Oracle® Banking Treasury Management

Over the Counter Options User Guide

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Oracle Banking Treasury Management Over the Counter Options User Guide, Release 14.7.4.0.0

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A Annexure – Event-wise Accounting Entries and Advices for OT

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Preface

This manual is designed to help you to quickly get acquainted with the Over the Counter Options (OT) module of Oracle Banking Treasury Management.

Audience

This guide is intended for Back Office Data Entry Clerk, Back Office Managers/ Officers, Product Managers, End of Day Operators, and Financial Controller users.

Acronyms and Abbreviations

The acronyms and abbreviations are listed in this below table:

Table 1 Acronyms and Abbreviations

Abbreviations or Acronyms	Definition
AEOD	Automated End of Day
AIF	Alternative Investment Fund
CLS	Continuous Linked Settlement
CIF	Customer Information Files
DV	Derivatives
Dr	Debit
EOFI	End of Financial Input
EOD	End of Day
FX	Foreign Exchange
GL	General Ledger
IRS	Internal Revenue Service
ICCB	Interest Commission Charge and Fee
LCY	Local Currency
LIBOR	London Interbank Offered Rate
MM	Money Market

Table 1 (Cont.) Acronyms and Abbreviations

Abbreviations or Acronyms	Definition
OBTR	Oracle Banking Treasury Management
OT	Over the Counter Options
RFR	Risk Free Rates

Conventions

The following text conventions are used in this document:

Table 2 Conventions and Meaning

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

List of Topics

This guide is organized as follows:

Topics	Description
Overview of Over the Counter Options	Explains the overview and features of the Options system.
General Maintenance	Explains the necessity of maintaining Branch Parameters, Contract Fair Value details and Limit Tracking details.
Define Attributes Specific to OT Products	Explains the procedure to define attributes specific to OT products.
Process OT Instruments	Explains the details of an OT and describes how you can capture an OT instrument.
Automatic Daily Processing	Explains the Beginning and End of Day functions that are processed by the system.
Annexure A – Event-wise Accounting Entries and Advices for OT	Explains the event-wise list of suggested accounting entries and advices for the module. The advices generated are also documented here.
Annexure B – Examples of Processing Interest Rate and Currency Options in Oracle Banking Treasury Management	Explains the examples of processing actual Interest Rate and Currency options in Oracle Banking Treasury Management.

Related Resources

For more information, see these Oracle Banking Treasury Management resources:

- *The Procedures User Manual*
- *The Core Entities User Manual*
- *The Settlements User Manual*

Symbols and Icons

Table 3 Symbols

Icons	Function
	Exit
	Add row
	Delete row
	Option List

1

Overview of Over the Counter Options

The Options module in Oracle Banking Treasury Management supports the complete life-cycle processing of the following over-the-counter derivative instruments:

- Interest Rate Options – Caps, Floors, Collars and Corridors
- Swaptions
- Currency Options – Plain Vanilla and Exotics

You can define products for buying or selling each of the above instruments, enter details of specific transactions, terminate or exercise option contracts and generate a comprehensive range of reports about your transactions in OT. You can enter into deals for hedging your existing exposures against interest rate or exchange rate fluctuations (hedge deals) or for speculation (trade deals).

Based on specifications, Oracle Banking Treasury Management can:

- Post accounting entries for various events in the life of an OT contract
- Generate messages for various events in the life of an OT contract
- Automatically exercise such contracts which are so marked by you
- Revalue outstanding contracts periodically
- Track your exposure to counterparties
- Generate, or allow you to generate, foreign exchange or interest rate swap deals on the exercise of physically settled currency options and swaptions respectively.

Subject to relevance to a specific instrument, Oracle Banking Treasury Management supports all the standard option expiration styles:

- European – where the option is exercised only on a pre-specified future date
- American – where the option is exercised on any date before and including a pre-specified future date
- Bermudan – where an option is exercised on any one of a set of pre-specified dates

1.1 OT Instruments and Transactions

This topic describes the Instruments and Transaction in OT module.

The Options are traded in the over-the-counter market, where the active participants are banks and corporates. Therefore, the deals are inter-bank or between a bank and a corporate. Deals are struck to cover an existing exposure (hedge deals) or to create a speculative exposure (trade deals).

The terms of an OT contract are tailored according to the mutual convenience of the counterparties. The counterparties also carry the complete exposure on each other, with no clearinghouse standing as a guarantor for the deals.

1.2 Interest Rate Options

This topic describes the Interest rate options in OT module.

An IRO is an interest rate risk management product – it protects the buyer from an adverse movement in interest rates.

A borrower of floating rate funds is inconvenienced by a rise in interest rates, while a lender is adversely affected by a fall in floating rates.

An IRO gives the buyer the right, but not the obligation, to fix the rate of a notional underlying loan or deposit for a specified period, commencing on a specified date. Thus, the buyer of an IRO is protected against the interest rate rising above (if she is a borrower) or falling below (if she is a lender) at a specified level. At the same time, the buyer of an IRO can enjoy the benefits of the interest rate staying below (if she is a borrower) or stay above (if she is a lender) the specified level.

IROs is any one of the following categories:

- Cap – an option that gives the holder right to enter into strips of notional future borrowings at a pre-agreed interest rate
- Floor – an option that gives the holder the right to enter into strips of notional future lending at a pre-agreed interest rate
- Collar – an option strategy that involves a purchased cap and a written (sold) floor
- Corridor – an option strategy that involves two caps purchased at different exercise prices

> **Note:**
>
> An IRO does NOT have an implied commitment by either counterparty to exchange the notional principal at any stage – so no credit has to be given (no debt security purchased) or deposit accepted (debt security sold) by either party.

This also means an IRO is entered with a pure speculation objective, only to hedge against adverse interest rate movements.

1.3 Swaptions

This topic describes the swaptions feature available in the OT module.

A swaption gives the buyer an option to enter into an interest rate swap deal at a future date at a pre-agreed price.

Below are the list of swaption:

Table 1-1 Types of Swaptions

Swaption	Description
Payer's Swaption	A payer's swaption gives the buyer of the option the right, but not the obligation, to pay a fixed rate and receive the floating interest rate in a swap contract. A swaption gives the holder the benefit of the agreed strike rate (fixed rate) if the prevailing market swap rate (fixed rate to be paid for receiving same benchmark floating rate) is higher while giving her the flexibility to enter into the prevailing market swap rate (fixed rate to be paid) if it is lower than the strike rate.
Receiver's Swaption	A receiver's swaption gives the buyer of the option the right, but not the obligation, to receive a fixed rate and pay the floating interest rate in a swap contract. This benefits the holder if the prevailing market swap rate (fixed rate to be received against the same benchmark floating rate to be paid) is lower than the strike rate – in this scenario, the holder can exercise the swaption and enter into a swap whereby she receives the strike rate as the fixed rate. If the reverse happens, she can not exercise the swaption and enter into a swap at the prevailing market swap rate.

A swaption is settled in either of the following ways:

- Physically Settled, where the counterparties are obliged to enter into an interest rate swap deal on exercise of the swaption.
- Cash Settled, where the counterparties are only expected to exchange money on exercise of the swaption.

1.4 Currency Options

This topic describes the currency options in OT module.

A currency option gives the holder the right, but not the obligation, to buy a specific currency against another specific currency at a pre-agreed rate on or before a pre-specified future date.

Apart from plain vanilla currency options, the OT module of Oracle Banking Treasury Management also supports exotics in the form of binary, digital, and no-touch options. Barrier options – options that get knocked in or knocked out under pre-specified conditions – are also supported

Currency options can have either of the following delivery types:

- Physically Settled, where the counterparties are obliged to enter into a spot foreign exchange deal on exercise of the swaption
- Cash Settled, where the counterparties are expected to exchange money on exercise of the option

> **Note:**
>
> As per Swift 2023 standards, the digital and no touch option will be same as binary and expiration style is only applicable for plain vanilla.

1.5 Dependencies

This topic describes how the OT module with the other subsystems.

The OT module interacts with the Foreign Exchange and Derivatives modules in Oracle Banking Treasury Management for the generation of FX contracts, interest rate swaps on the exercise of currency options, and swaptions respectively.

It also interacts with the following subsystems:

- Settlements
- Messaging
- ICCF
- Brokerage
- Tax
- MIS

2
General Maintenance

As part of the general maintenance required for the successful functioning of the OT module, you can maintain:

- Branch Parameters
- Contract Fair Value details
- Limit Tracking details

This topic has the following sub-topics:

- Branch Parameters
  This topic describes the systematic instruction to maintain branch parameters, contract fair values, and limit tracking details.

2.1 Branch Parameters

This topic describes the systematic instruction to maintain branch parameters, contract fair values, and limit tracking details.

This topic describes the general maintenance of Branch Parameters.

This topic contains the following sub-topics:

- Maintain Branch Parameters
  This topic describes the systematic instruction to process the Branch Parameters.
- Maintain Contract Fair Values
  This topic describes the systematic instructions to maintain contract fair values.
- Maintain Limit Tracking (Other Exposure) Details
  Limits tracking is done only for Purchased options. Limits are always tracked at the contract level for the sum of the Current Value of the option, Interest exposure, and exposure due to the FX movement.

2.1.1 Maintain Branch Parameters

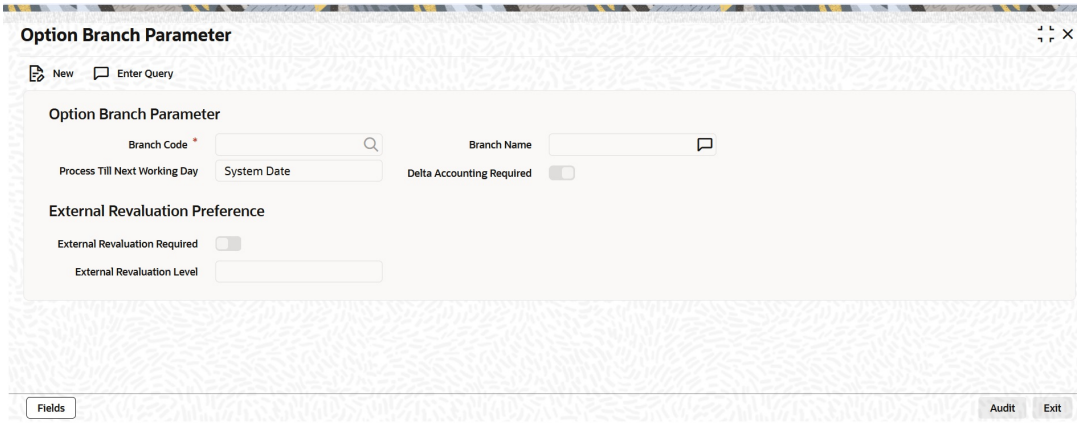
This topic describes the systematic instruction to process the Branch Parameters.

This topic describes maintaining branch level parameters that govern the processing of OT Interest Rate/Currency options in a particular branch of your bank through the Options Branch Parameters screen.

1. On Home page, type **OTDXBRPM** in the text box, and then click next arrow.

   The **Option Branch Parameter** screen is displayed.

Figure 2-1 Option Branch Parameter



2. On the **Option Branch Parameter** screen, click New.
3. On the **Option Branch Parameter** screen, specify the fields.

   For more information on the fields, refer to the below Field Description table.

Table 2-1 Option Branch Parameter - Field Description

Field	Description
Option Branch Parameter	Specify the Branch paramter.
Branch Code	Specify the branch code for the branch parameter.
Process Till Next Working Data	Indicate the manner in which events (liquidation, charges and so on) falling due on a holiday are to be processed. Indicate whether the batch process need to process automatic events falling due on a holiday either: • System Date: as part of the BOD process on the first working date after the holiday • Next Working Day – 1: as part of the EOD process on the working day preceding the holiday For example, assume today is 15th November, 16th November, and 17th November are holidays. If you check this field, during the Automatic Batch Update function run, only the events scheduled for 15th November are processed. The events scheduled for the holidays that is 16th November and 17th November is processed during the Automatic Batch Update function run during the beginning of day operations on 18th November.
Delta Accounting Required	Delta is the change in the option value for every point change in the stock price. In the system, this is applicable for Physically Settled Currency Options only. On maintaining this parameter and giving the delta factor value while maintaining a fair value record (OTDXCNVL), the system triggers Delta accounting events (DLTA) and accounting entries. Indicate whether delta accounting is required for the branch. You are not allowed to modify this parameter if any active physical currency options are being processed for the branch.

Table 2-1 (Cont.) Option Branch Parameter - Field Description

Field	Description
External Revaluation Required	Select the check box next to the External Revaluation Required, for the revaluation to be done externally. If this field is checked, ensure to set the external revaluation level to either branch level or product level in Option Branch Parameter screen.
External Revaluation Level	Choose the external revaluation level as required. There are two options for external revaluations, one at the branch level and the other product level. **Note:** If External revaluation is enabled, external revaluation level is mandatory.

4. Click Fields, to open the **User Defined Fields** screen.
5. In the **User Defined Field** screen, specify the fields.

2.1.2 Maintain Contract Fair Values

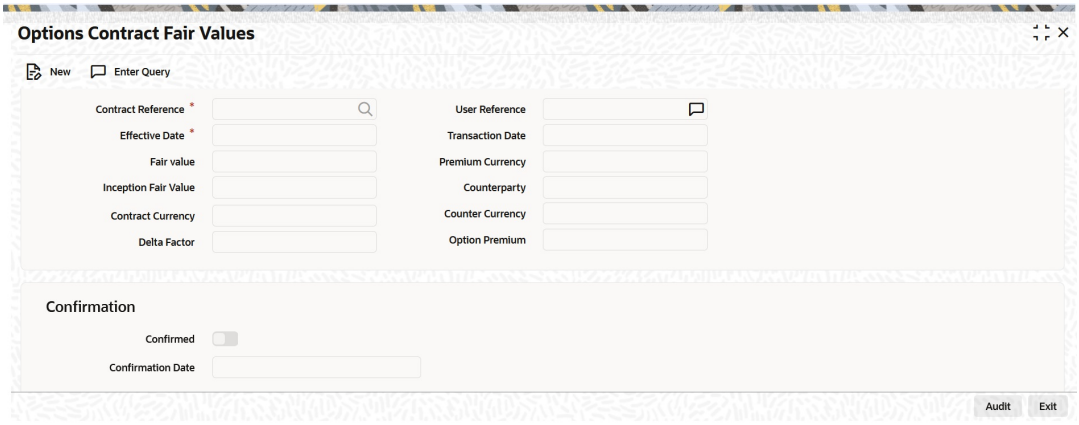
This topic describes the systematic instructions to maintain contract fair values.

The fair value of an option keeps fluctuating depending on the market rates. As a result, you need to revalue the price of each option maintained in Oracle Banking Treasury Management daily. Option Fair Values can be updated through the Contract Fair Value Maintenance screen.

1. On Home page, type **OTDXCNVL** in the text box, and then click next arrow.

   The **Options Contract Fair Value Maintenance** screen is displayed.

Figure 2-2 Options Contract Fair Value Maintenance



2. On the **Options Contract Fair Value Maintenance** screen, click **New**.
3. On the **Options Contract Fair Value Maintenance** screen, specify the fields.

   For more information on the fields, refer to the below Field Description table.

Table 2-2 Options Contract Fair Value Maintenance - Field Description

Field	Description
Contract Reference Number	Specify the revaluation price. First, select the reference number of the contract, which requires revaluation. Select the appropriate reference number for the adjoining option list. This field is mandatory.
Reval Effective Date	Specify the date on which the contract fair value becomes effective for evaluating the deal. This field is mandatory.
Delta Factor	Delta is the change in the option value for every point change in the stock price. You have to specify the delta factor used for the contract only if you have enabled the Delta Accounting Required option at the branch parameter level. Delta factor entered is multiplied by the contract amount to arrive at the delta accounting revaluation amount.
Fair Value	Specify the current Fair Value of the contract.
Transaction Date	Specify the date of the transaction. The system defaults it to the branch date. You can modify it.
User Reference Number	Based on the contract reference number specified, the system displays the user reference number.
Counterparty	System displays the contract CIF number of the counterparty on saving contract fair value.
Option Premium	The system defaults the option premium from the contract. It is the price or fee that the user pays or receives respectively for buying or writing an option.
Counter Currency	The system displays the counter currency on saving the contract.
Contract Currency	The system displays the contract currency on saving the contract.
Confirmed	The system picks up and processes only confirmed records for revaluation during the EOD batch. Hence, after entering the values, confirm the same.
Date	System defaults the current branch date in this field. The current market value of the option that you specify is always considered in the same currency as the option premium currency. In order for the system to pick-up only the latest fair value for revaluation, a user other than the one who created or authorized the Contract Fair Value record has to confirm the new fair value.

Refer to Annexure A and B for accounting entries and examples pertaining to Delta Accounting.

During bulk upload of these fair values for multiple contracts, Oracle Banking Treasury Management expects the following information to be present in the upload message:

- Contract Reference No
- Effective Date
- Fair Value

If any of these values is missing for any record, the system terminates the upload process and raise an error.

The single record and bulk record uploads requests are handled in bulk requests itself for the following:

- OT Knock In and Knock Out

- OT Fairvalue
- OT Rate Revision

The system also raise an error if:

- Contract Reference Number is not valid
- Duplicate record exists for the Contract Reference Number and Effective date combination
- Effective date is lesser than the Booking Date
- Effective date is greater than the application date
- Delta Factor value is invalid

Refer to Annexure A and B for accounting entries and examples about Delta Accounting.

You can run the fair value upload process any time before the OT batch is processed during the day. During the OT batch, contract revaluation is done based on the fair value uploaded.

2.1.3 Maintain Limit Tracking (Other Exposure) Details

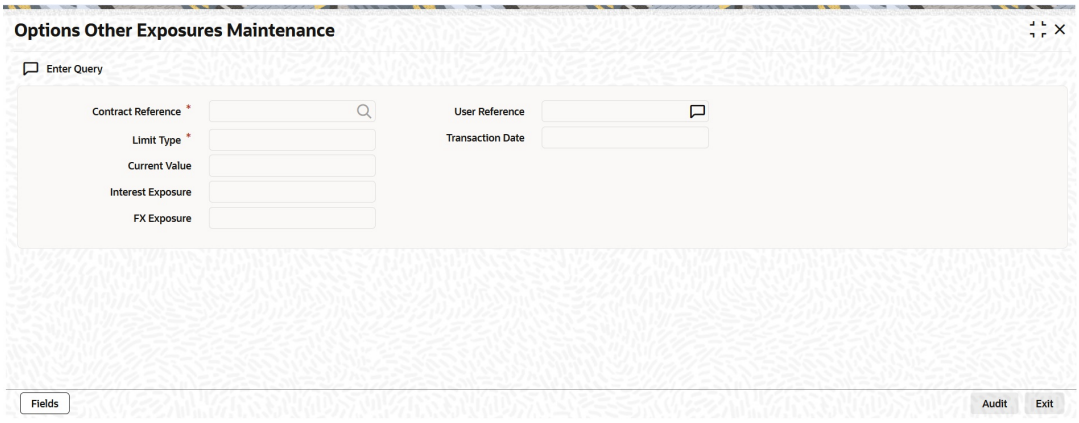
Limits tracking is done only for Purchased options. Limits are always tracked at the contract level for the sum of the Current Value of the option, Interest exposure, and exposure due to the FX movement.

On Inception of the contract, you can specify the Line, the Master Agreement Code, the marked-to-market value of the option, exposure to be tracked due to interest rate fluctuation, and exchange rate movements. After the booking of the contract, you can specify the various exposures through the Options Other Exposure Maintenance screen.

1. On Home page, type **OTDXLMVL** in the text box, and then click next arrow.

   The **Options Other Exposures Maintenance** screen is displayed.

Figure 2-3 Options Other Exposures Maintenance



2. On the **Options Other Exposures Maintenance** screen, click New.
3. On the **Options Other Exposures Maintenance** screen, specify the fields, and then click Enter Query.

   For more information on the fields, refer to the below Field Description table.

Table 2-3 Options Other Exposures Maintenance - Field Description

Field	Description
Contract Reference Number	The system displays the reference number of the contract.
Limit Type	Specify the limit type.
Transaction Date	Specify the date on which the transaction is processed.
Current Value	Current value represents the mark-to-market value of the contract. This value changes as and when the contract is revalued.
Interest Exposure	Specify the exposure to fluctuation in interest rates.
User Reference Number	The system displays the user reference number, based on the contract reference number.
FX Exposure	Specify the exposure to fluctuations in exchange rates only when foreign currency is involved. You can identify the contract for which you would like to record the Interest and FX exposures by selecting the Reference Number of the contract. The Transaction Date is defaulted to the application date you will not be allowed to change it. If a contract is amended and the limit line is changed in the Contract Online screen, utilization is deleted for the previous line, and the latest utilization is recorded for the new line.

3

Define Attributes Specific to OT Products

This topic describes to define attributes specific to an OT Options Interest Rate and Currency product.

- Maintain Products in Options Module
  This topic describes the systematic instruction to maintain OT products.

3.1 Maintain Products in Options Module

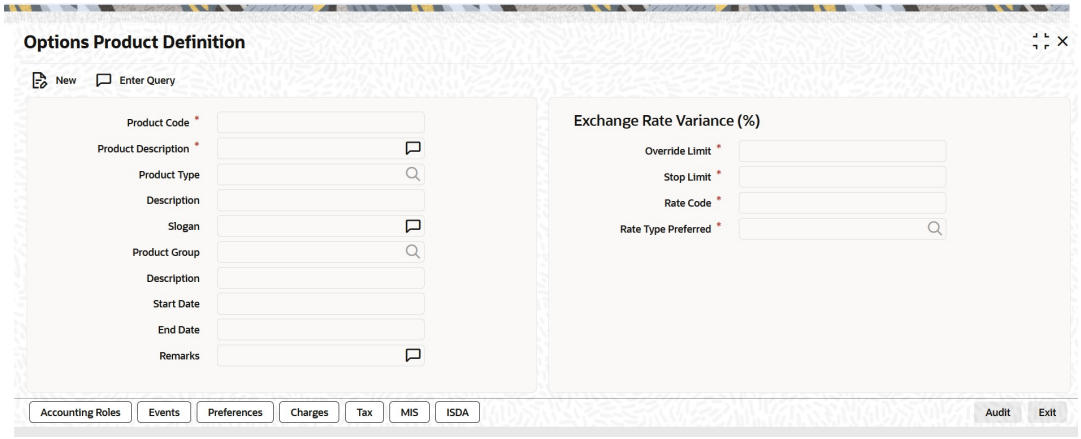
This topic describes the systematic instruction to maintain OT products.

You can create OT products in the OT Product Definition screen, processed from the Application Browser. In this screen, you can enter basic information relating to a product such as the Product Code, the Description, and so on.

1. On Home page, type **OTDPRMNT** in the text box, and then click next arrow.

   The **Options Product Definition** screen is displayed.

Figure 3-1 Options Product Definition



2. On the **Options Product Definition** screen, click New.
3. On the **Options Product Definition** screen, specify the fields.

   The first attribute you define for a product is its Type. Once you have made this basic classification, then you can tailor the product to suit your requirements. Therefore, before specifying the attributes of a product, you have to indicate whether the product is an Interest Rate option product or whether it is a Currency option product.

   Since you define products for convenience, all OT deals involving the product inherit the attributes defined for the product. Yet, you have room for flexibility. You can change the inherited attributes of a specific option to suit your requirements at the time of processing it.

   For any product you create in Oracle Banking Treasury Management, you can define generic attributes, such as branch, currency, customer restrictions, interest details, tax details, and so on, by clicking on the appropriate icon in the horizontal array of icons in this

screen. For an OT product, in addition to these generic attributes, you can specifically define other attributes. These attributes are discussed in detail in this topic.

You can define the attributes specific to an OT product in the OT Product Definition Main screen and the OT Product Preferences screen. In these screens, you can specify the product type and set the product preferences respectively.

For more information on the fields, refer to the below Field Description table.

Table 3-1 Options Product Definition - Field Description

Field	Description
Product Type	Specify the product type. The product type identifies the basic nature of a product. An options product that you create can either be an Interest Rate option or a Currency option. You have to specify the product preferences depending on the product type.

4. On the **Options Product Definition** screen, under Exchange Rate Variance, specify the fields.

For a special customer, or in special cases, you can use an exchange rate (a special rate) that is greater than the exchange rate maintained for a currency pair. The variance is referred to as the Exchange Rate Variance.

When creating a product, you can express an Exchange Rate Variance Limit in terms of a percentage. This variance limit would apply to all contracts associated with the derivatives product.

For more information on the fields, refer to the below Field Description table.

Table 3-2 Options Product Definition - Field Description

Field	Description
The Override Limit	Specify the override limit. If the variance between the default rate and the rate input varies by a percentage that is between the Override Limit and the Rate Stop Limit, you can save the deal (involving the product) by providing an override.
The Rate Stop Limit	Specify the Rate Stop Limit. If the variance between the default rate and the rate input varies by a percentage greater than or equal to the Rate Stop Limit, you cannot save the deal.
Rate Code	While settling charges for cross currency settlements, you can choose to debit the customer by applying the mid rate or by using the buy/sell spread over the mid-rate.
Rate Type	Specify the Rate Type which should be picked up for exchange rate conversions involving settlement of charges for cross currency deals. You can maintain any one of the following as the Rate Type: • Swaprate • Spot • Money • Bills • Standard

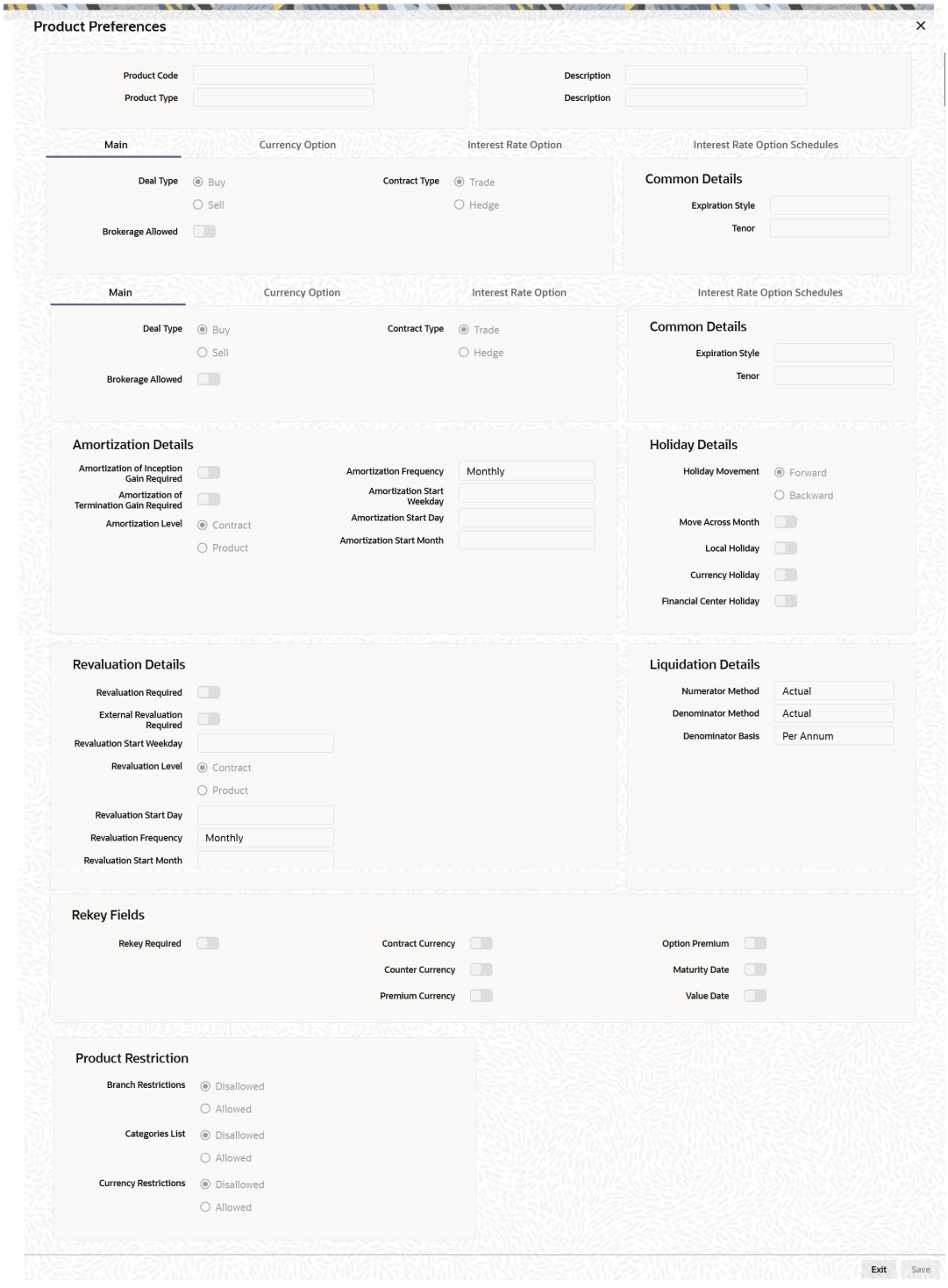
For further information on the generic attributes that you can define for a product, refer the following Oracle Banking Treasury Management User Manuals under Modularity:

- *Product Definition*
- *Settlements*

5. On **Options Product Definition**, click **Preferences**.

   The **Product Preferences** screen is displayed.

Figure 3-2 Product Preferences



Preferences are the options available for defining the attributes of a product. The instruments categorized under a product can inherit the preferences that are defined for it.

Preferences screen gets displayed based on the product type. In case of an Interest rate Option product, the screen is classified into three sections:

- Main – wherein you specify the common preferences applicable to both IRO
- Interest Rate Option – wherein you can specify the attributes specific to an Interest Rate option
- Interest Rate Option Schedules – wherein you can define schedule for the IRO

In case of a currency option product, the screen has only two tabs:

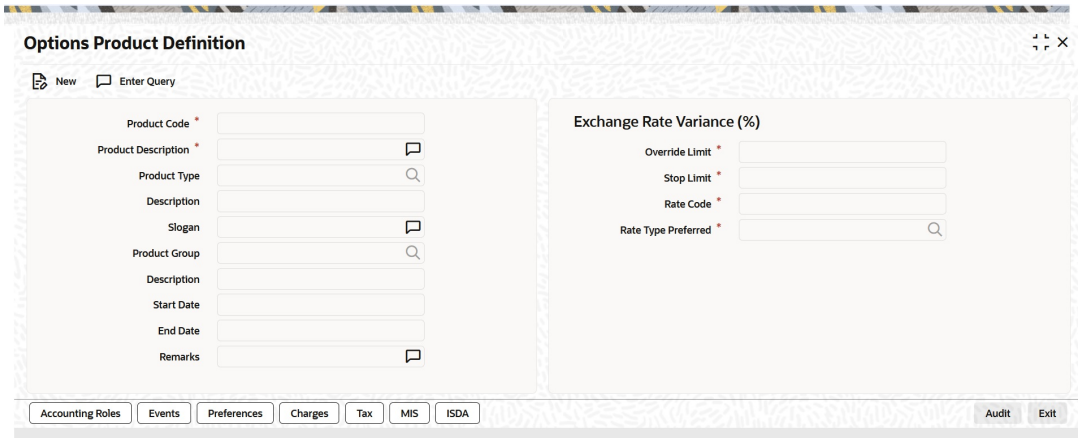
- Main - wherein you specify the common preferences applicable to Currency options.

Currency Option - wherein you can specify the attributes specific to the currency options.

Each of the preferences is documented in detail in the subsequent topics.

6. On the **Product Preferences** screen, under Main tab, specify the fields.

Figure 3-3 Main Tab



For more information on the fields, refer to the below Field Description table.

Table 3-3 Product Preferences - Field Description

Field	Description
Deal Type	Specify whether the product caters to options wherein your bank is buying or selling options. You will be allowed to change this preference for a particular option.
Contract Type	Specify whether the product is meant for Trade deals (Speculation on interest rate or spot rate movement) or Hedge deals (Protection against risk due to interest rate or spot rate movement). You will be allowed to change this preference while processing a specific deal.
Brokerage Allowed	Select this preference, which indicates that option deals involving this product can involve brokerage.

7. On the **Product Preferences** screen, under Main tab, specify the common details.

For more information on the fields, refer to the below Field Description table.

Table 3-4 Product Preferences - Common Details - Field Description

Field	Description
Expiration Style	Specify any one of the following methods for contract expiration: • **European** - exercise possible only on maturity date • **American** - exercise possible between any pre-specified date and the maturity date • **Bermudan** - exercise possible only on some pre-specified dates before the maturity date and the maturity date itself **Note:** As per swift 2023 standards, expiration style is applicable only for Plain Vanilla.
Tenor (Days)	Specify the periodicity of the Options deal involving the product. The periodicity is indicated in terms of days and can be changed while processing a specific contract.

Apart from Swaptions, for all other Interest Rate options, expiration is allowed only on the maturity date (European), since the settlement is always done on the Maturity Date if the option is in the- money.

For Swaptions, the expiration style can be American or Bermudan or European. Manually enter an Interest Rate swap in case of a deliverable Swaption (by specifying the details of the Interest Rate Swap in the DV Contract Online screen) and manually exercise the Swaption by entering the settlement amount (Cash settled Swaption)/Swap Value (Physically settled Swaption).

The following expiration styles are allowed for Currency Options:

Table 3-5 Expiration Styles

Field	Expiration Style
Plain Vanilla	American, Bermudan, and European
Binary	NA
Digital	NA
No Touch	NA

Note:

As per swift 2023 standards, expiration style is applicable only for Plain Vanilla.

8. On the **Product Preferences** screen, under Main tab, specify the Amortization Details.

   For more information on the fields, refer to the below Field Description table.

Table 3-6 Product Preferences - Amortization Details - Field Description

Field	Description
Amortization Inception Gain Required	Check this box if you want the inception gain (if any) to be amortized. At the time of inception, Gain is distributed throughout the contract - from Effective Date to Maturity Date.
Amortization of Termination gain Required	Specify whether you want to amortize the deferred Termination Gain if an option deal involving the product is terminated prematurely. At the time of termination, Gain is distributed throughout the period of the contract from Termination Date to Maturity Date. This feature is applicable only for hedge deals. In case of termination gain, the amortization will happen from the Date of Termination till the Maturity Date of the contract. Whereas; in case of inception gain, the amortization will happen from the Effective Date till the Maturity Date of the contract.
Amortization Level	Specify at which level you want the system to perform amortization. It is performed either at the Product or the Contract level. At the product level, accounting entries involving all products are netted, and a single entry is posted for all deals involving the product.
Amortization Frequency	Specify the frequency of amortization. The options available are Weekly, Monthly, Quarterly, Half Yearly, and Yearly.
Amortization Start Weekday / Start Day / Start Month	In case of a Weekly frequency, Specify the day of the week on which amortization should start. If the frequency is fortnightly or monthly, you have to specify the date on which the amortization starts. Similarly, when the frequency is Half-yearly or Yearly, you have to select the month of the year in which the amortization should start. **Note:** If you choose to amortize inception gain, the same is amortized over a period from the value date of the option contract till its maturity/termination irrespective of the date of payment of the premium.

Table 3-6 (Cont.) Product Preferences - Amortization Details - Field Description

Field	Description
Processing Impact	The system processes contracts involving the product based on the preferences you set. Accordingly, the following activities are performed during processing: • Amortization is done only for deferred gains (Inception Gain, Time Value in case of hedge deals, and termination gains). There is no amortization of Inception and termination loss. These are recognized as Expenses when incurred. • Amortization of Time Value in case of hedge deals is based on the Revaluation parameters (level, frequency, and so on) since it is the revaluation of the contract. • The following fields are not defaulted to the contracts involving the product: – **Amortize Inception Gain** – **Amortize termination gain** – **Revaluation required** • Moreover, you are not allowed to modify your preferences for these options if a contract involving the product are still active. • If a day which is not present in a month has been selected as the Amortization Start Day or Termination Start Day, the Start Day is taken as the last day of the current month. For instance, if you have selected 31 as the Amortization Start Day, with the frequency as Monthly, and the processing month is February, the processing is done on the 28th of the month. Else it is done on the 29th if it is a leap year.

9. On the **Product Preferences** screen, under Main tab, specify the Holiday Details.

   For more information on the fields, refer to the below Field Description table.

Table 3-7 Product Preferences - Holiday Details - Field Description

Field	Description
Holiday Treatment	Specify the holiday treatment. In Oracle Banking Treasury Management, a Maturity Date falling due on a holiday is treated in any of the following ways: • Ignore the holiday - In which case the holiday will be ignored and the Maturity Date will be retained as per the frequency • Choose to follow the Local holiday - The contract Maturity Date is defaulted on the Next Working Day or the Previous Working Day, as per your specifications in the Branch Holiday Maintenance screen • Choose to follow the Currency holiday - The movement of the Maturity Date is based on the holiday calendars maintained for the currency specified in the Holiday Currency field • Choose to follow the Financial Center holidays - The movement of the Maturity Date is based on the holiday calender maintained for the financial center specified in the Holiday Financial center field.
Holiday Currency	Select the holiday treatment as Currency. If you have chosen the holiday treatment as Currency, indicate the currency code in this field. Resultantly, the movement of the Maturity Date is based on the holidays maintenance for the currency code that you identify in the Holiday Currency field.

Table 3-7 (Cont.) Product Preferences - Holiday Details - Field Description

Field	Description
Financial Center	Specify that the holiday treatment needs to be governed by the Financial Center. In such a case, the movement of the Maturity Date is based on the holidays' maintenance for the financial institution (Clearing House) that you identify in the Financial Center field. If you choose either the currency holiday or the holiday calendar maintained for the financial center, you need to specify the currencies or financial institutions for deals involving in the product. When Maturity Date falls due on a holiday, then the system computes the next maturity date. This is based on the combination of holiday calendars maintained for all the currencies or financial institutions that you have specified for the contract. Therefore, the next maturity date for a contract is a working day in all the calendars involved in the contract.
Holiday Movement	Specify the movement of the maturity date. Occasionally the preferred holiday treatment, the branch holiday, the currency holiday, or the holiday governed by the financial center fall on a holiday. Whether it is to be moved forward to the next working day or whether it should be moved back to the previous working day. Local Holiday: Select this check box, to execute the Local Holiday calendar validation of the dates and movement of schedules. Currency Holiday: Select this check box, to execute the Currency Holiday Calendar validation of the dates and movement of schedules. Financial Center: Select this check box, to execute the Financial Center Holiday Calendar validation of the dates and movement of schedules.
Moving the Maturity Date across Months	If you choose to move the Maturity Date falling due on a holiday either forward or backward, such that it falls due on a working day, and it crosses over into another month, the maturity date is moved into the next month only if you so indicate. If not, the maturity date will be kept in the same month.

10. On the **Product Preferences** screen, under Main tab, specify the Revaluation Details.

    For more information on the fields, refer to the below Field Description table.

Table 3-8 Product Preferences - Revaluation Details - Field Description

Field	Description
Revaluation Required	Select Revaluation Required check box for a contract involving the product needs to be revalued.

Table 3-8 (Cont.) Product Preferences - Revaluation Details - Field Description

Field	Description
External Revaluation Required	Select External Revaluation Required check box for the contract level revaluation level (Revaluation done externally). The External Revaluation Required flag is amendable. External revaluation is done for trade deals only. **Note:** The event and the accounting entries maintained for the product to trigger external revaluation is operational controlled. Revaluation Frequency and Revaluation methods are not considered for External revaluation. **Note:** You can choose either the option Revaluation Required or External Revaluation Required at a time. You cannot choose both at the same time.
Revaluation Level	Enable this preference to specify the level at which revaluation is to be performed. At the product level, revaluation entries are netted and passed for all deals involving the product.
Revaluation Frequency	Select the frequency at which revaluation is to be performed from the adjoining drop-down list. The list displays the following values: • **Daily** • **Monthly** • **Quarterly** • **Half yearly** • **Yearly**
Revaluation Start Weekday / Start Day / Start Month	Specify the date on which the revaluation needs to be done during the month. For example, if you specify the date as '30', the revaluation will be carried out on that day of the month, depending on the frequency. If you want to fix the revaluation date for the last working day of the month, you have to specify the date as 31 and indicate the frequency. If you indicate the frequency as monthly, the revaluation will be done at the end of every month, which is on 31st for months with 31 days, on 30th for months with 30 days and on 28th or 29th, as the case can be, for February. If you specify the frequency as quarterly and fix the revaluation date as 31, the revaluation will be done on the last day of the month at the end of every quarter. It works similarly for half-yearly and yearly revaluation frequency. If you set the revaluation frequency as quarterly, half-yearly, or yearly, you have to specify the month in which the first revaluation has to begin, besides the date on which the revaluation needs to done.

Table 3-8 (Cont.) Product Preferences - Revaluation Details - Field Description

Field	Description
Processing Impact	For Hedge deals amortization of Time Value is performed only if the Revaluation Required option is enabled. If the Amortize Inception Gain option is not enabled, Inception Gain if any are treated as income directly on the inception of the options deal. Also, termination gain for hedge deals amortizes, only if the Amortize Termination Gain option is enabled for the product, else any termination gain treats as income on termination and will not be amortized.

11. On the **Product Preferences** screen, under Main tab, specify the Liquidation Details.

    For more information on the fields, refer to the below Field Description table.

Table 3-9 Product Preferences - Liquidation Details - Field Description

Field	Description
Numerator Method	Select the method that is used to calculate the number of days between the schedule start and end dates for calculating the settlement amount from the adjoining drop-down list. The list displays the following values: • 30-US • 30-ISDA • 30-PSA • Actual • Actual-Japanese
Denominator Method	Select the method that is used to calculate the number of days in a year for the calculation of the settlement amount from the drop-down list. The list displays the following values: • Actual • 365 • 360
Denominator Basis	Specify whether the difference between the Strike Rate and the Reference Rate is to be taken for the whole year or for the schedule period during Settlement Amount calculation. The basis can either be Per Period or Per Annum.

12. On the **Product Preferences** screen, under the **Main** tab, select the Rekey filed.

    Select the **Rekey** check box to specify the values of certain fields should be entered when an Option contract is invoked for authorization - as a cross-checking mechanism.

    While defining the product you have to indicate the fields whose values you need to enter before a contract is authorized. Thus it becomes mandatory for you to enter the values of rekey fields for all contracts linked to the product.

    You can specify any or all of the following as rekey fields:

    - Contract Currency
    - Option Premium
    - Counter Currency (applicable only for Currency options)
    - Maturity Date
    - Premium Currency

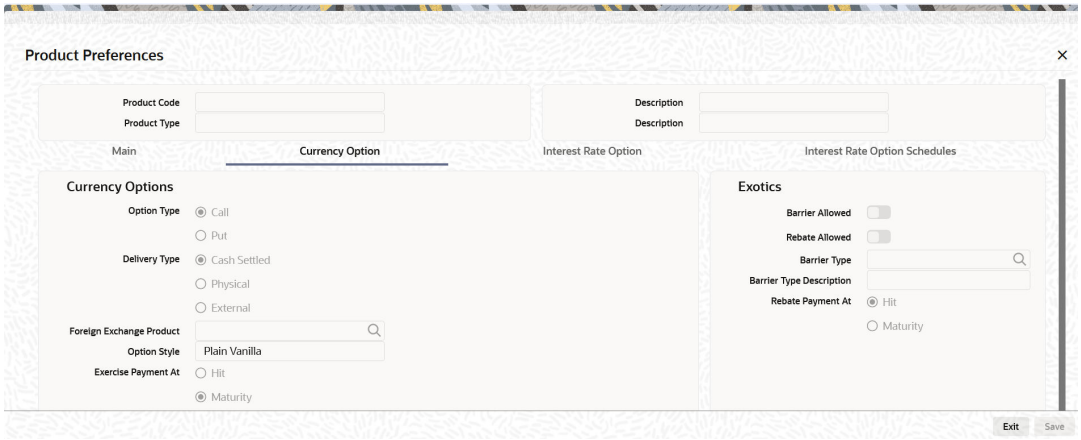
- Value Date

If no rekey fields is defined, the system displays the details of the contract immediately when the authorizer calls the contract for authorization.

13. On the **Product Preference** screen, click the **Currency Option** tab.

The Currency Option section is displayed.

Figure 3-4 Currency Option



Since currency option preferences are specific to currency options, the Currency Option tab displays only if you have indicated that you would like to define products meant for Currency Options.

14. On the **Product Preferences** screen, under Currency Option tab specify the currency options.

For more information on the fields, refer to the below Field Description table.

Table 3-10 Product Preferences - Currency Option - Field Description

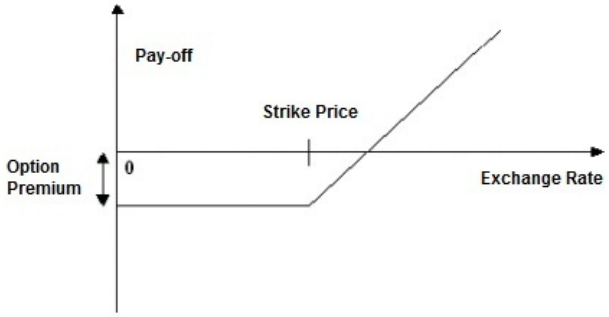
Field	Description
Option Type	Specify whether the currency option that you define is a Call option or a Put option. • A call option gives the buyer the right to buy a specified quantity of a certain currency (contract currency) against another (counter currency) at a specified exchange rate on or before a pre-specified future date. If on the specified future date, the market exchange rate is lower than the rate specified in the call option, the buyer will not exercise the right and, instead, buy the contract currency at the more favorable market rate. • A put option gives the buyer the right to sell a specified quantity of a certain currency (contract currency) against another (counter currency) at a specified exchange rate on or before a pre-specified future date. If on the specified future date, the market exchange rate is higher than the rate specified in the put option, the buyer will not exercise the right and, instead, sell the contract currency at the more favorable market rate. Currency Options, thus, protect the buyer against adverse exchange rate movements, while giving the buyer the benefit of favorable exchange rate movements.
Delivery Type	Specify the delivery type. Options involved in a product can either be allowed to get into future FX deals (Physical) or you can opt for a net cash agreement on exercise (Cash Settled) or could be external (through uploads). If you choose Physical as the delivery type, you have to identify the Spot FX product which is to be used to upload an FX contract. If you choose the Cash Settled option, you have to indicate whether the option style is any one of the following: • Plain Vanilla - This is a contract that provides the buyer the right but not the obligation to buy or sell the underlying currency at a predetermined rate. The expiration style can be American, European, or Bermudan. This is a standard currency option. It becomes a non-standard option if exercised with a barrier. • Binary - This is an agreement, under which a fixed amount is paid by the option writer to the option holder if a specific condition is met at any time during the exercise period. The payment of the fixed amount can be either at the time when the specific condition is met before or on maturity date for a manual exercise or on the expiration date for auto Exerci se/expiry. • Digital - This is an agreement under which a fixed amount is paid by the option writer to the option holder if a specific condition is met on the expiration date. • No Touch – This is an agreement under which a fixed amount is paid by the option writer to the option holder unless a specific condition is met on the expiration date. **Note:** As per Swift 2023 standards, expiration style is applicable only for Plain Vanilla and the Digital and No Touch option will be same as Binary.
Foreign Exchange Product	Select the FX product. If you have chosen the delivery type is Physical, it is necessary to provide the details of the FX product.

