
	Bermudan

Fields	Description
	  » Generate a termination schedule by entering the From and To dates, selecting a frequency (Frq), selecting holiday calendars, and clicking **Generate**. Note that the values for the dates default from the trade's start and end dates. If you enter a date shortcut (for example, 2y) in the To field, the application calculates the date from the value entered in the From field. See also legal agreement attribute BermudanTradeDate for defaults. The frequency and holiday calendars default to the payment details on the floating leg in the trade worksheet. The holiday calendars for the Exercise Date and Valuation Date also default to the floating leg payment details.
	OptionCalcDialog » Select the holiday calendar. » Enter a number of lag days, months or years in the Offset field. Days lag "D" can be business days or calendar days. Double-click the Bus label to switch to Cal as needed. For months lag "M" and years lag "Y", the system uses calendar days only. The "No Tenor" checkbox only applies to days lag, when you enter more than 31 days. If you check the "No Tenor" checkbox, the offset will be not be converted to a tenor, as shown below for 35D.

Fields	Description
	![Del Dt 09/28/0204 — 35D Bus NYC] Otherwise it will be converted to a tenor. Note that the conversion is for display only. The system always stores 35D. ![Del Dt 09/10/0204 — 1M Bus NYC] » For European options only, enter the exercise fee. For American and Bermudan options, you can enter the exercise fee in the Ex Schedule panel. For Bermudan options, select the frequency of the exercise dates.
Ex Date Convention	Select the date roll convention to be applied when the termination date falls on a non-business day. Date roll conventions are described under **Help > Date Roll Conventions**. See legal agreement attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL for defaults.
Pay Date Convention	Select the date roll convention to be applied when the payment date falls on a non-business day. Date roll conventions are described under **Help > Date Roll Conventions**. See legal agreement attributes CASH_SETTLE_MANDATORY_DATEROLL and CASH_SETTLE_OPTIONAL_DATEROLL for defaults.
Earliest Exercise Time	Enter the earliest time on termination date when the option can be exercised. Defaults to Cash Settlement Defaults if any.
Expiration Time	Enter the time at which the trade is terminated. Defaults to Cash Settlement Defaults if any.
Cash Settle Method	Select a cash settlement method to compute the settlement amount. The cash settlement methods are: • **DRV** – If this is selected, the method will match the German Master Agreement, rather than the ISDA Master Agreement. • **Cash Price** – This is the amount payable under Section 6(e)(ii) of the ISDA Master Agreement on the basis of quotations requested by the Calculation Agent from Cash Settlement Reference Banks using the Quotation Rate (17.2(j), i.e. bid, ask or mid but note "Exercising Party Pays"). If less than 3 quotations are obtained, the Cash Settlement Amount is determined by the Calculation agent. • **Cash Price - Alternate** – Similar to Cash Price but quotations are requested by each party and if there are less than 3 quotations, the Cash Settlement Amount will be the average of the amounts determined by each of the parties in good faith and a commercially

Fields	Description
	reasonable manner.
	• **Par Yield Curve - Adjusted** – The Cash Settlement Amount is the present value of an annuity equal to the difference between
	(a) the amount payable by the Fixed Rate Payer as if the Fixed Rate were the Settlement Rate and
	(b) the amount payable by the Fixed Rate Payer under the relevant swap transaction.
	The discount rate will be equal to the Settlement Rate.
	The Cash Settlement Amount will be adjusted if the Optional Early Termination Date or the Mandatory Early Termination Date does not fall on the Fixed/Floating Rate Payer Payment Date.
	• **Par Yield Curve - Unadjusted** – Same as "Par Yield Curve - Adjusted" but there is no adjustment based on the Business Day Convention.
	• **Zero Coupon Yield – Adjusted** – This is the same as "Par Yield Curve" But the discount factor is calculated from the agreed current zero coupon curve. If the parties cannot agree on the zero coupon curve, "Cash Price" will be used as the Cash Settlement Method.
	• **Cross Currency Method** – Used for early termination of cross currency swaps
	• **Collateralized Cash Price** – Not currently computed.
	• **Mid-market Valuation (Indicative Quotations)** - One of the ISDA 2021 Interest Rate Definitions.
	• **Mid-market Valuation (Indicative Quotations) - Alternate Method** - One of the ISDA 2021 Interest Rate Definitions.
	• **Mid-market Valuation (Calculation Agent Determination)** - One of the ISDA 2021 Interest Rate Definitions.
	• **Replacement Value (Firm Quotations)** - One of the ISDA 2021 Interest Rate Definitions.
	• **Replacement Value (Calculation Agent Determination)** - One of the ISDA 2021 Interest Rate Definitions.
MMV Applicable CSA	Select the MMV Applicable CSA. Options include No CSA, Existing CSA, and Reference VM CSA. Default is "Existing CSA" for OET, and blank for MET. This field is inactive unless one of the following cash settlement methods are selected: Mid-market Valuation (Indicative Quotations), Mid-market Valuation (Indicative Quotations) – Alternate method, or Mid-market Valuation (Calculation Agent Determination).
Cash Collateral Currency	Select the Cash Collateral Currency. Populated in the dropdown list is the CCY list from Domain Values. Default is blank. This field is inactive unless one of the following cash settlement methods are selected: Mid-market Valuation (Indicative Quotations), Mid-market Valuation (Indicative Quotations) – Alternate method, or Mid-market Valuation (Calculation Agent Determination).