Table 3-10 (Cont.) Product Preferences - Currency Option - Field Description

Field	Description
Option Style	Select the option style from the drop-down menu which displays the following values: • **Plain Vanilla** • **Binary** • **Digital** • **No Touch** If Digital and No touch options are selected as the option style, the processing is same as Binary.

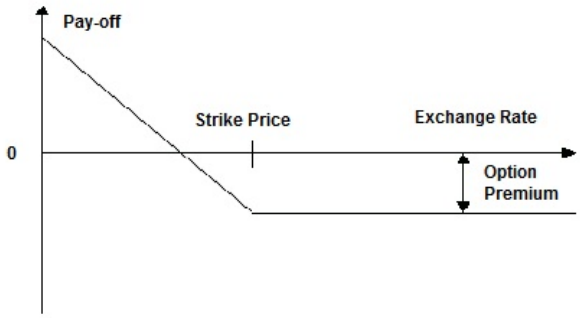
The buyer's pay-off for a call option is graphed as follows:

Figure 3-5 Call Option



The buyer's pay-off for a put option is graphed as follows:

Figure 3-6 Put Option



15. On the **Product Preferences** screen, under Currency Option tab specify the details.

For more information on the fields, refer to the below Field Description table.

Table 3-11 Product Preferences- Currency Options - Exotics -Field Description

Field	Description
Barrier Allowed	Specify whether a barrier can be used for knock-in or knock-out of an option. A barrier is a predetermined underlying asset price at which the deal ceases to exist (gets knocked out) or comes into existence (gets knocked in). If you enable this preference, you will have to identify the barrier type. The options available are: • **Single Knock In** - A deal comes into existence if a pre-specified asset price is met between the start and end of the barrier window • **Single knock Out** - A deal ceases to exist (Knocked-out) if a pre-specified asset price is met between the start and end of the barrier window. A pre-determined rebate amount is paid in this case • **Double Knock In** - A deal comes into existence if any of the two pre-specified underlying asset prices are met between the start and end of the barrier window • **Double Knock Out** - A deal ceases to exist if any of the two pre-specified underlying asset prices are met between the start and end of the barrier window. A pre-determined rebate amount is paid in this case As per SWIFT 2023 standards, new barrier events are introduced in place of Single Knock In and Single Knock Out as mentioned below: • Below are the Single knock In barrier events: – **Up and in Knock in (UIKI)** - If spot rate is greater than barrier price, then Knock in will be triggered – **Down and in Knock in (DIKI)** - If spot rate is lower than barrier price, then Knock in will be triggered • Below are the Single Knock Out barrier events: – **Up and Out Knock Out (UOKO)** - If spot rate is greater than barrier price, then Knock out will be triggered – **Down and Out Knock Out (DOKO)** - If spot rate is lower than barrier price, then Knock out will be triggered Refer to Annexure B for examples on the various type of exotic currency options.
Rebate Allowed	Select the **Rebate Allowed** check box for a rebate, that is paid if a contract involving the product gets knocked-out. Rebate is usually given for contracts that are knocked-out before maturity due to a single or double knock-out barrier hit. Banks want to give a rebate on the option premium to a certain percentage of the premium, in case of a knock-out. The amount which is given as rebate can credits to the counterparty's account, either at Hit or at contract maturity which is determined by the field Payment At.

Table 3-11 (Cont.) Product Preferences- Currency Options - Exotics -Field Description

Field	Description
Barrier Type	Select the barrier type from the drop-down menu. Oracle Banking Treasury Management allows you to select any one of the following: • **SKOT- Single Knock Out (SKOT)** • **DKOT - Double Knock Out (DKOT)** • **SKIN - Single Knock In (SKIN)** • **DKIN - Double Knock In (DKIN)** As per swift 2023 standard, the below new barrier types are introduced in place of single knock in and knock out: • **DIKI - Down and In Knock-in** • **DOKO - Down and Out Knock-out** • **UIKI - Up and In Knock-in** • **UOKO - Up and Out Knock-out** • **DKIN- Double Knock-in** • **DKOT- Double Knock-out**
Rebate Payment At	Select **Hit** or **Maturity** to specify when the Rebate amount has to be paid. Rebate payment for a knock-out option can be made either at Hit or at Maturity. When an option gets knocked-out it is considered as Hit. Rebate payment for an option which has not knocked-in can be made at **Maturity** only.
Exercise Payment At	Select **Hit** or **Maturity** to specify when the exercise amount has to be settled. **Note:** For an vanilla option, with expiry style as European the exercise payment must be at maturity.

Although you have set these as preferences at the product level, for a specific Currency Option you are allowed to change the following details:

- Option Type
- Delivery Type
- Option Style.
- Barrier Type
- Payment At

SWIFT 2023 Barrier Events

Barrier events occur as described below. In order for the barrier events to occur, the barrier spot rate needs to breach (for example, be greater than or less than, as applicable, as described in the relevant barrier event) the relevant barrier level(s) at any barrier event determination time on any barrier event determination date. However, if the Barrier Event Equal Modifier is specified as "Y", then the words "or equal to" will be deemed to be removed from relevant barrier event definition.

- Up and In Knock-in Event: An event that occurs when the spot rate is greater than or equal to the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless.

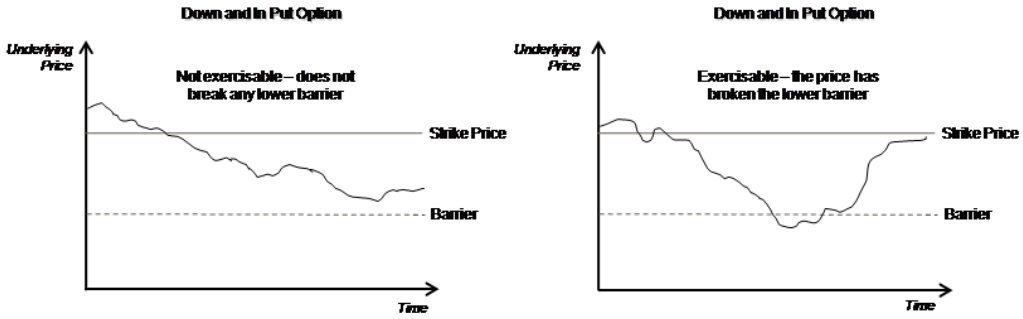
- Down and In Knock-in Event: An event that occurs when the spot rate is less than or equal to the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless.
- Up and Out Knock-out Event: An event that occurs when the spot rate is greater than or equal to the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.
- Down and Out Knock-out Event: An event that occurs when the spot rate is less than or equal to the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.
- Double Knock-in Event: An event that occurs when the spot rate is either (i) greater than or equal to the upper barrier level or (ii) less than or equal to the lower barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless.
- Double Knock-out Event: An event that occurs when the spot rate is either (i) greater than or equal to the upper barrier level or (ii) less than or equal to the lower barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.

Knock-in Barrier Types
A deal comes into existence, if a pre-specified asset price is met between the start and end of the barrier window. The two scenarios are:

- down and in
- up and in

Down and In (D&I): A form of a knock-in Option whose payoff is determined by the price of the underlying asset sinking to the lower barrier price level.

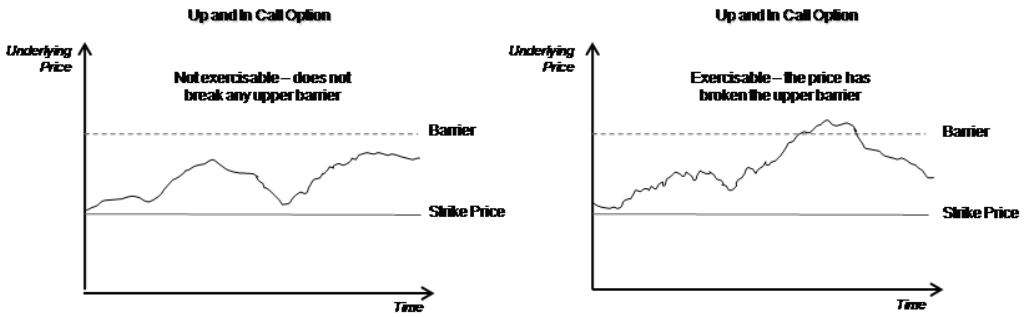
Figure 3-7 Down and In put option



Example: consider a one-month down and in Put Option on a stock that is trading at $10.00, with a strike price of $9.50 and a barrier of $9.00. If the price of the stock falls below $9.00 before the one-month expiration of the Option contract, the Put Option is activated and the buyer has the right to sell the stock at the strike price of $9.50. On the other hand, if the stock does not fall below the $9.00 barrier, the Put Option is not activated and will expire worthless.

Up and In (U&I): An Option that can only be exercised when the price of the underlying asset reaches a set barrier level. This is a type of a knock-in barrier Option.

Figure 3-8 Up and In Call Option



Example: consider a one-month up and in Call Option on a stock that is trading at $9.50, with a strike price of $9.00 and a barrier of $10.00. If the price of the stock climbs above $10.00 before the one-month expiration of the Option contract, the Call Option is activated and the buyer has the right to buy the stock at the strike price of $9.00. On the other hand, if the stock does not climb above the $10.00 barrier, the Call Option is not activated and will expire worthless.

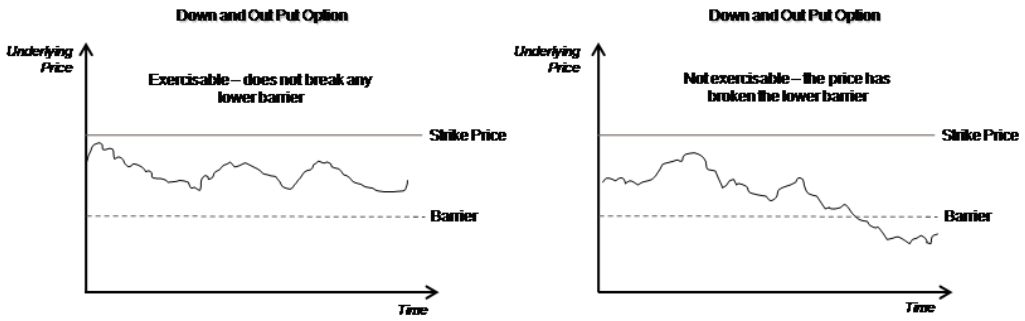
Knock-out Barrier Types

A deal comes into existence, if a pre specified asset price is met between the start and end of the barrier window. A pre-determined rebate amount is paid in this case. The two scenarios are down and out & up and out

- down and out
- up and out

Down and Out (D&O): A type of knock-out barrier Option that ceases to exist when the price of the underlying security hits a specific barrier price level. If the price of the underlying does not reach the barrier level, the investor has the right to exercise their European Call or Put Option at the exercise price specified in the contract.

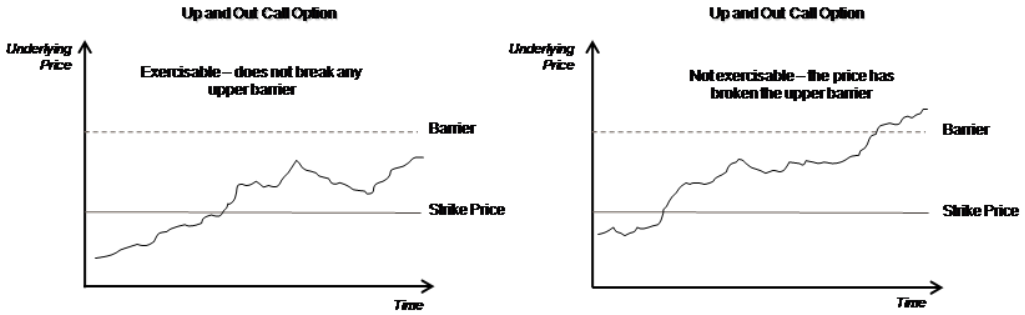
Figure 3-9 Down and Out put option



Example: Consider a one-month down and out Put Option with a strike price of $9.00 with knock-out barrier at $8.00 when the underlying asset is trading at $8.50. The underlying asset diminishes steadily but slowly and closes at $7.50 upon expiration of the Option. Even though the underlying asset is trading lower than the Option's strike price of $9.00, the Barrier Options becomes immediately worthless as the knock-out barrier price of $8.00 is reached.

Up and Out (U&O): A type of Option that ceases to exist when the price of its underlying asset has reached a pre-specified price level.

Figure 3-10 Up and Out Call Option



Example: Consider a one-month up and out Call Option with a strike price of $8.00 with knock-out barrier at $9.00 when the underlying asset is trading at $7.00. The underlying asset gains steadily but slowly and closes at $9.50 upon expiration of the Option. Even though the underlying asset is trading higher than the Option's strike price of $8.00, the Barrier Options becomes immediately worthless as the knock-out barrier price of $9.00 is reached.

Double Knock In Barrier Type

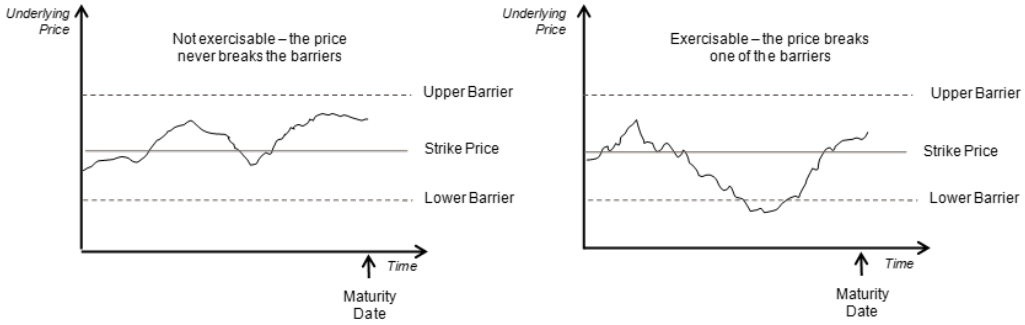
Double Knock-In means that if the Spot Exchange Rate on a Barrier Event Determination Date is either:

- greater than or equal to the Upper Barrier Level or
- less than or equal to the Lower Barrier Level

If the above conditions are applied, the option will knock- in and exercisable.

If the price is not breached, then option will expire.

Figure 3-11 Double Knock In Options



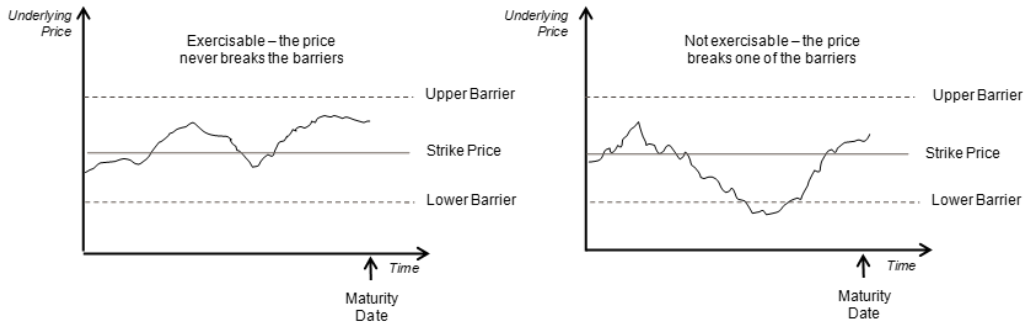
For example, if the current GBP/USD rate is 1.15, and a trader believes this rate will breach over the next 15 days, the trader could use a double knock in option with barriers at 1.10 and 1.20. If the underlying asset reaches the barrier at any time during the option's life, the knock-in option is brought into active existence and will remain that way until expiration.

Double Knock-Out Barrier Type

Double Knock-Out means that if the Spot Exchange Rate on a Barrier Event Determination Date is either:

- greater than or equal to the Upper Barrier Level or
- less than or equal to the Lower Barrier Level, then Automatic Termination shall apply to the Transaction upon such occurrence; otherwise, if it is not breached, the option will be exercisable.

Figure 3-12 Double Knock Out Options

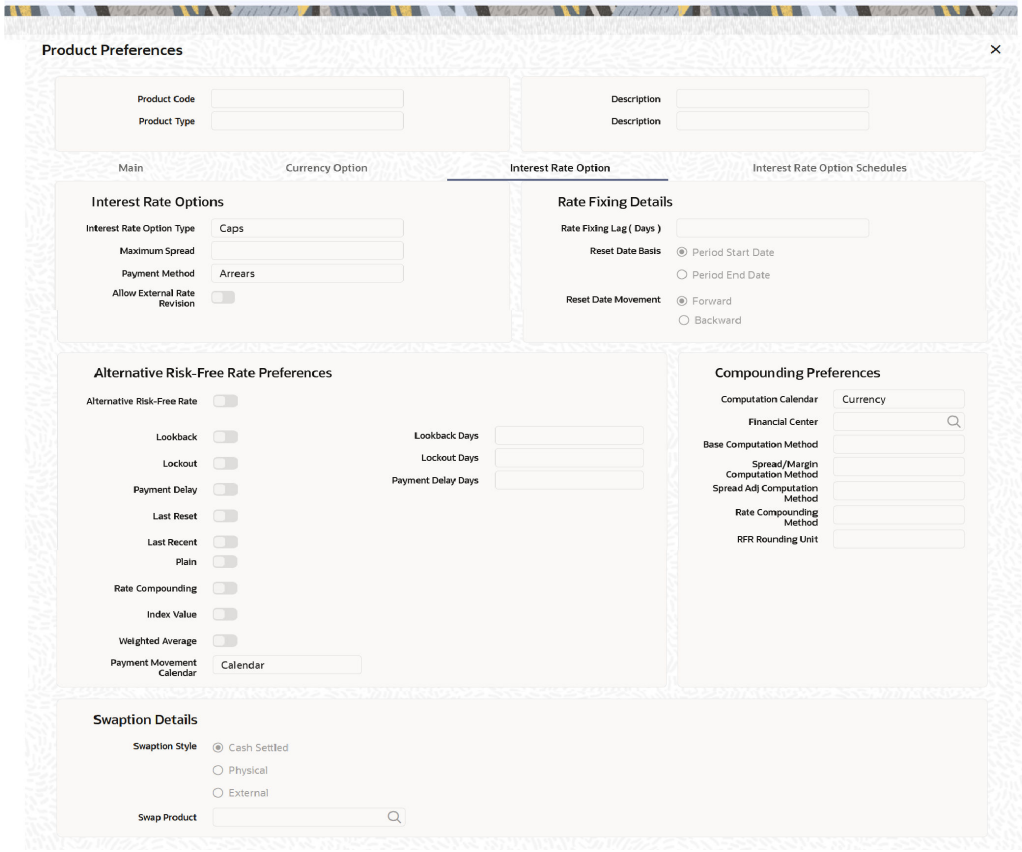


For example, if the current GBP/USD rate is 1.15, and a trader believes this rate will stay static over the next 15 days, the trader could use a double knock out option with barriers at 1.10 and 1.20. The investor can profit if the rate does not move beyond either of the two barriers.

16. On the **Product Preference** screen, click the **Interest Option** tab.

    The **Interest Option** section displays.

Figure 3-13 Interest Option



Interest Rate preferences are specific to interest rate options. You can access the **Interest Rate** tab only if you are defining interest rate products.

17. On the **Product Preferences** screen, under Interest Option tab, specify the Interest Rate Option Schedules Preferences.

    For more information on the fields, refer to the below Field Description table.

Table 3-12 Product Preferences - Interest Option - Field Description

Field	Description
Interest Rate Options Type	Indicate whether the Interest Rate option product is meant to cater to any one of the following types: • **Caps** • **Collars** • **Corridors** • **Floors** • **Swaptions**
Maximum Spread	Specify the maximum spread over and above the Reference Rate. You can specify the spread in terms of a percentage.
Payment Method	Select the payment method. To make the payment at the beginning of a schedule, select Advance. To do the settlement at the maturity of a schedule, select Arrears.

Table 3-12 (Cont.) Product Preferences - Interest Option - Field Description

Field	Description
Allow External Rate Revision	Select **Allow External Rate Revision** check box to indicate that for the contracts linked to this product, you can allow rate revision based on the rates uploaded from an external system.
Alternative Risk Free Rate	Select this checkbox to identify if the product is enabled for RFR.
Alternative Risk Free Rate Preferences	Select any one of the following RFR calculation method check box from the below options: • Lookback • Lockout • Payment Delay • Last Reset • Last Recent • Plain • Rate Compounding • Index Value • Weighted Average The user can also select the combination of the below method: • Lookback and Lockout • Lookback, Lockout, and Payment Delay
Lookback	The user can select **Lookback** as RFR preference if the Rate Method is **In-Arrears**. The observation period for the interest rate calculation starts and ends a certain number of days prior to the Interest period. As a result, you can choose the interest payment to be calculated prior to the end of the interest period.
Lookback Days	Enter the number of days by which the system look back to derive the relevant RFR. This field is applicable when the Rate Method is **In-Arrears** or **Bearing** and RFR method is **Lookback**.
Lockout	The user can select **Lockout** as RFR preference if the Rate Method is **In-Arrears**. Lockout means that the RFR is frozen for a certain number of days prior to the end of an interest period (lockout period). During this time, the RFR of lockout period days is applied for the remaining days of the interest period. As a result, the averaged RFR can be calculated a couple of days before the end of the Interest period.
Lockout Days	This field is relevant when the Rate Method is In-Arrears or Bearing and RFR method is Lockout. Enter the number of Lockout period days.
Payment Delay	The user can select **Payment Delay** as RFR preference if the Rate Method is **In-Arrears**. In this method, Interest payments are delayed by a certain number of days and are therefore due a few days after the end of an interest period.
Payment Delay Days	This field is applicable only if **Rate Method** is **In-Arrears** or **Bearing** and RFR method is **Payment delay**. Enter the Number of days by which the interest payments are delayed by a certain number of days and are thus due a few days after the end of an interest period.

Table 3-12 (Cont.) Product Preferences - Interest Option - Field Description

Field	Description
Last Reset	This field is applicable when the **Rate Method** is **In-Advance**. In this option, interest payments are determined on the basis of the averaged RFR of the previous period.
Last Recent	This field is applicable when the **Rate Method** is **In-Advance**. In this option, a single RFR or an averaged RFR for a short number of days, are applied for the entire interest period.
Plain	This field is applicable only if **Rate Method** is **In-Arrears** or **Bearing**. System uses the averaged SOFR over current interest period, paid on first day of next interest period.
Index Value	Select the **Index Value** check box to use the RFR index rate. The RFR Index measures the cumulative impact of compounding RFR on a unit of investment over time. Index Value supports below RFR preferences: Arrear Method • Lookback • Lockout • Payment Delay • Plain Advance Method • Last Reset • Last Recent For more information on Index value, refer to the attached RFR Index Value calculation worksheet,

Table 3-12 (Cont.) Product Preferences - Interest Option - Field Description

Field	Description
Weighted Average	Select this check box to use weighted average calculation (WAC) as the RFR calculation method. The WAC here represent the simple average calculation and not compounded. The averaged RFR in this convention is the simple arithmetic mean of the daily RFRs. OBTR supports WAC to calculate base rate (BR), Credit Adjustment Spread (CAS), and Customer Margin. The WAC formula to calculate simple interest is: $$AvgRate = \left[\sum_{i=1}^{d_b}\left(\frac{r_i \times n_i}{N}\right)\right] \times \frac{N}{d_c}$$ $$InterestAmt = Principal \times AvgRate \times \frac{d_c}{N}$$ Here, db: the number of business days for the interest calculation period dc: the number of calendar days for the interest calculation period ri: reference rate for the day number i within the interest calculation period ni: the number of calendar days for which rate ri applied (on most days, ni will be 1, but on a Friday it will generally be 3, and it will also be larger than 1 on the business day before a holiday N: the number of calendar days in one year (360 to 365) For more information, refer to the RFR WAC sheet.
Payment Movement Calendar	Select the payment movement calendar. The list displays the following values: • **Calendar** • **Business** If the option **Calendar** is selected, then the system skips the Holiday Preferences selected at the contract level. If the option **Business** is selected, it considers holiday treatment specified for schedule as per the Holiday Preferences selected at the contract level.
Computation Calendar	Select the Computation Calendar from the drop-down list, when RFR is selected for interest calculation. The available options are: • **Currency** • **Financial Calendar**
Financial Center	This field is mandatory if the Financial Center is selected as a computation calendar. Select the code of the financial center from the displayed list of values.

Table 3-12 (Cont.) Product Preferences - Interest Option - Field Description

Field	Description
Rate Compounding Method	Select the Rate Compounding Method from the drop-down list. The available options are: • **CCR** • **NCCR** This Rate Compounding method produces a rate for a period by applying the RFR compounding formula to the RFR rate and applying the compounded rate to the principal to calculate the interest due. Currently it's applicable for MM & SR modules. Rate Compounding supports two methods: a. **Cumulative Compounded Rate (CCR):** Calculates the compounded rate at the end of the interest period and it is applied to the whole period. It allows calculation of interest for the whole period using a single compounded rate. b. **Non-Cumulative Compounded Rate (NCCR):** It is derived from Cumulative Compounded Rate i.e., Cumulative rate as of current day minus Cumulative rate as of prior Banking day. This generates a daily compounded rate which allows the calculation of a daily interest amount. Rate Compounding supports below RFR preferences: • Arrear Method • Lookback • Lockout • Payment Movement • Plain
Rate Compounding	User can select the rate compounding to be applied for each calculation period. When enabled, system opts for rate compounding instead of amount compounding, the amount difference comes into effect only if any pre-payment is done. **Note:** For more information on RFR Rate Compounding, refer to the RFR Rate Compounding calculation worksheet.
RFR Rounding Unit	Specify the value in the RFR Rounding Unit field to round daily index and rate compounding to the nearest whole number and use it for interest calculation. **Note:** The rate compounding rounding units value can be specified up to 9 decimals.

At the product during creation and unlock after authorization, user can change below preferences:

- Check and Uncheck of alternate RFR
- RFR method

- Lookback Days
- Lockout days
- Payment Delay Days

During check and uncheck of RFR flag, respective Rate code mapping is done.

Rate Fix Lag (days) is considered along with the reference rate consideration as part of respective RFR methods.

If the payment method is chosen as arrears then user can only select one of the below RFR calculation methods:

- Lookback
- Lockout
- Plain
- Payment Delay

If the payment method is chosen as advance then user can only select one of the advance RFR calculation methods Last reset and last recent.

Cap - A cap is a series of call interest rate options with multiple exercise dates. A cap gives the buyer the right to enter into strips of notional future borrowings at a pre-agreed rate (strike rate), thus protecting him against interest rates moving above this pre-agreed rate.

Floor - A floor is a series of put interest rate options with multiple exercise dates. A floor gives the buyer the right to enter into strips of notional future lending at a pre-agreed rate (strike rate), thus protecting him against interest rates moving below this pre-agreed rate.

Collar - A collar is a combination of a purchased cap and a written floor. This enables the buyer to lock into an interest rate band.

For example, a floating-rate borrower buys a cap to protect him/herself against a rise in interest rates above the strike rate. The price of this protection is the premium user pays for the cap. The cap, of course, allows the user's to go on enjoying the benefits if the market (reference) interest rates remain below the strike rate – in such events, the user does not exercise the cap and uses market rates to apply to her borrowings. However, if the user has a view that market rates are not likely to fall below a certain rate (which is below the cap strike rate), then the user can choose to forgo part of the benefits of low market rates in return for a reduction in the premium that user pays for the cap.

The user achieves this by simultaneously writing a floor, the strike rate of which is lower than the strike rate of the cap that the user has purchased. The user is of the view that market interest rates are unlikely to go below the strike rate of the floor and, therefore, the floor has little probability of being exercised by the counterparty. The premium that the user receives on the floor partially offsets her premium outgo on the cap.

The above set of deals is bundled in a collar. Suppose Bank A buys a collar from Bank B. This means that Bank A has purchased a cap from Bank B and written a floor favoring Bank B. The following outcomes are possible, depending on various interest rate scenarios:

Table 3-13 Interest Rate Scenario - Outcome

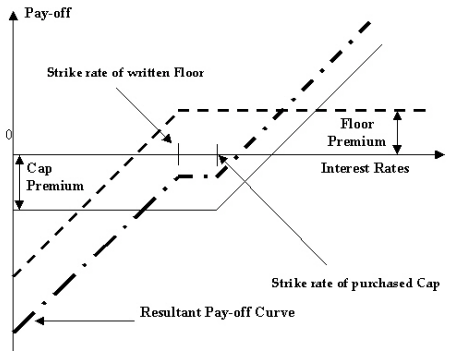
Interest rate scenario	Outcome
Market interest rate is more than the cap strike rate	Bank B pays to Bank A for the difference between market rate and cap strike rate.

Table 3-13 (Cont.) Interest Rate Scenario - Outcome

Interest rate scenario	Outcome
Market interest rate lies between the floor strike rate and the cap strike rate or is equal to either of them	No payment is exchanged.
Market interest rate is less than the floor strike rate	Bank A pays to Bank B for the difference between the floor strike rate and the market rate.

The pay-off for the buyer of a collar is shown in the diagram below:

Figure 3-14 Pay-off



Corridor - A corridor ((also called Bull Spreads)) or a bull spread is a combination of a cap purchased at a certain strike rate and another (otherwise equivalent) cap written at a higher strike rate. Like a collar, a corridor is also a premium mitigation strategy.

An entity with floating-rate borrowings buys a cap to protect itself against interest rates rising above the strike rate of the cap. However, it also feels that there is a limit to the possible rise in interest rates. Therefore, it is willing to sacrifice part of its gains arising from high market interest rates, that is opportunity gains arising from having purchased the cap, in return for a reduction in the premium that it pays for the cap. It achieves this by selling a cap with a strike rate higher than that of the original cap, the premium income on the sold (written) cap partially offsetting the premium outgo on the purchased cap.

The above sets of deals are bundled in a corridor. Suppose Bank A buys a corridor from Bank B. This means that Bank A has purchased a cap 1 from Bank B and written a cup 2 favoring Bank B. The strike rate of cap 1 is lower than cap 2.

The following outcomes are possible, depending on various interest rate scenarios:

Table 3-14 Interest Rate Scenario - Outcome

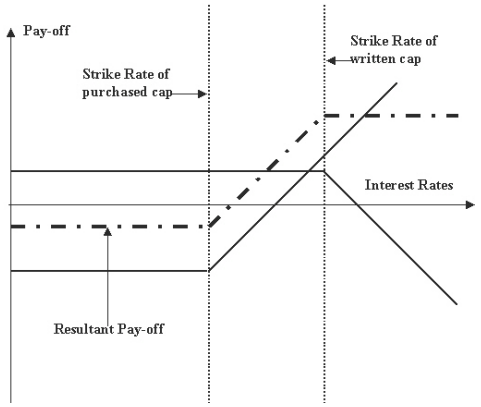
Interest rate scenario	Outcome
Market interest rate is equal to or more than the strike rate of cap 2.	Bank B pays Bank A for the difference between the strike rates of cap 1 and cap 2.
Market interest rate lies between the strike rates of cap 1 and cap 2.	Bank B pays Bank A for the difference between market interest rate and cap 1 strike rate.

Table 3-14 (Cont.) Interest Rate Scenario - Outcome

Interest rate scenario	Outcome
Market interest rate is equal to or less than the strike rate of cap 1.	No payment is exchanged.

The pay-off for the buyer of a corridor is shown in the following figure:

Figure 3-15 Pay-off



Swaption - A swaption is an option on a swap. It gives the buyer, on payment of an advance fee, the right, but not the obligation, to enter into an interest rate swap at a specified future date, at a particular fixed rate and for a specified term.

Refer to the Derivatives manual for details on Interest Rate Swaps (IRS).

The terms of a swaption that the buyer and the seller agree on are:

- The strike rate
- The length of the swaption period (which usually ends on the starting date of the swap if the swaption is exercised)
- The notional amount for the underlying swap
- The frequency of settlement under the underlying swap
- Other terms of the underlying swap

18. On the **Product Preferences** screen, under Interest Option tab, specify the Rate Fixing Details.

For more information on the fields, refer to the below Field Description table.

Table 3-15 Product Preferences - Rate Fixing - Field Description

Field	Description
Rate Fixing Lag (Days)	Specify the number of days before or after the schedule maturity or schedule start date for the reference rate reset to be done.
Reset Date Basis	Specify whether the reference reset lag is with reference to the Period Start Date (schedule begin date) or the Period End Date (schedule maturity date).

Table 3-15 (Cont.) Product Preferences - Rate Fixing - Field Description

Field	Description
Reset Date Movement	Fix the reset date lag for the reference rate before (Backward) or after the period start or begin date (Forward).

19. On the **Product Preferences** screen, under Interest Option tab, specify the Swaption Details.

For more information on the fields, refer to the below Field Description table.

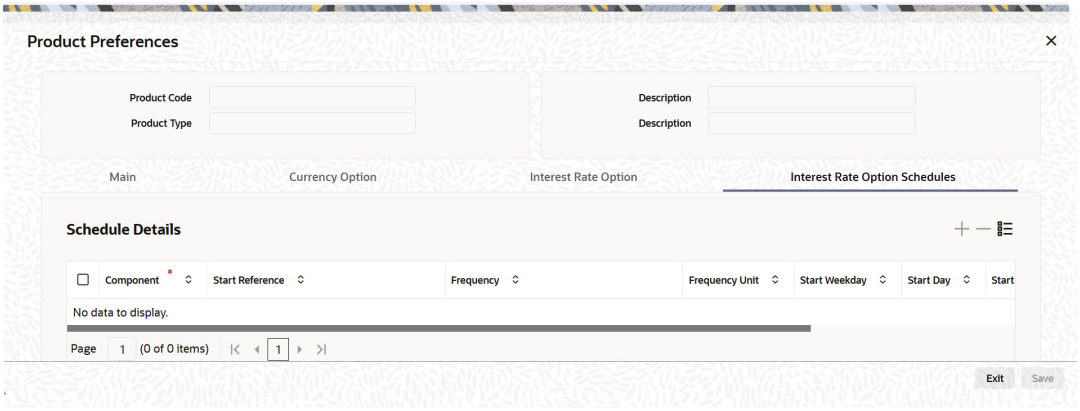
Table 3-16 Product Preferences - Swaption Details - Field Description

Field	Description
Swaption Style	Indicate whether the product is meant for actual interest rate swaps (Physical) or for cash settled swaps or for external swaps (if this product is to be used for uploaded contracts). For physically settled Swaptions, there will be an underlying derivatives swap deal which will get initiated once the Swaption contract is exercised. For cash settled Swaptions, the swap value of the contract needs to be calculated outside the system and the same needs to be entered during manual exercise of the Swaption deal.
Swap Product	Specify the swap product. This is applicable in case of actual interest rate swaps. You can identify the swap product which is used to default the details of the Derivatives contract.
Processing Impact	The processing impacts are given below. • While specifying the common preferences if you have selected Hedge as the Contract Type, you will not be allowed to specify Collar as the IRO Type. • If you have chosen Advance as the Payment Method, then you have to necessarily specify Backward as the Reset Date Movement and Period Start Date as the Reset Date Basis. • You will not be allowed to upload Derivative contracts for physically settled swaptions. To save an interest rate swap, you will have to invoke the Derivatives Online screen from the Contract Online screen.

20. On the **Product Preference** screen, click the **Interests and Rate Option Schedules** tab.

The **Interests and Rate Option Schedules** section displays.

Figure 3-16 Interests and Rate Option Schedules Tab



The Settlement Amount (SETTLE_AMT), which is the component for which the schedule is to be defined, is displayed in this screen. You are not allowed to change it.

21. On the **Product Preferences** screen, under Interests and Rate Option Schedules tab, specify the details.

    For more information on the fields, refer to the below Field Description table.

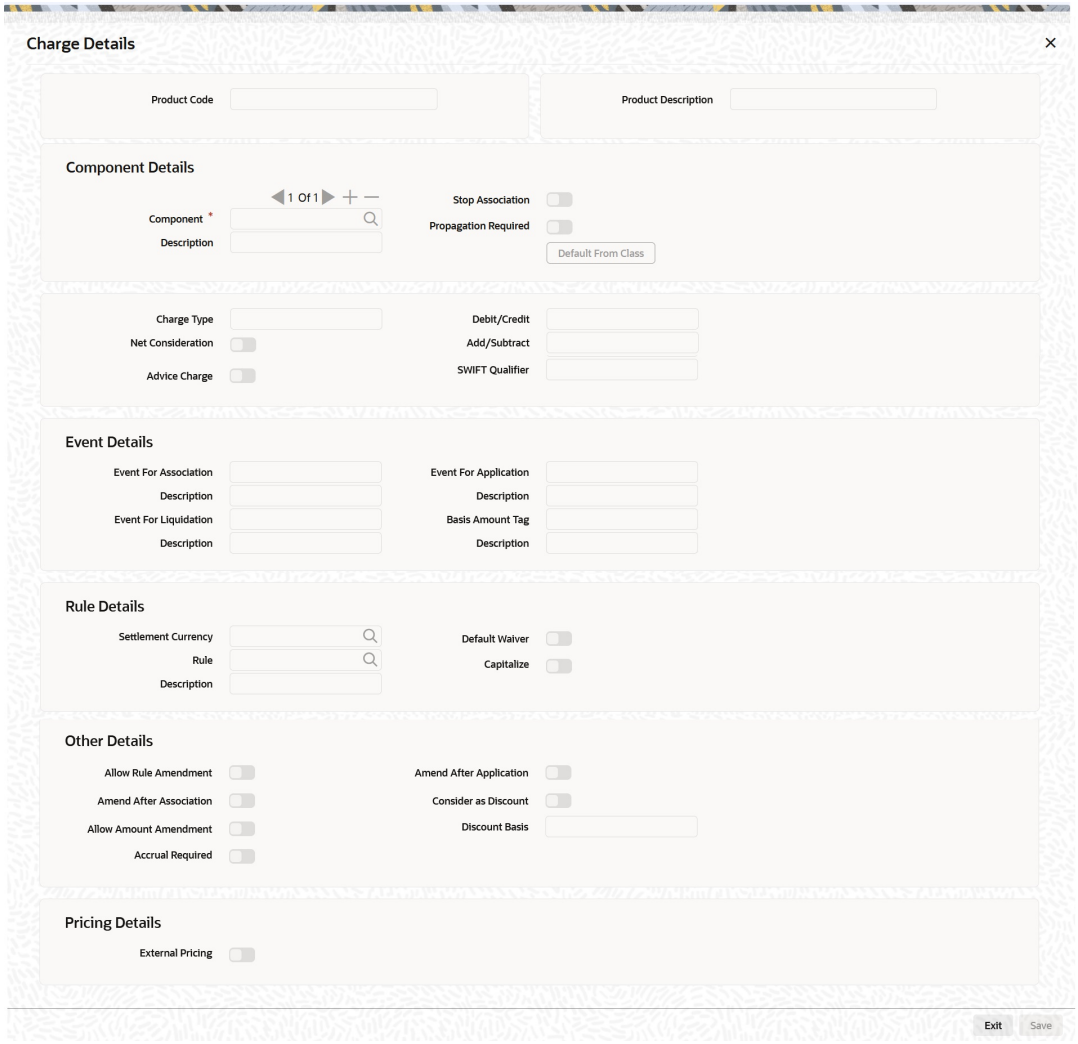
Table 3-17 Product Preferences - Interests and Rate Option Schedules - Field Description

Field	Description
Start Reference	Specify the start reference date. This can either be the Value Date or the Calendar Date. If you specify Value Date as the Start Reference, the settlement schedule is calculated using the frequency and frequency units with respect to the contract value date. If the start reference is Calendar date, the settlement schedule is calculated based on the frequency, frequency units, Start Day, start weekday, and start month (whichever is applicable).
Frequency	Specify the frequency. The Frequency of the schedule can either be Daily, Weekly, Monthly, Quarterly, Half Yearly or Yearly.
Frequency Units	Specify the frequency units. The number of frequency units after which a schedule should repeat. For example, a monthly frequency with a frequency unit of 2 is effectively a bi-monthly schedule.
Start Weekday	Specify the Start Weekday only if the Frequency is Weekly. Select any day from Sunday to Saturday. This is the day of the Week on which a schedule should start.
Start Day	Select any day of the month from the 1st to the 31st. Indicate the Start Day if the Frequency selected is Daily or Weekly. This is the day on which a schedule should start.
Start Month	Specify the Start Month only in case of Quarterly, Half-yearly and Yearly frequencies. This is the month from which a schedule should start.
Adhere to Month End	This indicates whether a schedule should adhere to month ends if the maturity date is a day less than the month-end date. For example, a quarterly schedule starting on 31st January will have schedule maturity on 30th April, 30th July, and 30th October if you have failed to enable this option. But if you enable this option, the scheduled maturity will be performed on the 30th of April, 31st of July and 31st of October. **Note:** It is mandatory to visit the Schedules screen and add an empty row. The system defaults SETTLE_AMT as a component in that.

22. On **Options Product Definition**, click **Charges Details**.

    The **Charges Details** screen is displayed.

Figure 3-17 Charge Details



A charge class is a specific type of component that you can build with certain attributes. You can build a charge class, for instance, with the attributes of a specific type of charge component, such as Charge for Manual Exercise. You can specify the different charge components for a product, in the Product Charge Definition screen, by associating the product with the different charge classes you have built.

In Charge Detail screen, you can define the charges for the product that you are creating.

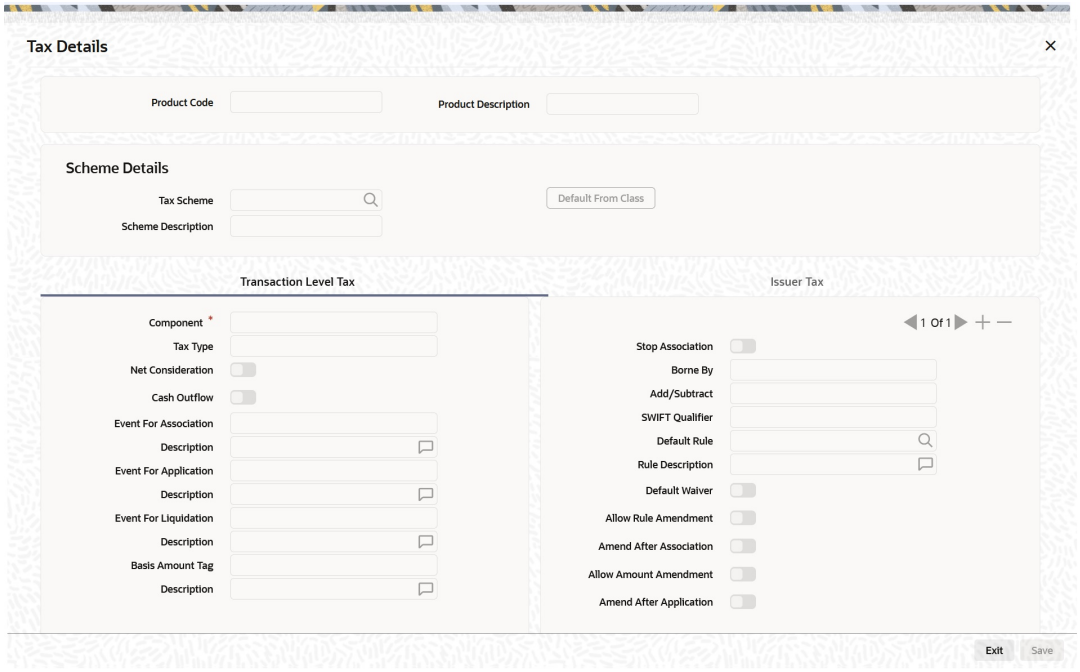
To associate a charge class to a product that you are defining, choose the Default From Class button. A list of the classes that you have defined specifically for the OT Interest Rate/ Currency options module is displayed. Choose the class (or classes) that you like to associate with the product.

Charges for the portfolios maintained under the product is calculated on the basis of the associated charge classes.

23. On **Options Product Definition**, click **Tax**.

    The **Tax Details** screen is displayed.

Figure 3-18 Tax Details



A tax Class is a specific type of component that you can build with certain attributes. You can build a tax class, for instance, with the attributes of a specific type of tax, such as Options tax. You can group several tax classes into a Tax Scheme Class. You can specify the taxes for a product, in the Product Tax Definition screen, by associating the product with a tax scheme class you have built. Note that you cannot define a tax component specific to a product.

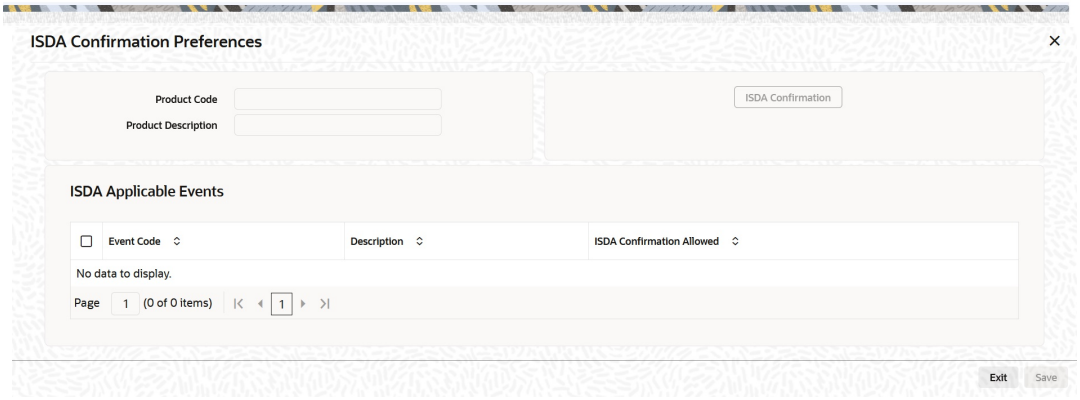
To associate a tax scheme class with a product that you are defining, choose the Default From Class button. A list of the tax scheme classes that you have defined specifically for the OT Interest Rate/Currency options module will be displayed. Choose the class that you like to associate with the product.

Taxes for the portfolios maintained under the product is calculated on the basis of the associated tax scheme classes.

24. On the **Product Definition** screen, click **ISDA**.

    ISDA Confirmation Preferences is displayed.

Figure 3-19 ISDA Confirmation Preferences



25. On the **ISDA confirmation preferences** screen, Click **Default ISDA Events**, to populate the list of ISDA events applicable for the module.
26. Select the check box next to the Description based on the requirement.
27. Click **Ok** to save the details or **Exit** to close the screen.

4

Process Over the Counter Option Instruments

This section of the manual tells you how to enter details of an interest rate option (IRO), currency option (CO), or swaption transaction in Oracle Banking Treasury Management. This includes the definition of schedules and performing other functions in the lifecycle of a contract, like a reassignment, amendment, and reversal.

Let us briefly look at the workflow of the OT module.

You need to maintain the basic module-specific information that is necessary for the successful functioning of the module. This is over and above the static data, maintained as part of core services that are used by several modules in Oracle Banking Treasury Management. This information includes the maintenance of:

- Branch Parameters, which govern the processing of OT transactions at a particular branch of your bank
- Contract Fair Value details, for revaluation of options
- Limit tracking details, for tracking counterparty exposure due to purchased options

The next step in the process is the creation of OT products. Products help you group or categorize contracts, which share broad similarities. You have to associate a product type with each of the products that you create. The product inherits all the attributes of the type. While defining the product, you associate charge and tax classes with it, specify branch and customer restrictions, maintain MIS details, and specify preferences for the product.

Under each product that you define, you can enter specific contracts (transactions). By default, a contract inherits the attributes of the product to which it is associated. This means that you do not have to define the attributes that default from the product every time you enter a contract involving the product. However, you can change some of the attributes to suit the contract you are defining.

This topic contains the following sub-topics:

- OT Contract
  This topic describes the systematic instruction to process details of OT Contracts, holiday validation assumptions, settlement method for currency options, and settlement method for IROS.
- Display OT Contract Details
  This topic describes the instructions to capture the **Options Contract Summary** details.
- Maintain Manual Knock-In Knock-Out
  This topic describes the systematic instruction to process the Manual Knock-In Knock-Out screen.
- Terminate Option Contracts
  This topic describes the systematic instruction to terminate the Options Contracts.
- Upload Options Contracts
  This topic describes the upload options contracts for amendment.
- Exercise Option
  This topic describes the systematic instruction to exercise specific styles of interest and currency options.

- ISDA Confirmation
  This topic describes the details to capture the confirmation check for the OT deal events. Using this ISDA check at deal product level, the trigger of an authorized event at contract level would trigger creation of a record in this screen with details used from the contract.
- Rate Fixing
  This topic describes the Rate fixing details in treasury branch parameter maintenance, treasury rate fixing Maintenance, product definition, transaction input, and rate fixing process.
- Defer the Contract Expiry
  This topic describes the defer contract expiry.
- SGEN Messages Generation
  This topic describes the SGEN Messages generation.

4.1 OT Contract

This topic describes the systematic instruction to process details of OT Contracts, holiday validation assumptions, settlement method for currency options, and settlement method for IROS.

This topic contains the following sub-topics:

- Maintain Details of OT Contract
- Holiday Validation Assumptions
- Settlement Method for Currency Options
- Settlement Method for IROs

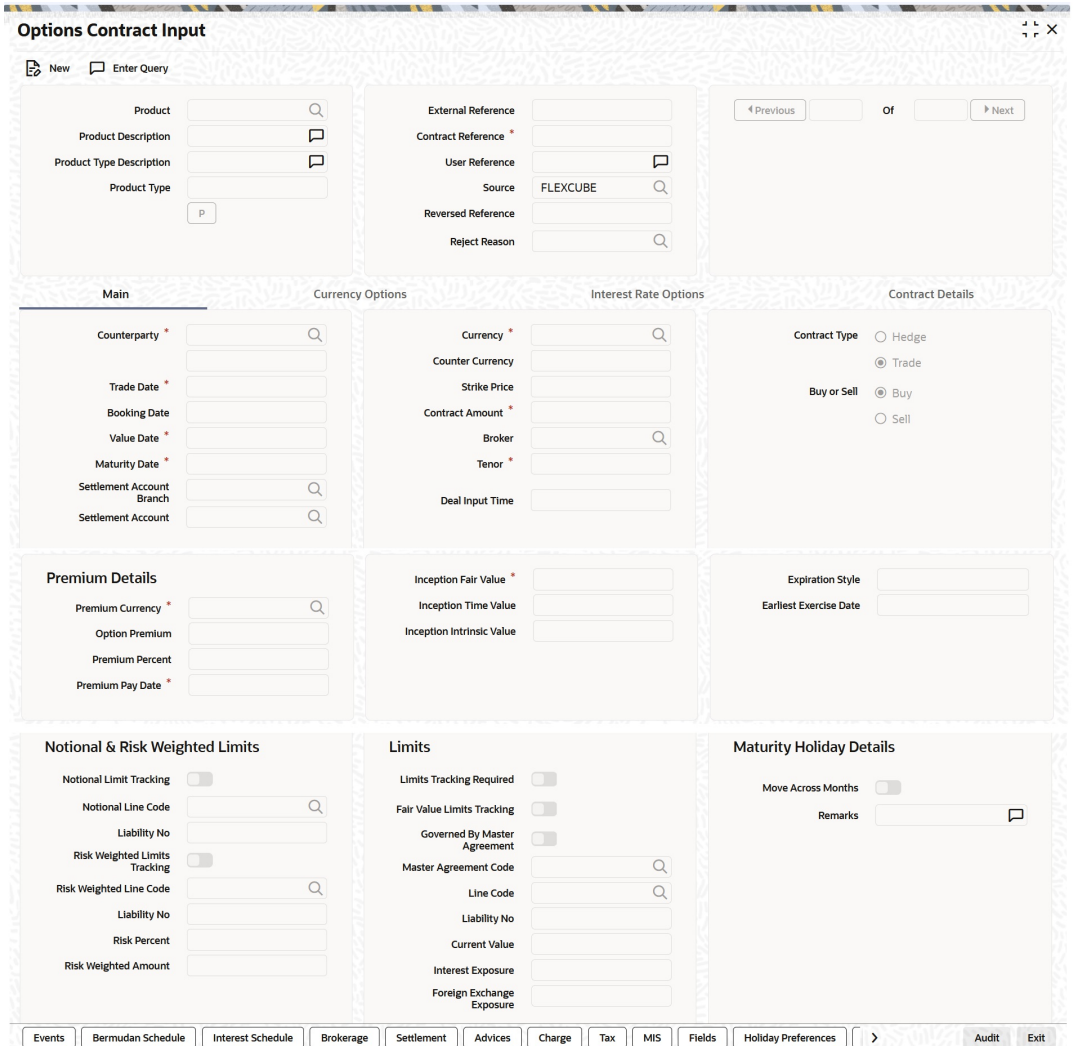
4.1.1 Maintain Details of OT Contract

If you are calling a contract that is already created, choose the Contract Input Summary option. The details of all the contracts that you entered earlier are displayed in a tabular form. From the Summary screen, you can open an existing deal by double-clicking it. You can copy the details of an existing option contract to a new one that you are creating. You can make the necessary changes before saving the new contract.

1. On Home page, type **OTDTRONL** in the text box, and then click next arrow.

   The **Options Contract Input** screen is displayed.

Figure 4-1 Options Contract Input



Apart from a common header for capturing details of the product under which the contract is initiated and reference numbers for the contract, the Contract Input screen has four tabs:

- **Main** - for capturing details common to all OT.
- **Interest Rate Options/Currency Options** - based on the product type (IRO / CO), any one of these tabs is displayed. Here you can capture details specific to either interest rate options or currency options.
- **Contract Details** - provides details of deferred inception gain, revaluation, deferred termination gain and deferred time value.

Besides the existing fields in the Options Contract Input screen, you will also notice a vertical array of icons. Clicking on an icon launches a screen that captures details specific to an attribute – settlement message details, for example.

These buttons are briefly described below:

Table 4-1 Features of Option Contract Input screen Description

Button	Description
Bermudan Sch	Click **Bermudan Sch** to open the Bermudan Schedule screen.
Brokerage	Click **Brokerage** to indicate brokerage details applicable to the contract.
Advices	Click **Advices** to enter advices. You can view suppress and prioritize the advices that are to be generated.
Events	Click **Events** to view details of the events and accounting entries that the contract involves. The screen also displays the overrides that were encountered for the contract.
User Defined Fields	Click **Fields** to open the User Defined Fields screen. You can indicate the user-defined fields for which information needs to be captured.
Charge	Click **Charge** to open the Charge service of Oracle Banking Treasury Management. On invoking this function you are presented with a screen where the charge rate, amount, and the waive charge parameters can be specified.
MIS	Click **MIS** to enter the transaction MIS details.
Settlement	Click **Settlement** to open the Settlement screens. Based on the details that you enter in the Settlement screens, the contract is settled.
Tax	Click **Tax** to open the Tax services.
Interest Schedule	Click **Interest Schedule** to open the Interest Schedules screen.

2. On the **Options Contract Input** screen, specify the fields

   For more information on the fields, refer to the below Field Description table.

Table 4-2 Options Rate Fixing Report - Field Description

Field	Description
Product	Select product code from the list of options products that you have maintained or enter a valid product code. For physically settled swaption deals, the OT product should have a DV swap product linked to it.
Product Description	Based on this product code, the system displays the Product Description that you have defined at the product level. However, you cannot modify it.
Type	The system displays the product type. The product type can be: • IRO – Interest Rate Option • CO – Currency Option The system will not allow to modify the displayed product type.
Contract Reference Number	The system generates the 16-character contract reference number based on the branch code, the product code, the Julian date and a running sequence of four digits. The system will not allow to modify the displayed contract reference number. In case of entity length changes Contract Reference number format will be changed to Product/Process Code (4 char) + Julian Date (5 char) + Sequence Number (7 digits).

Table 4-2 (Cont.) Options Rate Fixing Report - Field Description

Field	Description
External Reference Number	Specify the external reference number, which is the reference number that your counterparty has given– this helps in reconciling deal confirmations and other correspondence.
Source Code	From the option list, select the code of the source from which you want the system to upload the contract.
User Reference Number	The user reference number takes on the same value as the contract reference number. You can change this to suit any numbering standard that you are following.
Reversed Reference Number	The system displays the reference number of the contract that is being reversed and rebooked during a financial amendment.
Reject Reason	Specify the Reject reason Code for payment reversal message. The option list displays all valid code maintained in the system. Choose the appropriate one.

3. On the **Options Contract Input** screen, under **Main** tab, specify the fields.

   For more information on the fields, refer to the below Field Description table.

Table 4-3 Main Tab - Field Description

Field	Description
Customer	From the list of values against the field, select the CIF Number of the counterparty to the deal. The name of the counterparty is automatically displayed.
Settlement Account	Select the default settlement account branch and the default settlement account from the respective options lists next to these fields. This account of the counterparty is debited or credited for all payments that you receive from or pay to the counterparty.
Trade Date	The system defaults the current date as the trade date. This is the date on which the deal is agreed with the counterparty. Trade date cannot be amended once authorized. The system will display error messages under the following conditions: • Trade date is greater than current system date • Trade date is holiday as per the deal currency • Trade date is blank • Trade date is later than the value date • Trade date is earlier than the product start date.
Booking Date, Value Date and Maturity Date	The booking date is the date when the option contract is entered into the system. This is defaulted to the system date and cannot be changed. For an IRO, the value date is the first date of the interest period. For a CO, it is the date from which the option takes effect. This can be earlier than the booking date, provided that the first exercise date for an IRO is always later than or the same as the booking date. The value date for an option contract has to be earlier than its maturity date. The maturity date for both IROs and COs is the date on which the contract expires. It is mandatory to enter the maturity date. However, if you specify the tenor, the maturity date is computed accordingly and displayed. The reverse is also true. If the expiration style is European in an MT306, then the maturity date (field 30a) is updated with option F.

Table 4-3 (Cont.) Main Tab - Field Description

Field	Description
Contract Currency	Select the currency of the option contract from the option list next to the field. For IROs, your choice of the contract currency is subject to the currency restrictions that you have maintained as part of product definition.
Counter Currency	Specify the Counter Currency. The counter currency applies only to COs, where this is the other currency of the pair that makes up the contract. Your choice of counter currency is restricted by currency pair restrictions that you have maintained at the product level.
Strike Price	Specify the price at which a CO is exercised, depending on the option style. This applies for all styles of COs, except for No Touch options. This does not apply for IROs.
Contract Amount	The contract amount is the size of the option deal. For COs, this should adhere to the minimum and maximum deal size that you have specified as part of product preferences.
Broker	Specify a broker for the contract, by selecting from the option list next to the field, only if you have allowed brokerage while maintaining product preferences. Brokerage can be paid in advance – that is, on the booking of the contract itself – or in arrears – that is, on termination, final exercise, or expiry.
Tenor	The tenor of the contract is the number of days between the value date and the maturity date. The tenor and the maturity date of the contract are inter-related and if you specify one, the value for the other is computed.
Deal Input Time	This field captures the deal execution time at the time of deal booking received from front office. Format: YYYY-MM-DD HH:MM:SS:SSS (Default). Here SSS is milliseconds. **Note:** The above format can be changed in the user setting option based on requirement. System throws an error when you give the wrong date or time format on modification.
Contract Type	This indicates whether the option contract is a hedge or a trade (speculative) type of contract and whether you are buying or selling (writing) the option. These specifications default from the product under which you are initiating the contract. You can modify them here. **Note:** An option that you are buying can be either a hedge or a trade type deal, but a written option can only be a trade deal.
Buy or Sell	Indicate the type of contract. According to the nature of the contract, select Buy or Sell from the drop down menu.

While generating MT305 message, the system restricts the following currency codes in Contract and Counter currencies:

Table 4-4 Currency Code

ISO 4217 Currency Code	Currency
XAU	Gold (one troy ounce)
XAG	Silver (one troy ounce)
XPD	Palladium (one troy ounce)
XPT	Platinum (one troy ounce)

4. On the **Options Contract Input** screen, under the **Main** tab, specify the **Premium Details**.

   The option premium is the price or fee that you pay for buying an option or receive for writing an option. You have to mention the amount of the premium and the currency in which the premium is denominated. Alternatively, you can enter a premium percentage, whereby the system computes the premium amount as a percentage of the contract amount.

   You also need to mention the date on which the premium is due to be paid. This can be any date between the booking date and the value date, both inclusive.

   > **Note:**
   >
   > Irrespective of the date on which premium is collected; the premium amount has to be entered at the time of entering the contract.

   While generating MT305 message, the system restricts the following currency codes in Premium currency:

Table 4-5 Currency Code

ISO 4217 Currency Code	Currency
XAU	Gold (one troy ounce)
XAG	Silver (one troy ounce)
XPD	Palladium (one troy ounce)
XPT	Platinum (one troy ounce)

5. On the **Options Contract Input** screen, under the **Main** tab, specify the Inception Details.

   The Inception Fair Value is the market value of the option contract at inception. This is denominated in the premium currency. You can have bought or sold an option at a price higher or lower than its fair value. You will have to ascertain the fair value of the contract from external sources and enter the same.

   The option contract's Intrinsic Value at inception is the possible pay-off from the option if it were to be exercised at inception itself. For a swaption, this value is zero. A non-swaption IRO can have a positive intrinsic value at inception that does not exceed the option premium. For no-touch currency options, intrinsic value at inception is the fixed amount that you enter at inception of the contract. For binary, digital, and fixed payment plain vanilla options, there is positive inception intrinsic value only if the option is in-the-money at

inception. In such a case, the inception intrinsic value is the fixed amount payable on exercise of the option. The inception intrinsic value is displayed in the premium currency.

The option contract's time value at inception is the difference between its premium and Inception Intrinsic value. Therefore, for a swaption or a CO, this is the same as the option premium itself. For an IRO, it can take any positive value, including zero. The inception time value is expressed in the premium currency.

For more information on the fields, refer to the below Field Description table.

Table 4-6 Main Tab - Field Description

Field	Description
Intrinsic Value	Intrinsic value is the value that any given option would have if it were exercised today. Basically, the intrinsic value is the amount by which the strike price of an option is in the money. It is the portion of an option's price that is not lost due to the passage of time. The following equations can be used to calculate the intrinsic value of a call or put option: Call Option Intrinsic Value = Underlying Stock's Current Price – Call Strike Price Put Option Intrinsic Value = Put Strike Price – Underlying Stock's Current Price
Time Value	The time value of options is the amount by which the price of any option exceeds the intrinsic value. It is directly related to how much time an option has until it expires as well as the volatility of the stock. The formula for calculating the time value of an option is: Time Value = Option Price – Intrinsic Value

6. On the **Options Contract Input** screen, under Main tab, specify the Expiration Style.

   The expiration style can be American, European, or Bermudan. This specification defaults from the preferences you have maintained for the product and cannot be changed at the contract level. The expiration style for IROs (except swaptions) can only be European and, therefore, this field is not enabled for such options.

   Refer to the Products section of this manual for an explanation and applicability of the various option expiration styles.

   For COs with the American expiration style, you also need to enter the earliest date before maturity when the option can be exercised. This can be the value date itself, or any date after that.

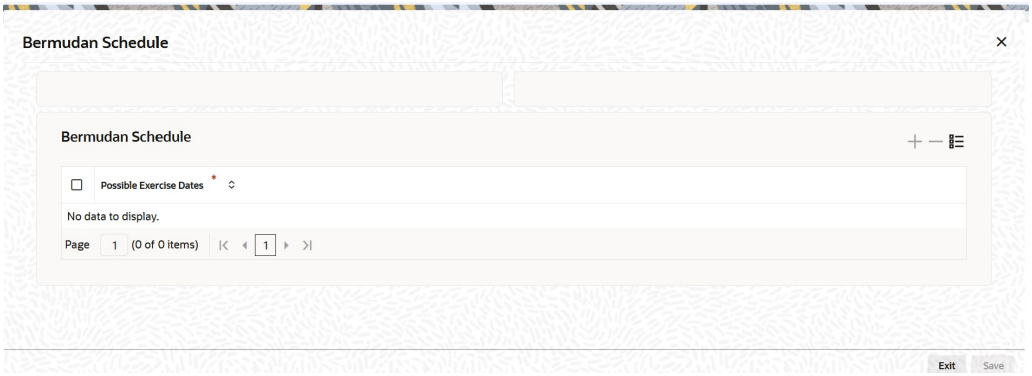
7. On the **Options Contract input** screen, under **Main** tab, specify the Schedules for Options with Bermudan Expiration Style.

   Bermudan style swaptions or plain vanilla COs can be exercised on certain pre-specified dates during the life of the option. If the expiration style for the contract that you are entering is Bermudan, you have to specify the dates on which it can be exercised.

   - Click the **Bermudan Schedule** button.

     The **Bermudan Schedule** screen in displayed.

Figure 4-2 Bermudan Schedule



In Bermudan Scheduler screen, you can enter the allowed exercise dates for the option. All exercise dates should lie between the value date and the maturity date. You cannot enter the same date twice and the date for a record should be later than that for the previous record.

> **Note:**
>
> An option with Bermudan schedule exercises automatically on maturity only if it is in the money and the maturity date is included as a possible exercise date.

8. On the **Options Contract input** screen, under the **Main** tab, specify the Treatment of Maturity Date Falling on Holiday.

   The holiday treatment that you specify in the **Main** tab of the Options Contract Input screen applies only to the maturity or the expiry date of the contract. The holiday treatment for IRO schedules has to be specified in the **Interest Rate Options** tab.

   All holiday treatment specifications default to the contract from the preferences that you have maintained at the product level. You can change them for a contract.

   Refer to the Products section of this manual for details of holiday treatment specifications.

9. On the **Options Contract input** screen, under **Main** tab, specify the Limit Tracking Details.

   You can wish to track counterparty exposure due to an option contract against limits set up for that counterparty. This applies only to purchased option contracts, not written ones.

   If you have maintained a Master Agreement and wished the exposure tracking for the contract to be guided by that agreement, you can select the relevant master agreement code (MA Code). If the master agreement stipulates limit tracking, then that feature defaults to the contract. Even if you have not selected an MA code, you can choose limit tracking to apply to this contract.

   If you opt for limit tracking, the Fair Value Limit tracking field is enabled. You can specify if fair value limit tracking is required for the particular contract. If you select this option, then you should also specify a fair value line code against which exposure is to be tracked. Once again, this defaults from the master agreement, if an MA code is selected and the master agreement stipulates limit tracking. Otherwise, you can choose from the list of values next to the field.

   Refer to the Derivatives user manual for details on maintaining master agreements.

   For details on limit and line maintenance, refer to the Central Liabilities user manual.

If you have opted for limit tracking, you also need to specify the current value of the option contract, which is the marked-to-market (MTM) value of the contract at inception. You can also indicate the impact of movements in interest rates and foreign exchange rates on the exposure.

10. On the **Options Contract input** screen, under **Main** tab, specify the Notional & Risk Weighted Limits Tracking Details.

    Specify whether notional and risk weighted limit tracking is required for the contract.

    You can enable the fields Fair Value Limit Tracking, Notional Limits Tracking, and Risk Weighted Limits Tracking, only if the Limit Tracking option is enabled. If the contract is governed by a Master agreement then if any of the three fields (Fair Value Limit Tracking, Notional Limits Tracking, and Risk Weighted Limits Tracking) are checked in the Master Agreement, the Limit Tracking Required option is checked at the contract level.

    The fields Notional Limits Tracking, Notional Line Code, Risk-Weighted Limits Tracking, and Risk Weighted Line Code default from the Master agreement maintenance if the contract comes under the preview of a Master Agreement.

    The Notional Line Code and Risk Weighted Line Code are mandatory if the Notional Limits Tracking and Risk Weighted Limits Tracking options are enabled, respectively.

    For the line code, all valid lines for the counterparty and the product is displayed in the option list.

    The Liability No fields display the liability number linked to notional line, Risk Weighted line, and Fair value line for the selected line codes.

    On saving the contract, all the three lines selected are validated for any restrictions based on product and currency. Oracle Banking Treasury Management also ensures that all line codes selected are distinct from each other.

    Risk% and Risk Weighted amount are calculated and shown on the screen as soon as the Risk Weighted Limits Tracking option is selected. These fields are recalculated if the value date or the maturity date is amended.

    Risk Weighted Amount is calculated as follows:

    Risk percent is computed by comparing the tenor (Maturity date – Value date) of the contract with the tenor slabs in risk percent maintenance. The risk category used for the comparison is the risk category defined in customer maintenance for the counterparty of the derivatives and options contract. The product used for comparison is the product for the contract. If there is no risk maintenance for the particular category and product, the product is replaced by ALL and risk percent for contract tenor, customer category, and product ALL is arrived at. The module used to find out the risk percent is DV for derivatives.

    Various combinations possible for find out risk percentage in order of preference are:

    OT + Customer Category + Product

    OT + Customer Category + ALL

    An error message is raised if Risk Weighted Limit Tracking is checked and risk percentage cannot be arrived at.

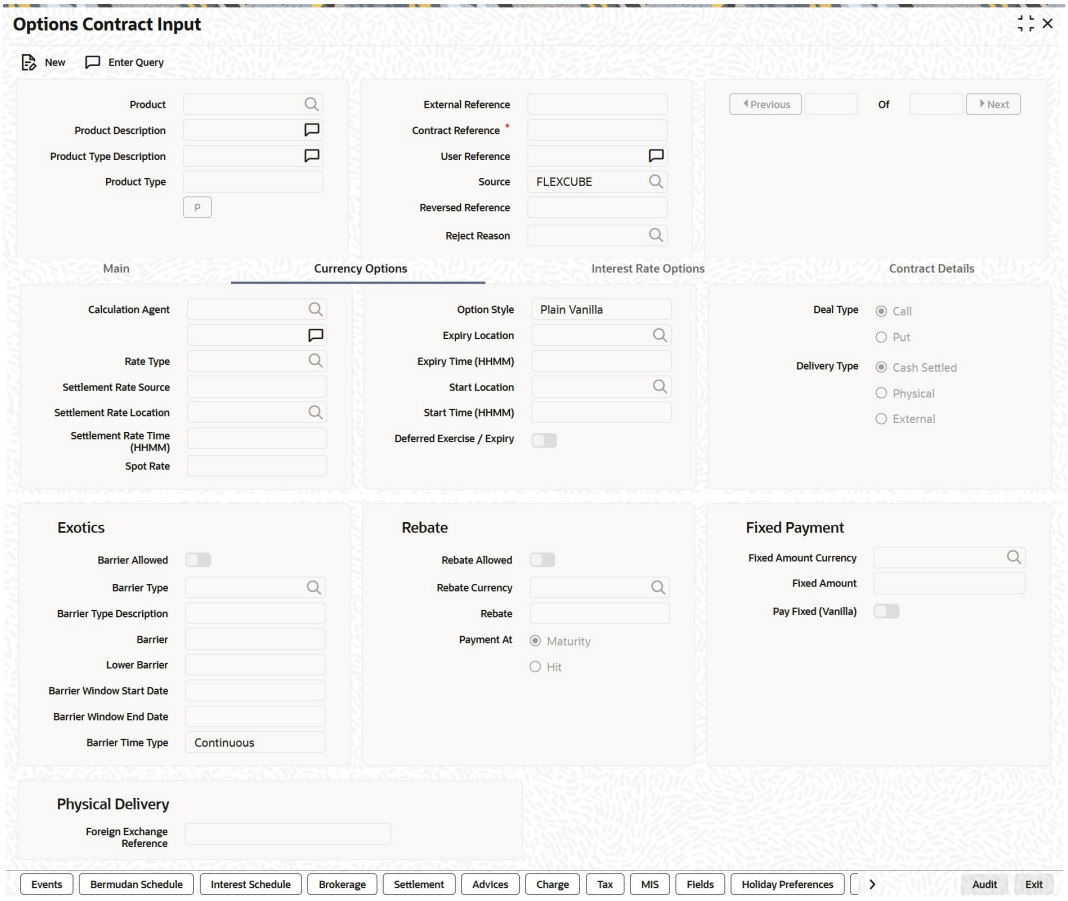
    Risk percent once arrived at, is stored at the contract level and is used to compute the risk-weighted amount for limit tracking. Any future amendment of risk percentage in risk percentage maintenance will not affect the risk-weighted amount of the contract and it will remain the same throughout the life cycle of the contract.

    Limits Utilization for the Notional Amount and the Risk Weighted amount is done against the in contract currency for all types of options.

11. On **Options Contract Input**, click the **Currency Options** tab.

    The **Currency Options** tab section is displayed.

Figure 4-3 Currency Options



12. On the **Options Contract input** screen, under **Currency Options** tab, specify the fields.

    For more information on the fields, refer to the below Field Description table.

Table 4-7 Currency Options Tab - Field Description

Field	Description
Calculation Agent	Calculation Agent does not apply to a plain vanilla CO without barriers and marked for physical settlement. For plain vanilla options which are cash settled or which have barriers, as also for binary, digital and no touch options, the Calculation Agent refers to the party who provides the rates to determine whether the exchange rate level(s) specified in the contract have been reached or not. Specify the BIC of the calculation agent. Refer to the Products section of this manual for explanation on different styles of currency options.
Rate Type	Select the rate type of the reference to be picked up. The option list displays all valid rate types maintained in the system.

Table 4-7 (Cont.) Currency Options Tab - Field Description

Field	Description
Settlement Rate Source	Specify the source of the settlement rate, that is Reuters, Telerate, and so on. **Note:** Financial center with SWIFT code has to be maintained in the **Financial Center Maintenance** (STDFCDMT) screen.
Settlement Rate Location	Specify the location of the settlement rate. Alternatively, you can select the location from the option list. The list displays the values maintained in the system.
Settlement Rate Time (HHMM)	Specify the settlement rate time in HHMM format.
Spot Rate	This is the spot foreign exchange rate between the currency and the counter currency of the contract at the time of contract inception. This is picked up and displayed from the exchange rates that you maintain as part of core maintenance.
Start Location	Specify the start location. This code/ID indicates the financial institution where the option starts. **Note:** Financial center with SWIFT code has to be maintained in the **Financial Center Maintenance** (STDFCDMT) screen.
Start Time	Select a valid time in HHMM format. This indicates the time when the option becomes valid.
Expiry Location	Specify the expiry location. This is the Code/ID of the Financial Institution where the option expires. **Note:** Financial center with SWIFT code has to be maintained in the **Financial Center Maintenance** (STDFCDMT) screen.
Expiry Time	This is the time at which the option expires. Enter a valid time in the HHMM format.

Table 4-7 (Cont.) Currency Options Tab - Field Description

Field	Description
Option Style	Select the option style. The option styles are as follows: • **Plain Vanilla** • **Binary** • **Digital** • **No Touch** **Note:** If you choose Plain Vanilla, the system will resolve the type of contract and generate MT305 confirmation SWIFT message during BOOK event. In case of other currency option styles, the system will generate MT306 confirmation SWIFT message. **Note:** If Digital and No touch options are selected, the processing is same as to Binary. Refer to the Products section of this manual for explanation on different styles of currency options.
Deal Type and Delivery Type	These indicate whether the currency option is a call or a put and whether it is cash-settled (resulting in a net cash settlement on exercise), physical (resulting in a foreign exchange deal on exercise), or whether the contract is uploaded (external). The option 'External' is disabled for contracts that are being created in Oracle Banking Treasury Management. It is selected only in case of uploaded contracts. You can select External only for uploaded contracts. These values are defaulted from the product under which the contract is initiated. You can modify them at the contract level. Deleting a currency option contract having a Physical delivery type results in the corresponding FX contract getting deleted. **Note:** Only Plain vanilla can be physically or externally settled. Other option types Binary, Digital and No touch are settled only by cash.

13. On the **Options Contract input** screen, under **Currency Options** tab, specify the **Exotics** details.

    For more information on the fields, refer to the below Field Description table.

Table 4-8 Currency Options Tab - Exotics- Field Description

Field	Description
Barrier Allowed	Barrier(s) are allowed by default for non-plain vanilla style options. For plain vanilla COs, you can opt to have barrier(s).
Barrier Type	Select the barrier type from the drop-down menu. Oracle Banking Treasury Management allows you to select any one of the following: • **SKOT- Single Knock Out (SKOT)** • **DKOT - Double Knock Out (DKOT)** • **SKIN - Single Knock In (SKIN)** • **DKIN - Double Knock In (DKIN)** For no touch options, the barrier type can be either SKOT or DKOT. For SWIFT 2023 standard, the below options are introduced in place of Single Knock In and Single Knock Out: • **DIKI - Down and In Knock-in** • **DOKO - Down and Out Knock-out** • **UIKI - Up and In Knock-in** • **UOKO - Up and Out Knock-out**
Barrier and Lower Barrier	If you allow barrier(s), you must also indicate the barrier price – the pre-determined exchange rate at which the contract is knocked in or knocked out. For DKIN and DKOT options, this represents the upper barrier and has to be more than the strike price. For SKIN and SKOT options, there is only a single barrier price, which can be less or more than the strike price. For DKIN and DKOT options, you need to indicate the lower barrier – this has to be lower than the strike price.
Barrier Window Start Date and End Date	For barrier options, you also have to specify the barrier window period, the period within which a system batch process compares the barrier and lower barrier (if applicable) with the spot exchange rate to check whether a CO contract is knocked in or knocked out. The barrier window is specified by entering a start and end date (both dates are included in the window). By default, the start date is the contract value date and the end date is the contract maturity date.
Barrier Time Type	Specifies the time period in which the barrier is monitored during each business day. The default option is **Continuous**. Therefore, all dates specified in the barrier monitoring period is monitored at any time during the continuous time period. **Note:** If **Barrier Allowed** is enabled, the Barrier time type is applicable.

Table 4-8 (Cont.) Currency Options Tab - Exotics- Field Description

Field	Description
Barrier Event Equal Modifier	Select this check box to enable the Barrier Event Equal Modifier option. This field is applicable for both option styles Binary and Vanilla (with Barrier) to decide on the Barrier hit. Also, this field is applicable to below barrier types: • DIKI- Down and In Knock-in Event • DOKO- Down and Out Knock-out Event • UIKI- Up and In Knock-in Event • UOKO- Up and Out Knock-out Event • DKIN- Double Knock-in Event • DKOT- Double Knock-out Event

If **Barrier Event Equal Modifier** is enabled, the Barrier events will occur as per described below conditions:

- Up and In Knock-in Event: An event that occurs when the spot rate is greater than the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless.
- Down and In Knock-in Event: An event that occurs when the spot rate is less than the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless
- Up and Out Knock-out Event: An event that occurs when the spot rate is greater than the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.
- Down and Out Knock-out Event: An event that occurs when the spot rate is less than the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.
- Double Knock-in Event: An event that occurs when the spot rate is either i) greater than the upper barrier level or ii) less than the lower barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless
- Double Knock-out Event: An event that occurs when the spot rate is either i) greater than the upper barrier level or ii) less than the lower barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.

If Barrier Event Equal Modifier is disabled, the Barrier events will occur as per described below conditions:

- Up and In Knock-in Event: An event that occurs when the spot rate is greater than or equal to the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless.
- Down and In Knock-in Event: An event that occurs when the spot rate is less than or equal to the barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless
- Up and Out Knock-out Event: An event that occurs when the spot rate is greater than or equal to the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.

- Down and Out Knock-out Event: An event that occurs when the spot rate is less than or equal to the barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.
- Double Knock-in Event: An event that occurs when the spot rate is either (i) greater than or equal to the upper barrier level or (ii) less than or equal to the lower barrier level. If the event has occurred, the buyer of the option shall have the right to exercise it. If the event has not occurred, the option shall expire worthless
- Double Knock-out Event: An event that occurs when the spot rate is either (i) greater than or equal to the upper barrier level or (ii) less than or equal to the lower barrier level. If the event has occurred, the option shall expire worthless. If the event has not occurred, the buyer of the option shall have the right to exercise it.

14. On the **Options Contract input** screen, under **Currency Options** tab, specify the Rebate Details.

Table 4-9 Currency Options Tab- Rebate- Field Description

Fields	Description
Rebate Allowed	Specify whether rebate is allowed or not. If you have allowed rebate at the product level, that specification defaults to the contract. You can change it for specific contracts.
Rebate Currency	If rebate is allowed, you have to enter the rebate amount to be paid/ received and the currency in which it is denominated.
Rebate	Indicate whether the rebate is payable/receivable at Hit (when the option gets knocked out) or at contract maturity for SKOT and DKOT options.
Rebate Payment At	Select **Hit** or **Maturity** to specify when the Rebate amount has to be paid. Rebate payment for a knock-out option can be made either at Hit or at Maturity. When an option gets knocked-out it is considered as Hit. Rebate payment for an option which has not knocked-in can be made at **Maturity** only.
Payment Lag Days	Specify the Payment Lag days to arrive at the rebate settlement date. If the payment lag days are greater than zero, the settlement will happen through EOD batch. If the payment lag days is zero, the rebate settlement will happen online.

Barrier options can carry rebates, payable to the purchaser if the option is knocked out or not knocked in during its lifetime. If you have allowed rebate at the product level, that specification defaults to the contract – you can change it for specific contracts. If rebate is allowed, you have to enter the rebate amount to be paid/received and the currency in which it is denominated. For SKOT and DKOT options, you also need to indicate whether the rebate is payable/receivable at Hit (when the option gets knocked out) or at contract maturity.

For more details on barrier options, refer to the Products section of this user manual.

15. On the **Options Contract input** screen, under Currency Options tab, specify the Fixed Payments on Exercise of Options.

Table 4-10 Field Description- Currency Options- Fixed Payments

Fields	Description
Fixed Amount Currency	Select the fixed amount currency from the displayed list of values.
Fixed Amount	Specify the fixed amount.
Pay Fixed (Vanilla)	Select this option for the Vanilla option to settle the agreed fixed amount.
Exercise Payment At	Select **Hit** or **Maturity** to specify when the exercise amount to be settled. **Note:** When expiry style is European the exercise payment must be at maturity.
Payment Lag Days	Specify the Payment Lag days to derive the exercise settlement date. If the option is auto exercised during the EOD batch on the maturity date, then the exercise settlement will take place considering the Payment Lag (Days). If payment lag days is zero, then EXER and EXST will trigger together as part of EOD. If the option is manually exercised on or before the maturity date, then the exercise settlement will take place considering the Payment Lag (Days). If payment lag days is zero, then EXER and EXST will trigger together as an online operation. If the lag days is greater than zero, then the settlement will happen as part of EOD.

Usually, the settlement amount for plain vanilla options is based on the difference between the strike price and the spot exchange rate on the day of exercise. However, you can have entered into a plain vanilla options contract, whose terms stipulate that a fixed amount will change hands-on exercise (this makes it very similar to a binary option). In such a case, you will first need to allow fixed payments and then indicate the amount of the fixed payment and the currency in which it is denominated.

For binary and digital options, fixed payments are natural – for either of these, indicate the amount of the fixed payment and the currency in which it is denominated.

While generating MT306 message, the system restricts the following currency codes in fixed amount currency:

Table 4-11 Currency Code

ISO 4217 Currency Code	Currency
XAU	Gold (one troy ounce)
XAG	Silver (one troy ounce)
XPD	Palladium (one troy ounce)
XPT	Platinum (one troy ounce)

16. On the **Options Contract input** screen, under the **Currency Options** tab. Specify the Other Details for Currency Option.

    From the list of values against the field, select the financial institution where the CO expires. Also indicate the time of expiry in HHMM format. These are mandatory. Select the

clearing code where the CO will start. Also, indicate the start time in HHMM format. This start time and start location which you specify here is populated in the field 29 J of MT 306.

You can also indicate the rate type (Standard / Cash / TT, etc.) of the reference rate that is picked up for settlement, knocking in or knocking out of a contract.

For more information on the fields, refer to the below Field Description table.

Table 4-12 Currency Options Tab - Other Details - Field Description

Field	Description
Physical Delivery	If a currency option is marked for physical delivery while maintaining product preferences, then a foreign exchange deal is automatically generated by the system on the exercise of the contract. The contract reference number of the uploaded foreign exchange contract is displayed on this screen. **Note:** For External Type currency options, you can upload FX contract with Option Contract Reference Number. You cannot upload more than one foreign exchange contract for same swaption contract; if you are doing this, the system will throw an error: FX reference number is displayed after uploading the FX contract.
Dual Currency Deposits	The Linked TD account number is displayed in the TD Reference No. The following operations are not allowed for Option contracts created out of TD account: • Amendment of Option Contracts • Reversal of Option Contracts • Manual Knock-in/Knock-out is not allowed for the Contracts created out of TD account • Termination of Option Contract is not allowed for the Contracts created out of TD account • Contracts created out of TD account are not allowed for exercising the contract For more details on Dual Currency Deposit, refer Core Entities User Manual, section Capturing Details for Dual Currency Deposit in the topic Maintaining Customer Accounts.

17. On **Options Contract input**, click the **Interest Rate Options** tab.

    The **Interest Rate Options** tab section is displayed.

Figure 4-4 Interest Rate Options

For entering contract details specifically pertaining to interest rate option contracts, migrate to the Interest Rate Options tab of the Options Contract Input screen.

18. On the **Options Contract input** screen, under the **Interest Rate Options** tab, specify the fields.

    For more information on the fields, refer to the below Field Description table.

Table 4-13 Interest Rate Options Tab - Field Description

Field	Description
Interest Rate Option Type	Select the IRO type from the adjoining drop-down list. The list displays the following values: • **Cap** • **Floor** • **Collar** • **Corridor** • **Swaption** The type is defaulted to the contract from the product under which it is initiated and cannot be changed at the contract level. The payment method can be Advance or Arrears, indicating whether settlement takes place at the beginning or end of each schedule. This is also defaulted from the product and cannot be changed at the contract level.

19. On the **Options Contract input** screen, under the **Interest Rate Options** tab, specify the Rate Details.

    Enter the following rates (whichever applicable) for the IRO contract that you are defining.

    For more information on the fields, refer to the below Field Description table.

Table 4-14 Interest Rate Options Tab - Rate Details - Field Description

Field	Description
Cap Strike Rate	For a cap, specify the strike rate. For a collar, which is a combination of a purchased cap and a written floor, you must enter the cap buy rate.
Floor Strike Rate	Specify the strike rate for a floor or the floor strike rate for a collar.
Corridor Purchase and Sell Cap Rates	For a corridor, which is a combination of a purchased cap and a written cap, enter the strike rates for the two caps. The written cap has a higher strike rate than the purchased one.

20. On the **Options Contract input** screen, under the **Interest Rate Options** tab, specify the Reference Rate Details.

    For more information on the fields, refer to the below Field Description table.

Table 4-15 Interest Rate Options Tab - Reference Rate Details - Field Description

Field	Description
Spread	Indicate the spread, in percentage, that is to be applied over the reference rate. A positive spread cannot exceed and a negative spread cannot be less than the maximum spread defined at the product level.
Rate Code, Rate Source and Rate Tenor Code	For all IROs (except swaptions), the settlement amount is computed by comparing the reference rate with the strike rate. Therefore, you need to specify the reference rate code – LIBOR, etc. – for non-swaption IROs, based on which the reference rate is picked up. You also need to specify the source of the reference rate - Reuters, Telerate, and so on, and the tenor code for the reference rate - e.g., 3-month LIBOR, 6-month LIBOR, and so on.

21. On the **Options Contract input** screen, under Interest Rate Options tab, specify the Alternative Risk-Free Rate Preferences.

    For more information on the fields, refer to the below Field Description table.

Table 4-16 Interest Rate Options Tab - Risk-Free Rate Preferences - Field Description

Field	Description
Alternative Risk Free Rate	Select this check box to identify if the contract is enabled for RFR.
Alternative Risk Free Rate Preferences	Select any one of the following RFR calculation method check box from the below options: • Lookback • Lockout • Payment Delay • Last Reset • Last Recent • Plain • Rate Compounding • Index Value • Weighted Average The user can also select the combination of the below method: • Lookback and Lockout • Lookback, Lockout, and Payment Delay
Lookback	The user can select Lookback as RFR preference if the Rate Method is In-Arrears. The observation period for the interest rate calculation starts and ends a certain number of days prior to the Interest period. As a result, you can choose the interest payment to be calculated prior to the end of the interest period.
Look Back Days	Enter the number of days by which the system look back to derive the relevant RFR. This field is applicable when the Rate Method is In-Arrears or Bearing and RFR method is Lookback.
Lockout	The user can select Lockout as RFR preference if the Rate Method is In-Arrears. Lockout means that the RFR is frozen for a certain number of days prior to the end of an interest period (lockout period). During this time, the RFR of lockout period days is applied for the remaining days of the interest period. As a result, the averaged RFR can be calculated a couple of days before the end of the Interest period.
Lockout Days	This field is relevant when the Rate Method is In-Arrears or Bearing and RFR method is Lockout. Enter the number of Lockout period days.
Last Reset	This field is relevant when the Rate Method is In-Advance. In this option, interest payments are determined on the basis of the averaged RFR of the previous period.
Last Recent	This field is relevant when the Rate Method is In-Advance. In this option, a single RFR or an averaged RFR for a short number of days, are applied for the entire interest period.
Plain	This field is relevant only if Rate Method is In-Arrears or bearing. System uses the averaged SOFR over current interest period, paid on first day of next interest period.

Table 4-16 (Cont.) Interest Rate Options Tab - Risk-Free Rate Preferences - Field Description

Field	Description
Payment Delay	The user can select Payment Delay as RFR preference if the Rate Method is In-Arrears. In this method, Interest payments are delayed by a certain number of days and are therefore due a few days after the end of an interest period.
Payment Delay Days	This field is applicable only if Rate Method is In-Arrears or Bearing and RFR method is Payment delay. Enter the Number of days by which the interest payments are delayed by a certain number of days and are thus due a few days after the end of an interest period.
Payment Movement Calendar	Select the payment movement calendar. The list displays the following values: • **Calendar** • **Business** If the option Calendar is selected, then the system skips the Holiday Preferences selected at the contract level. If the option Business is selected, it considers holiday treatment specified for schedule as per the Holiday Preferences selected at the contract level.
Computation Calendar	Select the Computation Calendar from the drop-down list, when RFR is selected for interest calculation. The available options are: • **Currency** • **Financial Calendar**
Financial Center	This field is mandatory if the financial center is selected as a computation calendar. Select the code of the financial center from the displayed list of values.
Base Computation Method	Select the Base Computation method. It is either simple or compound.
Spread\ Margin Computation Method	Select the spread or margin computation method as either Simple or compound.
Spread Adjustment Method	Select the spread adjustment method as either Simple or compound.

Table 4-16 (Cont.) Interest Rate Options Tab - Risk-Free Rate Preferences - Field Description

Field	Description
Rate Compounding Method	Select the Rate Compounding Method from the drop-down list. The available options are: • **CCR** • **NCCR** This Rate Compounding method produces a rate for a period by applying the RFR compounding formula to the RFR rate and applying the compounded rate to the principal to calculate the interest due. Currently it's applicable for MM & SR modules. Rate Compounding supports two methods: **1. Cumulative Compounded Rate (CCR)** Calculates the compounded rate at the end of the interest period and it is applied to the whole period. It allows calculation of interest for the whole period using a single compounded rate. **2. Non-Cumulative Compounded Rate (NCCR)** It is derived from Cumulative Compounded Rate i.e., Cumulative rate as of current day minus Cumulative rate as of prior Banking day. This generates a daily compounded rate which allows the calculation of a daily interest amount. Rate Compounding supports below RFR preferences: Arrear Method • Lookback • Lockout • Payment Movement • Plain
Rate Compounding	User can select the rate compounding to be applied for each calculation period. When enabled, system opts for rate compounding instead of amount compounding, the amount difference comes into effect only if any pre-payment is done. **Note:** For more information on Rate Compounding calculation, refer to the RFR Rate Compounding calculation worksheet.
RFR Rounding Unit	Specify the value in the RFR Rounding Unit field to round daily index and rate compounding to the nearest whole number and use it for interest calculation. **Note:** The rate compounding rounding units value can be specified up to 9 decimals.