Fields	Description
Agreed Discount Rate	A Rate index can be selected from the dropdown list. For MMV, the default value is blank. This field is inactive unless one of the following cash settlement methods are selected: Mid-market Valuation (Indicative Quotations), Mid-market Valuation (Indicative Quotations) – Alternate method, or Mid-market Valuation (Calculation Agent Determination).
Rate Source	You can select a rate source or none (empty). You can add rate sources to the "RateSource" domain. If you select none, you have to select a set of reference banks. Ref Bank 1 — To Be Determined Ref Bank 2 — To Be Determined Ref Bank 3 — To Be Determined Ref Bank 4 — To Be Determined Ref Bank 5 — To Be Determined » You can select a legal entity of role ReferenceBank. If you select OTHER_SOURCE, you need to select a rate index from the Rate Index field. Rate Source — OTHER_SOURCE Rate Index — USD/LIBOR/3M/T3750
Quotation Rate	Select the instance of the quotation rate that you want to use: MID, BID, or ASK. See legal agreement attribute TERMINATION_APPENDIX_MID for defaults.
Calculation Agent	The Calculation Agent is the party that calculates settlement amounts that are owed between participating parties under a particular transaction for purposes of invoicing. The following options are available. • As Specified In Master Agreement - the Calculation Agent is determined by reference to the relevant master agreement. • As Specified In Standard Terms Supplement - the Calculation Agent is determined by reference to the relevant standard terms supplement. • Exercising Party - the party that gives notice of exercise. • Joint - both the Processing Organization and Counterparty. • My Entity - the Processing Organization. • Non Exercising Party - the party that is given notice of exercise. • Other Entity - the Counterparty. ⓘ **[NOTE: To customize the list of options for the Calculation Agent field, add the domain name "cashSettleCalcAgent" and then other domain values under the new**

Fields	Description
	name.]
Exercise Party Pays	Check to indicate that the exercising party pays the settlement amount, otherwise the exercising party receives the settlement amount.
	See legal agreement attribute TERMINATION_APPENDIX_MID for defaults.
Protected Party	"Non-Exercising Party" is the default value when Optional early termination is selected. "Both" is the default balue when Mandatory is selected. This field is inactive unless one of the following cash settlement methods are selected: Replacement Value (Firm Quotations), or Replacement Value (Calculation Agent Determination).
Exercise Party	Select the exercise party: Processing Org, Counterparty, or Mutual (both).
Prescribed Doc. Adj.	Select either Applicable or Not Applicable (default). This field is inactive unless the following cash settlement methods is selected: Replacement Value (Firm Quotations).
Location	Select a location.
	Defaults to Cash Settlement Defaults if any, or to the currency's location otherwise.

1.2 Reviewing Break Clauses

You can review trades with break clauses using **Trade Lifecycle > Termination > Cash Settlement**, before terminating a trade.

» Load and review break clauses as applicable.

Enter search criteria and click **Add** to load break clauses.

Check the "Reviewed" checkbox, then click **Load**.

» When a break clause is reviewed, the Reviewed/Satisfied checkbox will appear checked on the Cash Settle Info window, and the trade is amended.
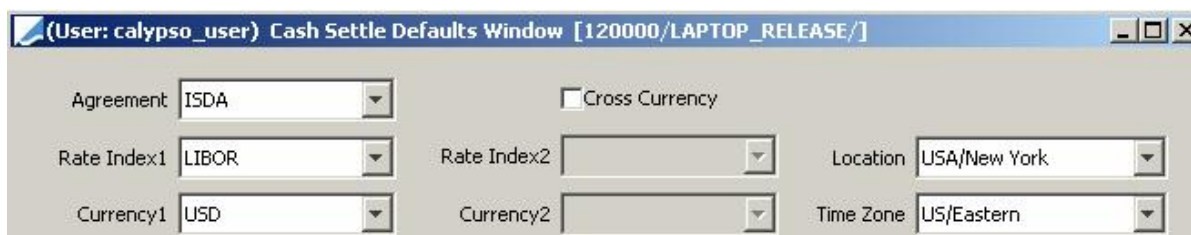
2. Cash Settlement Defaults

Cash Settlement Defaults provide default values for the cash settlement of swaptions, and default values for cash settlement details of early terminations.

From the Calypso Navigator, navigate to **Configuration > Interest Rates > Cash Settlement Defaults**.

2.1 Cash Settlement Defaults Definitions

» Select a type of agreement or ANY. You can specify multiple agreements for the same currency. In this case, the default agreement type should be set in domain "CashSettleDefaultsAgreements".

» Select the rate index and settlement currency.

   If you check "Cross Currency" you can select the cross currency and corresponding rate index. The settlement method is set to "Cross Currency Method".