Table 4-16 (Cont.) Interest Rate Options Tab - Risk-Free Rate Preferences - Field Description

Field	Description
Weighted Average	Select this check box to use weighted average calculation (WAC) as the RFR calculation method. The WAC here represent the simple average calculation and not compounded. The averaged RFR in this convention is the simple arithmetic mean of the daily RFRs. OBTR supports WAC to calculate base rate (BR), Credit Adjustment Spread (CAS), and Customer Margin. The WAC formula to calculate simple interest is: $$AvgRate = \left[\sum_{i=1}^{d_b}\left(\frac{r_i \times n_i}{N}\right)\right] \times \frac{N}{d_c}$$ $$InterestAmt = Principal \times AvgRate \times \frac{d_c}{N}$$ Here, db: the number of business days for the interest calculation period dc: the number of calendar days for the interest calculation period ri: reference rate for the day number i within the interest calculation period ni: the number of calendar days for which rate ri applied (on most days, ni will be 1, but on a Friday it will generally be 3, and it will also be larger than 1 on the business day before a holiday N: the number of calendar days in one year (360 to 365) For more information, refer to the RFR WAC sheet.

- Under Interest rate options tab, the rate code populates the RFR rate codes in addition to existing floating rate codes. Rate source and rate tenor code are not applicable for RFR contracts.
- During contract creation, in the interest schedules call form user can change the defaulted below RFR preferences.
- During check and uncheck of RFR flag, respective Rate code mapping is done.
- Rate code field displays rates from CFDRFRRT also if the rate type on the leg is floating.
- Existing spread field is used for RFR spread/margin value.
- Contract currency must be same as RFR rate code currency.
- Once contract is saved and authorized, then RFR preferences cannot be changed.
- RFR contracts can be booked from non-RFR products and vice-versa.
- In interest schedules sub-screen under payment details section, the drop-down for discount rate basis can only have Direct input or Contract floating component as the value. Other floating component is not allowed for RFR methods.

- Discount rate code, discount rate source, discount tenor code, floating component and auto pickup fields are disabled for RFR contracts.

22. On the **Options Contract input** screen, under Interest Rate Options tab, specify the Swaption Details.

    For a swaption, you must specify whether the settlement is in the form of an exchange of money (cash-settled swaptions), whether it will require the counterparties to enter into an interest rate swap deal (physically settled swaptions), or whether the contract is uploaded (external swaption). For IRO and Swaption style, you can select the delivery type as external only In the event of a physically-settled swaption, you must enter a future dated interest rate swap.

    You must specify the swaption value date and swaption maturity date in the corresponding fields. The swaption value date must be the same as the maturity date of the options contract.

    This swap is initialized when the swaption is exercised, with the following details getting automatically populated:

    - Counterparty
    - Booking Date

    The contract reference number of the interest rate swap is generated by the manual exercise of a physically settled swaption is displayed on the Options Contract Input screen.

    If you are reversing a swaption contract manually or through an upload, the corresponding DV contract also gets reversed. This holds good for both the ‘Physical’ and the External swaption styles.

    You need to manually create a DV contract and choose the corresponding options contract as the swaption reference. For physically settled swaption options contracts, you can book IRO without a swaption reference number. An underlying DV contract need not be created in this case.

    The system allows reversal of a swaption contract only after reversing the IRS contract linked to it.

    During manual exercise of an OT contract, the system initiates the corresponding DV contract. The system triggers DOPT event as part of this process.

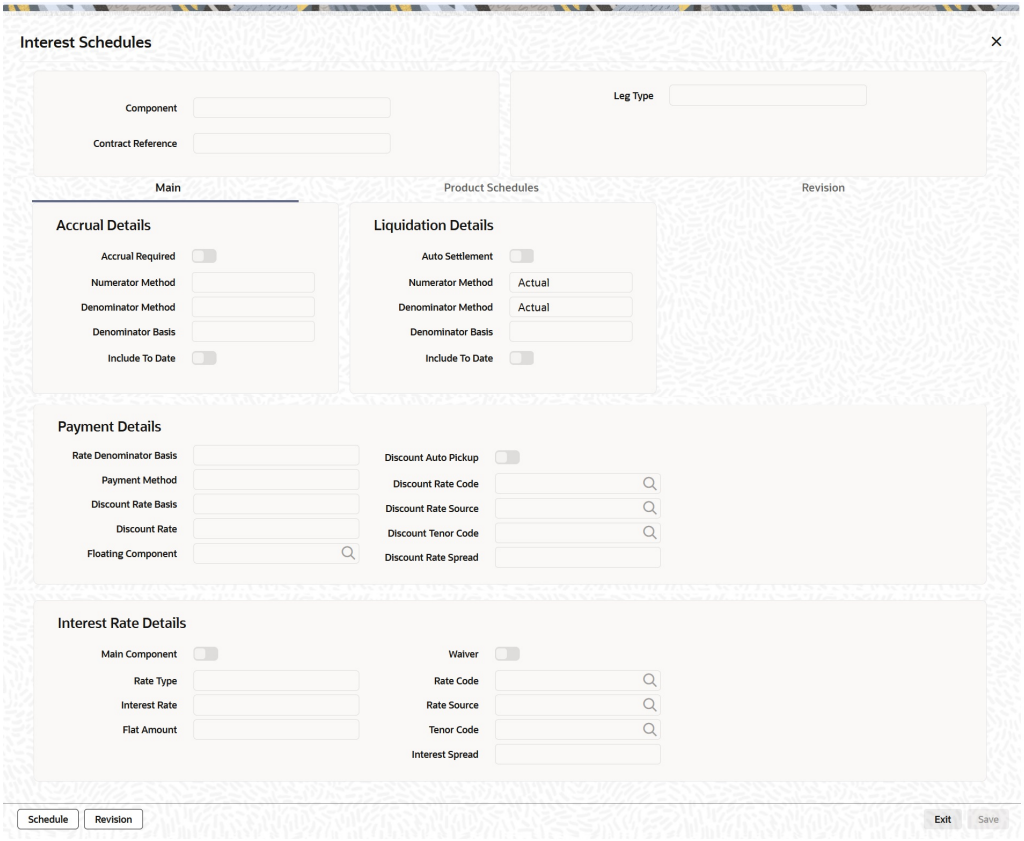
23. On the **Options Contract input** screen, under **Interest Rate Options** tab. specify the Schedules for Settlement and Rate Reset for IROs.

    For caps, collars, floors and corridors, you need to define the settlement and rate revision schedules that the tenor of the IRO is split into.

    - Click the **Interest Schedule** button.

      The **Interests Schedules** screen is displayed.

Figure 4-5 Interests Schedules



If the screen for settlement schedules is not visited, the schedules is defaulted according to the parameters defined as part of product preferences.

For more information on the fields, refer to the below Field Description table.

Table 4-17 Interests Schedules - Field Description

Field	Description
Liquidation Details	Select the numerator method, which is used to arrive at the number of days in the liquidation cycle from the adjoining drop-down list. This list displays the following values: • 30 – Euro • 30 – US • 30 – ISDA • 30 – PSA • Actual • Actual – Japanese Also specify the denominator method, which derives the number of days in the year/period. This can be – 360, 365, Actual. You can choose the denominator basis to be per annum or per period. These specifications determine how interest is going to be calculated for each liquidation cycle.

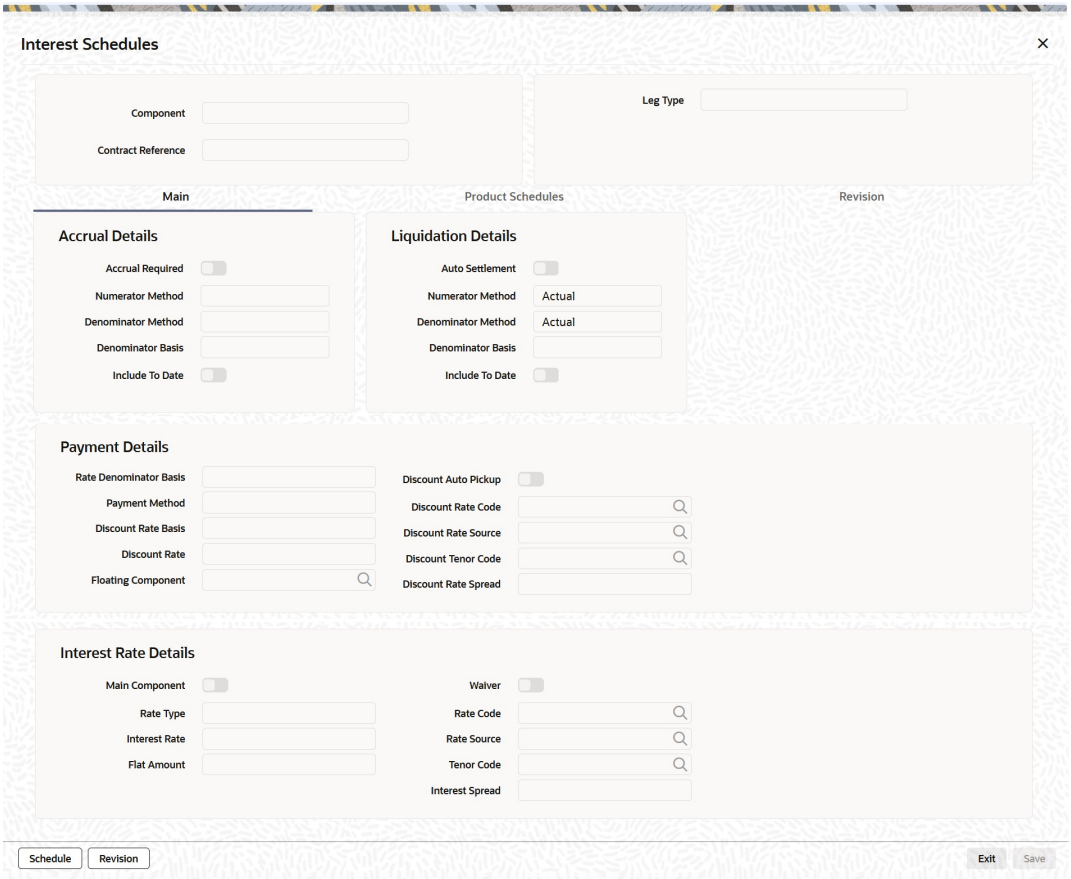
Table 4-17 (Cont.) Interests Schedules - Field Description

Field	Description
Payment Details	Specify the following payment details: • Rate Denominator Basis - You need to indicate the basis on which rate denominator has to be computed. The options available are: – Per Annum – Per Period • Payment Method – This specifies when the settlement happens if an option is in the money. These are as follows: – Arrears - Settlement happens at the end of the liquidation period; OR – Advance - Settlement happens at the beginning of the liquidation period. • Discount Rate – This is the rate to discount any advance settlement. If you have specified the discount rate basis as Direct Input, then you must enter a discount rate. – Direct input – Other floating component – Contract floating component • Discount Auto Pickup - Select this check box to indicate whether the discount rate should be automatically picked up by the system from the Floating Rates screen. If you check this, the system will perform this based on the other parameters, you have specified such as the discount rate source, rate code, tenor code, and the rate spread. • Discount Rate source – If you have specified the discount rate basis as Other Floating Component, then you have to mention a discount rate source. • Discount Rate code – If you have specified the discount rate basis as Other Floating Component, then you must mention the floating rate code that is used to discount any advance payouts – For example, LIBOR, EURIBOR, and so on. • Discount Tenor Code – If you have specified the discount rate basis as Other Floating Component, then you must mention the discount tenor code – For example, 3-month LIBOR, 6- month LIBOR, and so on. • Discount Rate Spread – This is the spread to be applied to the discount rate code for obtaining the discount rate for advance payments – For example, LIBOR + 1%.

Table 4-17 (Cont.) Interests Schedules - Field Description

Field	Description
Interest Rate Details	Here, you need to specify the following details: • Main Component • Rate Type • Interest Rate • Flat Amount • Waiver • Rate Code – Select the rate code to be used, from the option list. On this basis, the system will pick up the reference rate. • Rate Source - Specify the source of the reference rate - Reuters, Telerate, etc. • Tenor Code • Interest Spread In the payment schedule tab, the following information is displayed: • Holiday treatment – this is defaulted from specifications maintained as part of product preferences • Schedule details – this is also defaulted from product preferences

Figure 4-6 Interest Schedules



All the schedules will have the same payment method – advance or arrears. The computation start and end dates coincide with the period start and end dates respectively.

24. Click **Explode** button to view the modified exploded interest and the rate revision schedule split on this screen.

    The system re-picks the interest and rate revision schedules. This happens only if the schedule details for settlement and rate revision are updated.

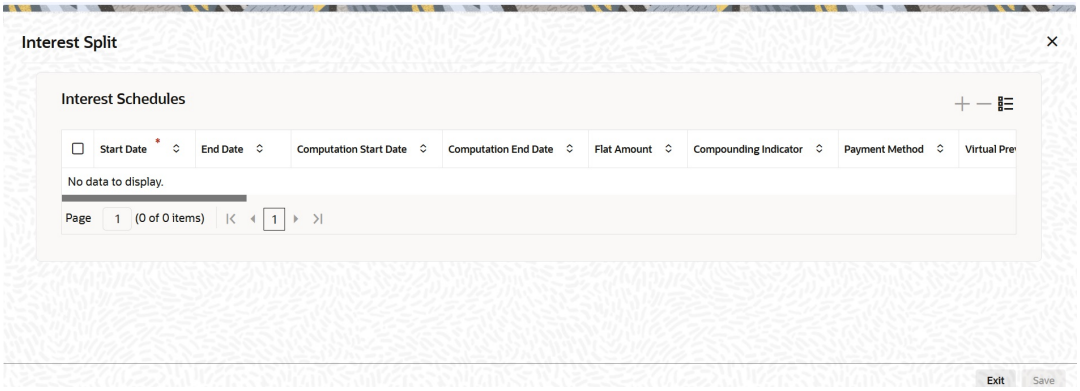
25. Click **Edit** button to modify the details before you explode the schedules.

    Once the details are updated, you can view the modified details on Schedule and Revision sub screens.

26. Click **Schedule** button to view the Interest Split screen.

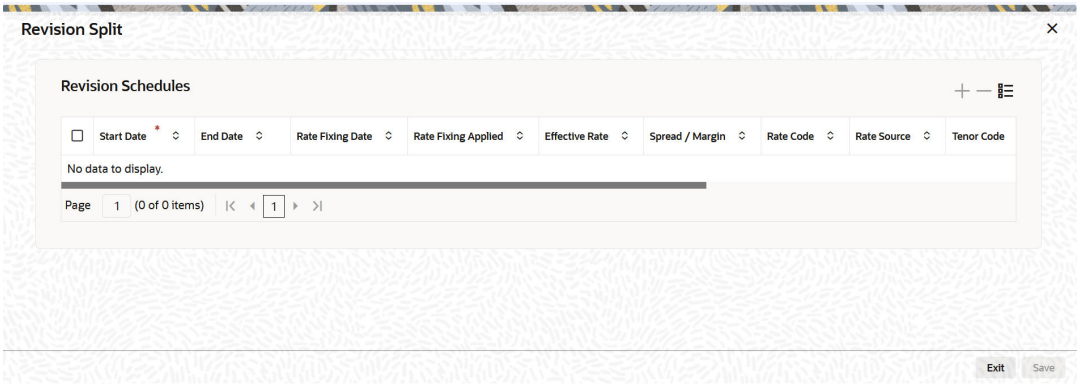
    The **Interest Split** screen is displayed.

Figure 4-7 Interest Split



27. On the **Interest Schedules** screen, click **Revision** tab and maintain for the payment of settlement amount at maturity.

Figure 4-8 Revision Split

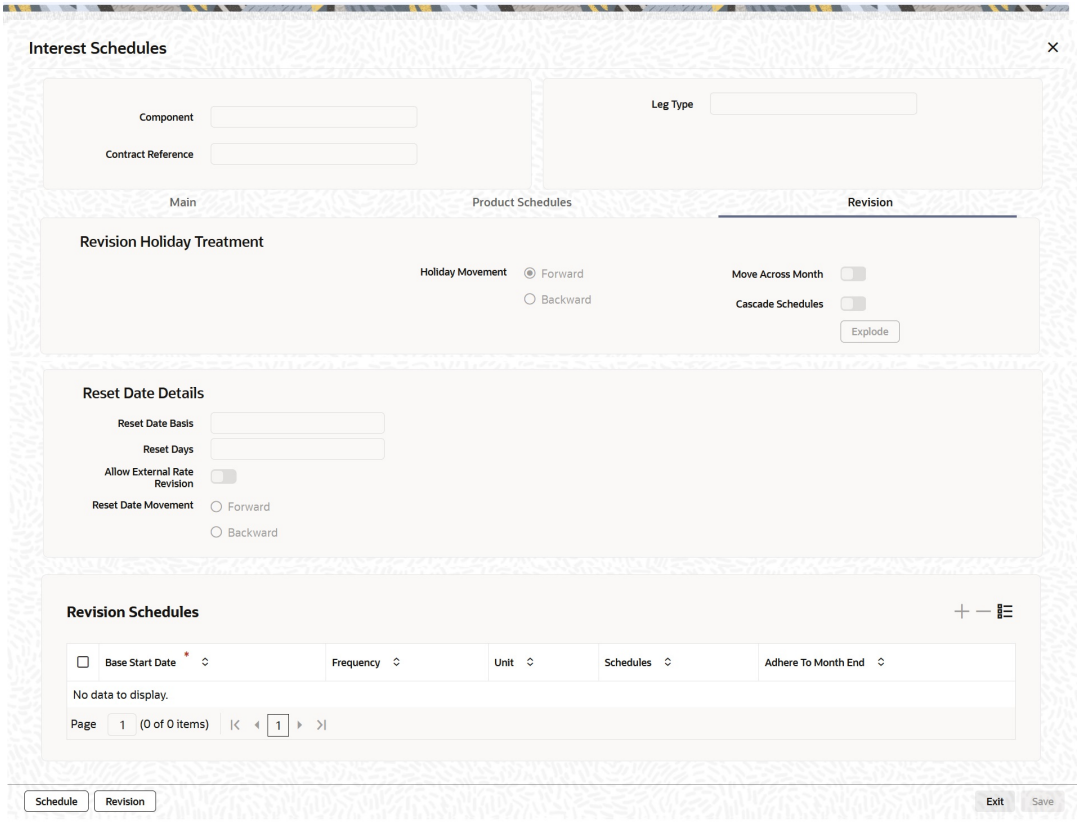


28. On the **Revision Split** screen, user can only view the revision schedule details till the end of the current payment schedule.

29. On the **Interest Schedules** screen, click **Revision** tab.

    The **Revision** tab section is displayed.

Figure 4-9 Revision



30. On the **Revision Holiday** screen, specify the details.

For more information on the fields, refer to the below Field Description table.

Table 4-18 Revision Holiday - Field Description

Field	Description
Holiday Movement	Occasionally the preferred holiday treatment, the branch holiday, the currency holiday, or the holiday governed by the financial center can, in turn, fall on a holiday. In such a situation you have to indicate the movement of the scheduled date. Whether it is to be moved forward to the next working day or whether it should be moved back to the previous working day.

Table 4-18 (Cont.) Revision Holiday - Field Description

Field	Description
Cascade Schedules	The question of cascading schedules arises only if: • You have specified that a schedule falling due on a holiday has to be moved forward or backward; and, • The schedule has been defined with a definite frequency. Indicate that schedules must be cascaded. Then the schedule date for the next payable schedule will depend on how the schedule date was moved for a holiday. The following example illustrates how this concept of cascading schedules functions: For example, a monthly schedule is defined with backward movement and a schedule date falling due on April 30 was moved to April 29, April 30 being a holiday. The schedule date for May depends on whether you have chosen to cascade schedules. If you have, the schedule date for May is set as May 29, as the frequency has been specified as monthly. For the subsequent schedules also, May 29 is considered as the last schedule date. If you have not specified that schedules have to be cascaded, the date originally specified is the date for drawing up the schedules. Even if the April month end schedule is moved to April 29, the next schedule will remain on May 30.

31. On the **Revision Holiday** screen, reset the rate details.

    Specifications for reset rate basis reset rate movement and reset days default from the preferences you maintain at the product level.

    You have to indicate the holiday treatment for reset dates. This requires specifications similar to the holiday treatment for maturity dates.

    Refer to the Products section in this manual for details on specifying holiday treatment for option maturity dates.

32. Click the **Schedule Explode** button.

    The **Combine Holiday Treatment** screen is displayed.

    For non-swaption IROs, the settlement amount is calculated and stored during rate reset. Actual settlement happens on the schedule start date or schedule maturity date, depending on the payment method that you have selected.

    For IROs of the types Cap, Collar, Floor, and Corridor, you can specify whether the rate revision should be based on rates uploaded from an external system or not. If you check the option Allow External Rate Revision, the system will revise rates as per the uploaded rates. If the box is unchecked, the system will perform rate revision based on the maintenance in Oracle Banking Treasury Management.

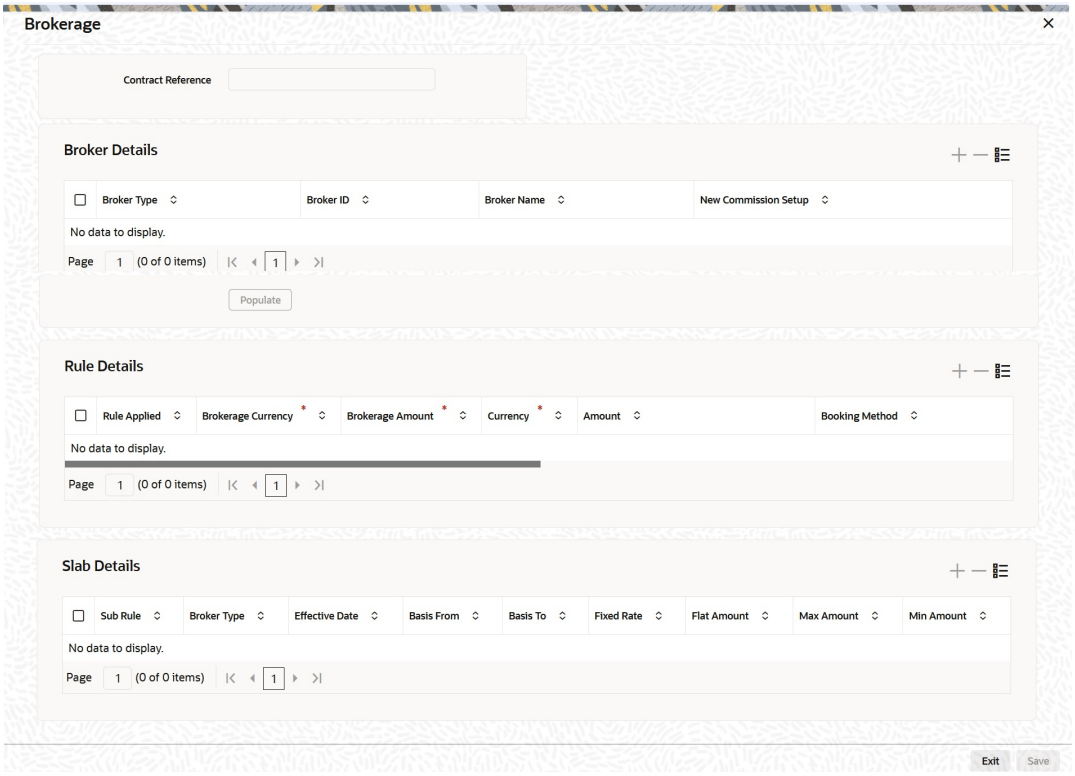
    This value gets defaulted from the linked product. However, you can change it.

33. Click **OK** to generate the report.

34. On **Options Contract input**, click the **Brokerage** button.

    The **Brokerage Details** screen is displayed.

Figure 4-10 Brokerage Details



35. On the **Brokerage** screen, specify the fields.

When capturing the details of a contract that involves brokerage, you will have to specify the brokerage details applicable to the contract. To recall, you have already specified the name of the broker through whom the contract was brokered in the Options Contract Input screen. The details specified for the broker, including the brokerage rule linked to the broker, are defaulted. However, you can change some details, like whether brokerage should be booked in advance or in arrears or whether it should be waived altogether. You are allowed to enter details of a broker only if brokerage was allowed for the product to which the contract is associated.

For more information on the fields, refer to the below Field Description table.

Table 4-19 Brokerage Details - Field Description

Field	Description
Reference Number	Specify the reference number of the contract.
Broker Code and Name	The code assigned to the broker through whom the deal was brokered is displayed along with the broker's name.
Payable Currency and Brokerage Currency	If the brokerage payable currency is the same as the brokerage paid currency, then the same amounts (brokerage paid and brokerage payable) are displayed against the currencies. You have the option to change these currencies.
Payable Amount and Brokerage Amount	You cannot enter the brokerage payable amount. However, the brokerage paid amount can be changed. The following brokerage details are displayed: • The brokerage liquidation status. If it has been liquidated, the liquidation reference number is also displayed. • The rule code and description that has been linked to the broker.

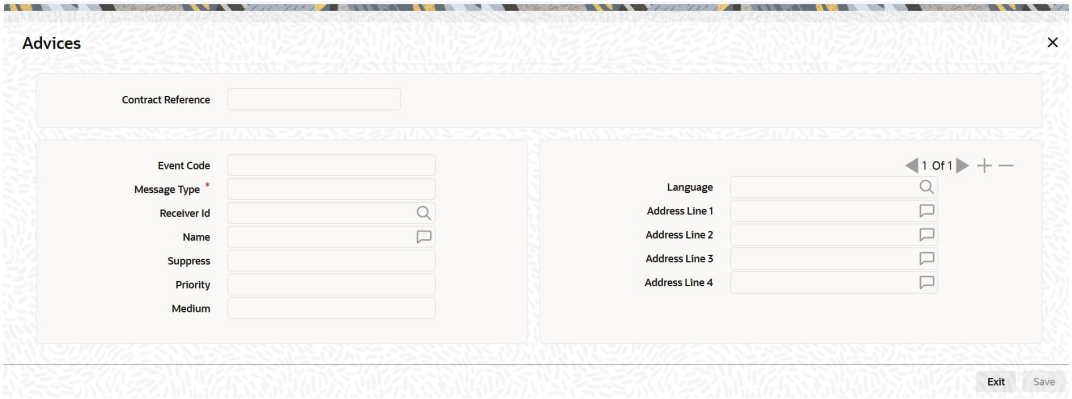
Table 4-19 (Cont.) Brokerage Details - Field Description

Field	Description
Indicating when brokerage should be booked	Indicate preferences as to when the brokerage applicable to the contract must be linked. The options available are: • No Booking • Advance • Arrears The preference specified for the broker is displayed. You can change it in this screen, say from advance to arrears or vice-versa. The third option is a waiving brokerage. If you opt for no booking, no accounting entries are passed for brokerage for this deal. **Note:** If you invoke the Brokerage Details screen for operations like delete, change, authorize, liquidate, and detailed view, this screen will only display brokerage details. You can change brokerage details for a deal only if you have clicked the Modify option from the Actions Menu.

36. On **Options Contract input**, click the **Advices** button.

The **Advices** screen is displayed.

Figure 4-11 Advices



To recall, the advice that can be generated for the events that occur during the life-cycle of a contract is defined for the product to which the contract is associated and is generated after the product is authorized.

The details of the advices applicable for an event are displayed in the Advices screen. The party type to whom a specific advice must be sent is picked up automatically based on the type of contract you are entering and the parties involved in the contract.

The address of the party, who is the recipient of the message, is picked up by default, based on the media and address maintenance for the party. You can change either of them.

For a payment message by SWIFT, you also have the option to change the priority of the message.

37. On the **Advices** screen, specify the fields.

    For more information on the fields, refer to the below Field Description table.

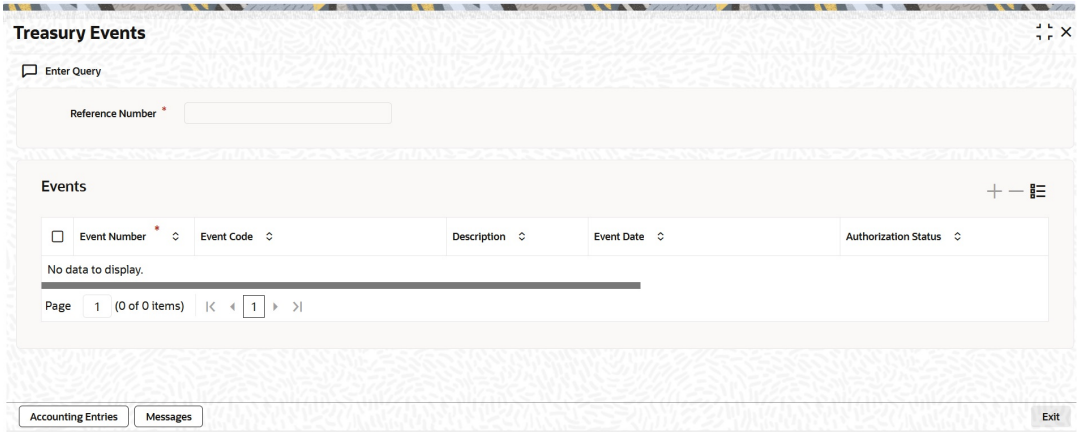
Table 4-20 Advices - Field Description

Field	Description
Suppressing the generation of an advice	By default, all the advices defined for a product is generated for contracts involving it. If any of the advices are not applicable to the contract you are processing, you can suppress its generation.
Indicating the generation priority	For a payment message by SWIFT, you also have the option to change the priority with which the message should be generated. By default, the priority of all advices is marked as Normal. You have the option to prioritize a payment message to one of the following options: • **Normal** • **Medium** • **High**
Indicating the medium of generation	The medium through which an advice is transmitted and the corresponding address are picked up based on the address and media maintained for the customer who is the recipient of the message. You can change either of these while processing the contract. Typically, if changed, both of them are changed. Refer to *Annexure A* to this manual for a list of event-wise advices for the OT Options module.

38. On **Options Contract input**, click the **Event** button.

    The **Event** screen is displayed.

Figure 4-12 Event



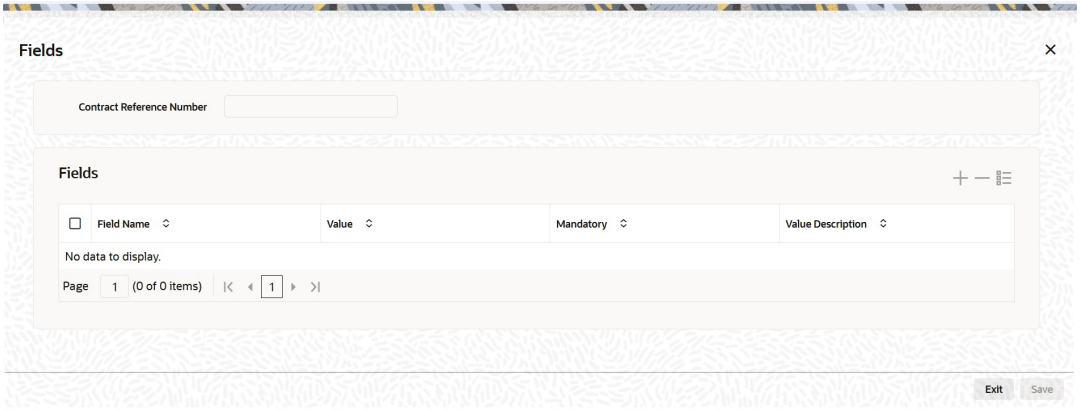
The details of events that have already taken place for the transaction leg are displayed, along with the date on which the event took place.

39. Click the **Accounting Entries** to view the accounting entry details for a specific event.

40. On the **Options Contract input** screen, click the **Fields** button.

    The Fields screen is displayed.

Figure 4-13 Fields

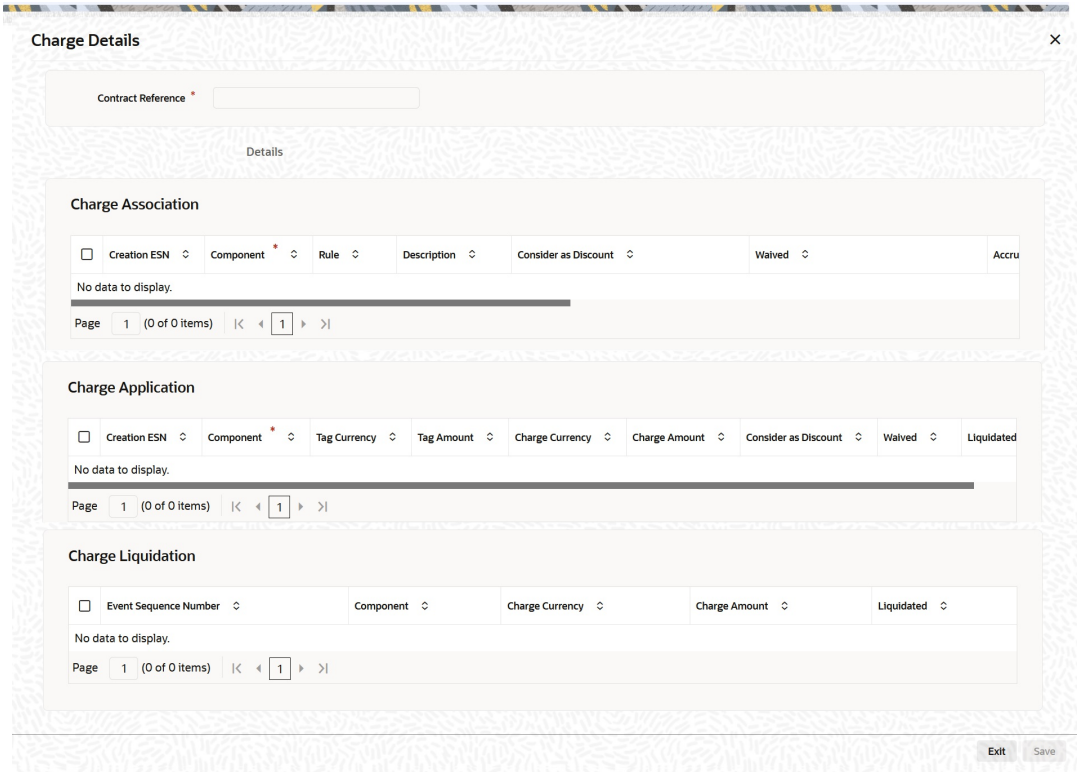


The user-defined fields that are linked to the product default to the contract.

41. On **Options Contract input**, click the **Charge Details** button.

    The **Charge Details** screen is displayed.

Figure 4-14 Charge Details



42. On the **Charge Detail** screen, view the charge details.

For each leg of the transaction, you can specify the charges that you levy. Charges are applicable only for the customer legs of a transaction.

The characteristic feature of a charge is that it is always booked in advance and is not accrued, as a charge is collected only when it is due.

You define the attributes of a charge by defining a Charge Rule in the ICCF Rule Definition screen. A rule identifies the basic nature of the charge. You also have to define a Charge Class in the Charge Class Maintenance screen, where you further qualify the attributes of a rule. We shall refer to these classes as components.

Each charge component, in turn, is linked to a product. All the charge components linked to a product default to the contracts associated with it. Thus each time you enter a contract, you need not specify when and how charges are collected.

However, while capturing the details of a transaction, you can choose to associate a component to the transaction. Further, you can modify some of the attributes defined for the applicable component.

The reference number of the transaction for which you are defining charge details is displayed. The screen contains a list of all the charge components applicable to the transaction.

For more information on the fields, refer to the below Function Description table.

Table 4-21 Charge Detail - Function Description

Function	Description
Associating a charge component to a transaction	All the charge components applicable to the transaction, you are processing will be displayed together with the rule that is linked to the component. In this section of the screen, you can: • Change the charge rule linked to the component • Disassociate a charge component from the transaction
Changing the charge rule linked to a component	The rule that is linked to a charge component is displayed next to the component. To link a new rule to the component. Click the Rule options list and select the appropriate rule from the list. The new rule is made applicable to the charge component.
Disassociating a charge component from the transaction	You can disassociate a charge component from the transaction. In the Association section of the Contract Charge screen, click against the waive option positioned next to the component. In this case, the charge component is attached to the transaction but is not calculated.
Indicating the charge components to be applied to a transaction	Indicate the charge components that should be applied to the transaction. The list of components that is displayed depends on the charge components that you have associated to the transaction. The following details of the component displays: • The basis component on which the charge is levied • The currency of the basis amount • The basis amount • The charge amount • The currency in which the charge amount is defined You can change the charge amount that is calculated using the class applicable to the component.

Table 4-21 (Cont.) Charge Detail - Function Description

Function	Description
Waiving a charge on a transaction	You also have the option to waive the component for the transaction that you are processing. If you want to waive the charge on the transaction that you are processing, you can do so by checking against the waiver option in the application section of the screen. The charge is calculated but not applied. **Note:** You can waive a charge only if it is yet to be liquidated.
Charge liquidation	When a charge component that is applied to a transaction is liquidated, the relevant accounting entries are passed. The Contract Charge screen displays the following: • The charge components that have already been liquidated • The amount that was liquidated • The currency in which it was liquidated

43. On **Options Contract input**, click the **Settlements** button.

    The **Settlement Instruction Details** screen is displayed.

    To capture the details of a contract successfully, you have to capture the following details as well.

    - The accounts to be debited for charges, if there are any
    - The accounts to be debited for interest that the contract involves
    - The method in which the contract is to be settled - whether it is an instrument or a Message (as in a SWIFT or TELEX message)
    - Details about the route through which the money settlement should take place

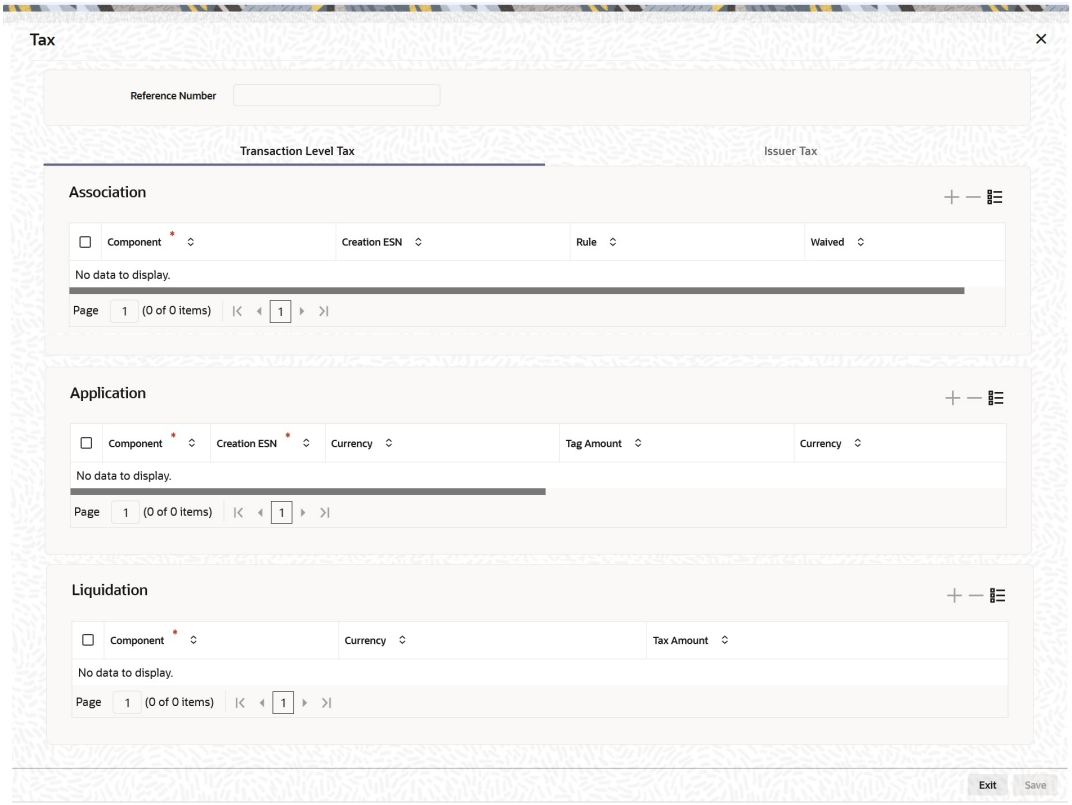
    The information that is related to the settlement method and route applicable for a transfer is referred to as Settlement Instructions.

    Refer to the *Settlements user manual* for details on maintaining settlement instructions.

44. On **Options Contract input**, click the **Tax** button.

    The **Tax Details** screen is displayed.

Figure 4-15 Tax Details



The tax details specified for the product to which the contract is associated are automatically applied to the contract. However, while processing a contract, you can waive the application of the tax on the contract.

45. On the **Option Contract Input** screen, click **Holiday**

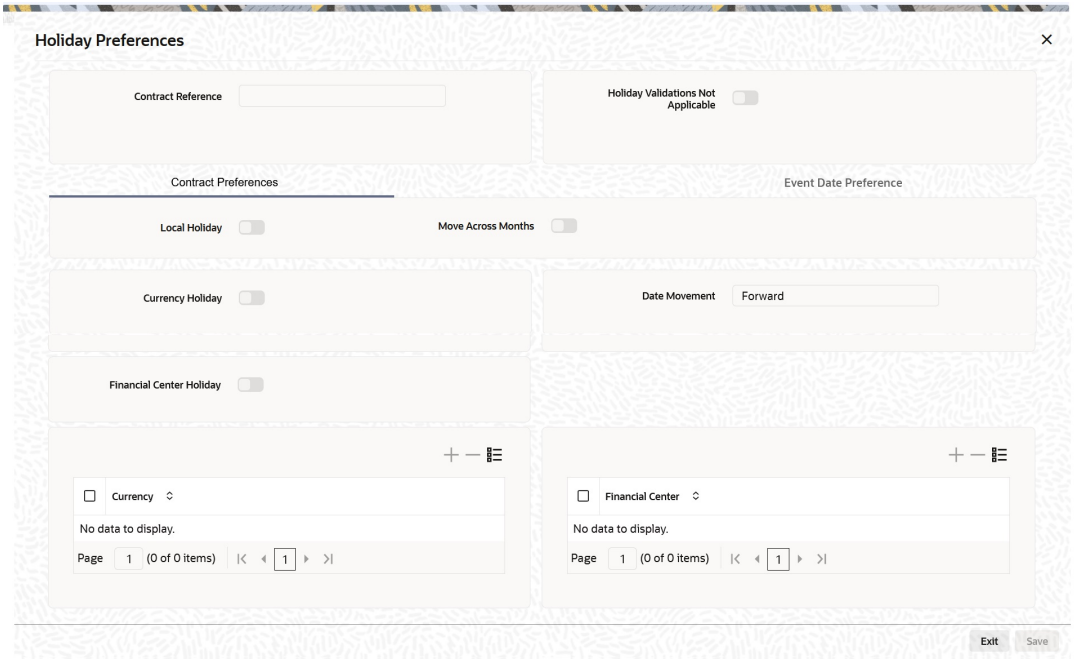
The system validates the financial centre holidays during contract input for Options transactions. Users have to modify the dates appropriately during deal input.

Also, the system validates the financial centre holidays during contract input for transactions received through the interface.

Appropriate validation message(s) are returned to the interface, regularizing the existing Financial Center holiday validation and the maturity date movement functionality.

Holiday Preferences screen is displayed.

Figure 4-16 Holiday Preferences



46. On the **Holiday Preferences** screen, Specify the details as required.

    See the below table for field descriptions:

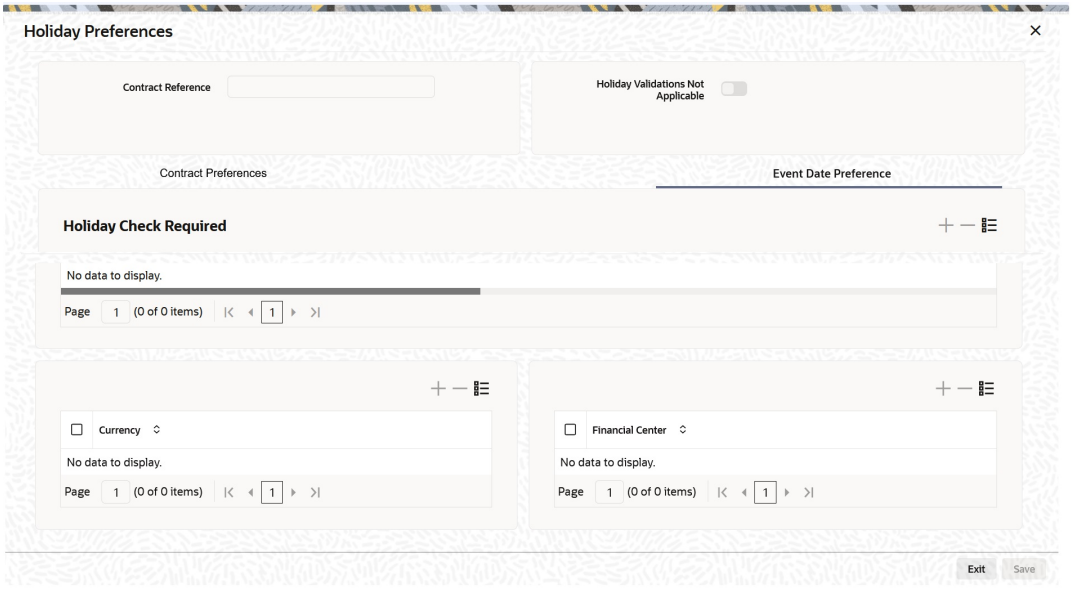
Table 4-22 Field Description

Field	Description
Contract Reference Number	The Contract Reference number form the main screen is displayed.
Contract Reference	The Contract Reference number from the main screen is displayed here.
Version Number	Version of the contract number is displayed in case of contract amendments/events.
Local Holiday	Select this check box, if the local holiday calendar validation of dates and schedule movement is required, which is defaulted from product and amendable.
Currency Holiday	Select this check box, if the currency holiday calendar validation of dates and schedule movement is required, which is defaulted from product and amendable.
Financial Center	Select this check box, if the financial center holiday calendar validation of dates and schedule movement is required, which is defaulted from product and amendable.
Currency	Specify the currency details for which the holiday validation for dates and schedules movement is required, which is defaulted from product and amendable.

47. On the **Holiday Preferences** screen, click **Event Date**

    Holiday Preferences with **Event Date** tab details is displayed.

Figure 4-17 Holiday PReferences - Event Date Prference



48. On the **Event Date Preference** tab, specify the details as required.

    The following are the field descriptions:

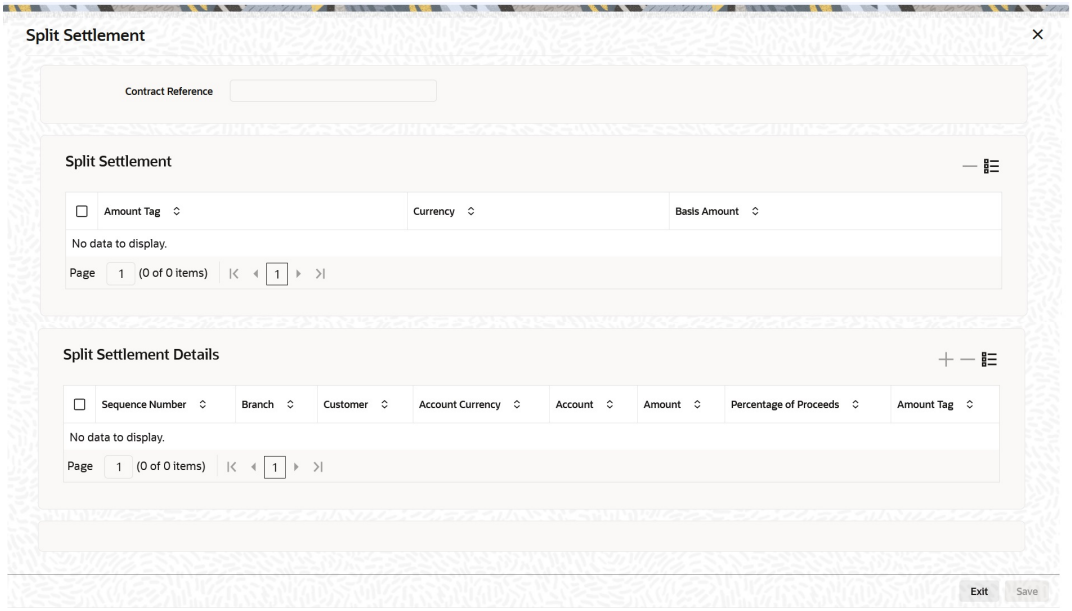
Table 4-23 Field Description

Field	Description
Event Description	This field provides the list of dates for appropriate events in the life cycle.
Local Holiday	Select this check box if the local holiday validation of the dates and schedule movement has to be executed.
Currency Holiday	Select this check box, to execute the currency holiday calendar validation of the dates and movement of schedules.
Financial Center	Select this check box, to execute the financial center holiday calendar validation of the dates and movement of schedules. **Note:** Based on the requirement you can choose more than one holiday check at the same time.

49. On the **Options Contract Input** screen, click **Split**.

    Split Settlement screen is displayed.

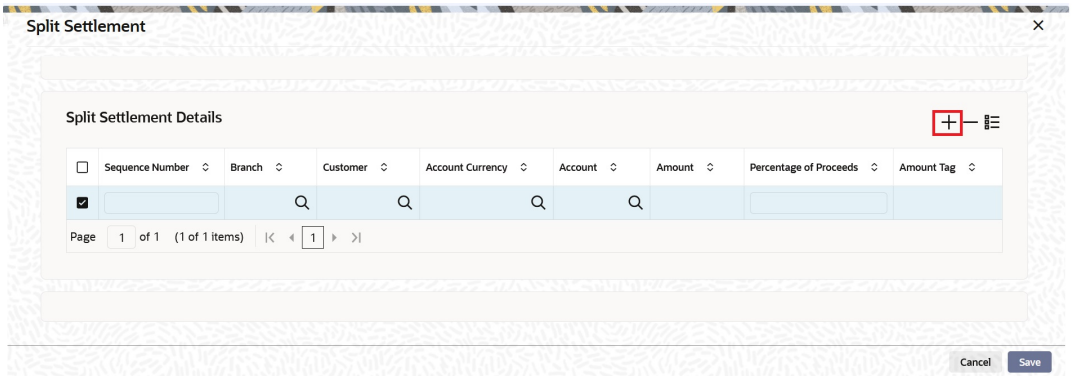
Figure 4-18 Split Settlement



50. Select a contract, from the displayed list.
51. On the **Split Settlement** screen, under the Split Settlement Details, click the + Icon.

    Split Settlement

Figure 4-19 Split Settlement with a new row



> **Note:**
>
> This process of splitting the settlements for a contract is allowed on the principal, Interest (Anticipated Interest for new contracts), and charges.

52. Choose the Account Currency, Account, and other necessary details, to create a split.
    - For every Settlement contract the system allows a maximum of twelve splits.
    - In the case of auto-liquidation, you must unlock the contract and register the split, upfront, that is prior to auto-liquidation. The provision to update the split settlement for interest component is available only after save and first authorization. SGEN is generated for each split amount. The system will suffix the reference number in field

72(Sender to Receiver Information) of MT202 and MT202COV for the code '/BNF/' (Beneficiary). The format is /BNF/ <16 Digit Contract Ref> -(hyphen) two-digit running number of split / count of splits

- Only if split settlement details are available, the system will process the transaction accordingly; else the payment/settlement is treated as a single payment transaction.
- If you are splitting the contract during the rollover, the application considers the latest available split details and process the liquidation amount, if any. If split settlement details are not available, the transaction (partial liquidation as part of the rollover) is treated as normal/regular/non-split liquidation. The split is allowed in a manual rollover as well.
- For a single component, you can split the settlement amount and use the same settlement account more than once. There is no restriction on the number of repetition of the split settlement amount for the same NOSTRO/settlement account.
- Cross currency split settlement is supported. The Amount field/column in the Split tab is, by default, in the contract currency (though not evident in the User Interface). The currency of the settlement account can be in a different currency. The converted amount has to be viewed in the accounting entries as part of Events tab only.
- Appropriate Amount tags are available for the relevant event(s) for enriching the split settlement details.
- The Percentage of Proceeds column is a display-only field that is automatically computed by the system and displayed after saving the transaction.

> **Note:**
>
> OT manual rollover operation though needs authorization, for rollover mechanism Spawn contract. It is auto-authorized (parent and child contract). Only if it is a new version, then the child / new version shows up as unauthorized. OT-Termination Split settlement is supported only when Fair value is zero.

- Reporting Details Maintenance

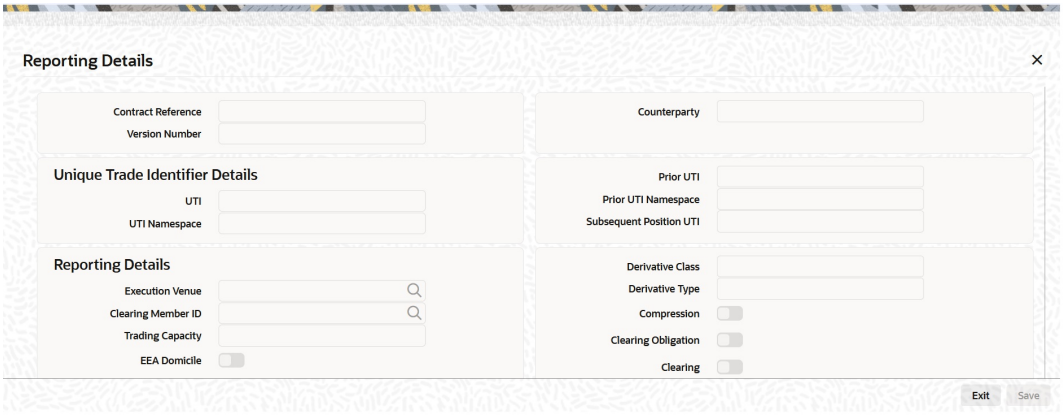
4.1.1.1 Reporting Details Maintenance

The Reporting Details call form is enhanced in Contract Input screen for assisting the third-party reporting system to report Over-the-counter trades in the required format of the respective Central Counterparty. Note: The European Market infrastructure regulation (EMIR) is a reporting regulation to increase the transparency of the over-the-counter derivatives market, and to reduce the operational risk of the market.

1. On the **Contract Input** screen, click the **Reporting Details** tab.

   The **Reporting Details** screen is displayed.

Figure 4-20 Reporting Details



2. On the **Reporting Details** screen, specify the details as required, and click **Ok**.

   For more information on the fields, refer to the below table.

Table 4-24 European Market Infrastructure Regulation - Field Descriptions

Field	Description
Contract Reference	Indicates contract reference number specified during report generation
Version Number	Indicates the latest version number of the report. The system assigns a version number to a contract whenever it is created in the system. From then, each amendment and reinstatement results in the next version of the contract being created. When a report is generated, the latest version number of the contact is reported
Unique Trade Identifier Details	Specify the Unique Trade Identifier Details.
UTI	Specify the Unique Transaction Identifier (UTI) in combination with the namespace created at the time of transaction is first executed. The UTI is shared with all registered entities and counterparties involved in the transaction, and used to track that particular transaction over its life.
UTI Namespace	Specify the unique code that identifies the registered entity creating the unique transaction identifier.
Prior UTI	Specify the previous unique transaction identifier in combination with the namespace that was created at the time of transaction execution.
Prior UTI Namespace	Specify the registered entity that created the previous unique transaction identifier at the time of transaction execution.

Table 4-24 (Cont.) European Market Infrastructure Regulation - Field Descriptions

Field	Description
Subsequent Position UTI	Specify the UTI of the position in which a derivative is included. **Note:** This field is applicable only for the reports related to the termination of a derivative due to its inclusion in a position.
Execution Venue	Select the execution venue from the available list of values. **Note:** The execution venue is maintained manually in the Treasury Static Type maintenance screen by mapping Type as EX_Venue and Type Name as the Market Identifier Code (MIC). The execution venue maintained in this screen will be available to fetch from the execution venue list of values.
Clearing Member ID	Select the unique code from the displayed list for identifying the responsible clearing member ID of the reporting counterparty.
Trading Capacity	Select the Trading Capacity from the drop-down list: • Principal • Agent Indicates whether the reporting counterparty has concluded the contract as principal on its account or as an agent for the account on behalf of a client.
EEA Domicile	Select the EEA Domicile check box, if the other counterparty is domiciled in the European Economic Area (EEA)
Treasury Financing	Select the Treasury Financing check box, if the contract is objectively measurable as directly linked to the reporting counterparty's commercial or treasury financing activity, as referred to in Art. 10(3) of Regulation (EU) No 648/2012. Indicates whether the contract is objectively measurable as directly linked to the reporting counterparty's commercial or treasury financing activity, as referred in Art. 10(3) of Regulation (EU) No 648/2012.

Table 4-24 (Cont.) European Market Infrastructure Regulation - Field Descriptions

Field	Description
Clearing Threshold	Select Clearing Threshold from the drop-down list. The available options are: • Above • Below Indicates the information that the reporting counterparty is above the clearing threshold as referred to in Art. 10(3) of Regulation (EU) No 648/2012 or below the clearing threshold as referred to in Art. 2(8) Regulation (EU) No 648/2012.
Collateralized	Select the Collateralized value from the drop-down list. The drop-down list shows the following options: • **Uncollateralized** • **Partially Collateralized** • **One way Collateralized** • **Fully Collateralized**
Collateral Portfolio	Select the **Collateral Portfolio** check box, if the collateralization was performed on a portfolio basis. Indicates whether the collateralization was performed on a portfolio basis. A portfolio means the collateral is calculated based on net positions resulting from a set of contracts, rather than per trade.
Collateral Portfolio Code	Click the search icon and select the unique code of the Collateral Portfolio in this field. **Note:** If the collateral is reported on a portfolio basis, the portfolio should be identified by a unique code determined by the reporting counterparty.
Taxonomy Used	Select the **Taxonomy Used** for the contract from the drop-down list. The drop-down list shows the following options: • **Product Identifier** • **ISIN/ALL** • **Interim Taxonomy**
ISIN/All	Specify the ISIN/All number, if ISIN/All option is selected in the Taxonomy Used field.

Table 4-24 (Cont.) European Market Infrastructure Regulation - Field Descriptions

Field	Description
Derivative Class	Select the **Derivative Class** from the drop-down list, if the Interim Taxonomy option is selected in the Taxonomy Used field.The drop-down list shows the following options: • **Commodity** • **Credit** • **Currency** • **Equity** • **Interest Rate** • **Others**
Derivative Type	Select the Derivative Class from the drop-down list, if the Interim Taxonomy option is selected in the Taxonomy Used field. The drop-down list shows the following options: • **Contract for Difference** • **Forward Rate Agreement** • **Futures** • **Forward** • **Options** • **Swap** • **Others**
Compression	Select the **Compression** check box to indicate whether the contract results from a compression exercise.
Clearing obligation	Select the **Clearing obligation** check box to indicate whether the reported contract is subject to the clearing obligation under Regulation (EU) No 648/2012.
Clearing	Select the **Clearing** check box to indicate whether clearing has taken place.
Clearing timestamp	Enter the time and date when clearing took place.
CCP	Click the search icon and select the unique code from the displayed list for identifying the reported contract is subject to the clearing obligation under Regulation (EU) No 648/2012.
Intragroup	Select the **Intragroup** check box, to Indicate whether the contract was entered into as an intra-group transaction, defined in Article 3 of Regulation (EU) No 648/2012.
Action Type	Select the Action Type from the drop-down list. The available options are: • **New** • **Modify** • **Error** • **Cancel** • **Compression** • **Valuation Update** • **Others** Indicates the action on the contract.

Table 4-24 (Cont.) European Market Infrastructure Regulation - Field Descriptions

Field	Description
Action Type Details	Specify the details of the amendment, if the previous Action Type field is selected as **Others**.
Agreement Type	Select the agreement type from the displayed list of values or enter the type of agreement directly in the field. This field specifies the type of the agreement covering the transaction. The Agreement Type cannot be overwritten, as Master Agreement is maintained, default value from Agreement will be picked.
Reporting Jurisdiction	Select the supervisory party from the displayed list of values. This field specifies the supervisory party to which the trade needs to be reported. **Note:** if Reporting jurisdiction is selected as OTHR, the Additional Reporting Details are required by the regulator. For more information, refer to Step 6 in section 2.5.1 Settlement details of Settlement User Guide. Reporting Jurisdiction cannot be overwritten as Master Agreement is maintained, default value from Agreement will be picked.

4.1.2 Holiday Validation Assumptions

In the OT module, local holiday, currency holiday and financial center holiday validations is applicable for:

- Trade date, Value date, Maturity date, Premium Payment Date, Rebate Payment Date, and Exercise Payment Date

> **Note:**
>
> For exercise and rebate payment date, the holidays movement will always be a forward movement and also if there are any holidays this settlement date will move accordingly

- Automatic schedule movement is applicable for Interest schedule and Bermudan schedule

The system display an applicable override message if these dates fall on holiday and configured for holiday validation. You can ignore the override message or change the respective date as deemed appropriate.

4.1.3 Settlement Method for Currency Options

The following table summarizes how currency options with different option and expiration styles are settled:

Table 4-25 Settlement Method for Currency Options

Option Style	Expiration Style	Exercise Method	Settlement on
Plain Vanilla	American, Bermudan or European	Manual or Auto	For American expiration style: If manually exercised - Any day between earliest exercise date and Contract maturity date (both included), if manually exercised For auto exercise - On maturity, if the option is in-the-money For Bermudan expiration style: If manually exercised - On pre-defined exercise dates or on contract maturity date For auto exercise - On maturity, if the option is in the money For European expiration style: Only on Contract maturity date In all these cases, payment can be a fixed amount if such is opted for
Binary	American or European	Manual or Auto	For American expiration style: If manually exercised - Any day between earliest exercise date and Contract maturity date (both included), if manually exercised For auto exercise - On maturity, if the option is in-the-money. For European expiration style: Only on Contract maturity date Settlement payment is always a fixed amount
Digital	European only	Manual or Auto	Only on Contract maturity date. Settlement payment is always a fixed amount.
No Touch	European only	Auto only	Only on Contract maturity date. Settlement payment is always a fixed amount.

Table 4-26 As per SWIFT 2023 standards, Exercise and Settlement Method for Currency Options

Option Style	Expiration Style	Exercise Method	Exercise on	Settlement on
Plain Vanilla	American, Bermudan or European	Manual or Auto	For American expiration style: manually exercised - Any day between earliest exercise date and Contract maturity date (both included) For Bermudan expiration style: manually exercised - On pre-defined exercise dates or on contract maturity date For European expiration style: manually exercised- Only on Contract maturity date. For all expiration styles, auto exercise is only on maturity date, if the option is in-the-money In all these cases, payment can be a fixed amount if pay fixed (Vanilla) is opted at the deal.	Settlement on Hit - when the option is manually exercised for an American/ Bermudan/ European style, it is considered as hit. Settlement on Maturity- when the option is auto exercised for any expiration style, it is considered as maturity
Binary	Not applicable	Manual or Auto	Manually exercised- Any day before maturity or on maturity date Auto exercised - On maturity, if the option is in-the-money	Exercise Settlement is always a fixed amount which can be paid at Hit or Maturity.
Digital	Not applicable	Manual or Auto	Manual Exercised- Exercise can happen on or before the maturity manually Auto exercised- On maturity if the option is in the money	Exercise Settlement is always a fixed amount which can be paid at Hit or Maturity.

Table 4-26 (Cont.) As per SWIFT 2023 standards, Exercise and Settlement Method for Currency Options

Option Style	Expiration Style	Exercise Method	Exercise on	Settlement on
No Touch	Not applicable	Manual or Auto	Manual Exercised- Exercise can happen on or before the maturity manually Auto exercised- On maturity if the option is in the money	Exercise Settlement is always a fixed amount which can be paid at Hit or Maturity.

> **Note:**
>
> Digital and No touch options will always behave similar to Binary.

When an option can be exercised before maturity, the possibility to settle at maturity or at hit must be specified as explained in the following table.

Table 4-27 Exercise and Settlement

Options	Style	Exercise	Settlement	Field
Vanilla	American	Any Time	Maturity	Sequence B/ 30F
Vanilla	American	Any Time	Hit	Sequence B/30J
Vanilla	Bermuda	Fixed Dates	Maturity	Sequence B/ 30F
Vanilla	Bermuda	Fixed Dates	Hit	Sequence B/30J
Vanilla	European	Maturity Date	Maturity	Sequence B/ 30F
Binary	NA	Any Time	Maturity	Sequence B/ 30F
Binary	NA	Any Time	Hit	Sequence B/ 30J

> **Note:**
>
> As per swift 2023 standards, Digital and No touch will behave similar to Binary.

4.1.4 Settlement Method for IROs

Table 4-28 Settlement Method for IROs

IRO Type	Expiration Style	Exercise Method	Settlement on
Caps	European only	Auto only	Schedule maturity
Floors	European only	Auto only	Schedule maturity
Collars	European only	Auto only	Schedule maturity

Table 4-28 (Cont.) Settlement Method for IROs

IRO Type	Expiration Style	Exercise Method	Settlement on
Corridors	European only	Auto only	Schedule maturity
Swaptions	American, Bermudan or European	Manual only	For American expiration style: Any day between the earliest exercise date and contract maturity date (both included). For Bermudan expiration style: On pre defined exercise dates or on contract maturity date. For European expiration style: Only on contract maturity date.

4.2 Display OT Contract Details

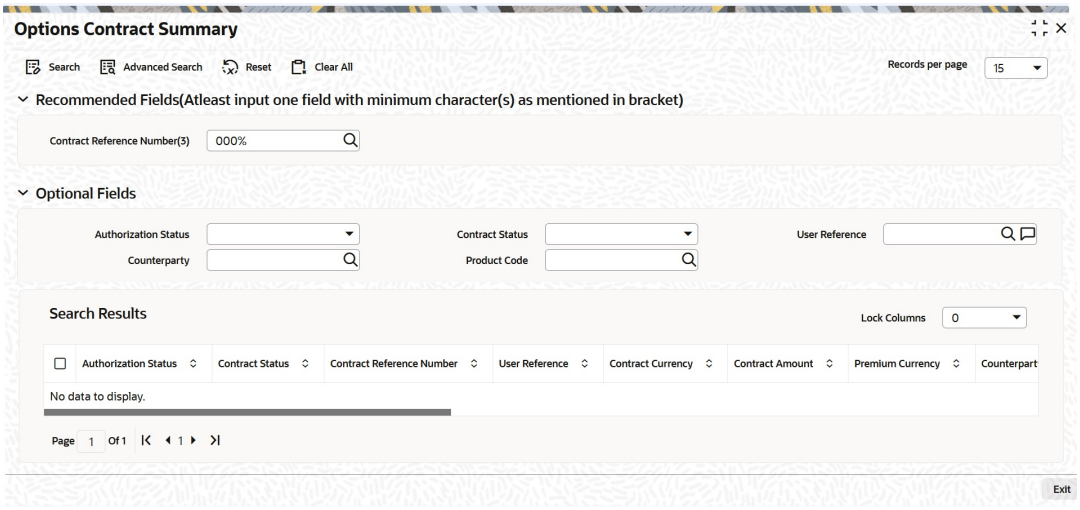
This topic describes the instructions to capture the **Options Contract Summary** details.

You can view the OT contract details maintained in the Options Contract Details using the **Options Contract Summary** screen.

1. On the Homepage, enter **OTSTRONL** in the text box, and click the next arrow.

   Options Contract Summary screen is displayed.

Figure 4-21 Options Contract Summary



2. On the **Options Contract Summary** screen, specify the details as required.

   In the above screen, you can base your queries on any or all of the following parameters and fetch records:

Table 4-29 Options Contract Summary - Field Description

Field	Description
Recommended Field	**Contract Reference Number** On screen launch, the application default with the Branch code followed by % in the Contract Reference Number. Click the Search button to display the contract summary. Alternatively, you can select the reference number from the option list. The list displays all valid reference numbers maintained in the system.
Optional Fields	Select any one or all of the parameters from the Optional Field in the summary and click the Search button. The records meeting the selected criteria are displayed in the summary screen.

4.3 Maintain Manual Knock-In Knock-Out

This topic describes the systematic instruction to process the Manual Knock-In Knock-Out screen.

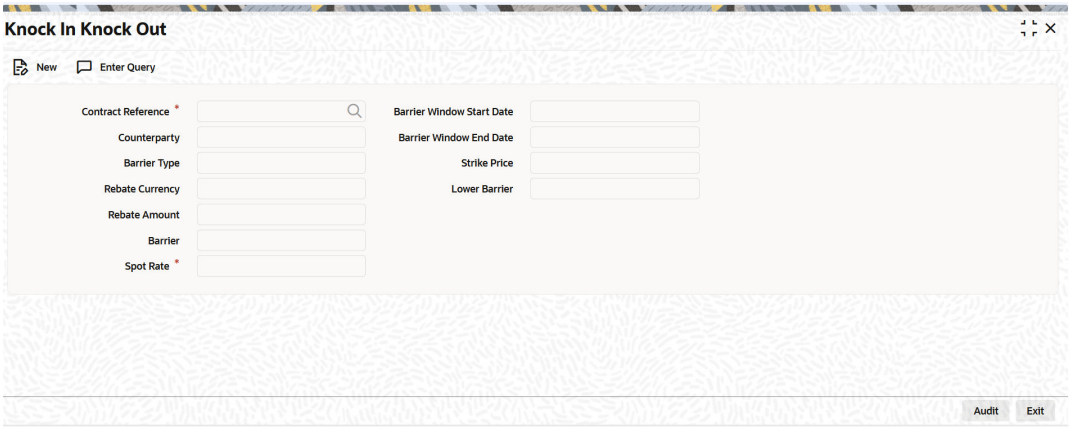
Specify **User ID** and **Password**, and login to Homepage.

You can create OT Options products in the OT Product Definition screen, invoked from the Application Browser. In this screen, you can enter basic information relating to a product such as the Product Code, the Description, and so on.

- On Home page, type **OTDXKIKO** in the text box, and then click next arrow.

  The **Knock In Knock Out** screen is displayed.

Figure 4-22 Knock In Knock Out



The following values get displayed here:

- Contract reference number
- Customer number (CIF)
- Barrier Type – can be any one of the following:
  - Up and In Knock-in (UIKI),
  - Up and Out Knock-out Event (UOKO),

- Down and In Knock-in Event (DIKI),
- Double Knock-in Event (DKIN),
- Double Knock-out (DKOT), D
- Down and Out Knock-out (DOKO)

> **Note:**
>
> As per swift 2023 standards, based on the equal modifier and new barrier types, manual knock in will be processed.

For more information on Barrier events, refer to SWIFT 2023 barrier events

- Rebate Amount – If a rebate was allowed for the options contract
- Rebate Currency – If a rebate was allowed for the options contract, the applicable rebate currency
- Barrier – The barrier price. This is the predetermined exchange rate at which the contract is knocked in or knocked out.
- Lower Barrier – The lower barrier in case of a double KI or a double KO.
- Barrier Window Start Date – The knock in knock out processing start date
- Barrier Window End Date – The knock in knock out processing end date
- Strike Price – The strike price at which the options contract was booked

The Spot Rate is captured and based on the barrier option it is validated whether Knock In or Knock Out can happen at the given spot rate.

4.4 Terminate Option Contracts

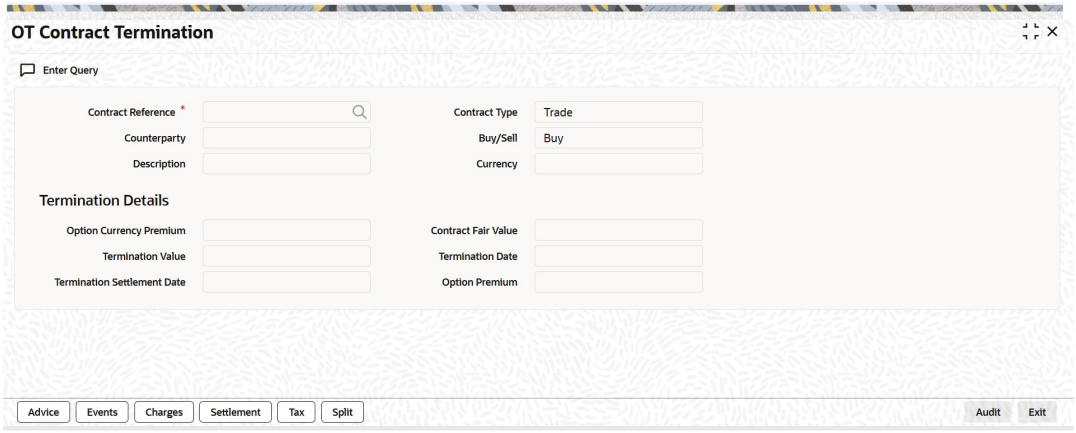
This topic describes the systematic instruction to terminate the Options Contracts.

You can opt for premature termination of option contracts (both COs and IROs) which have not expired.

1. On Home page, type **OTDXCTRM** in the text box, and then click next arrow.

   The **OT Contract Termination** screen is displayed.

Figure 4-23 OT Contract Termination



2. On the **OT Contract Termination** screen, click New, and specify the fields.

   For more information on the fields, refer to the below Field Description table.

Table 4-30 OT Contract Termination - Holiday Details - Field Description

Field	Description
Contract Reference Number	Specify the contract reference number or query for all active and authorized contracts. Alternatively, you can select from the list. The contract currency, name of counterparty, and termination date (the date on which you are entering the termination details) are automatically displayed. The option premium paid/received at the time of inception and the currency in which it is denominated are also displayed.
Termination Value	Specify the termination value. The amount at which you are selling / buying back the option to / from the counterparty. This has to be a positive value.
Contract Fair Value	You will also have to enter a positive market fair value for the contract at the time of termination; if left blank, the system picks up the latest revaluation fair value.
Termination Settlement Date	Specify the termination settlement date in the range of values between the last life cycle event (excluded) and the maturity date (inclusive).

If the ‘Settlement Message Days’ is greater than the difference of ‘Termination Settlement Days’ and ‘System/Business/Transaction date’, then the system triggers SGEN immediately upon authorization of the termination transaction in this screen. It is triggered during specific number of days prior to the ‘Termination Settlement Date’. This number of days is as per the ‘Settlement Message Days’ maintained in the ‘Currency Definition’ screen.

If the ‘Termination Date’ is same as the business or transaction date, then the system triggers the TERM event immediately upon authorization of the termination transaction.

If the ‘Termination Date’ and ‘Termination Settlement Date are both future dated, then during the BOD process, the system triggers the TERM event. Similarly, it triggers the TRST event on the ‘Termination Settlement Date’. View these events in the ‘Events’ tab of ‘OT Contract Termination’ and ‘Options Contract input’ screen.

For hedge deals, if you have chosen to amortize termination gain / loss at the product level, then the same is amortized from the date of termination till the contract maturity date.

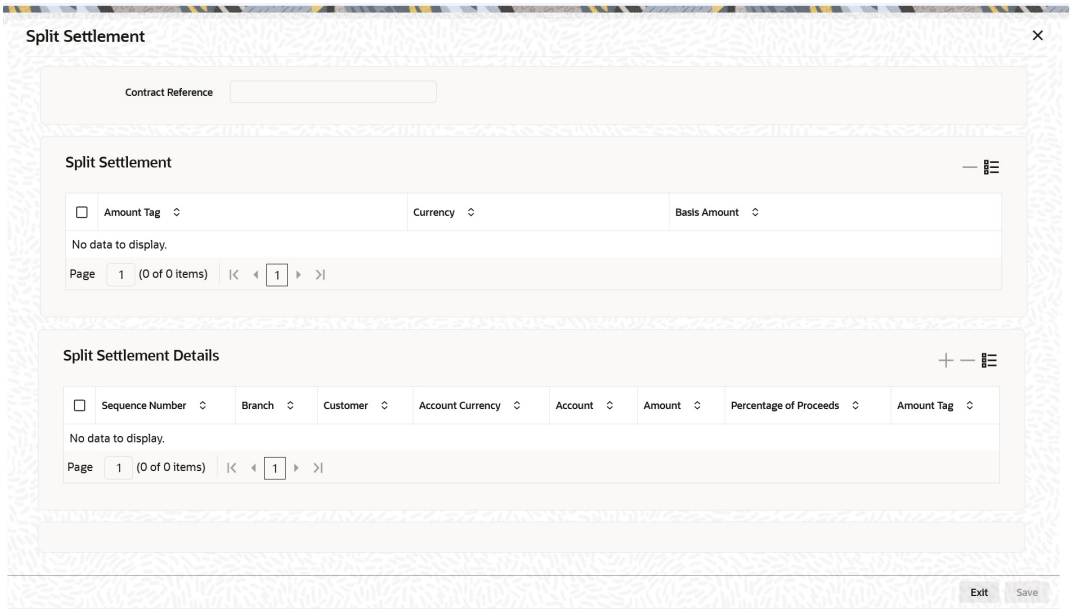
Otherwise, the termination gain / loss is recognized as income / loss immediately on termination. Termination gain / loss for trade deals cannot be amortized.

You can delete a saved termination application before it is authorized.

3. On the **OT contract Termination** Screen, click **Split**.

   The **Split Settlement** screen is displayed.

Figure 4-24 Split Settlement



4. On the **Split Settlement** screen, specify the details as required.

   For more information, see the section: *Step 47: Split Settlements*

4.5 Upload Options Contracts

This topic describes the upload options contracts for amendment.

You can also upload the options contract details from an external system into Oracle Banking Treasury Management. You can also upload the Derivatives contracts for external swaption (in case of IROs) and FX contracts (in case of Currency options) into Oracle Banking Treasury Management. Oracle Banking Treasury Management can then establish the requisite soft links between the uploaded IRO contracts and the uploaded Derivatives contracts. Similarly, it can establish a link between the uploaded FX contracts and uploaded Currency options contracts.

> **Note:**
>
> IROs with swaption style Physical cannot be uploaded. Currency options with delivery type as ‘Physical’ cannot be uploaded

The system also checks whether an FX contract is linked to a currency option with Delivery type as External. Similarly, it checks whether a Derivatives contract is linked to the IRO with swaption Style as External.

> **Note:**
>
> DV contract must be uploaded with Swaption contract Reference Number and must go always in the Authorized status irrespective of source preference post upload status. You cannot upload more than one derivative contract for same swaption contract; if you are doing this, the system will throw an error “Option contract already linked with DV contract”. Derivative reference number displays in Derivative reference number label after uploading DV contract.

- Upload Options Contract for Amendment

4.5.1 Upload Options Contract for Amendment

From an external system, you can upload contracts that require amendment in Oracle Banking Treasury Management. The system will distinguish between the new and the contracts that require amendment based on the action code of the uploaded record. For a contract requiring amendment, the action code is AMND’ If the action code is AMND, Oracle Banking Treasury Management will first check whether the contract exists in the system or not. If the contract does not exist in the system, an error message is displayed to notify that the contract cannot be amended.

The Reference Number provided by the external system has to same if it is a new contract or if it is an amendment to an existing contract.

When you upload a new contract, the Reference Number is displayed in the User Reference Number field for that contract. The User Reference Number is the basis for checking whether the contract exists or not.

The upload for contract amendment will trigger the AMND event. The same event is triggered even when the amendment is done in the Options Contract Input screen.

The fields that can be amended for an options contract are as follows:

- Credit Line Code
- Remarks

Amendments can be of two types:

- Financial
- Non-Financial

For financial amendment, the contract is reversed and new contract is booked based on the new values created. The other values are defaulted from the contract that is amended.

For non-financial amendment, the same contract can be modified. The non-financial fields are:

- Expiry Location
- Expiry Time
- Remarks

4.6 Exercise Option

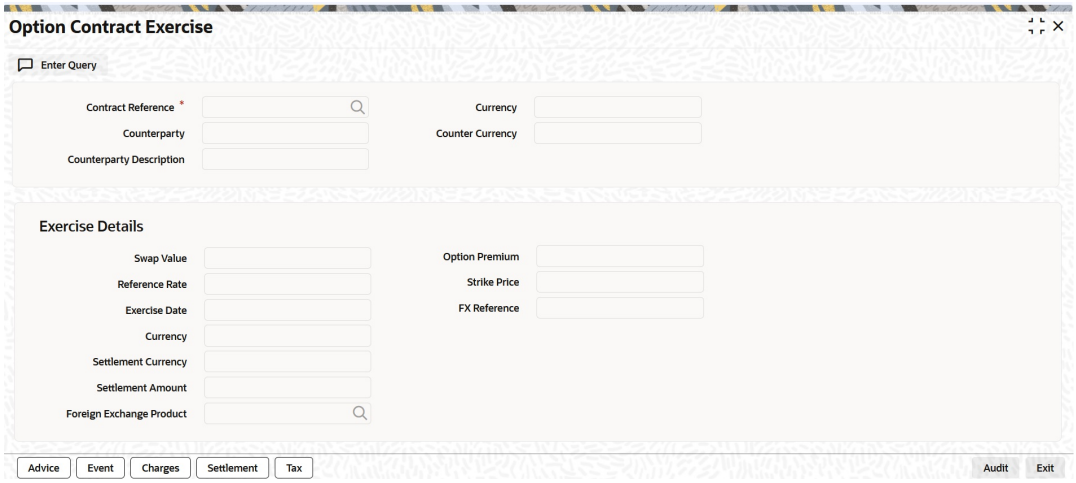
This topic describes the systematic instruction to exercise specific styles of interest and currency options.

You can manually exercise specific styles of interest rate and currency options. Automatic exercise of an option, if the option is marked for auto-exercise, is handled by a system batch process if the option is in-the-money at maturity.

1. On Home page, type **OTDXCXER** in the text box, and then click next arrow.

   The **Option Contract Exercise** screen is displayed.

Figure 4-25 Option Contract Exercise



2. On the **OT Contract Termination** screen, click New and specify the fields.

   For more information on the fields, refer to the below Field Description table.

Table 4-31 OT Contract Termination - Holiday Details - Field Description

Field	Description
Contract Reference Number	Specify the contract reference number .
Settlement Date	The settlement date is the date when you enter the application for manual exercise of the contract. This is populated automatically by the system.
Reference Rate	The reference rate is also automatically picked up by the system based on your specifications for the contract. You can modify it. This is used for calculating the settlement amount.
Swap Value	For swaption trade deals, you have to enter the swap value. This field is disabled for other types of options.
FX Product Code	For external currency option contract, the FX contract is separately uploaded with Oracle Banking Treasury Management reference number. While uploading the contract, the validation is done between maturity date of currency option contract and value date of FX contract.

During EOTI process, the system will run a validation to check whether the creation of DV contract is pending for any IRO contract with its Swaption style as External.

Key details pertaining to the option – counterparty, contract currency, premium, premium currency, counter currency and strike rate – are automatically populated by the system.

A foreign exchange spot contract is created by the system on the exercise of physically settled currency options. For such contracts, the FX spot product under which the FX contract is to be created has to be specified. This is defaulted from your specifications at the product level. For such contracts, the contract reference number of the uploaded FX product is also displayed on the screen.

Manual exercise of an option contract is subject to the following conditions:

- Manual exercise is possible for all expiration styles for all types of options, except for non-swaption IROs – caps / collars / floors / corridors. These IROs can only have European style expiration. These IROs are automatically exercised as part of end-ofday or beginning-of-day batch process if they are in-the-money on maturity.
- For digital and no touch currency options, and for binary and plain vanilla currency options with European expiration style, auto exercise is done on the maturity date of the contract during end-of-day or beginning-of-day batch process if the option is in the money. These options can also be exercised manually, but only on the maturity date
- Swaptions can only be manually exercised. If a swaption is not exercised manually, it expires worthless on maturity. In case of manual exercise, revaluation at swap value is triggered. In case of a cash settled swaption, swap value is the settlement amount.
- For a physically settled swaption, the interest rate swap contract remains uninitiated until the manual exercise of the swaption is authorized.
- Manual exercise is permitted only if an option is in the money.

As per the SWIFT 2023 standards, exercise settlement of an option contract is subject to the following conditions:

- **Manual exercise for Plain Vanilla** will be processed on based on the below expiration styles:
  - American- Any day between earliest exercise date and Contract maturity date (both included)
  - Bermudan- On pre-defined exercise dates or on contract maturity date
  - European- Only on Contract maturity date
- **Manual exercise for Binary** can be processed before or on Maturity Date

> **Note:**
>
> As per SWIFT 2023 standards, expiration style is not applicable for the Binary

- Manual exercise is permitted only if an option is in-the-money
- In case of exotic or barrier options, manual exercise is possible only after Knock-in is triggered
- For all options styles such as plain vanilla, binary, digital and no touch, auto exercise is done on the maturity date of the contract during end-of-day or beginning-of-day batch process if the option is in the money

4.7 ISDA Confirmation

This topic describes the details to capture the confirmation check for the OT deal events. Using this ISDA check at deal product level, the trigger of an authorized event at contract level would trigger creation of a record in this screen with details used from the contract.

ISDA confirmations are designed to confirm the terms of a trade and will not have any processing impact for the contract.

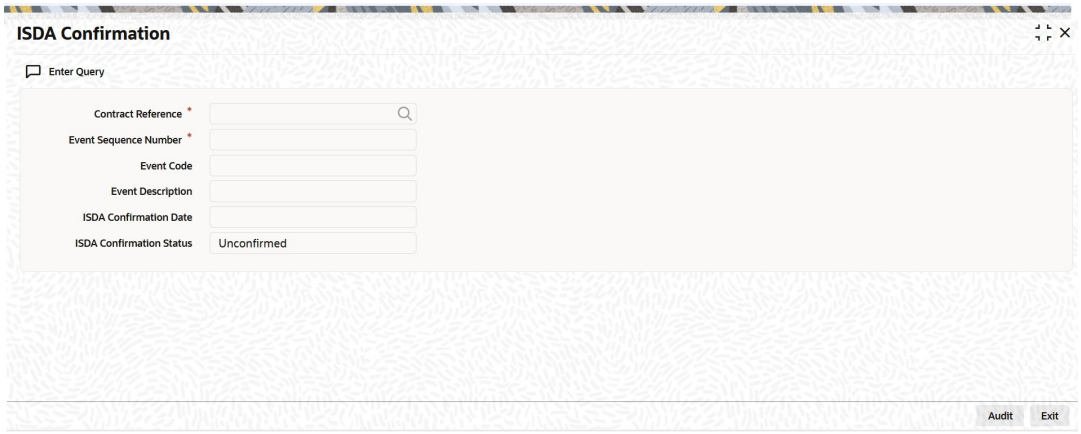
ISDA confirmation status is marked as unconfirmed by default and would be manually updated by a user action to confirm once the ISDA confirmation is counter-signed and agreed by both the parties of the trade.

During the processing of the OT contract, a record is available for ISDA confirmation based on the event, if the product has the ISDA confirmation check applicable for that particular event.

1. On the Home page, type **OTDISDCO** in the text box, and click the next arrow.

   The **ISDA Confirmation** screen is displayed.

Figure 4-26 ISDA Confirmation



2. On the **ISDA Confirmation** screen, click Enter Query.
3. Specify the details as per requirement.

   You will have three options:

   - Unlock: This allows you to make changes to the record if the record is not authorized. After Unlock user you will have a option to save the changes.
   - Authorize: This option allows authorization of a record by a user different from the maker of the record.The Authorize sub screen displays same options as the Authorize screens. If a record is unconfirmed and another user is trying to authorize the record then he will get a message Record is not confirmed.
   - Print: This option allows the user to print the record.

   The list of the events below are applicable to ISDA confirmation in OT:

Table 4-32 ISDA Confirmation - Events

Events	Description
AMND	Amendment of Contract
BOOK	Booking of Contract
KNIN	Knock In of Currency Option
KNOT	Knock Out of Currency Option
RTFX	Rate Fixing
TERM	Termination of Contract

For information on fields, refer to the below table

Table 4-33 ISDA Confirmation - Field Description

Field	Description
Contract reference	This is the number assigned in the contract online screen of the respective instrument. This field as non-amendable for a record and mandatory for any query
Event	This displays the list of events allowed for ISDA confirmation for the product code used in the contract which is non amendable for a record and mandatory for a query.
Event Sequence	This displays the event seq no. as generated in contract online screen. To be useful for cases where an event is triggered more than once which is non amendable for a record and mandatory for a query.
Event Description	This displays the description of the non amendable event.
ISDA Confirmation Date	This field allows you to select the date of the event. **Note:** By default this is same as system date. This date cannot be more than system date and can be back dated till the Booking date of the contract.
ISDA confirmation Status	This field allows you to allow the user to select: • **Confirmed** • **Unconfirmed** **Note:** By default all the records created in this screen are unauthorized and require manual action to confirm the same.

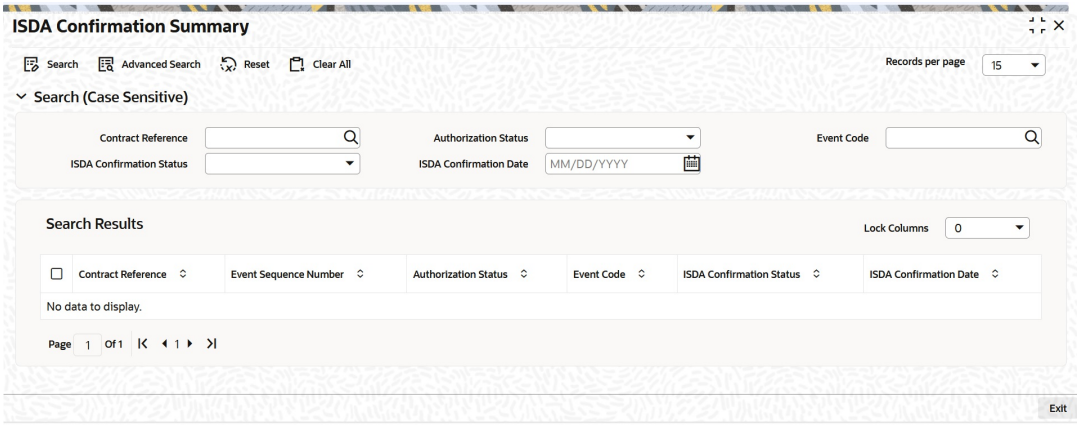
- ISDA Confirm Summary

4.7.1 ISDA Confirm Summary

1. On the Home page, type **OTSISDCO** in the text box, and click the next arrow.

   The **ISDA Confirmation Summary** screen is displayed.

Figure 4-27 ISDA Confirmation Summary Screen



2. Choose the entry from the list displayed and authorize the entry in the ISDA Confirmation screen based on the confirmation.

4.8 Rate Fixing

This topic describes the Rate fixing details in treasury branch parameter maintenance, treasury rate fixing Maintenance, product definition, transaction input, and rate fixing process.

The System allows you to define the Rate fixing days and the Fixing date movement -- as a market standard based on the -- for a combination of specified rate code and currency -- combination in a predefined frequency.