» Select the location and time zone.

2.2 Swaption Defaults

The Swaptions section provides default values for the Exercise/Settlement panel of swaptions.

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

Swaptions Fields Details

Fields	Description
Settlement Method	Select the settlement method used to compute the settlement details.
	• **DRV** – If this is selected, the method will match the German Master Agreement, rather than the ISDA Master Agreement.
	• **Cash Price** – This is the amount payable under Section 6(e)(ii) of the ISDA Master Agreement on the basis of quotations requested by the Calculation Agent from Cash Settlement Reference Banks using the Quotation Rate (17.2(j), i.e. bid, ask or mid but note "Exercising Party Pays"). If less than 3 quotations are obtained, the Cash Settlement Amount is determined by the Calculation agent.
	• **Cash Price - Alternate** – Similar to Cash Price but quotations are requested by each party and if there are less than 3 quotations, the Cash Settlement Amount will be the average of the amounts determined by each of the parties in good faith and a commercially reasonable manner.

Fields	Description
	• **Par Yield Curve - Adjusted** – The Cash Settlement Amount is the present value of an annuity equal to the difference between (a) the amount payable by the Fixed Rate Payer as if the Fixed Rate were the Settlement Rate and (b) the amount payable by the Fixed Rate Payer under the relevant swap transaction. The discount rate will be equal to the Settlement Rate. The Cash Settlement Amount will be adjusted if the Optional Early Termination Date or the Mandatory Early Termination Date does not fall on the Fixed/Floating Rate Payer Payment Date. • **Par Yield Curve - Unadjusted** – Same as "Par Yield Curve - Adjusted" but there is no adjustment based on the Business Day Convention. • **Zero Coupon Yield – Adjusted** – This is the same as "Par Yield Curve" But the discount factor is calculated from the agreed current zero coupon curve. If the parties cannot agree on the zero coupon curve, "Cash Price" will be used as the Cash Settlement Method. • **Cross Currency Method** – Used for early termination of cross currency swaps • **Collateralized Cash Price** – Not currently computed. • **Mid-market Valuation (Indicative Quotations)** - One of the ISDA 2021 Interest Rate Definitions. • **Mid-market Valuation (Indicative Quotations) - Alternate Method** - One of the ISDA 2021 Interest Rate Definitions. • **Mid-market Valuation (Calculation Agent Determination)** - One of the ISDA 2021 Interest Rate Definitions. • **Replacement Value (Firm Quotations)** - One of the ISDA 2021 Interest Rate Definitions. • **Replacement Value (Calculation Agent Determination)** - One of the ISDA 2021 Interest Rate Definitions.
Valuation Days	Number of days between the trade's exercise date and valuation date.
Payment Days	Number of days between the trade's delivery date and payment date.
Exercise Holidays	Select the holiday calendar to compute the exercise date.
Valuation Holidays	Select the holiday calendar to compute the valuation date.
Payment Holidays	Select the holiday calendar to compute the payment date.
Earliest Exercise Time	Enter the earliest time when the trade can be exercised, in the selected timezone.
Expiration Time	Enter the time at which the trade expires, in the selected timezone.
Valuation Time	Enter the latest time when the trade can be exercised, in the selected timezone.
Quotation Rate	Select the instance of the quotation rate that you want to use: MID, BID, or ASK.

Fields	Description
Cash Settlement Ccy1	Only applies for the Cross Currency Method. Select the primary currency.
Activate Ccy2	Only applies for the Cross Currency Method. Check to allow entering the cross currency.
Cash Settlement Ccy2	Only applies for the Cross Currency Method. Select the cross currency.
Automatic Exercise	Check the Automatic checkbox to allow automatic exercise.

2.3 Early Termination Defaults

The Early Termination section provides default values for the Cash Settlement window of any trade (**Product menu > Cash Settle Info**).

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

Early Termination Fields Details

Fields	Description
Settlement Method	Select the settlement method used to compute the early termination details. ▶ See "Swaptions Fields Details" above.
Exercise Days	Number of days between the trade's end date and the early termination date. It should be a negative number.
Valuation Days	Number of days between the trade's end date and the valuation date of the early termination. It should be a negative number.
Exercise Holidays	Select the holiday calendar to compute the termination date.
Valuation Holidays	Select the holiday calendar to compute the valuation date.
Payment Holidays	Select the holiday calendar to compute the payment date.
Earliest Exercise Time	Enter the earliest time when the trade can be terminated, in the selected timezone.
Expiration Time	Enter the time at which the trade terminates, in the selected timezone.
Valuation Time	Enter the latest time when the trade can be terminated, in the selected timezone.
Quotation Rate	Select the instance of the quotation rate that you want to use: MID, BID, or ASK.
Cash Settlement Ccy1	Only applies for the Cross Currency Method. Select the primary currency.
Activate Ccy2	Only applies for the Cross Currency Method. Check to allow entering the cross currency.
Cash Settlement Ccy2	Only applies for the Cross Currency Method. Select the cross currency.