This topic has the following sub-topics:

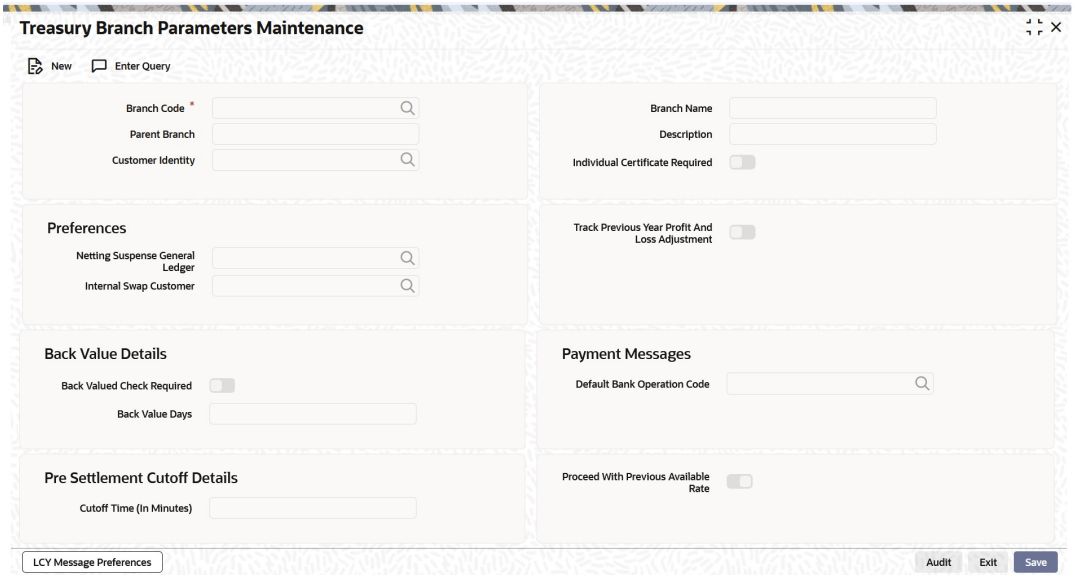
- Treasury Branch Parameter Maintenance
- Treasury Rate Fixing Maintenance
- Product Definition
- Transaction Input
- Rate fixing process

4.8.1 Treasury Branch Parameter Maintenance

1. On the Home page, type **STDTRBRN** in the text box, and click the next arrow.

   Treasury Branch Parameter Maintenance screen is displayed.

Figure 4-28 Treasury Branch Parameter Maintenance



2. On the **Treasury Branch Parameter Maintenance** screen, specify the details as required.

   For more information, refer to the Core Entities and Services User Manual, section 2.2 Treasury Branch Parameters Maintenance

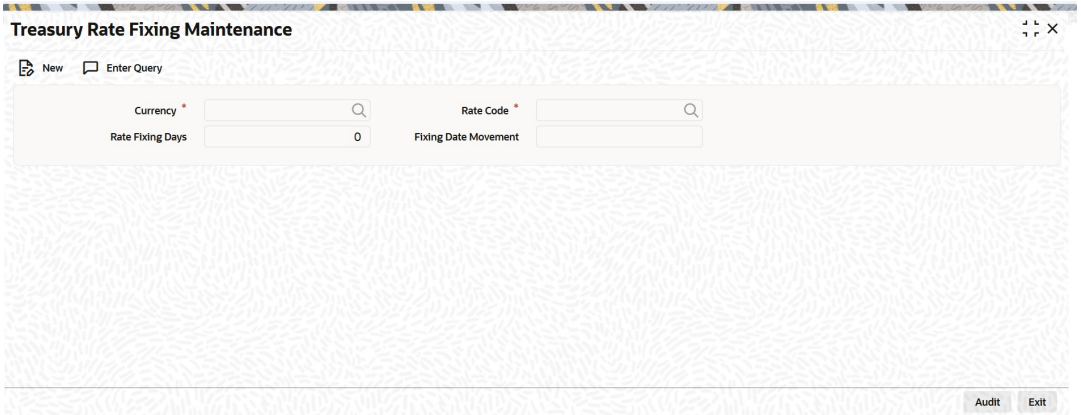
4.8.2 Treasury Rate Fixing Maintenance

The Floating Rate is fixed for every period for the cash flow settlement of the floating rate leg. The Rate fixing days is defined based on trade-to-trade basis. The system allows you fix the floating rate in advance or at the end of the rate revision schedule based on the rate fixing days and movement set for the trade.

1. On the Home page, type **TRDRTFXD** in the text box, and click the next arrow.

   The **Treasury Rate Fixing Maintenance** screen is displayed.

Figure 4-29 Treasury Rate Fixing Maintenance



2. On the **Treasury Rate Fixing Maintenance** screen, Specify the details as required.

> **Note:**
>
> The system allows the Manual Rate fixing through interface/web service. The Event RTFX is triggered on authorization of rate fixing. Fields 32H and 37((G,R, and M) for payment messages) will have the updated values in MT362(Interest Rate Reset/Advice of Payment.

For more information, refer to the *Interest User Manual, Chapter 2, Section 2.4 Treasury Rate Fixing Maintenance*.

4.8.3 Product Definition

The system will fetch the values Currency Options and Interest Rate Options maintained in interest class.

4.8.4 Transaction Input

The Contract Input screen defaults the values maintained in the product definition screen. These values defined by users in the transaction input screen is used for validation of holiday calendars.

4.8.5 Rate fixing process

As a treasury Management system, OBTR can handle rate-fixing procedure on floating interest rate type of contracts. The interest rate for floating transactions is adjusted from time to time at an agreed-upon frequency and date. Floating interest rates typically change based on a reference rate.

For the first interest period, rate fixing below the trade date is allowed from the manual rate fixing screen, interface, and the batch process.

On the fixing date, the rate is set according to a predetermined index, plus a spread. After a rate fix, the floating interest rate is established for the next period. The system triggers a new Rate fixing event RTFX through online process and an outgoing confirmation message mapped to rate fixing event generates instantly notifying the new rate and interest amount.

On the scheduled revision date, the rate fixed comes into effect, the rate revision event picks the rate fixed during the rate-fixing process, and further accruals happen on the new revised rate.

If rate-fixing event is not processed either manually from the Rate fixing screen or during BOD batch then during OT EOD batch processing system checks for effective date rate and if available, rate fixing is processed based on the flag set for Proceed with previously available rate.

At Treasury branch parameter maintenance screen STDTRBRN, a preference check Proceed with Previously Available Rate is introduced and is considered during both rate revision and rate fixing process during EOD. The default value of this field is checked.

While proceeding with previously available rate preference is enabled, during EOD processing system will check for rate available for that particular effective date in the Floating rate table and if rates are not available for that date, then Rate fixing and revision event is applied on instruments with the previous latest rate available in the system.

Whereas when Proceed with previously available rate check box is not selected, during EOD processing system skips the Rate fixing and revision event on respective contract in a case when the rate for that effective date is not available.

For every revision schedule, which applies a rate-fixing during EOD processing, a new rate-fixing event RTFX will trigger at the contract level, and a SWIFT MT362 message is generated mapped to the RTFX event. In case of a forward movement on fixing days from the revision effective date, rate fix will happen after the revision effective date, and interest catch up entries is posted during EOD processing.

4.9 Defer the Contract Expiry

This topic describes the defer contract expiry.

There is a possibility of the spot rate change during the maturity with respect to the expiry location and the deal can become In the Money (ITM). As a part of EOD batch operation for auto exercise or expiry on maturity, the batch considers the expiry location and the time.

With this the batch considers to skip the deal, whose expiry location and time is not the same as the business or system date and such deals are processed during next EOD batch.

In case of an option deal termination, the system supports the future dated termination as per the present functionality.

The deferred exercise and expiry is applicable for the below scenario(s):

- Depending on the time zone and expiry location time and current time in the option executing branch, the exercise or expiry event is deferred to next EOD if expiry location time condition is yet to be met.
- Processing on the maturity expiry date is not restricted to the expiry of the currency options alone.
- The currency options might be Exercised, if it is In The Money (ITM), even prior to the time of expiry in the expiry location.

> **Note:**
>
> The deferment of exercise or expiry is not expected to be beyond a duration of one business day.
>
> A new event FTER (for Future Termination) is available. There are no accounting entries are allowed or passed for this event.

The time zone of the processing center/branch might be identified with the information in the newly introduced field. The expiry location and time is obtained from the Options Contract Input (OTDTRONL) screen. During EOD batch processing on the maturity date, the automatic exercise or expiry is deferred till the expiry time (as per expiry location) i.e. processed in the following EOD. For details on Options Contract Input screen see the section Maintain Details of OT Contract

In the OTDXCTRM screen (OT Contract Termination) the Termination Date is enabled and editable. Future value date might be entered for termination. There is an inbuilt validation to ensure that the termination date is before the maturity date. For details on Options Contract Termination screen see the section: Terminate Option Contracts

4.10 SGEN Messages Generation

This topic describes the SGEN Messages generation.

The system can send SGEN messages ‘n’ number of days before the due date where ‘n’ is the value maintained as settlement days in ‘Currency Definition’ screen.

This is applicable for the following events:

- PRPT - Premium Payment
- EXST - Exercise Settlement
- TRST - Termination Settlement
- KIST - Knock In Settlement
- KNST - Knock Out Settlement

In the case of future-dated events of the contracts, SGEN messages are required to be sent before the value date or payment date. For such contracts, the system generates the settlement message after taking into account both currency holidays and local holidays maintained. It generates the SWIFT messages in the BOD batch.

For SGEN Message on contract initiation, when the SGEN date is calculated as branch date or less then branch date, the system sends out an online SGEN message during contract initiation itself.

When you reverse a contract for which SGEN has been generated , the system displays an appropriate override message.

If you accept the override and continue with contract reversal, the system generates the Cancellation request messages MT 292 /192 (REVSWIFT).

You can maintain payment messages either at the SGEN event or at the respective events only, not at both levels. You can also maintain a product without the SGEN event and attach the payment message in the respective events.

5

Automatic Daily Processing

The End of Cycle (EOC) events constitute a set of programs, which are automatically triggered during the batch processes.

The EOD process is designed to tie up all the operations for a financial day and prepare the system for the next day.

During End of Day, the batch process must be run after End of Transaction Input (EOTI) which is marked for the day, but before End of Financial Input (EOFI) are marked for the day.

As part of running the End of Day processes for OT Interest Rate and Currency options, the system performs the following operations:

- Revaluation
- Amortization
- Auto Exercise and Rate Reset
- Knock In and Knock Out (Currency Options)
- Auto Settlement
- Auto Expiry

This topic has the following sub-topic:

- Automatic Events Executed during End of Day
  This topic describes the automatic events such as revaluation (revl), amortization, auto exercise and Rate Reset (RTFX and EXER), knock in and knock out (Event KNIN and KNOT), auto settlement KNST, KIST, PRPT), auto expiry (EXPR), and auto expiry (EXPR).

5.1 Automatic Events Executed during End of Day

This topic describes the automatic events such as revaluation (revl), amortization, auto exercise and Rate Reset (RTFX and EXER), knock in and knock out (Event KNIN and KNOT), auto settlement KNST, KIST, PRPT), auto expiry (EXPR), and auto expiry (EXPR).

This section contains the following topics:

Revaluation (REVL)
Revaluation of a contract is performed as per your specification for the product involving the contract. If you have indicated that revaluation must be performed for the product, all entries for a product is netted based on a common currency and buy-sell indicator.

Revaluation of a contract is performed as per your specification for the product involving the contract. If you have indicated that revaluation must be performed for the product, all entries for a product is netted based on a common currency and buy-sell indicator.

Revaluation is performed for the specified frequency for the following events:

- BOD/EOD
- Contract Exercise (Final exercise only in case of IRO’s)
- Contract termination

- Contract Expiry

Table 5-1 Revaluation - Events

Event	Function
BOD/EOD	The BOD operations for revaluation runs only till the previous day, because in cases when the revaluation frequency falls on the current day, the market value of the contract can be different than it was the previous day. During the BOD/EOD process, only the confirmed market fair value of the contract for revaluation is picked up from the Contract Fair Value Maintenance screen. An exception is raised if the system finds that a fair value has not been confirmed or if it is non-existent.
Revaluation during Contract Termination	During contract Termination, revaluation is triggered at Fair Value of the contract, captured at the time of terminating the contract. The termination gain loss is posted according to whether the contract being terminated is a trade/hedge contract and whether the bank has bought or sold (written the contract).
Revaluation during Contract Expiry	During contract Expiry, revaluation is triggered at zero. This means that if the contract expires worthless, the buyer of the option incurs a revaluation loss equivalent to the option premium paid (by the buyer) at the time of the inception of the contract.
Revaluation during Contract Exercise	During contract Exercise, revaluation is triggered at the Settlement Amount when the final exercise is done. The settlement amount is calculated by the system. For a purchased collar if the Floor is in-the-money in the final exercise, revaluation is triggered at zero which would essentially mean that the option buyer paying for in-the-money Floor loses the option premium and the settlement amount during the final exercise along with an income or a loss as can be the case in intermediate settlements. For a Collar with in-the-money Cap, Revaluation is triggered at settlement amount. In case of a currency option being knocked out, revaluation is triggered at zero.

During final exercise,

- Revaluation is done at the contract level even though the revaluation level can be marked as Product in the product Preferences screen.
- Premature termination, knock out or expiry of the contract, final revaluation gain/loss is recognized as income/expense and posted to the respective GLs.

> **Note:**
>
> Revaluation event is not triggered if the fair value of the option has not changed since the last revaluation was done.

External Revaluation

Here the revaluation is done based on the external values which is provided as the input (revaluated profit or loss) to the system.

Once the External revaluation option is enabled at branch parameter, the EOD batches in the system does not calculate any profit or loss for the contracts. Instead add OBTR will post

accounting entries for external revaluation, on receiving profit/loss amount from external system.

> **Note:**
>
> If the option external revaluation is enabled and the MTM value is not received, the system skips the revaluation for the particular contract and the system logs exception into a table.

External MTM upload through Webservice

The External MTM value received is in XML format for a contract.

An Operation CreateExtMTMValue is used to upload OT external value for a contract through the gateway.

The following fields are mentioned in the incoming file:

Table 5-2 Fields in the incoming files

Field	Description
Source Code	Source Code of the upload
Upload Date	Date when XML is uploaded
Upload time	Time of the upload
Effective Date	Revaluation/Value Date used in accounting
Market Date	MTM fair Value date
Branch Code	Branch Code of the bank.
Contract Ref No	Reference Number of the contract for which MTM value upload is being done.
Profit & Loss CCY	Revaluation CCY
Profit & Loss Value Calculated	Profit and Loss (External System)

An error is raised when

- The Contract reference number is not valid.
- Duplicate record exists for the contract reference number and revaluation date.
- Revaluation date is greater than the application date.
- Contract is not active.

External MTM upload through GI

The Bulk Upload of external MTM value is supported though GI.

User can define properties, formats and components associated with interface file in the Interface Definition (GIDIFTDF) screen. For uploading the rate fixed contracts from external system into OBTR, select the interface type as Incoming and the interface code as OTDETMTM.

The following fields are mentioned in the incoming file:

Table 5-3 Fields in the incoming file

Field	Description
Source Code	Source Code of the upload
Upload Date	Date when XML is uploaded
Upload time	Time of the upload
Effective Date	Revaluation/Value Date used in accounting
Market Date	MTM fair Value date
Branch Code	Branch Code of the bank.
Contract Ref No	Reference Number of the contract for which MTM value upload is being done.
Profit & Loss CCY	Revaluation CCY
Profit & Loss Value Calculated	Profit & Loss (External System)
No of Records	Total number of records in the file

The Error code validations are same as the web services, refer to the above section.

OT_MTMUPLOAD is defined and scheduled to pick the records from external system though GI for processing.

User can trigger the process of Generic Interface using through Interface Trigger GIDIFPRS screen.

For more information on GI, refer to GI User Guide.

On successful upload of external MTM Value, external revaluation event is triggered and the system posts the accounting entries.

External Revaluation Process

- External Revaluation is done based on OT Branch Parameter. If External Revaluation is at Branch Level, the branch revaluation is always executed externally.
- If External Revaluation is at Product Level, system checks the External Revaluation Required flag at Product. If the flag is checked, the revaluation happens externally and if the flag is Unchecked revaluation happens internally on EOD batch processing.
- If the MTM value is uploaded for only one contract, the data is received using Webservice, and on successful acknowledgment, the external revaluation (EXRV) event is triggered online to perform the revaluation entries online.
- In case of the bulk upload, the data is received though GI, and on successful acknowledgment the external revaluation (EXRV) event is triggered online to perform the revaluation entries online.
- If External revaluation parameter is enabled, the OT batch does not execute the internal revaluation.
- In case OBTR does not receive any MTM value for any particular day, system skips revaluation for the particular contract on the day.

> **Note:**
>
> The system supports the back dated External Revaluation.

- When OBTR receives back dated External revaluation after year- end, Profit and Loss adjustment entries are posted manually as Journal entry. User operationally handle the same.
- Events Impacted on Revaluation:
- TERM - On termination Contract fair value or manual termination is uploaded through gateway , and revaluation gain/loss calculated based on the uploaded value. Revaluation reversal and revaluation Gain/ Loss is posted in TERM event. EXRV Event triggers along with TERM event for income and expense GL movement.
- EXPR - Revaluation reversal and revaluation Gain/ Loss are posted in EXPR event. EXPR Event triggers along with EXPR event for income and expense GL movement.
- EXER - Revaluation reversal and revaluation Gain/ Loss are posted in EXER event. EXRV Event trigger along with EXER event for income and expense GL movement.
- KNOT - Revaluation reversal and revaluation Gain/ Loss are posted in KNOT event. EXRV Event triggers along with KNOT event for income and expense GL movement
- Calculation for external revaluation loss/gain is same as internal revaluation @ TERM, EXPR,EXER,KNOT.

Example for External Revaluation:

A CO Call Buy deal is booked on 15th July with external revaluation. On 17th receiving P&L amount as 150 GBP for 16th July.

Event EXRV (External Contract Revaluation) details as below:

Table 5-4 Event details

Accounting Role	Amount Tag	Debit/Credit	Amount	CCY	Transaction date	Value Date
MKT_VAL_PUR_OPT	PUR_REVL_GAIN	Dr	150	GBP	17-Jul-20	16-Jul-20
V_GAIN_PUR_OPT	PUR_REVL_GAIN	Cr	150	GBP	17-Jul-20	16-Jul-20

On 18th receiving P&L amount as -75 GBP for 17th July

Event EXRV (External Contract Revaluation) details are as below, also revaluation reversal entries fires along with current revaluations

Table 5-5 Event details

Accounting Role	Amount Tag	Debit/Credit	Amount	CCY	Transaction date	Value Date
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Dr	75	GBP	18-Jul-20	17-Jul-20
MKT_VAL_PUR_OPT	PUR_REVL_LOSS	Cr	75	GBP	18-Jul-20	17-Jul-20
RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	Dr	150	GBP	18-Jul-20	18-Jul-20
MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	Cr	150	GBP	18-Jul-20	18-Jul-20

Amortization

Amortization of a contract is performed as per the amortization parameters specified for the product. If you have indicated that amortization must be at the product level all the entries for a product are netted based on a common currency and buy-sell indicator.

The system performs amortization for the following amounts:

- Deferred Inception Gains
- Deferred Termination Gains (Hedge deals only)
- Time Value of Option Premium (Only for Hedge deals)

Table 5-6 Amortization - Amount

Event	Function
Amortization of Deferred Inception Gains (AMRT)	Inception gain is amortized over the period from the contract value date till the contract maturity date (termination date, if the contract is terminated prematurely), even though the premium can be paid anytime between the booking date and the value date of the contract. At the time of final exercise, premature termination or expiry of the contract, amortization gain is recognized as income and posted to the respective GL. Inception loss is not amortized and is recognized as an expense upon saving the options contract itself.
Amortization of Deferred Termination Gains (AMDG)	Amortization of deferred termination gain is performed only if the Amortize Termination Gain option is enabled while terminating the contract. Inception gain is amortized over the period from the contract termination date till the contract maturity date. At the time of expiry of the contract, deferred termination gain is recognized as income and posted to the respective GL. Termination loss (if any) is not amortized and is recognized as an expense upon saving the option contract termination. Amortization of deferred termination gains are done only for hedge deals. For trade deals, termination gains are recognized as income on the termination of the contract.
Amortization of Time Value (REVL)	Amortization of Time Value is meant only for hedge deals. The amortization is done from the Value Date till the contract Maturity Date. If the contract is terminated prematurely (or at the time of final exercise), the remaining time value is recognized as expense and is posted to an expense GL. Though time value is said to be amortized, it is a revaluation of the hedge contract in the real sense. This is why the revaluation parameters (Level, frequency, and so on) you have specified at the product level is used for this. Accounting entries for amortization of time value can also be defined under the revaluation event (REVL).

- Auto Exercise and Rate Reset for Interest Rate Options
  This topic describes the auto exercise and rate reset (RTFX and EXER) for interest rate options.
- Currency Options
  This topic describes the auto exercise, settlement, knock in and knock out, auto settlement, and auto expiry process for currency options.

5.1.1 Auto Exercise and Rate Reset for Interest Rate Options

This topic describes the auto exercise and rate reset (RTFX and EXER) for interest rate options.

a. Auto Exercise

Except for swaptions, which have to be exercised manually, Auto Exercise is performed for all options.

Auto exercise batch runs during BOD as well as EOD. During BOD only those contracts are picked up which were maturing till yesterday, since rate reset date can be on the schedule maturity date.

b. Rate Reset (RTFX and EXER)

Rate Reset is performed only for Interest rate options (Except Swaptions) depending on the rate revision schedule. The rate revision schedule in turn is derived from the Reset Lag, Reset Date Basis and Reset Date Movement defined for the contract.

The activities performed during Rate Reset are as follows:

- The applicable reference rate is picked up and applied for an IRO contract maturing on the day, the Auto Exercise and Rate Reset batch is run.
- The net settlement amount for an interest rate option is calculated and stored after rate reset.
- The actual settlement in case of an interest rate option is done only on the maturity date (Arrears) or schedule start date (Advance).
- On rate fixing, net settlement amount is calculated and a queue is populated with the settlement amount and the actual settlement date. Auto Exercise is done after rate fixing only if the option is in the money.
- If the rate fixing date is the same as the schedule maturity date, settlement with the customer happens on the same day by triggering settlement of exercise (EXST).
- If the rate fixing date is different, then the net settlement amount is parked in an Asset GL (For purchase options) or a Liability GL (For written options). These entries are reversed on the schedule maturity date and the customer is debited or credited with the net settlement amount according to whether it's a buy or a sell deal.

For a detailed list of Amount tags and accounting entries to be passed during rate reset and exercise process, refer to Annexure B

5.1.2 Currency Options

This topic describes the auto exercise, settlement, knock in and knock out, auto settlement, and auto expiry process for currency options.

a. Auto Exercise

Currency options with American and Bermudan Expiration styles are eligible for auto exercise only if they are in-the-money on the day of maturity. An option with Bermudan schedule is Chapter 5 Automatic Events Executed during End of Day 5-7 exercised automatically on maturity only if it is in-the-money and the maturity date is included as a possible Exercise Date.

b. Settlement

For Currency options, settlement is done on the exercise settlement date which will be derived based on the exercise payment at hit or maturity, payment lag days and holiday preferences. A rebate can be paid only at maturity for an option which is not knocked in.

In this case, a queue is populated at the time of knocking out of the option (just like as in IROs) and actual settlement happens with the counter party on the maturity date or beyond maturity date. For European style currency options, only auto exercise is possible so the exercise (EXER) will trigger on the maturity date if the option is in the money whereas the settlement (EXST) will be derived based on the payment lag days and holiday preferences.

If EXER and EXST are not fired on the same date, then the contract status will be exercise initiated once the EXER is triggered. The contract status will be updated as exercised once EXST is triggered.

Auto exercise batch runs during BOD as well as EOD. For Currency options, spot rate can change on the date of maturity itself and they can become in the money.

For a detailed list of Amount tags and accounting entries to be passed during exercise process, refer to Annexure B.

c. Knock In and Knock Out (Event KNIN and KNOT)

The Knock-in and Knock-out events are applicable only for Currency Options. During this event the system identifies all active and authorized currency option contracts, and the processing date is between the Barrier Window Start date and Barrier Window End date as specified in the Contract Online screen.

The Spot rates for the current processing date is matched against the barrier and the lower barrier (If any), and the contract status is updated to Knocked In or Knocked Out, as may be the below case.

As per SWIFT 2023 standards, the below barrier types are introduced in place of Single Knock In and Single Knock Out

- Up and in Knock in (UIKI): If spot rate is greater than barrier price, then Knock in will be triggered
- Down and in Knock in (DIKI): If spot rate is lower than barrier price, then Knock in will be triggered
- Up and Out Knock Out (UOKO): If spot rate is greater than barrier price, then Knock out will be triggered
- Down and Out Knock Out (DOKO): If spot rate is lower than barrier price, then Knock out will be triggered

If Digital and No touch options are selected as the option style, the processing is simillar to Binary.

In case of a Knock Out event, a rebate can be paid/received to/from the counter party depending on whether the options contract is purchased or written respectively. Rebate can be paid when the option gets knocked out (Hit) or during maturity. If the rebate is to be paid at the time of Hit, the system triggers the Knock Out Settlement (KNST) event along with KNOT and the settlement is performed. If the rebate is to be paid at maturity, the auto settlement batch process processes the settlement with the counter party at maturity.

In case a rebate is applicable in the case of an option not being knocked-in during the barrier window, the settlement is processed at the time of expiry (maturity) of the contract. In this case the Knock In Settlement (KIST) is triggered along with Expiry of contract (EXPR) at the time of expiry (maturity).

In case of an option not being knocked-in during the barrier window, rebate settlement as a part of KIST event and EXPR event is triggered on the maturity date of the contract. Considering payment lag days and holiday preferences, rebate settlement can be beyond the maturity date in such a case contract gets expired after KIST is triggered.

This process is executed only during the EOD run.

d. Auto Settlement (KNST, KIST, PRPT)

As it is seen above, in many cases settlement is deferred until contract maturity (schedule maturity in IROs). In such cases during Auto Settlement the system processes the settlement with the counter party. This process is executed both during BOD and EOD and processes settlement for the following events:

- Rate Reset happening on a separate date from the schedule maturity date in case of an Interest Rate option (Except Swaption). In this case the event EXER is triggered along with RTFX (Rate fixing) but settlement happens at maturity of the schedule.
- A currency option being knocked out (KNOT) with rebate payment on maturity. The KNST event is triggered based on the payment lag days and holiday preferences. In this case the EXPR event is not triggered.
- A currency option with a knock in barrier not being knocked in during the barrier window with rebate to be paid on maturity. In this case KIST (Knock in Settlement) is triggered based on the payment lag days and holiday preferences. The status of the contract will be changed as Expire (EXER) after the knock in settlement is triggered.
- Premium payment (Event PRPT) happening on a date other than the contract booking date.

This event reverses the entries passed by the events above and process the settlement with the customer.

e. Auto Expiry (EXPR)

This process is executed during EOD as well as BOD and expires the options contracts, which are out-of-the-money on their maturity dates. BOD runs only till one working day before the Current Date. In the case of a Swaption, the option expires on maturity date if it is has not been exercised (An Interest Rate Swap is not entered into in case of a physical swaption).

As seen above, in some cases the event KIST can be triggered along with the EXPR event when the payment lag day is zero.

Before Auto Expiry event is triggered, revaluation at zero is done for the contract. This means that since the contract has expired worthless (It has not been exercised during its tenor), the loss borne by the buyer of the contract is equal to the option premium paid. In case of a written contract this would signify a profit for the writer.

Amortization of Deferred inception gain (AMRT) in case of trade deals and amortization of Deferred termination gains (AMDG) and Time Value (REVL) in case of hedge deals is also triggered before expiry of a contract. In case of event AMDG being triggered, expiry event EXPR is not triggered since the option has already being terminated and only the deferred termination gains are being amortized.

All the revaluation gains/losses and inception gains are posted to Income or Expense GLs.

For examples, refer to *Example 11 and Example 12* in the section *Examples of Different Types of Exotic Currency Options* in *Annexure B*.

6

Credit Default Swap

Credit default swap (CDS) feature is a financial derivative or contract that allows you to swap or offset your credit risk with that of another investor. For example, if a lender is worried that a borrower is going to default on a loan, the lender could use a CDS to offset or swap that risk. Protection buyer makes periodic or one-time payments to the protection seller, who collects the premium in exchange for making payment in whole or in partial in case of default. CDS are over-the-counter (OT) transactions. These OT transactions are similar to buying or selling insurance contracts on a corporation or sovereign entity's debt, without being regulated by insurance regulators (unlike insurance, it is not necessary to own the underlying debt to buy protection using CDS). Before trading, institutional investors and dealers enter into an International Swap and Derivative Association (ISDA) Agreement, setting up the legal framework for trading. The following functionalities are required in the system to capture the maintenance and the complete life cycle of a CDS contract:

- Underlying details for a CDS.
- Contract terms such as credit events maintenance.
- Terms of exercise, standard contract features, recovery factor, premium type, and settlement details.
- Contract capture with the respective Premium schedules as required.
- Advice and event generation for accrual/amortization, booking, maturity, settlement, and exercise.
- Provision for handling information on pre-settlement events such as termination or exercise.

This topic has the following topics:

6.1 Branch Parameters

This topic describes the branch parametes in Options module.

CDS uses the Options Branch Parameters which are maintained in the Options module.

For more information on Branch Parameters, refer the *Maintain Branch Parameters* section in this guide.

> **Note:**
>
> The user must de-select Delta Accounting Required in Option Branch Parameter screen to perform CDS.

6.2 Deal Product Maintenance

This topic describes the systematic instruction to maintain deal product.

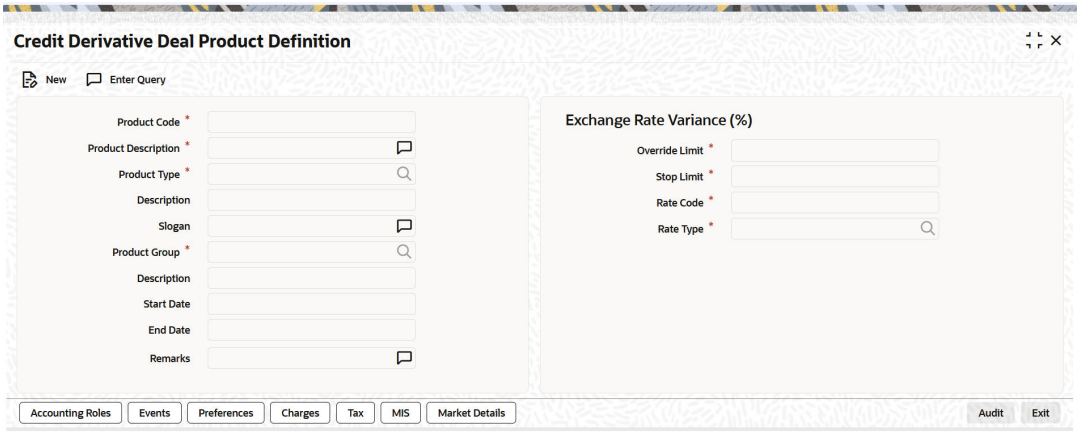
The credit deal product is maintained at the **Credit Derivative Deal Product Definition** screen.

> **Note:**
>
> All fields marked with an asterisk (*) are mandatory.

1. On the Home Page, enter **DCDDLPRD** in the text field, and then click the next arrow.

   The **Credit Definition Deal Product Definition** screen is displayed.

Figure 6-1 Credit Definition Deal Product Definition



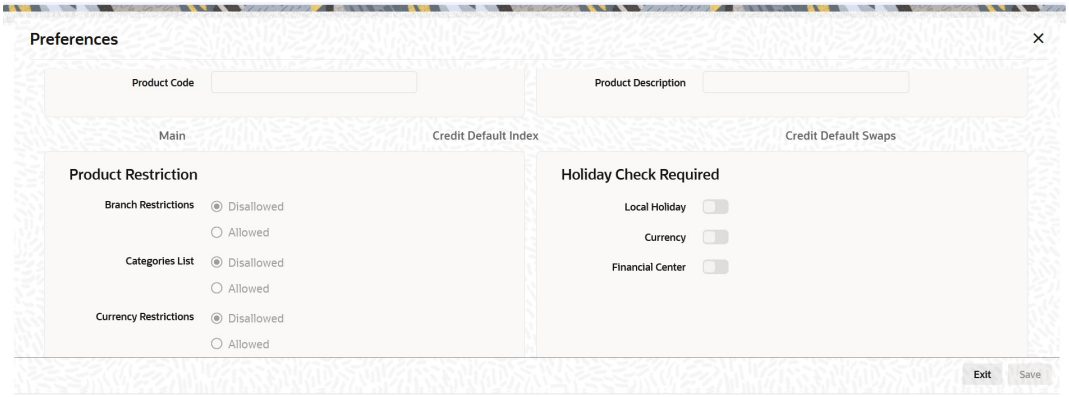
2. On the **Credit Derivative Deal Product Definition** screen, specify the details as required. For more information about credit derivative deal maintenance, see “Credit Derivative Deal Product Definitions” in Securities User Guide.

> **Note:**
>
> To use CDS option, ensure to select the unique CD code for CDS option.

3. On the **Credit Derivative Deal Product Definition** screen, click **Preferences**.

   The **Preferences** screen is displayed.

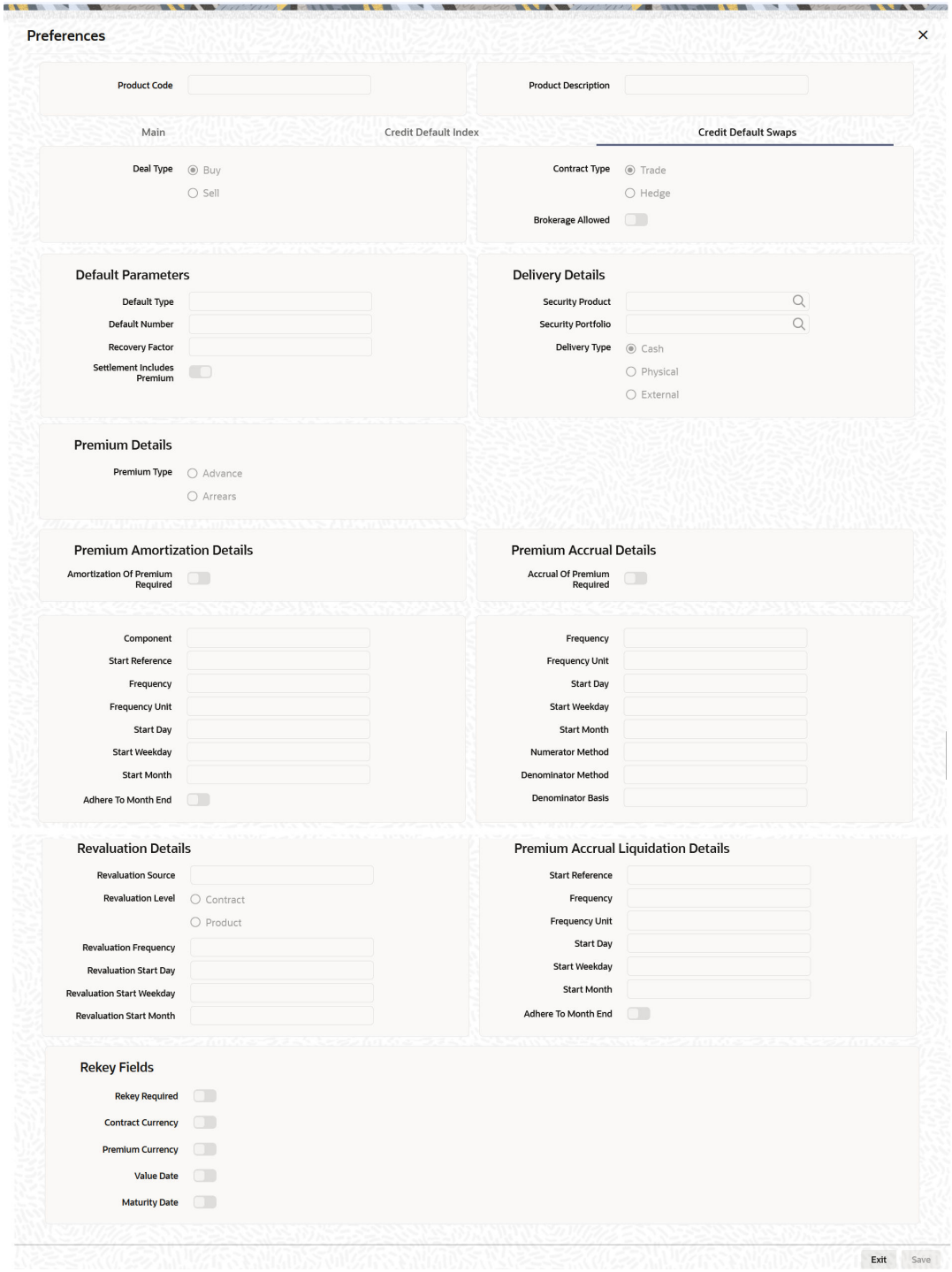
Figure 6-2 Preferences



4. On the **Preferences** screen, click the **Credit Default Swaps** tab.

   The **Credit Default Swaps** page is displayed.

Figure 6-3 Credit Default Swaps



5. On the **Credit Default Swaps** tab, specify the fields, and click **Ok**.

   For more information on the fields, refer to the below table.

Table 6-1 Credit Default Swap - Field Description

Field	Description
Deal Type	Specify whether the deal product that bank is buying CDS or selling CDS. **Note:** The user can change this preference for a particular deal.
Brokerage Allowed	Select the Brokerage Allowed check box to involve brokerage. Indicates that CDS deals for the selected deal product can involve brokerage.
Contract Type	Select the Contract Type from the drop-down list. The available options are: • **Trade** • **Hedge** Indicates whether the type of the contract is Trade deals or Hedge deals. **Note:** The user can change this preference for a particular deal.

Table 6-2 Credit Default Swaps Tab - Default Parameters Field Description

Field	Description
Default Type	Select the type of default with several underlying securities from the drop-down list. The drop-down list shows the following options: • **FIRST TO DEFAULT** • **Nth TO DEFAULT** • **LAST TO DEFAULT**
Default Number	Specify the default number in this field, if the Default Type is selected as **Nth TO DEFAULT**.
Recovery Factor	Specify the cash recovery percentage in this field.
Settlement Includes Premium	Select the Settlement Includes Premium check box to included premium in settlement for credit event exercise. Indicates whether settlement for credit event exercise must include premium or the premium is suppressed with accrual reversed.

Table 6-3 Credit Default Swaps - Delivery Details Field Description

Field	Description
Security Product	Click on the search icon and select the deal product from the security product list, to create a deal for Delivery Type as Physical.
Security Portfolio	Click on the search icon and select the portfolio from the list of values, to create underlying deal for physical settlement.

Table 6-3 (Cont.) Credit Default Swaps - Delivery Details Field Description

Field	Description
Delivery Type	Select the Delivery Type from the drop-down list. The available options are: • **Cash** • **Physical** • **External** Indicates whether settlement for credit event exercise must include premium or the premium is suppressed with accrual reversed.

Table 6-4 Credit Default Swaps - Premium Details Field Description

Field	Description
Premium Type	Select the premium payment type from the drop-down list. The available options are: • **Advance** • **Arrears**

Table 6-5 Credit Default Swaps - Premium Amortization Details Field Description

Field	Description
Amortization Of Premium Required	Select the Amortization Of Premium Required check box, if premium amortization is required for PRAT event. Indicates whether the premium amortization is required for PRAT event. **Note:** This field is applicable only if the Premium Type is selected as Advance.
Component	Specify the amount tag for amortization. **Note:** This field is applicable only if the user selected the Amortization of Premium Required field.
Start Reference	Specify the start reference date. This can either be the Value Date or the Calendar Date. If the user specifies Value Date as the Start Reference, the settlement schedule is calculated using the frequency and frequency units concerning the contract value date. If the start reference is the Calendar date, the settlement schedule is calculated based on the frequency, frequency units, Start Day, start weekday, and start month.

Table 6-5 (Cont.) Credit Default Swaps - Premium Amortization Details Field Description

Field	Description
Frequency	Specify the frequency. The available options are: • Daily • Weekly • Monthly • Quarterly • Half Yearly • Yearly
Frequency Units	Specify the frequency units. The number of frequency units after which a schedule can repeat. For example, a monthly frequency with a frequency unit of 2 is effectively a bi-monthly schedule.
Start Weekday	Specify the Start Weekday only if the Frequency is Weekly. Select any day from Sunday to Saturday. This is the day of the Week on which a schedule must start.
Start Day	Select any day of the month from the 1st to the 31st. Indicate the Start Day, if the Frequency is selected as Daily or Weekly. This is the day on which a schedule must start.
Start Month	Specify the Start Month only in case of Quarterly, Half-yearly, and Yearly frequencies. This is the month from which a schedule must start.
Adhere to Month End	Select the Adhere to Month End check box, if the schedule must adhere to month ends. Indicates whether a schedule must adhere to month ends, if the maturity date is a day less than the month-end date.

Table 6-6 Credit Default Swap - Premium Accrual Details Field Description

Field	Description
Accrual Of Premium Required	Select the Accrual Of Premium Required check box, if premium amortization is required for PRAC event. Indicates whether the premium amortization is required for PRAC event. **Note:** This field is applicable, if the Premium Type is selected as Arrears.
Frequency	Specify the frequency. The available options are: • Daily • Weekly • Monthly • Quarterly • Half Yearly • Yearly

Table 6-6 (Cont.) Credit Default Swap - Premium Accrual Details Field Description

Field	Description
Frequency Units	Specify the frequency units. The number of frequency units after which a schedule can repeat. For example, a monthly frequency with a frequency unit of 2 is effectively a bi-monthly schedule.
Start Day	Select any day of the month from the 1st to the 31st. Indicates the Start Day, if the Frequency selected is Daily or Weekly. This is the day on which a schedule should start.
Start Weekday	Specify the Start Weekday only if the Frequency is Weekly. Select any day from Sunday to Saturday. This is the day of the Week on which a schedule must start.
Start Month	Specify the Start Month only in case of Quarterly, Half-yearly and Yearly frequencies. This is the month from which a schedule must start.
Numerator Method	Select the method that is used to calculate the number of days between the schedule start and end dates for calculating the settlement amount from the adjoining drop-down list. The list displays the following values: • 30 EURO • 30-US • 30-ISDA • 0-PSA • Actual • Actual-Japanese
Denominator Method	Select the method that is used to calculate the number of days in a year for the calculation of the settlement amount from the drop-down list. The list displays the following values: • Actual • 365 • 360
Denominator Basis	Specify whether the difference between the Strike Rate and the Reference Rate is to be taken for the whole year or for the schedule period during Settlement Amount calculation. The basis can either be Per Period or Per Annum.

Table 6-7 Credit Default Swaps - Premium Accrual Liquidation Details Field Description

Field	Description
Start Reference	Specify the start reference date. This can either be the Value Date or the Calendar Date. If the user specifies Value Date as the Start Reference, the settlement schedule is calculated using the frequency and frequency units concerning the contract value date. If the start reference is the Calendar date, the settlement schedule is calculated based on the frequency, frequency units, Start Day, start weekday, and start month. **Note:** This field is applicable only if the user selected the Amortization of Premium Required field.

Table 6-7 (Cont.) Credit Default Swaps - Premium Accrual Liquidation Details Field Description

Field	Description
Frequency	Specify the frequency. The available options are: • Daily • Weekly • Monthly • Quarterly • Half Yearly • Yearly
Frequency Units	Specify the frequency units. The number of frequency units after which a schedule can repeat. For example, a monthly frequency with a frequency unit of 2 is effectively a bi-monthly schedule.
Start Day	Select any day of the month from the 1st to the 31st. Indicate the Start Day, if the Frequency selected is Daily or Weekly. The schedule must start on this day.
Start Weekday	Specify the Start Weekday only if the Frequency is Weekly. Select any day from Sunday to Saturday. In this day of the Week, a schedule must start.
Start Month	Specify the Start Month only in case of Quarterly, Half-yearly and Yearly frequencies. This is the month from which a schedule must start.
Adhere to Month End	Select the Adhere to Month End check box, if the schedule must adhere to month ends. Indicates whether a schedule must adhere to month ends, if the maturity date is a day less than the month-end date.

Table 6-8 Credit Default Swaps - Revaluation Details Field Description

Field	Description
Revaluation source	Select the option from the displayed list. • Internal • External • None
Revaluation Level	Select the Revaluation Level. The available options are: • Contract • Product Indicates the revaluation level.
Revaluation Frequency	Specify the frequency with which a portfolio is revalued. The revaluation frequency can be one of the following: Daily Monthly Quarterly Half yearly Yearly
Revaluation start day	Specify the date on which revaluation must start during the month.
Revaluation Start Weekday	Specify the day to perform revaluation based on the revaluation frequency.
Revaluation Start Month	Specify the month based on revaluation frequency to perform revaluation.

Table 6-8 (Cont.) Credit Default Swaps - Revaluation Details Field Description

Field	Description
Rekey Required	Select the Rekey Required check box, if the rekey value is required when the CDS contract is invoked for authorization.
Contract Currency	Select Contract Currency, if the currency is required when the CDS contract is invoked for authorization.
Premium Currency	Select Premium Currency, if the currency of premium is required when the CDS contract is invoked for authorization.
Value Date	Select Value Date, if the Value Date is required when the CDS contract is invoked for authorization.
Maturity Date	Select Maturity Date, if the Maturity date is required when the CDS contract is invoked for authorization.

6.3 Credit Default Swap Contract Input

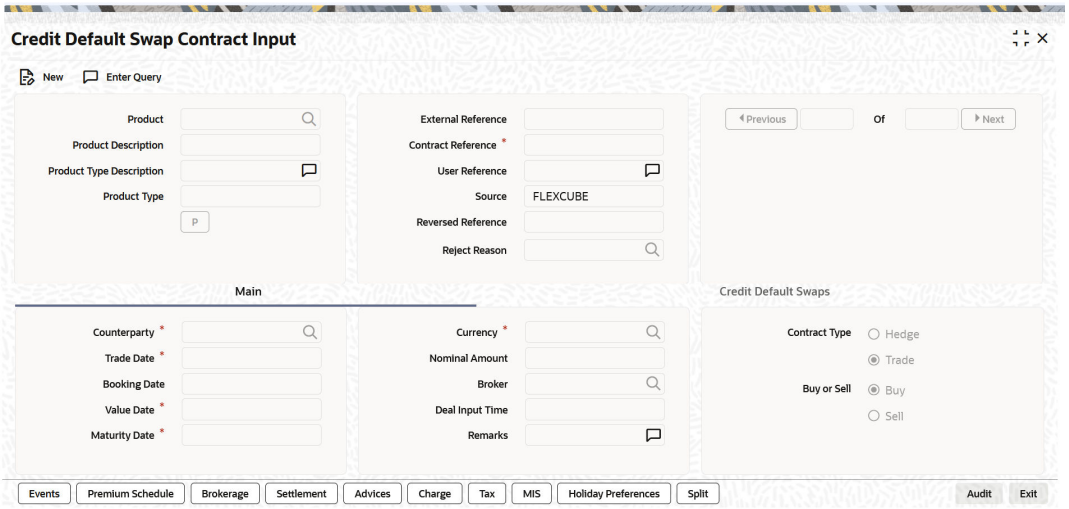
The CDS contract input and summary information are captured in the Credit Default Swap Contract Input screen.

> **Note:**
>
> All fields marked with an asterisk (*) are mandatory.

1. On the Home page, enter **DCDCDSON** in the text box, and then click the next arrow.

   The **Credit Default Swap Contract Input** screen is displayed.

Figure 6-4 Credit Default Swap Contract Input



2. On the **Credit Default Swap Contract Input** screen, under Main tab, specify the contract details.

   For more information on the fields, refer to the below table.

Table 6-9 Credit Default Swap Contract Input and Main Tab - Field Description

Field	Description
Product	Click on the search icon and select the required CDS product from the displayed list.
Product Description	The System displays the description of the selected product.
Product Type Description	The System displays the description of the selected product type.
Product Type	The System displays the type of the selected product.
P	Click P to populate the product details and to generate contract reference number. The system displays the External Reference, Contract Reference, User Reference, and Source details of the selected product.
Reversed Reference	The reference number displays the reversed and re-booked contract.
Reject Reason	Specify the Reject Reason Code for the payment reversal message.
Counter Party	Select the unique code from the displayed list for identifying the customer.
Trade Date	Specify the Trade Date. Indicates the business date on which CDS deal is initiated.
Booking Date	Specify the Booking Date. Indicates the booking date on which the CDS contract option is added in the system
Value Date	Specify the Value Date. Indicates the value date which is the first date of the interest period.
Maturity Date	Specify the Maturity Date. Indicates the maturity date on which the contract expires. **Note:** If the Maturity Date is less than the Value date, an error message is displayed.
Currency	Click the Search icon and select the unique code from the displayed list for identifying the currency of the CDS contract.
Nominal Amount	Enter the nominal amount in this field. **Note:** If you enter a nominal amount below zero, then an error message is displayed in the system.

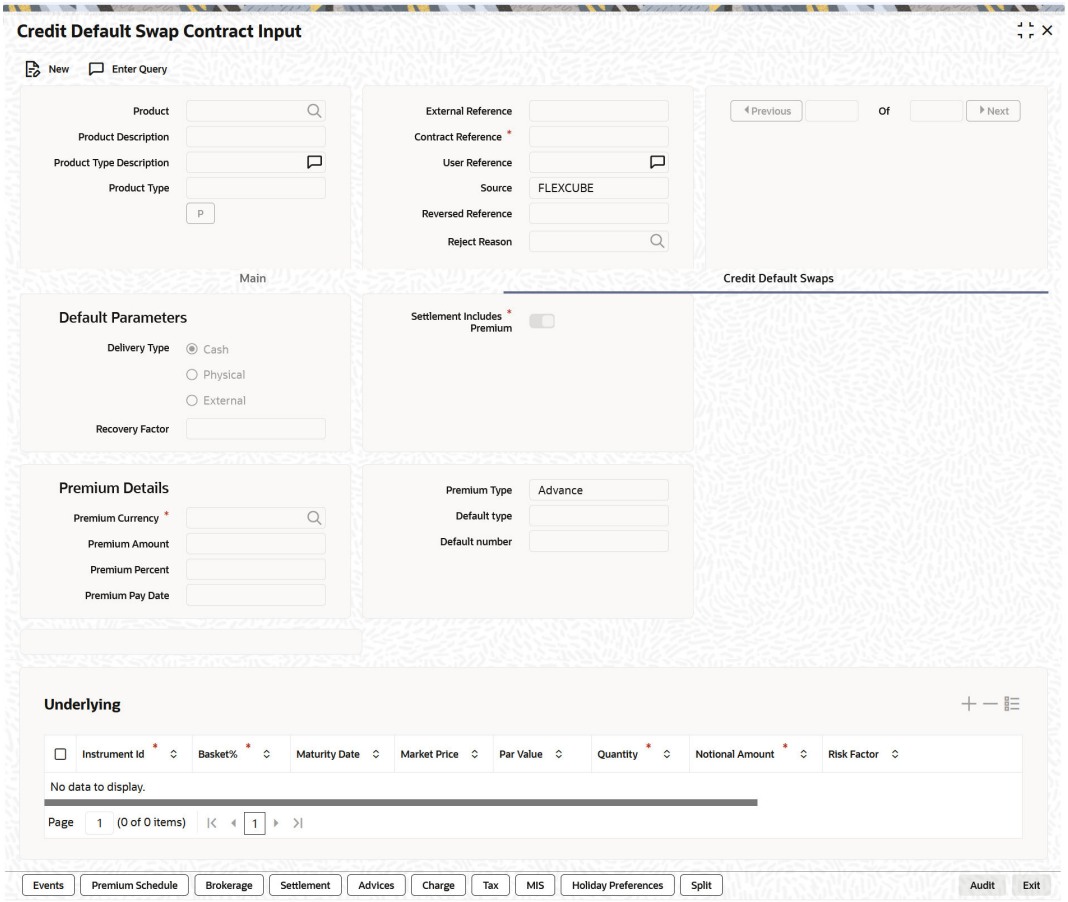
Table 6-9 (Cont.) Credit Default Swap Contract Input and Main Tab - Field Description

Field	Description
Broker	Click the Search icon and select the unique code for identifying the broker of the contract from the list. **Note:** This field is applicable only if the user selected the brokerage allowed while maintaining the product preferences.
Contract Type	Select the contract type from the drop-down list. Indicates whether the contract type is Hedge or Trade.
Buy or Sell	Indicates the nature of the contract that bank is buying the contract or selling the contract.
Deal Input Time	Indicates the deal execution time at the time of deal booking received from front office. Default Time Format: YYYY-MM-DD HH:MM:SS:SSS. **Note:** The user can change the format in the user setting option based on requirement.

3. On the **Credit Default Swap Contract Input** screen, click the **Credit Default Swaps** tab.

   The **Credit Default Swaps** page is displayed.

Figure 6-5 Credit Default Swaps



4. On the **Credit Default Swap Contract Input** screen, under Credit Default Swaps, specify the fields.

   The user can modify the Default Parameters and Premium Details of the product in this section. For more information on the fields, refer to the below table

Table 6-10 Credit Default Swaps - Default Parameters and Premium Details - Field Description

Field	Description
Delivery Type	Select the Delivery Type option. The available options are: • **Cash** • **Physical** Indicates the type of settlement when the credit event is triggered.
Recovery Factor	Specify the cash recovery factor.
Settlement Includes Premium	Select the Settlement Includes Premium check box, if the settlement for credit event exercise must include premium or the premium is suppressed with accrual reversed.
Premium Currency	Click on the search icon and select the unique code from the list for identifying the premium currency
Premium Amount	Specify the premium amount of the contract.
Premium Percent	Specify the percentage of the premium amount for the contract.

Table 6-10 (Cont.) Credit Default Swaps - Default Parameters and Premium Details - Field Description

Field	Description
Premium Pay Date	Specify the date to pay the premium amount.
Premium Type	Indicates the type of the premium.

5. On the **Credit Default Swap Contract Input** screen, under Credit Default Swaps, specify the Underlying fields as required.

   For more details on the fields, refer to the below table.

Table 6-11 Credit Default Swaps - Underlying Field Description

Field	Description
Instrument ID	Indicates the instrument used as the underlying for the contract.
Basket%	Indicates the percentage portion of the basket constituted by the underlying instrument.
Maturity Date	Indicates the date on which the CDS contract expires. If the Maturity Date is less than or equal to Value Date, an error message is displayed.
Market Price	Indicates the market price of the underlying instrument
PAR Value	Indicates the current face value of the instrument.
Quantity	Indicates the number of units of the instrument.
Notional Amount	Indicates notional amount of the underlying instrument. **Note:** If the notional amount is not greater than zero, then an error message is displayed.
Risk Factor	Indicates the risk factor associated with the underlying instrument. **Note:** The Risk Factor Value must be between 0 and 1.
Risk Value	Indicates the value at risk of underlying instrument.

- Display Credit Default Swap Contract Summary Details
  This topic provides the instructions to capture the CDS Contract Summary details.

6.3.1 Display Credit Default Swap Contract Summary Details

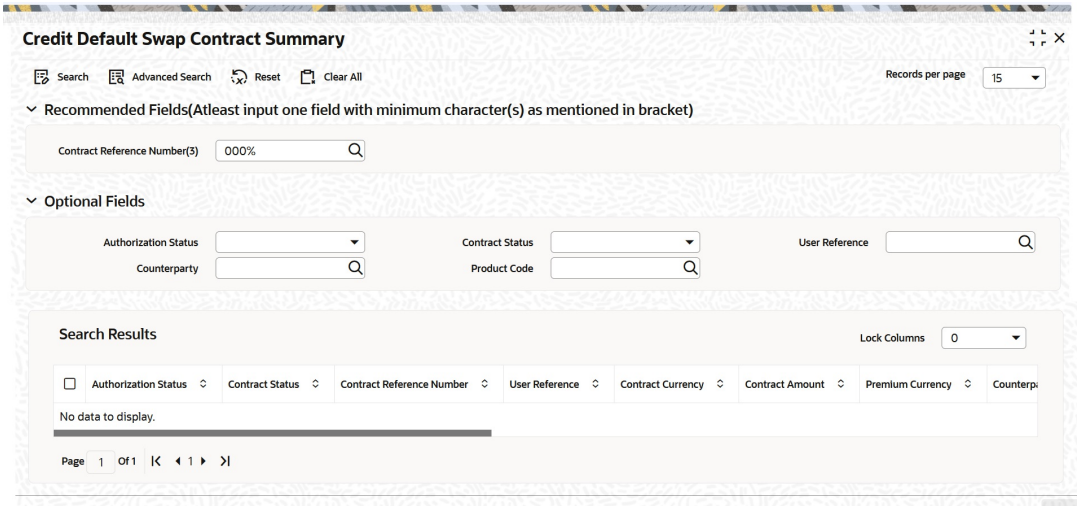
This topic provides the instructions to capture the CDS Contract Summary details.

You can view the CDS contract details in the Credit Default Swap Contract Summary screen.

1. On the Homepage, enter **DCSCDSON** in the text box, and click the next arrow.

The **Credit Default Swap Contract Summary** Screen is displayed.

Figure 6-6 Credit Default Swap Contract Summary



2. On the **Credit Default Swap Pre-Settlement Summary** screen, click Search or Advanced Search to view the summary of the terminated contract and exercised contract records.
3. On the **Credit Default Swap Pre-Settlement Summary** screen, specify any one of the field, and click Search to fetch the status of the specific record based on the selected criteria.

   For more information on the fields, refer to the below table

Table 6-12 Credit Default Swap Contract Summary - Field Description

Field	Description
Recommended Field	**Contract Reference Number** On screen launch, the application default with the Branch code followed by % in the Contract Reference Number field. Alternatively, you can select the reference number from the option list. The list displays all valid reference numbers maintained in the system. Click the Search button to display the contract summary.
Optional Fields	Select any one or all of the parameters from the Optional Field in the summary and click the Search button. The records meeting the selected criteria are displayed in the summary screen.

6.4 Credit Default Swap Pre-Settlement Input

This topic describes the systematic instruction for CDs contract termination and contract exercise.

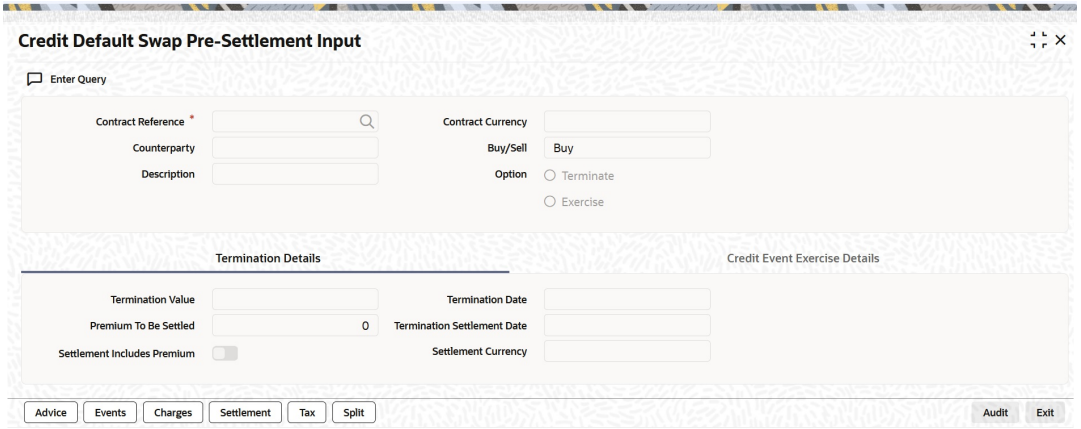
The CDS contract details for contract termination and contract exercise are captured in the Credit Default Swap Pre-Settlement Input screen.

> **Note:**
>
> All fields marked with an asterisk (*) are mandatory.

1. On the Home page, enter **DCDCNTRM** in the text box, and then click next arrow.

   Credit Default Swap Pre-Settlement Input screen is displayed.

Figure 6-7 Credit Default Swap Pre-Settlement Input



2. On the **Credit Default Swap Contract Input** screen, click Enter Query, and specify the contract details as required.

   For more information on the fields, refer to the below table.

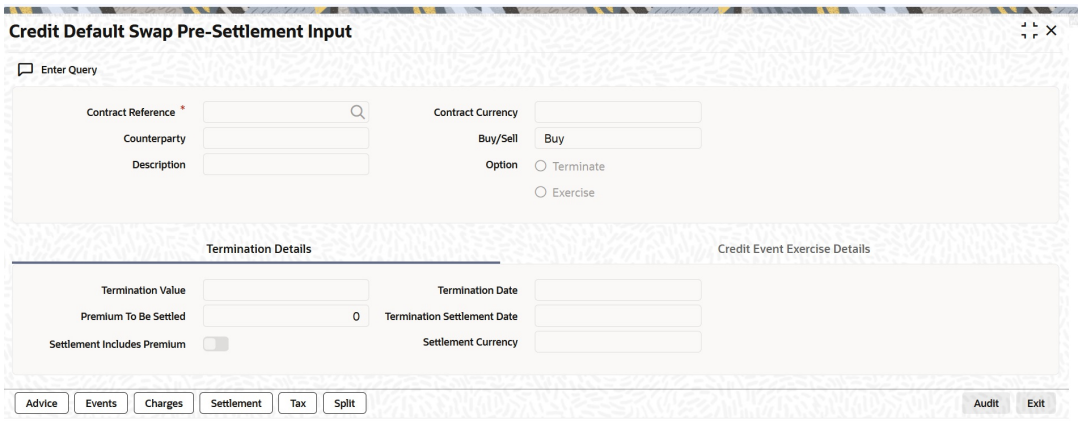
Table 6-13 Credit Default Swap Contract Input - Field Description

Field	Description
Contract Reference	Click the search icon and select the unique code from the list for identifying the contract for termination.
Counterparty	The system displays the counterparty of the selected contract.
Description	The system displays the brief description of the counterparty for the selected contract reference.
Contract Currency	Indicates the currency of the nominal amount.
Buy/Sell	Indicates whether the bank is buying the contract or selling the contract.
Option	Select either Terminate Option to terminate the contract or Exercise Option to exercise the contract.

   Click **Execute Query** to execute the selected option.

3. On the **Credit Default Swap Pre-Settlement Input** screen, click **Termination Details**.

   The **Termination Details** page is displayed



4. On the **Credit Default Swap Contract Input** screen, under Termination Details, specify the fields.

   For more information on the fields, refer to the below table.

Table 6-14 Credit Default Swaps Contract Input- Termination Details Field Description

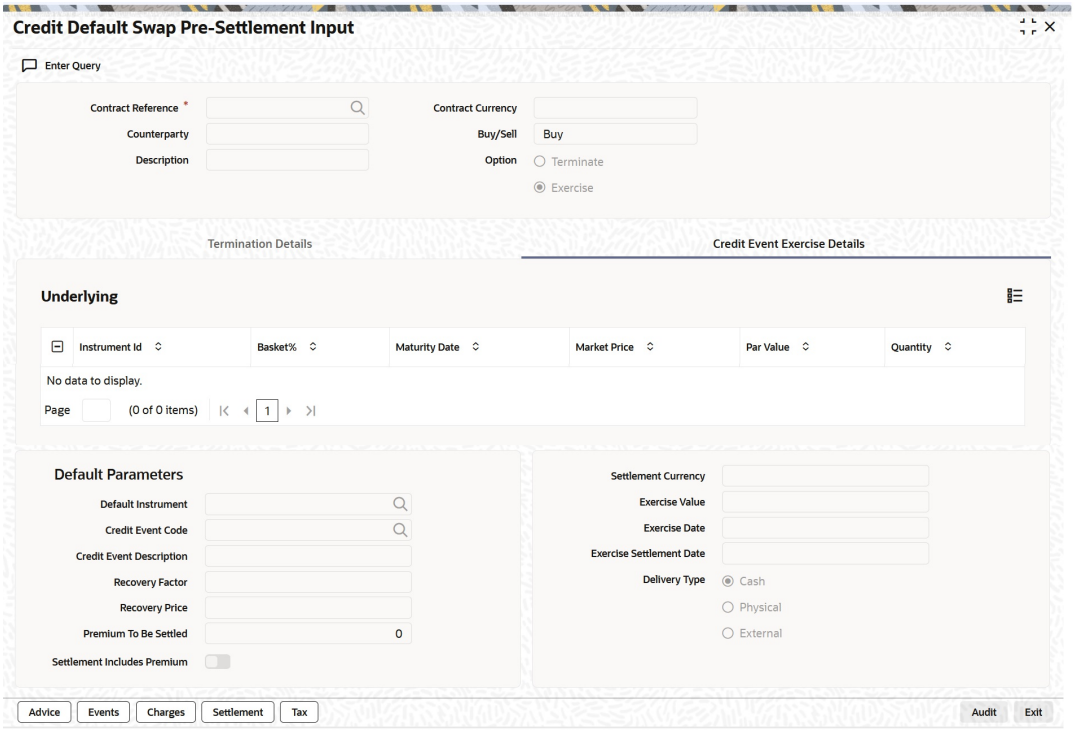
Field	Description
Termination Value	Specify the Termination Value. **Note:** Positive value denotes income and Negative value denotes expense.
Premium to be Settled	Indicates the premium for settlement as per the PUR_CDS_PREM_PACD amount tag for buying CDS and WRI_CDS_PREM_PACD for selling CDS. This field is mandatory, if the user selected the Settlement Includes Premium.
Termination Date	Indicates the effective date of contract termination. **Note:** If the Termination Date is less than or equal to Value Date or if the Termination Date is greater than or equal to Maturity Date, an error message is displayed.

Table 6-14 (Cont.) Credit Default Swaps Contract Input- Termination Details Field Description

Field	Description
Termination Settlement Date	Indicates the settlement date on which the termination begins. **Note:** If the Termination Settlement Date is less than or equal to the Termination Date, then an error message is displayed.
Settlement Includes Premium	Indicates whether settlement for credit event exercise must include premium or the premium is suppressed with accrual reversed.
Settlement Currency	Indicates the currency of the contract termination settlement.

5. On the **Credit Default Swap Pre-Settlement Input** screen, click the **Credit Event Exercise Details** tab.

   The **Credit Event Exercise Details** page is displayed



6. On the **Credit Default Swap Contract Input** screen, under Credit Event Exercise Details, specify the fields as required.

   For more information on the fields, refer to the below table.

   .

Table 6-15 Credit Default Swap contract Input - Credit Event Exercise Details Field Description

Field	Description
Instrument ID	Indicates the instrument used as the underlying for the contract.
Basket%	Indicates the percentage portion of the basket constituted by the underlying instrument.
Maturity Date	Indicates the date on which the CDS contract expires. If the Maturity Date is less than or equal to Value Date, an error message is displayed.
Market Price	Indicates the market price of the underlying instrument
PAR Value	Indicates the current face value of the instrument.
Quantity	Indicates the number of units of the instrument.
Default Instrument	Click the search icon and select the unique code from the displayed list for identifying the defaulted Instrument.
Credit Event Code	Click the search icon and select the unique code from the displayed list for identifying the event code causing the exercise.
Credit Event Description	The system displays the brief description of the selected credit event.
Exercise Value	Indicates whether the settlement must include accrued premium.
Exercise Date	Specify the effective of contract Exercise Date. **Note:** If the Exercise Date is less than or equal to the Value Date and greater than the Maturity Date, an error message is displayed.
Exercise Settlement Date	Indicates the Settlement Date of the exercised contract.

6.5 Credit Default Swap Pre-Settlement Summary

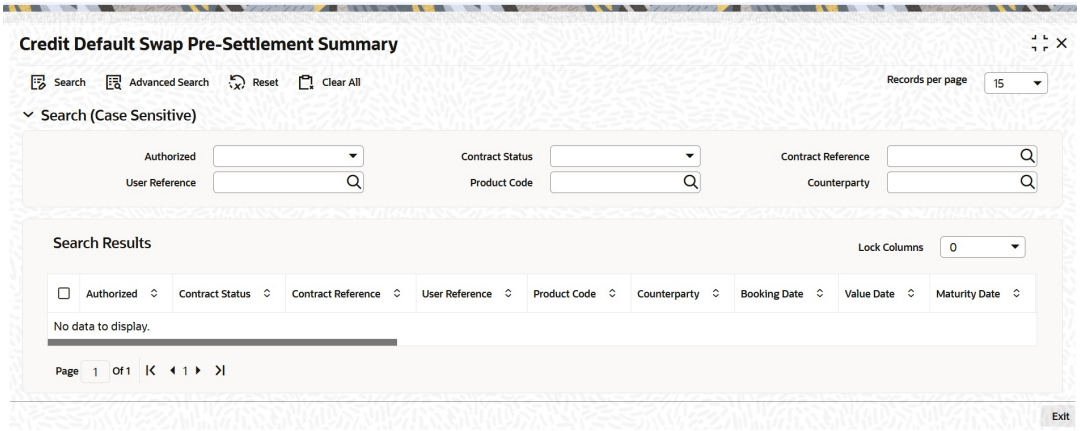
This topic describes the details to capture the CDS Contract Termination and CDS Contract Exercise summary.

The **Credit Default Swap Pre-Settlement Summary** screen displays the status on contract termination and contract exercise.

1. On the Home page, enter **DCSCNTRM** in the text box, and then click next arrow.

   The **Credit Default Swap Pre-Settlement Summary** Screen is displayed.

Figure 6-8 Credit Default Swap Pre-Settlement Summary



2. On the **Credit Default Swap Pre-Settlement Summary** screen, click Search or Advanced Search to view the summary of the terminated contract and exercised contract records.
3. On the **Credit Default Swap Pre-Settlement Summary** screen, specify any one of the field, and click Search to fetch the status of the specific record based on the selected criteria.

   For more information on the fields, refer to the below table

Table 6-16 Credit Default Swap Pre-Settlement Summary - Field Description

Field	Description
Authorized	Select the authorization status of the CDS contract from the drop-down list to fetch the records based on the authorization status. The available options are: • **Authorized** • **Unauthorized**
Contract Status	Select the CDS contract status from the drop-down list to fetch the records based on the contract status. The available options are: • **Terminated** • **Exercised**
Contract Reference	Specify the unique code of the contract reference number from the displayed list to fetch the record based on the contract reference.
User Reference	Specify the unique code of the user reference number to fetch the record based on the user reference.
Counterparty	Specify the unique code of the counterparty from the displayed list to fetch the record based on the counterparty.
Product Code	Specify the unique code of the product from the displayed list to fetch the record based on the product code.

7

Risk Free Rates

There is provision to consume SOFR or any other the index rates daily from a published source. The product processor integrates this value with the interest calculation engine. The Product Processor sends appropriate parameters to the Interest Calculation Engine per deal and receives the interest rate.

RFR supports both the back and future value date bookings with proper interest application.

Options module supports the below RFR methods:

In the Arrear Method, includes the below types:

- Lookback
- Lockout
- Payment Delay
- Plain

In addition to the above, the Options module also supports the below RFR combination methods:

- Lookback and Lockout
- Lookback, Lockout, and Payment delay

In Advance Method, the supported types include the below:

- Last reset
- Last recent

RFR also supports interest rate calculation by using weighted average method (WAC).

> **Note:**
>
> Only simple interest calculation can be done by WAC.

The WAC method supports the Arrear method and RFR combination method.

The arrear method supports the following bearing products:

- Lookback
- Lockout
- Payment Delay
- Plain

The below RFR combination methods are supported in the WAC method:

- Lookback and Lockout
- Lookback and Payment Delay

- Lockout and Payment Delay
- Lookback, Lockout, and Payment Delay

For detailed information on RFR calculation method for each type, refer to the RFR calculation method worksheet.

This topic has the following sub-topics:

- Define Rate codes for Risk Free Rates
  This topic describes the instructions to define the rate codes for risk free rates.
- Risk Free Rates
  This topic describes the instructions to capture the Risk Free Rate code details.
- Options Product
  This topic describes RFR preferences for the options product.
- Options Contract
  This topic describes RFR preferences in the Options contract.
- Lifecycle process Impact
  This topic describes the RFR lifecycle process impact.

7.1 Define Rate codes for Risk Free Rates

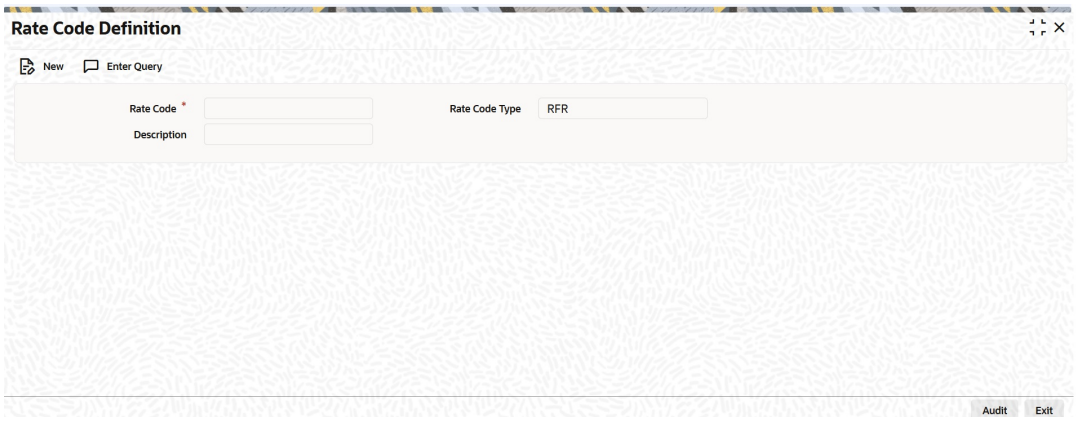
This topic describes the instructions to define the rate codes for risk free rates.

RFR codes is maintained at the Rate Code Definition screen.

1. On the Home page, type **CFDFRTCD** in the text box, and click the next arrow.

   The **Rate Code Definition** screen is displayed.

Figure 7-1 Rate Code Definition



2. On the **Rate Code Definition** screen, specify the details as required.

   For information on fields, refer to: *Table 7.1: RFR Rate Input - Field Description*

7.2 Risk Free Rates

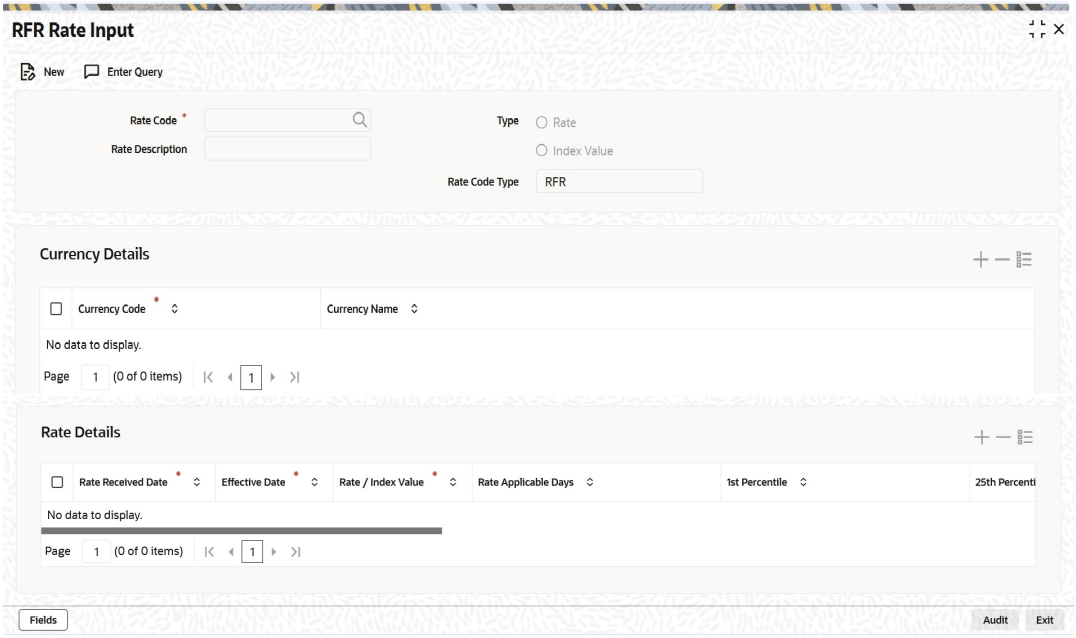
This topic describes the instructions to capture the Risk Free Rate code details.

Risk Free rates are maintained in this screen.

1. On the Home page, type **CFDRFRRT** in the text box, and click the next arrow.

   The **RFR Rate Input** screen is displayed.

Figure 7-2 RFR Rate Input



2. On the **RFR Rate Input** screen, specify the details as required.

   For information on fields refer to the below table

Table 7-1 RFR Rate Input - Field Description

Field	Description
Rate Code	Choose the Risk Free Reference Rate Code from the list of values displayed.
Rate Description	Define the RFR rate code
Type	Choose the type of Maintenance: • **Rate** • **Index Value**
Currency Code	Specifies the currency mapped to RFR code.
Rate Received Date	Specify the date on which the system received the RFR rate.
Effective Date	Specify the applicable RFR effective date.
Interest rate	RFR on the respective effective date
Rate Applicable days	Number of days the RFR is applicable.
Percentile	Percentile of RFR defined as 1st, 25th,75th and 99th.
Volume in Billions	Specify the RFR volume in count of billions.

7.3 Options Product

This topic describes RFR preferences for the options product.

Based on the requirement, you can specify the RFR preferences in the Product Preferences of the Options Product Definition screen. For more information, refer:

7.4 Options Contract

This topic describes RFR preferences in the Options contract.

Based on the requirement, you can specify the RFR preferences in the Options Contract Input screen. For more information, refer:

7.5 Lifecycle process Impact

This topic describes the RFR lifecycle process impact.

RFR rate based on contract preference is fixed for each contract on the rate fixing date and contract is exercised if conditions are satisfied.

- Swift Messaging
- Exercise Delay

7.5.1 Swift Messaging

Below Swift Messages captures the RFR rate:

- MT 360
- MT 362

7.5.2 Exercise Delay

For OT RFR contract, the system supports the delay in exercising the contract till all the RFR rates are available. Exercise of contract will happen once the rate is received on the maturity date during EOD batch processing.

> **Note:**
>
> This functionality is applicable to RFR related contracts only.

A

Annexure – Event-wise Accounting Entries and Advices for OT

This topic describes event-wise accounting entries, amount tags and advices generated for OT module.

This topic contains the following sub-topics:

- Accounting Entries
  This topic describes the accounting entries in OT deal.
- OT Events
  This topic describes the events take place during the life-cycle of an OT deal.
- Amount Tags
  This topic describes the amount tags in OT deal.
- Accounting Roles
  This topic describes the accounting roles applicable to OT options deals.
- Event-Wise Accounting Entries
  This topic describes the event-wise accounting entries in OT deals.
- Event-wise Amount Tags
  This topic describes the event-wise amount tags.
- Future Dated Termination Settlement
  This topic describes the Future Dated Termination Settlement
- Advices Generated
  This topic describes the advices generated in OT deal.
- Multiple Media Support
  This topic describes the multiple media support feature.

A.1 Accounting Entries

This topic describes the accounting entries in OT deal.

This section contains details of the suggested accounting entries that can be maintained, while setting up a Interest Rate and Currency Option products for the OT module of Oracle Banking Treasury Management. The details of the suggested accounting entries are listed event-wise.

A.2 OT Events

This topic describes the events take place during the life-cycle of an OT deal.

The following is an exhaustive list of events that can take place during the life-cycle of an OT deal. In the subsequent paragraphs we shall examine the accounting entries for each of the events listed below.

Table A-1 Events

Event Code	Event Description
BOOK	Contract Booking
AMND	Contract Amendment
REVR	Contract Reversal (Cancellation)
EXPR	Contract Expiry
TERM	Contract Termination
TRST	Termination Settlement
EXER	Exercise of options
EXST	Exercise Settlement
AMRT	Amortization of inception Gain/Loss
REVL	Revaluation of option
RTFX	Rate Fixing
PRPT	Premium Payment
KNIN	Knock In of Currency Option
KIST	Knock In Settlement
KNOT	Knock Out of Currency Option
KNST	Knock Out Settlement
AMDG	Amortization of Deferred Gains-Hedge
DOPT	Booking of underlying IRS in a Swaption
DLTA	Delta Accounting.
EXRV	External Revaluation of Option
SGEN	Settlement Message Generation
PRAT	Premium Amortization
PRAC	Premium Accrual

A.3 Amount Tags

This topic describes the amount tags in OT deal.

The Amount Tags listed below are provided in Oracle Banking Treasury Management.

Table A-2 Amount Tags

Amount Tag	Description
PUR_OPTION_PREM	Premium on Purchased Options
WRI_OPTION_PREM	Premium on Written Options
PUR_INCEP_LOSS	Inception Loss on Purchased Options
WRI_INCEP_LOSS	Inception Loss on Written Options
PUR_INCEP_GAIN	Inception Gain on Purchased Options
PUR_INCEP_GAIN_DEF	Deferred Inception Gain on Purchased Options

Table A-2 (Cont.) Amount Tags

Amount Tag	Description
WRI_INCEP_GAIN	Inception Gain on Written Options
WRI_INCEP_GAIN_DEF	Deferred Inception Gain on Written Options
PUR_INCEP_IV	Intrinsic Value at Inception
PUR_INCEP_TV	Time Value at Inception
PUR_INCEP_TV_DEF	Deferred Time Value at Inception
PUR_REVAL_GAIN	Revaluation Gain on Purchased Options
PUR_REVAL_LOSS	Revaluation Loss on Purchased Options
PUR_LAST_REVAL_GAIN	Previous Revaluation Gain on Purchased Options
PUR_LAST_REVAL_LOSS	Previous Revaluation Loss on Purchased Options
WRI_REVAL_GAIN	Revaluation Gain on Written Options
WRI_REVAL_LOSS	Revaluation Loss on Written Options
WRI_LAST_REVAL_GAIN	Previous Revaluation Gain on Written Options
WRI_LAST_REVAL_LOSS	Previous Revaluation Loss on Written Options
NET_AMORT_TV	Net Amortized Time Value
PUR_NET_INCEP_GAIN	Net Amortized Inception Gain
PUR_NET_INCEP_LOSS	Net Amortized Inception Loss
WRI_NET_INCEP_GAIN	Net Amortized Inception Gain
WRI_NET_INCEP_LOSS	Net Amortized Inception Loss
PUR_TERM_FV	Fair Value of Purchased opt at Termination
PUR_TERM_GAIN	Gain on Termination of Purchased Option
PUR_TERM_LOSS	Loss on Termination of Purchased Option
WRI_TERM_FV	Fair Value of Written opt at Termination
WRI_TERM_GAIN	Gain on Termination of Written Option
WRI_TERM_LOSS	Loss on Termination of Written Option
HED_TERM_GAIN	Termination Gain on Hedge Option
HED_TERM_LOSS	Termination Loss on Hedge Option
HED_TERM_GAIN_DEF	Termination Gain Deferred on Hedge Option
PUR_INTR_SETL_AMT	Settlement Amount on Intermediate Exercise
WRI_INTR_SETL_AMT	Settlement Amount on Intermediate Exercise
PUR_SETL_AMT	Final Exercise Settlement Amount on Purchased Option
WRI_SETL_AMT	Final Exercise Settlement Amount on Written Option
PUR_INTR_FLR_AMT	Intermediate Exercise Settlement Amount for Collars on Purchased options when Floor is in the money
WRI_INTR_FLR_AMT	Intermediate Exercise Settlement Amount for Collars on Written options when Floor is in the money
PUR_INTR_CAP_AMT	Intermediate Exercise Settlement Amount for Collars on Purchased options when the Cap is in the money
WRI_INTR_CAP_AMT	Intermediate Exercise Settlement Amount for Collars on Written options when the Cap is in the money

Table A-2 (Cont.) Amount Tags

Amount Tag	Description
PUR_FLOOR_AMT	Final Exercise Settlement Amount for Collars on Purchase options when the Floor is in the money
PUR_CAP_AMT	Final Exercise Settlement Amount for Collars on Purchase options when the Cap is in the money
WRI_FLOOR_AMT	Final Exercise Settlement Amount for Collars on Written options when the Floor is in the money
PUR_CAP_AMT	Final Exercise Settlement Amount for Collars on Written options when the Cap is in the money
PUR_SWAP_AMT	Swap Value of Physically Settlement Swaption
WRI_SWAP_AMT	Swap Value of Physically Settlement Swaption
HED_EXER_GAIN	Exercise Gain on Hedge Option
HED_EXER_LOSS	Exercise Loss on Hedge Option
PUR_INCEP_IV_SWAP	Intrinsic Value at Inception
PUR_REBATE_AMT	Rebate received for a purchased currency option if the option is knocked out or not knock in
WRI_REBATE_AMT	Rebate paid for a written currency option if the option is knocked out or not knock in
NET_GAIN_DEF	Net Amortized Deferred Gain
WRI_CALL_AMT	Notional Principal for Written Call option
PUR_CALL_AMT	Notional Principal for Purchased Call Option
WRI_CALL_AMT_EQ	Notional Principal offset for Written Call Option
PUR_CALL_AMT_EQ	Notional Principal offset for Purchased Call Option.
WRI_PUT_AMT	Notional Principal for Written Put Option.
WRI_PUT_AMT_EQ	Notional Principal offset for Written Put Option.
PUR_PUT_AMT	Notional Principal for Purchased Put Option.
PUR_PUT_AMT_EQ	Notional Principal offset for Purchased put Option.
PREV_DELTA_AMT	Previous Delta Amount.
PREV_ANTI_DELTA_AMT	Previous Anti Delta Amount.
DELTA_AMT	Delta Amount.
ANTI_DELTA_AMT	Anti Delta Amount.
PUR_CDPREM	Premium on Purchased CDS
WRI_CDPREM	Premium on Sold CDS
PUR_CDS_PREM_ACCR	Amortized Premium Expense
WRI_CDS_PREM_ACCR	Amortized Premium Income
PUR_CDS_PREM_ACRP	Premium Expense Pending Amortization
WRI_CDS_PREM_ACRP	Premium Income Pending Amortization
PUR_CDS_PREM_PACR	Premium Expense Accrued
WRI_CDS_PREM_PACR	Premium Income Accrued
PUR_CDS_PREM_PACD	Premium Expense Accrued Till Date
WRI_CDS_PREM_PACD	Premium Income Accrued Till Date

In addition to these, you can define any number of amount tags as per your requirement.

A.4 Accounting Roles

This topic describes the accounting roles applicable to OT options deals.

The following list contains details of the accounting Roles that are applicable to deals involving OT options.

Table A-3 Accounting Role - Accounting Type

Accounting Role	Description	Role Type
CUSTOMER	Counterparty	X type
OPT_PREM_PAY	Option Premium Payable	Liability
OPT_PREM_REC	Option Premium Receivable	Asset
MKT_VAL_PUR_OPT	Market Value of Purchased Option	Asset
MKT_VAL_WRI_OPT	Market Value of Written Option	Liability
PUR_INCEP_LOSS	Inception Loss on Purchased Options	Expense
WRI_INCEP_LOSS	Inception Loss on Written Options	Expense
PUR_IN_GAIN_DEF	Deferred Inception Gain on Written Options	Asset
WRI_IN_GAIN_DEF	Deferred Inception Gain on Written Options	Asset
PUR_IV_DEF	Deferred Intrinsic Value	Asset
PUR_TV_DEF	Deferred Time Value	Asset
RV_GAIN_PUR_OPT	Revaluation Gain on Purchased Option	Income
RV_LOSS_PUR_OPT	Revaluation Loss on Purchased Option	Expense
RV_GAIN_WRI_OPT	Revaluation Gain on Written Option	Income
RV_LOSS_WRI_OPT	Revaluation Loss on Written Option	Expense
EXP_ON_HEDGE	Expense on Hedge Options	Expense
PUR_IN_GAIN_OPT	Inception Gains on Purchased Options	Income
WRI_IN_GAIN_OPT	Inception Gains on Written Options	Income
PUR_OPT_INCOME	Income on Purchased Options	Income
WRI_OPT_INCOME	Income on Written Options	Income
PUR_OPT_EXPENSE	Expense on Purchased Options	Expense
WRI_OPT_EXPENSE	Expense on Written Options	Expense
PUR_GAIN_DEF	Deferred Gains on Purchased Options	Asset
PUR_HED_EXPENSE	Expense on Hedge Options	Expense
MKT_VAL_PUR_IRS	Market Value of purchased Interest Rate Swap	Expense

Table A-3 (Cont.) Accounting Role - Accounting Type

Accounting Role	Description	Role Type
MKT_VAL_WRI_IRS	Market Value of WRITTEN Interest Rate Swap	Expense
PUR_OPT_SET_REC	Payout amount receivable on Purchased Options	Asset
WRI_OPT_SET_PAY	Payout amount Payable on Written Options	Liability
PUR_OPT_SET_PAY	Payout amount Payable on Purchased Options	Liability
WRI_OPT_SET_REC	Payout amount receivable on Written Options	Asset
PUR_REBATE_REC	Rebate amount receivable on Purchased Options	Asset
PUR_REBATE_PAY	Rebate amount payable on Written Options	Liability
CON_WRI_CALL	Notional Principal for written Call options	Contingent
CON_WRI_CAL_OFF	Offset for Notional Principal for written Call options	Contingent
CON_WRI_PUT	Notional Principal for written Put options.	Contingent
CON_WRI_PUT_OFF	Offset for Notional Principal for Written Put options.	Contingent
CON_PUR_CALL	Notional Principal for purchased Call options	Contingent
CON_PUR_CAL_OFF	Offset for Notional Principal for purchased Call options	Contingent
CON_PUR_PUT	Notional Principal for purchased Put options	Contingent
CON_PUR_PUT_OF F	Offset for Notional Principal for purchased Put options	Contingent
CON_DELTA_AC	Contingent Delta amount	Contingent
CON_DELTA_OFF	Offset for Contingent Delta Amount	Contingent
CON_ANT_DEL_AC	Contingent Anti Delta amount	Contingent
CON_ANT_DEL_OFF	Offset for Contingent Anti Delta amount	Contingent
CDS_PREM_PAY	CDS Premium Payable	Liability
CDS_PREM_REC	CDS Premium Receivable	Asset
MKT_VAL_PUR_CDS	Market Value of Purchased CDS	Asset
MKT_VAL_WRI_CDS	Market Value of Written CDS	Liability
RV_GAIN_PUR_CDS	Revaluation Gain on Purchased CDS	Income
RV_LOSS_PUR_CDS	Revaluation Loss on Purchased CDS	Expense
RV_GAIN_WRI_CDS	Revaluation Gain on Written CDS	Income

Table A-3 (Cont.) Accounting Role - Accounting Type

Accounting Role	Description	Role Type
RV_LOSS_WRI_CDS	Revaluation Loss on Written CDS	Expense
PUR_CDS_INCOME	Income on Purchased CDS	Income
WRI_CDS_INCOME	Income on Written CDS	Income
PUR_CDS_EXPENSE	Expense on Purchased CDS	Expense
WRI_CDS_EXPENSE	Expense on Written CDS	Expense
PUR_CDS_SET_REC	Payout Amount Receivable on Purchased CDS	Asset
WRI_CDS_SET_PAY	Payout Amount Payable for Written CDS	Liability
PUR_CDS_SET_PAY	Payout Amount payable on purchased CDS	Liability
WRI_CDS_SET_REC	Payout Amount Receivable on Written CDS	Asset

A.5 Event-Wise Accounting Entries

This topic describes the event-wise accounting entries in OT deals.

In the subsequent sections we have defined suggested accounting entries for each of the events in the life-cycle of deals involving OT products.

Also note that some of the Amount Tag's linked to the Accounting Roles are user defined.

This topic contains the following sub-topics:

BOOK – Contract Booking

Table A-4 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
MKT_VAL_PUR_OPT	PUR_OPTION_PREM	Debit
OPT_PREM_PAY	PUR_OPTION_PREM	Credit
OPT_PREM_REC	WRI_OPTION_PREM	Debit
MKT_VAL_WRI_OPT	WRI_OPTION_PREM	Credit
PUR_INCEP_LOSS	PUR_INCEP_LOSS	Debit
MKT_VAL_PUR_OPT	PUR_INCEP_LOSS	Credit
WRI_INCEP_LOSS	WRI_INCEP_LOSS	Debit
MKT_VAL_WRI_OPT	WRI_INCEP_LOSS	Credit
MKT_VAL_PUR_OPT	PUR_INCEP_GAIN_DEF	Debit
PUR_IN_GAIN_DEF	PUR_INCEP_GAIN_DEF	Credit
MKT_VAL_WRI_OPT	WRI_INCEP_GAIN_DEF	Debit
WRI_IN_GAIN_DEF	WRI_INCEP_GAIN_DEF	Credit

Table A-5 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
MKT_VAL_PUR_OPT	PUR_INCEP_GAIN	Debit
PUR_OPT_INCOME	PUR_INCEP_GAIN	Credit
MKT_VAL_WRI_OPT	WRI_INCEP_GAIN	Debit
PUR_OPT_INCOME	WRI_INCEP_GAIN	Credit
PUR_IV_DEF	PUR_INCEP_IV	Debit
OPT_PREM_PAY	PUR_INCEP_IV	Credit
PUR_TV_DEF	PUR_INCEP_TV_DEF	Debit
OPT_PREM_PAY	PUR_INCEP_TV_DEF	Credit

Table A-6 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
EXP_ON_HEDGE	PUR_INCEP_TV	Debit
OPT_PREM_PAY	PUR_INCEP_TV	Credit

PRPT - Premium Payment

Table A-7 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
OPT_PREM_PAY	PUR_OPTION_PREM	Debit
CUSTOMER	PUR_OPTION_PREM	Credit
CUSTOMER	WRI_OPTION_PREM	Debit
OPT_PREM_REC	WRI_OPTION_PREM	Credit

REVL - Revaluation of Option

Table A-8 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
MKT_VAL_PUR_OPT	PUR_REVL_GAIN	Debit
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Credit
MKT_VAL_WRI_OPT	WRI_REVL_GAIN	Debit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Credit
RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	Debit
MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_LAST_REVL_GAIN	Debit
MKT_VAL_WRI_OPT	WRI_LAST_REVL_GAIN	Credit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Debit
MKT_VAL_PUR_OPT	PUR_REVL_LOSS	Credit

Table A-8 (Cont.) Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
RVL_LOSS_WRI_OPT	WRI_REVL_LOSS	Debit
MKT_VAL_WRI_OPT	WRI_REVL_LOSS	Credit
MKT_VAL_PUR_OPT	PUR_LAST_REVL_LOSS	Debit
RV_LOSS_PUR_OPT	PUR_LAST_REVL_LOSS	Credit
MKT_VAL_WRI_OPT	WRI_LAST_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	WRI_LAST_REVL_LOSS	Credit
EXP_ON_HEDGE	NET_AMORT_TV	Debit
PUR_TV_DEF	NET_AMORT_TV	Credit

AMRT - Amortization of Inception Gain/Loss

Table A-9 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	Debit
PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	Credit
WRI_IN_GAIN_DEF	WRI_NET_INCEP_GAIN	Debit
WRI_IN_GAIN_OPT	WRI_NET_INCEP_GAIN	Credit

TERM - Contract Termination

Trigger Revaluation at current FV as specified while terminating Trade contracts.

Trigger AMRT for residual Amortization for Trade Contracts. For Hedge contracts trigger Revaluation to amortize the remaining time value.

Table A-10 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
CUSTOMER	PUR_TERM_FV	Debit
MKT_VAL_PUR_OPT	PUR_TERM_FV	Credit
MKT_VAL_WRI_OPT	WRI_TERM_FV	Debit
CUSTOMER	WRI_TERM_FV	Credit
CUSTOMER	PUR_TERM_GAIN	Debit
PUR_OPT_INCOME	PUR_TERM_GAIN	Credit
WRI_OPT_EXPENSE	WRI_TERM_LOSS	Debit
CUSTOMER	WRI_TERM_LOSS	Credit
PUR_OPT_EXPENSE	PUR_TERM_LOSS	Debit
CUSTOMER	PUR_TERM_LOSS	Credit
CUSTOMER	WRI_TERM_GAIN	Debit
WRI_OPT_INCOME	WRI_TERM_GAIN	Credit

Termination Loss = FV @ Termination - Termination Value

Termination Gain = Termination Value - FV @ Termination

Termination Loss = Termination Value - Termination FV

Termination Gain = Termination FV - Termination Value

Table A-11 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Debit
PUR_OPT_INCOME	PUR_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Debit
WRI_OPT_INCOME	WRI_REVL_GAIN	Credit
PUR_OPT_EXPENSE	PUR_REVL_LOSS	Debit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Credit
WRI_OPT_EXPENSE	WRI_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	WRI_REVL_LOSS	Credit
PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	Debit
PUR_OPT_INCOME	PUR_INCEP_GAIN	Credit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Debit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Credit
PUR_OPT_EXPENSE	PUR_INCEP_LOSS	Debit
PUR_INCEP_LOSS	PUR_INCEP_LOSS	Credit
WRI_OPT_EXPENSE	WRI_INCEP_LOSS	Debit
WRI_INCEP_LOSS	WRI_INCEP_LOSS	Credit
CUSTOMER	PUR_INCEP_IV	Debit
PUR_IV_DEF	PUR_INCEP_IV	Credit
CUSTOMER	HED_TERM_GAIN_DEF	Debit
PUR_GAIN_DEF	HED_TERM_GAIN_DEF	Credit

Table A-12 Accounting Role - Amount Tag- If termination gain is not to be amortized then the following entries are passed for termination gain:

Accounting Role	Amount Tag	Dr./Cr.
CUSTOMER	HED_TERM_GAIN	Debit
PUR_OPT_INCOME	HED_TERM_GAIN	Credit
PUR_HED_EXPENSE	HED_TERM_LOSS	Debit
CUSTOMER	HED_TERM_LOSS	Credit
PUR_HED_EXPENSE	PUR_INCEP_TV	Debit
EXP_ON_HEDGE	PUR_INCEP_TV	Credit

EXER - Exercise of Options

Trigger Reval @ current FV (Which is same as Settlement Amount) for final Exercise.

Trigger AMRT for residual Amortization for Trade Contracts. Trigger AMRT for residual Amortization for final Exercise.

Table A-13 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_OPT_SET_REC	PUR_INTR_SETL_AMT	Debit
PUR_OPT_INCOME	PUR_INTR_SETL_AMT	Credit
WRI_OPT_EXPENSE	WRI_INTR_SETL_AMT	Debit
WRI_OPT_SET_PAY	WRI_INTR_SETL_AMT	Credit
PUR_OPT_SET_REC	PUR_SETL_AMT	Debit
MKT_VAL_PUR_OPT	PUR_SETL_AMT	Credit
MKT_VAL_WRI_OPT	WRI_SETL_AMT	Debit
WRI_OPT_SET_PAY	WRI_SETL_AMT	Credit

Second set of Entries are passed for Physically settled Swaptions.

For physical Currency options, Reval is triggered @ 0. No entries are passed on Exercise.

Table A-14 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
MKT_VAL_PUR_IRS	PUR_SWAP_AMT	Debit
MKT_VAL_PUR_OPT	PUR_SWAP_AMT	Credit
MKT_VAL_WRI_OPT	WRI_SWAP_AMT	Debit
MKT_VAL_WRI_IRS	WRI_SWAP_AMT	Credit

In Case of Collars, the following entries will be passed. Collars are not allowed for Hedge Contracts.

Table A-15 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_OPT_EXPENSE	PUR_INTR_FLR_AMT	Debit
PUR_OPT_SET_PAY	PUR_INTR_FLR_AMT	Credit
WRI_OPT_SET_REC	WRI_INTR_FLR_AMT	Debit
WRI_OPT_INCOME	WRI_INTR_FLR_AMT	Credit
PUR_OPT_SET_REC	PUR_INTR_CAP_AMT	Debit
PUR_OPT_INCOME	PUR_INTR_CAP_AMT	Credit
WRI_OPT_EXPENSE	WRI_INTR_CAP_AMT	Debit
WRI_OPT_SET_PAY	WRI_INTR_CAP_AMT	Credit

In the case of Purchased or Written Collar, if the Floor is in the money during final settlement, Revaluation has to be triggered @ 0 Fair Value. If the Cap is in the money, Revaluation has to be triggered @ final settlement amount (PUR_CAP_AMT or WRI_CAP_AMT) and the following entries would be passed.

Table A-16 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_OPT_EXPENSE	PUR_FLOOR_AMT	Debit
PUR_OPT_SET_PAY	PUR_FLOOR_AMT	Credit
WRI_OPT_SET_REC	WRI_FLOOR_AMT	Debit
WRI_OPT_INCOME	WRI_FLOOR_AMT	Credit

Table A-17 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Debit
PUR_OPT_INCOME	PUR_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Debit
WRI_OPT_INCOME	WRI_REVL_GAIN	Credit
PUR_OPT_EXPENSE	PUR_REVL_LOSS	Debit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Credit
WRI_OPT_EXPENSE	WRI_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	WRI_REVL_LOSS	Credit
PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	Debit
PUR_OPT_INCOME	PUR_INCEP_GAIN	Credit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Debit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Credit
PUR_OPT_EXPENSE	PUR_INCEP_LOSS	Debit
PUR_INCEP_LOSS	PUR_INCEP_LOSS	Credit
WRI_OPT_EXPENSE	WRI_INCEP_LOSS	Debit
WRI_INCEP_LOSS	WRI_INCEP_LOSS	Credit
PUR_OPT_SET_REC	PUR_INCEP_IV	Debit
PUR_IV_DEF	PUR_INCEP_IV	Credit

Gain on Exercise is not Deferred. It is taken directly to Income.

Table A-18 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_OPT_SET_REC	HED_EXER_GAIN	Debit
PUR_OPT_INCOME	HED_EXER_GAIN	Credit
PUR_HED_EXPENSE	HED_EXER_LOSS	Debit
PUR_OPT_SET_REC	HED_EXER_LOSS	Credit
MKT_VAL_PUR_IRS	PUR_INCEP_IV_SWAP	Debit
PUR_IV_DEF	PUR_INCEP_IV_SWAP	Credit

The following entries are to move the Inception TV to Final Expense A/c from the Revaluation Expense account.

Table A-19 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_HED_EXPENSE	PUR_INCEP_TV	Debit
EXP_ON_HEDGE	PUR_INCEP_TV	Credit

EXST - Exercise Settlement

Table A-20 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
CUSTOMER	PUR_SETL_AMT	Debit
PUR_OPT_SET_REC	PUR_SETL_AMT	Credit
WRI_OPT_SET_PAY	WRI_SETL_AMT	Debit
CUSTOMER	WRI_SETL_AMT	Credit

Following entries are passed for settlement of Payout in case of Floor being in the money.

Table A-21 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_OPT_SET_PAY	PUR_FLOOR_AMT	Debit
CUSTOMER	PUR_FLOOR_AMT	Credit
CUSTOMER	WRI_FLOOR_AMT	Debit
WRI_OPT_SET_REC	WRI_FLOOR_AMT	Credit

EXPR- Contract Expiry

No entries required for intermediate expiry. Only final Expiry has entries

Trigger Reval @ 0 as the value of the option would be 0 on expiry for Trade contracts

Trigger AMRT for residual Amortization of inception gain for Trade

Entries for moving all Reval Gain/Loss to Income/Expense and Inception Gain to Income.

Table A-22 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Debit
PUR_OPT_INCOME	PUR_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Debit
WRI_OPT_INCOME	WRI_REVL_GAIN	Credit
PUR_OPT_EXPENSE	PUR_REVL_LOSS	Debit
RV_LOSS_PUR_OP	PUR_REVL_LOSS	Credit

Table A-22 (Cont.) Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
WRI_OPT_EXPENSE	WRI_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	PUR_INCEP_GAIN	Credit
PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	Debit
PUR_OPT_INCOME	PUR_INCEP_GAIN	Credit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Debit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Credit
PUR_OPT_EXPENSE	PUR_INCEP_LOSS	Debit
PUR_INCEP_LOSS	PUR_INCEP_LOSS	Credit
WRI_OPT_EXPENSE	WRI_INCEP_LOSS	Debit
WRI_INCEP_LOSS	WRI_INCEP_LOSS	Credit

For Hedge deals Amortization of TV should have been completed before Final Expiry. Only Inception IV entries are passed.

Table A-23 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_HED_EXPENSE	PUR_INCEP_IV	Debit
PUR_IV_DEF	PUR_INCEP_IV	Credit

AMDG - Amortization of Deferred Gains-Hedge

This event is meant only for Hedge deals.

Table A-24 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_GAIN_DEF	NET_GAIN_DEF	Debit
PUR_OPT_INCOME	NET_GAIN_DEF	Credit

EXRV - External Contract Revaluation

Table A-25 Accounting Role - Amount tag

Accounting Role	Amount Tag	Debit/Credit
MKT_VAL_PUR_OPT	PUR_REVL_GAIN	Debit
V_GAIN_PUR_OPT	PUR_REVL_GAIN	Credit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Debit
MKT_VAL_PUR_OPT	PUR_REVL_LOSS	Credit
RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	Debit
MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	Credit

Table A-25 (Cont.) Accounting Role - Amount tag

Accounting Role	Amount Tag	Debit/Credit
MKT_VAL_PUR_OPT	PUR_REVL_GAIN	Debit
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Credit
MKT_VAL_WRI_OPT	WRI_REVL_GAIN	Debit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Credit
RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	Debit
MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_LAST_REVL_GAIN	Debit
MKT_VAL_WRI_OPT	WRI_LAST_REVL_GAIN	Credit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Debit
MKT_VAL_PUR_OPT	PUR_REVL_LOSS	Credit
RVL_LOSS_WRI_OPT	WRI_REVL_LOSS	Debit
MKT_VAL_WRI_OPT	WRI_REVL_LOSS	Credit
MKT_VAL_PUR_OPT	PUR_LAST_REVL_LOSS	Debit
RV_LOSS_PUR_OPT	PUR_LAST_REVL_LOSS	Credit
MKT_VAL_WRI_OPT	WRI_LAST_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	WRI_LAST_REVL_LOSS	Credit

KNOT - Knock Out of Currency Option

These entries are meant for Trade and Hedge deals.

Table A-26 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_REBATE_REC	PUR_REBATE_AMT	Debit
PUR_OPT_INCOME	PUR_REBATE_AMT	Credit
WRI_OPT_EXPENSE	WRI_REBATE_AMT	Debit
PUR_REBATE_PAY	WRI_REBATE_AMT	Credit

Trigger Revaluation at 0 for Trade. For Hedge do residual amortization of Time Value.

Trigger AMRT for residual Amortization for Trade.

Entries for moving all Revaluation Gain/Loss to Income/Expense and Inception Gain to Income.

Table A-27 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
RV_GAIN_PUR_OPT	PUR_REVL_GAIN	Debit
PUR_OPT_INCOME	PUR_REVL_GAIN	Credit
RV_GAIN_WRI_OPT	WRI_REVL_GAIN	Debit

Table A-27 (Cont.) Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
WRI_OPT_INCOME	WRI_REVL_GAIN	Credit
PUR_OPT_EXPENSE	PUR_REVL_LOSS	Debit
RV_LOSS_PUR_OPT	PUR_REVL_LOSS	Credit
WRI_OPT_EXPENSE	WRI_REVL_LOSS	Debit
RV_LOSS_WRI_OPT	WRI_REVL_LOSS	Credit
PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	Debit
PUR_OPT_INCOME	PUR_INCEP_GAIN	Credit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Debit
WRI_IN_GAIN_OPT	WRI_INCEP_GAIN	Credit
PUR_OPT_EXPENSE	PUR_INCEP_LOSS	Debit
PUR_INCEP_LOSS	PUR_INCEP_LOSS	Credit
WRI_OPT_EXPENSE	WRI_INCEP_LOSS	Debit
WRI_INCEP_LOSS	WRI_INCEP_LOSS	Credit

For Hedge deals Amortization of TV should have been completed before Final Expiry. Only Inception IV entries are passed.

Table A-28 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_HED_EXPENSE	PUR_INCEP_IV	Debit
PUR_IV_DEF	PUR_INCEP_IV	Credit

The following entries are to move the Inception TV to Final Expense A/c from Revaluation Exp A/c.

Table A-29 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
PUR_HED_EXPENSE	PUR_INCEP_TV	Debit
EXP_ON_HEDGE	PUR_INCEP_TV	Credit

KNST - Knock Out Settlement

Table A-30 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
CUSTOMER	PUR_REBATE_AMT	Debit
PUR_REBATE_REC	PUR_REBATE_AMT	Credit
PUR_REBATE_PAY	WRI_REBATE_AMT	Debit
CUSTOMER	WRI_REBATE_AMT	Credit

KNIN - Knock In of Currency Option

No entries are passed for this event.

If an option is not Knocked in during the Barrier Window, entries for rebate will be passed on KIST at Expiry.

KIST - Knock In Settlement

Table A-31 Accounting Role - Amount Tag

Accounting Role	Amount Tag	Dr./Cr.
CUSTOMER	PUR_REBATE_AMT	Debit
PUR_OPT_INCOME	PUR_REBATE_AMT	Credit
WRI_OPT_EXPENSE	WRI_REBATE_AMT	Debit
CUSTOMER	WRI_REBATE_AMT	Credit

SGEN - Settlement Message Generation

No entries are passed for this event.

Only Payment Message can be maintained for this event.

Delta Accounting

Given below is an event-wise list of accounting entries for Purchase/Written – Call/Put options. For an example on Written and Call physical Currency option refer to Example III in Annexure B.

Table A-32 Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
Written	Call	CON_WRI_CALL	WRI_CALL_AMT	Debit	Counter CCY and Amount
Written	Call	CON_WRI_CAL_OFF	WRI_ CALL_AMT_EQ	Credit	Contract CCY and Amount
Written	Put	CON_WRI_PUT	WRI_PUT_AMT	Debit	Contract CCY and Amount
Written	Put	CON_WRI_PUT_OFF	WRI_PUT_AMT_ EQ	Credit	Contract CCY and Amount
Purchase	Call	CON_PUR_CALL	PUR_CALL_AMT	Debit	Counter CCY and Amount
Purchase	Put	CON_PUR_CAL_ OFF	PUR_CALL_AMT _EQ	Credit	Contract CCY and Amount

Table A-32 (Cont.) Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
Purchase	Put	CON_PUR_PUT	PUR_PUT_AMT	Debit	Counter CCY and Amount
Purchase	Put	CON_PUR_PUT_OFF	PUR_PUT_AMT_EQ	Credit	Contract CCY and Amount

Reversal of contingent Entries will be triggered for the following events - KNOT/TERM/EXPR/EXER and the following entries will be passed:

Table A-33 Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
Written	Call	CON_WRI_CALL	WRI_CALL_AMT	Debit	Counter CCY and Amount
Written	Call	CON_WRI_CAL_OFF	WRI_CALL_AMT_EQ	Credit	Contract CCY and Amount
Written	Put	CON_WRI_PUT	WRI_PUT_AMT	Debit	Contract CCY and Amount
Written	Put	CON_WRI_PUT_OFF	WRI_PUT_AMT_EQ	Credit	Counter CCY and Amount
Purchase	Call	CON_PUR_CALL	PUR_CALL_AMT	Debit	Contract CCY and Amount
Purchase	Call	CON_PUR_CAL_OFF	PUR_CALL_AMT_EQ	Credit	Counter CCY and Amount
Purchase	Put	CON_PUR_PUT	PUR_PUT_AMT	Debit	Counter CCY and Amount
Purchase	Put	CON_PUR_PUT_OFF	PUR_PUT_AMT_EQ	Credit	Contract CCY and Amount

DLTA – Delta Accounting

New delta entries will be passed and previous day's entries will be reversed

On KNOT/TERM/EXER/TERM events, the delta entries will be reversed and only the accounting entries with tags PREV_DELTA_AMT AND PREV_ANTI_DELTA_AMT will be passed.

Table A-34 Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
Written	Call	CON_DELTA_AC	DELTA_AMT	Debit	Counter CCY and Amount
Written	NA	CON_DELTA_OFF	DELTA_AMT	Credit	Counter CCY and Amount

Table A-34 (Cont.) Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
NA	NA	CON_ANT_DEL_AC	ANTI_DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_OFF	ANTI_DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_DELTA_AC	PREV_DELTA_AMT	Credit	Counter CCY and Amount
NA	NA	CON_DELTA_OFF	PREV_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_AC	PREV_ANTI_DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_OFF	PREV_ANTI_DELTA_AMT	Credit	Contract CCY and Amount
Written	Put	CON_DELTA_AC	DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_DELTA_OFF	DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_AC	ANTI_DELTA_AMT	Credit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_OFF	ANTI_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_DELTA_AC	PREV_DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_DELTA_OFF	PREV_DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_AC	PREV_ANTI_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_OFF	PREV_ANTI_DELTA_AMT	Credit	Counter CCY and Amount
Purchase	Call	CON_DELTA_AC	DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_DELTA_OFF	DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_AC	ANTI_DELTA_AMT	Credit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_OFF	ANTI_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_DELTA_AC	PREV_DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_DELTA_OFF	PREV_DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_AC	PREV_ANTI_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_OFF	PREV_ANTI_DELTA_AMT	Credit	Counter CCY and Amount

Table A-34 (Cont.) Accounting Role - Amount Tag

Written/Purchase	Call/Put	Accounting Role	Amount Tag	Dr./Cr.	CCY
Purchase	Put	CON_DELTA_AC	DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_DELTA_OFF	DELTA_AMT	Credit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_AC	ANTI_DELTA_AMT	Credit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_OFF	ANTI_DELTA_AMT	Debit	Contract CCY and Amount
NA	NA	CON_DELTA_AC	PREV_DELTA_AMT	Credit	Counter CCY and Amount
NA	NA	CON_DELTA_OFF	PREV_DELTA_AMT	Debit	Counter CCY and Amount
NA	NA	CON_ANT_DEL_AC	PREV_ANTI_DELTA_AM	Debit	Contract CCY and Amount
NA	NA	CON_ANT_DEL_OFF	PREV_ANTI_DELTA_AMT	Credit	Contract CCY and Amount

For all the delta entries mentioned above the amount will be Contract CCY Amt/Counter CCY Amount *delta factor depending on the WRI/PUR and CALL/PUT combination.

PRAT Event - Premium Amortization

The following list contains details of accounting entries and amount tags passed for PRAT events triggered at the time of contract booking and time of contract termination.

Table A-35 Accounting Role and Amount Tag Entries for Contract Booking

Sell/Buy	Dr./Cr.	Accounting Role	Amount Tag	Amount.	CCY
Buy	Dr	PUR_CDS_EXPENSE	PUR_CDS_PREM_ACCR	Amortized premium expense	Premium CCY
NA	Cr	MKT_VAL_PUR_CDS	PUR_CDS_PREM_ACCR	NA	NA
Sell	Dr	MKT_VAL_WRI_CDS	WRI_CDS_PREM_ACCR	Amortized premium expense	Premium CCY
NA	CR	WRI_CDS_INCOME	WRI_CDS_PREM_ACCR	NA	NA

PRAC Event - Premium Amortization

The following list contains details of accounting entries passed for PRAT events triggered at the time of booking a deal and time of contract termination.

Table A-36 Accounting Role and Amount Tag Entries for Contract Booking

Sell/Buy	Dr./Cr.	Accounting Role	Amount Tag	Amount.	CCY
Buy	Dr	PUR_CDS_EXPENSE	PUR_CDS_PREM_PACR	Premium expense Accrued	Premium CCY
	Cr	MKT_VAL_PUR_CDS	PUR_CDS_PREM_PACR		
Sell	Dr	MKT_VAL_WRI_CDS	WRI_CDS_PREM_PACR	Premium income Accrued	Premium CCY
	CR	WRI_CDS_INCOME	WRI_CDS_PREM_PACR		

A.6 Event-wise Amount Tags

This topic describes the event-wise amount tags.

Given below is a list of event-wise Amount Tags which can be used for the OT module.

Entries in blue (Italics) are meant only for hedge deals. Entries in pink can be used for Hedge as well as Trade deals. Also note, for hedge deals, entries are relevant for only purchase options. Collars are not allowed for hedge deals.

Table A-37 Event - Amount Tag

Event	Amount Tag	Value	Remarks
BOOK	PUR_OPTION_PREM WRI_OPTION_PREM	User Input Option Premium at Inception	Trade Deals
BOOK	PUR_INCEP_GAIN PUR_INCEP_GAIN_DEF WRI_INCEP_LOSS	Inception Fair Value - Option Premium	Trade Deals
BOOK	PUR_INCEP_LOSS WRI_INCEP_GAIN WRI_INCEP_GAIN_DEF	Option Premium – Inception Fair Value	Trade Deals
BOOK	PUR_INCEP_IV	Intrinsic Value at Inception (System Calculated)	Hedge Deals
BOOK	PUR_INCEP_TV PUR_INCEP_TV_DEF	Time Value at Inception (System Calculated)	Hedge Deals
PRPT	PUR_OPTION_PREM WRI_OPTION_PREM	User Input Option Premium at Inception	Hedge and Trade Deals
AMND	-	-	Only ICCF
AMRT	PUR_NET_INCEP_GAIN WRI_NET_INCEP_GAIN	Inception Gain to Amortize till date – Gain already amortized	Trade Deals
REVL	PUR_REVL_GAIN WRI_REVL_LOSS	Contract Fair Value – Option Premium	Trade Deals
REVL	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium - Contract Fair Value	Trade Deals

Table A-37 (Cont.) Event - Amount Tag

Event	Amount Tag	Value	Remarks
REVL	PUR_LAST_REVAL_GAIN WRI_LAST_REVAL_GAIN	Last Revaluation Gain	Trade Deals
REVL	PUR_LAST_REVAL_LOSS WRI_LAST_REVAL_LOSS	Last Revaluation Loss	Trade Deals
REVL	NET_AMORT_TV	TV to Amort till date – TV already amortized	Hedge Deals
CANC	-	-	Reversal of entries and processing Charges. Trade and hedge deals
RTFX	-	-	
TERM	PUR_TERM_FV WRI_TERM_FV	Fair Value of the contract as input at the time of termination	Hedge and Trade deals
TERM	PUR_TERM_GAIN WRI_TERM_LOSS	Termination Value –FV at the time of termination	Trade Deals
TERM	PUR_TERM_LOSS WRI_TERM_GAIN	FV at the time of termination –Termination value	Trade Deals
TERM	HED_TERM_GAIN HED_TERM_GAIN_DEF	Termination Value – Inception IV	Hedge Deals
TERM	HED_TERM_LOSS	Inception IV –Termination value	Hedge Deals
TERM	PUR_INCEP_IV	Intrinsic Value at Inception	Hedge Deals
REVAL ON TERM	PUR_REVL_GAIN WRI_REVL_LOSS	Contract Fair Value at termination (User I/P) – Option Premium	Trade Deals
REVAL ON TERM	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium - Contract Fair Value at termination (User I/P)	Trade Deals
REVAL ON TERM	PUR_LAST_REVAL_GAIN WRI_LAST_REVAL_GAIN	Last Revaluation Gain	Trade Deals
REVAL ON TERM	PUR_LAST_REVAL_LOSS WRI_LAST_REVAL_LOSS	Last Revaluation Loss	Trade Deals
REVAL ON TERM	NET_AMORT_TV	Inception TV – TV amortized till date (Remaining Time Value)	Hedge Deals
AFTER REVAL ON TERM	PUR_REVL_GAIN WRI_REVL_GAIN (Recognition of total revaluation Income)	Current Revaluation Gain After triggering revaluation process at termination	Trade Deals
AFTER REVAL ON TERM	PUR_REVL_LOSS WRI_REVL_LOSS (Recognition of total revaluation Expense)	Current Revaluation Loss After triggering revaluation process at termination	Trade Deals

Table A-37 (Cont.) Event - Amount Tag

Event	Amount Tag	Value	Remarks
AFTER REVAL ON TERM	PUR_INCEP_TV	Time Value at Inception	Hedge Deals
AMORT ON TERM	PUR_NET_INCEP_GAIN WRI_NET_INCEP_GAIN	Total Amt to Amort (Inception gain)– Amt amortized till date. This is the remaining inception gain	Trade Deals
AFTER AMORT ON TERM	PUR_INCEP_GAIN WRI_INCEP_LOSS (Recognition of Inception Gain/Loss)	Inception Fair Value-Inception Fair Value	Trade Deals
AFTER AMORT ON TERM	PUR_INCEP_LOSS WRI_INCEP_GAIN (Recognition of Loss/Gain)	Option Premium - Inception Fair Value	Trade Deals
AMDG	NET_GAIN_DEF (Amortization of Deferred termination Gains)	Amt to Amort –Amt Amortized till Date	Hedge deals
EXER	PUR_INTR_SETL_AMT	Calculated SettlementAmt	Intermediate Exercise except Collars. Trade and Hedge deals.
EXER	WRI_INTR_SETL_AMT	Calculated Settlement Amt	Intermediate Exercise except Collars. Trade and Hedge deals
EXER	PUR_SETL_AMT	Calculated Settlement Amt	Final Exercise except Collars. Trade deals.
EXER	WRI_SETL_AMT	Calculated Settlement Amt	Final Exercise except Collars. Trade deals
EXER	PUR_INTR_FLR_AMT WRI_INTR_FLR_AMT	Calculated Settlement Amt for Collars if Floor is in-the-money	Intermediate Exercise for Collars. Trade deals
EXER	PUR_INTR_CAP_AMT WRI_INTR_CAP_AMT	Calculated Settlement Amt for Collars if Cap is in-the-money	Intermediate Exercise for Collars. Trade deals.
EXER	PUR_FLOOR_AMT WRI_FLOOR_AMT	Calculated Settlement Amt for Collars if Floor is in-the-money for final exercise	Final Exercise for Collars. Trade deals.
EXER	PUR_CAP_AMT WRI_CAP_AMT	Calculated Settlement Amt for Collars if Cap is in-the-money for final exercise	Final Exercise for Collars. Trade deals.
EXER	PUR_SWAP_AMT	PUR_SWAP_AMT Swap Value (User I/P). This is the settlement Amount for cash settled swaptions	On initiation of underlying swap or cash settlement. Swaptions.
EXER	PUR_INCEP_IV	Intrinsic Value at Inception	Hedge Deals Only except collars

Table A-37 (Cont.) Event - Amount Tag

Event	Amount Tag	Value	Remarks
EXER	HED_EXER_GAIN	Payoff (System Calculated) – Inception IV	Hedge Deals Only except collars
EXER	HED_EXER_LOSS	Inception IV - Payoff (System Calculated)	Hedge Deals Only except collars
EXER	PUR_INCEP_IV_SWAP	Inception IV	Hedge Deals (Swaptions) Only
REVALONEXER	PUR_REVL_GAIN WRI_REVL_LOSS	Settlement Amt (Calculated)– Option Premium	Final Exercise except Collars with Floor in the money. Trade deals Only
REVALONEXER	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium - Settlement Amt (Calculated)	Final Exercise except Collars with Floor in the money. Trade deals Only
REVALONEXER	PUR_REVL_GAIN WRI_REVL_LOSS	0	Final Exercise for Collars with Floor in the money. Trade deals only.
REVALONEXER	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium-0	Final Exercise for Collars with Floor in the money. Trade deals only.
REVALONEXER	PUR_LAST_REVAL_GAIN WRI_LAST_REVAL_GAIN	Last Revaluation Gain	Final Exercise. Trade deals only.
REVALONEXER	PUR_LAST_REVAL_LOSS WRI_LAST_REVAL_LOSS	Last Revaluation Loss.	Final Exercise. Trade dealsonly.
REVALONEXER	NET_AMORT_TV (Hedge Deals)	Inception TV – TV amortized till date	Remaining Time Value.
AFTER REVAL ON EXER	PUR_REVL_GAIN WRI_REVL_GAIN	Current Revaluation Gain After triggering revaluation process at Exercise	Final Exercise. Trade deals only.
AFTER REVAL ON EXER	PUR_REVL_LOSS WRI_REVL_LOSS (Recognition of total revaluation Expense)	Current Revaluation Loss After triggering revaluation process at Exercise	Final Exercise Only. Trade deals only
AFTER REVAL ON EXER	PUR_INCEP_TV	Time Value at Inception	Hedge Deals. Only except collars.
AFTER AMORT ON EXER	PUR_INCEP_GAIN WRI_INCEP_LOSS (Recognition of Inception Gain/Loss)	Option Premium – Inception Fair Value	Trade deals Only
AFTER REVAL ON EXER	PUR_INCEP_LOSS WRI_INCEP_GAIN (Recognition of Loss/Gain)	Inception Fair Value - Option Premium	Trade deals Only
EXST	PUR_SETL_AMT	Settlement amount Calculated at EXER event for purchased options	Both Hedge and Trade deals

Table A-37 (Cont.) Event - Amount Tag

Event	Amount Tag	Value	Remarks
EXST	WRI_SETL_AMT	Settlement amount Calculated at EXER event for Written Options	Trade deals only
EXST	PUR_FLOOR_AMT	Settlement amount Calculated at EXER event for Collars if Floor is in the money	Trade deals only
EXST	PUR_CAP_AMT	Settlement amount Calculated at EXER event for Collars if Cap is in the money	Trade deals only
KNIN	-	-	Will be followed by KIST if Rebate is to be paid on Maturity. Both for trade and Hedge.
KIST	PUR_REBATE_AMT WRI_REBATE_AMT	Rebate amount (User I/ P at Inception)	Both for trade and Hedge. This event will be triggered along with EXPR (Expiry)
KNOT	PUR_REBATE_AMT WRI_REBATE_AMT	Rebate amount (User I/ P at Inception)	Will be followed by KNST if Rebate is to be paid on Hit or Maturity. Both for trade and Hedge
KNOT	PUR_INCEP_IV	Inception Intrinsic Value	Hedge deals only
REVALONKNOT	PUR_REVL_GAIN WRI_REVL_LOSS	0	Since the option gets Knocked Out
REVALONKNOT	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium – 0	Option premium is the revaluation gain for written options
REVALONKNOT	PUR_LAST_REVAL_GAIN WRI_LAST_REVAL_GAIN	Last Revaluation gain	NA
REVALONKNOT	PUR_LAST_REVAL_LOSS WRI_LAST_REVAL_LOSS	Last revaluation Loss	NA
REVALONKNOT	NET_AMORT_TV (Hedge Deals)	Inception TV – TV amortized till date	Remaining Time Value.
AFTERREVALON KNOT	PUR_REVL_GAIN WRI_REVL_GAIN (Recognition of reval Income)	Current Revaluation Gain After triggering revaluation process at Knock Out	This will be 0 on Knock Out
AFTERREVALON KNOT	PUR_REVL_LOSS WRI_REVL_LOSS (Recognition of reval Expense)	Current Revaluation Loss After triggering revaluation process at Knock Out	This will be option premium on knock Out
AMRT ON KNOT	PUR_NET_INCEP_GAIN WRI_NET_INCEP_GAIN	Inception gain – Amt amortized till date	Remaining Inception Gain

Table A-37 (Cont.) Event - Amount Tag

Event	Amount Tag	Value	Remarks
AFTER AMRT ONKNOT	PUR_INCEP_GAIN WRI_INCEP_LOSS (Recognition of Inception Gain/Loss)	Option Premium – Inceptinon Fair Value	NA
AFTER AMRT ONKNOT	PUR_INCEP_LOSS WRI_INCEP_GAIN (Recognition of Loss/Gain)	Inception Fair Value - Option Premium	NA
EXPR	PUR_INCEP_IV	Inception Intrinsic Value	Hedge deals only
REVAL ON EXPR	PUR_REVL_GAIN WRI_REVL_LOSS	0	Since the option expires worthless
REVAL ON EXPR	WRI_REVL_GAIN PUR_REVL_LOSS	Option Premium – 0	Option premium is the revaluation gain for written options
REVAL ON EXPR	PUR_LAST_REVAL_GAIN WRI_LAST_REVAL_GAIN	Last Revaluation gain	NA
REVAL ON EXPR	PUR_LAST_REVAL_LOSS WRI_LAST_REVAL_LOSS	Last revaluation Loss	NA
REVAL ON EXPR	NET_AMORT_TV (Hedge Deals)	Inception TV – TV amortized till date	Remaining Time Value.
AFTER REVAL ON EXPR	PUR_REVL_GAIN WRI_REVL_GAIN (Recognition of reval Income)	Current Revaluation Gain After triggering revaluation process at Expiry	This will be 0 on expiry
AFTER REVAL ON EXPR	PUR_REVL_LOSS WRI_REVL_LOSS (Recognition of reval Expense)	Current Revaluation Loss After triggering revaluation process at Expiry	This will be option premium on expiry
AMRT ONEXPR	PUR_NET_INCEP_GAIN WRI_NET_INCEP_GAIN	Inception gain – Amt amortized till date	Remaining Inception Gain
AFTER AMRT ON EXPR	PUR_INCEP_GAIN WRI_INCEP_LOSS (Recognition of Inception Gain/Loss)	Option Premium – Inception Fair Value	NA
AFTER AMRT ON EXPR	PUR_INCEP_LOSS WRI_INCEP_GAIN (Recognition of Loss/Gain)	Inception Fair Value - Option Premium	NA
AMDG ON Expiry	NET_GAIN_DEF (Amortization of Deferred termination Gains)	Total Amt to Amort – Amt Amortized till Date	Remaining termination gains Hedge deals Only. This is separate from EXPR. Either EXPR or AMDG will trigger on maturity.

A.7 Future Dated Termination Settlement

This topic describes the Future Dated Termination Settlement

The system supports settlement for termination on a future value date.

Table A-38 Accounting Role - Amount Tag

Event	Accounting Role	Amount Tag	Dr./Cr
TERM	PUR_TERM_REC	PUR_TERM_GAIN	Debit
TERM	PUR_OPT_INCOME	PUR_TERM_GAIN	Credit
TRST	PUR_TERM_REC	PUR_TERM_GAIN	Credit
TRST	CUSTOMER	PUR_TERM_GAIN	Debit
Event	Accounting Role	Amount Tag	Dr./Cr
TERM	PUR_TERM_REC	HED_TERM_GAIN	Debit
TERM	PUR_OPT_INCOME	HED_TERM_GAIN	Credit
Event	Accounting Role	Amount Tag	Dr./Cr.
TRST	PUR_TERM_REC	HED_TERM_GAIN	Credit
TRST	CUSTOMER	HED_TERM_GAIN	Debit
Event	Accounting Role	Amount Tag	Dr./Cr
TERM	PUR_TERM_REC	PUR_TERM_FV	Debit
TERM	MKT_VAL_PUR_OPT	PUR_TERM_FV	Credit
Event	Accounting Role	Amount Tag	Dr./Cr.
TRST	PUR_TERM_REC	PUR_TERM_FV	Credit
TRST	CUSTOMER	PUR_TERM_FV	Debit

Table A-39 Accounting Role - Amount Tag

Event	Accounting Role	Amount Tag	Dr./Cr.
TERM	PUR_TERM_PAY	PUR_TERM_LOSS	Credit
TERM	PUR_OPT_EXPENSE	PUR_TERM_LOSS	Debit
TRST	PUR_TERM_PAY	PUR_TERM_LOSS	Debit
TRST	CUSTOMER	PUR_TERM_LOSS	Credit
Event	Accounting Role	Amount Tag	Dr./Cr.
TERM	PUR_TERM_PAY	HED_TERM_LOSS	Credit
TERM	PUR_OPT_EXPENSE	HED_TERM_LOSS	Debit
Event	Accounting Role	Amount Tag	Dr./Cr.
TRST	PUR_TERM_PAY	HED_TERM_LOSS	Debit
TRST	CUSTOMER	HED_TERM_LOSS	Credit

Table A-40 Accounting Role - Amount Tag

Event	Accounting Role	Amount Tag	Dr./Cr.
TERM	WRI_TERM_REC	WRI_TERM_GAIN	Debit
TERM	WRI_OPT_INCOME	WRI_TERM_GAIN	Credit
TRST	WRI_TERM_REC	WRI_TERM_GAIN	Credit
TRST	CUSTOMER	WRI_TERM_GAIN	Debit

Table A-41 Accounting Role - Amount Tag

Event	Accounting Role	Amount Tag	Dr./Cr.
TERM	WRI_TERM_PAY	WRI_TERM_LOSS	Credit
TERM	WRI_OPT_EXPENSE	WRI_TERM_LOSS	Debit
TRST	WRI_TERM_REC	WRI_TERM_LOSS	Debit
TRST	CUSTOMER	WRI_TERM_LOSS	Credit

A.8 Advices Generated

This topic describes the advices generated in OT deal.

Table A-42 List of Messages

Event	Unformatted Message	Swift (IRO)	Swift	Remarks
BOOK Initiation of Contract	Contract Confirmation	MT360	MT306	MT 305 for Plain Vanilla COS
AMND Amendment	Modification Confirmation	MT360	MT306	MT 305 for Plain Vanilla COS
TERM Termination	Termination Confirmation	MT364	MT 306	MT 305 for Plain Vanilla COS
RTFX Rate Fixing	Rate Fixing Advice	MT362	Not Applicable	
EXER			Not applicable	MT 362 sent on rate reset suffices for IROs
REVR	Cancellation Confirmation	MT362	MT306	MT 305 for Plain Vanilla COs
KNIN	Knock In Confirmation	N/A	MT306	MT 305 for Plain Vanilla COs
KNOT	Knock Out Confirmation	N/A	MT306	MT 305 for Plain Vanilla COs
SGEN		MT202/MT210	MT202/MT210	Payment Messages

A.9 Multiple Media Support

This topic describes the multiple media support feature.

The following table describes the Message type and Media details for multiple media support.

Table A-43 Message Types and Media Details for Multi Media Support

Message Type	Media
OT_CO_AMND	SWIFT, Fax, Mail, Telex, and Email
OT_CO_CANC	SWIFT, Fax, Mail, Telex, and Email
OT_CO_CONF	SWIFT, Fax, Mail, Telex, and Email
OT_CO_DEAL_TKT	Fax, Mail, Telex, and Email
OT_CO_TERM	SWIFT, Fax, Mail, Telex, and Email
OT_CO_TRIG	SWIFT, Fax, Mail, Telex, and Email
OT_IRO_AMND	SWIFT, Fax, Mail, Telex, and Email
OT_IRO_CANC	SWIFT, Fax, Mail, Telex, and Email
OT_IRO_CONF	SWIFT, Fax, Mail, Telex, and Email
OT_IRO_DEAL_TKT	Fax, Mail, Telex, and Email
OT_IRO_TERM	SWIFT, Fax, Mail, Telex, and Email
OT_RATE_RESET	SWIFT, Fax, Mail, Telex, and Email

Note:

The above message type and Media mapping details are released as static data to Treasury Message Media format Maintenance (MSDTRMFM) screen. Similar data must be released for custom message type also.

B

Examples of Processing Interest Rate and Currency Options

Local currency entries that are shown and passed according to the local currency of the branch and the exchange rate between the settlement currency and the local currency.

This chapter contains the following sections:

- Examples
  This topic describes examples such interest rate options, currency options, Contingent Entries and Delta Accounting, and Swaption with European Expiration.Example I - Interest Rate Options
- Examples of Different Types of Exotic Currency Options
  This topic describes the various examples for different types of exotic currency options.
- Explanation of Terms Associated with IRO Markets/Transactions
  This topic describes the terms associated with IRO Markets or Transactions.

B.1 Examples

This topic describes examples such interest rate options, currency options, Contingent Entries and Delta Accounting, and Swaption with European Expiration.Example I - Interest Rate Options

This topic gives the list of examples of processing interest rate and currency options.

This topic contains the following Examples:

- Example I - Interest Rate Options
- Example II - Currency Options
- Example III – Contingent Entries and Delta Accounting
- Example IV – Swaption with European Expiration

B.1.1 Example I - Interest Rate Options

To protect your bank from an increase in interest rates, you have decided to buy an interest rate cap with the following terms on a trade deal:

Table B-1 Example I

Contract Type	Value
Booking Date	1-Feb-2000
Value Date	31-Mar-2000
Maturity Date	31-Mar-2003
Interest Payment (Arrears) Dates	Sept 30 & Mar 31

Table B-1 (Cont.) Example I

Contract Type	Value
Reference Interest rate	6-Month LIBOR
Rate Fixing Lag	5 Days
Reset Basis	Period end Date
Reset Date Movement	Backward
Strike Rate	9%
Contract Amount	USD 50000
Contract Currency	USD
Option Premium	2% of Principal
Premium Currency	USD
Premium Pay Date	15-FEB-2000
Fair Value at Inception	1200 USD
Numerator Method	30-EURO
Denominator method	360
Denominator basis	Per Annum
Amortization Frequency	Quarterly
Amortization Month	May
Amortization Day	31
Revaluation Frequency	Quarterly
Revaluation Month	May
Revaluation Day	31

The accounting entries that are passed in the system are as follows:

Contract Booking (BOOK)

Table B-2 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	MKT_VAL_PUR _OP T	PUR_OPTION_ PREM	.02*50000 =1000	USD	01- Feb-00
Cr	OPT_PREM_PA Y	PUR_OPTION_ PREM	1000	USD	01-Feb-00
Dr	MKT_VAL_PUR _OP T	PUR_INCEP_G AIN	1200-1000 = 200	USD	01-Feb-00
Cr	PUR_IN_GAIN_ DEF	PUR_INCEP_G AIN	200	USD	01-Feb-00

Premium Payment (PRPT)

Actual premium payment happens on 15-Feb-2000

Table B-3 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	OPT_PREM_PAY	PUR_OPTION_PREM	1000	USD	15-Feb-00
Cr	CUSTOMER	PUR_OPTION_PREM	1000	USD	15-Feb-00

Amortization of inception Gain/Loss (AMRT)

First Amortization and revaluation are performed on 31-May-2000

Inception Gain = 1200 – 1000 (Contract FV – Option Premium) = 200 USD

This amount is to be amortized from 31-Mar-2000 to 31-Mar-2003 (36 Months * 30) days.

Amortization is performed based on the actual number of days in a year. However, for this example you assume 360 days in a year and 30 days in a month.

Amortized inception gain till 31-May-2000 = 200 * (2*30) / (36*30) = 11.11 USD

Table B-4 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	11.11	USD	31-May-00
Cr	PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	11.11	USD	31-May-00

Next Amortization is on 31-Aug-2000

Amt to Amortize till date =200 * (5*30) / (36*30) =27.78 USD

Amt already Amortized = 11.11 USD

Current Amt to Amortize = 27.78 – 11.11 =16.77 USD

Table B-5 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	16.77	USD	31-Aug-00
Cr	PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	16.77	USD	31-Aug-00

Revaluation of Option (REVL)

Assume that the Contract Fair Value as on 31-MAY-20000 is 1100 USD.

Revaluation Gain on Inception was 1200 (Contract FV on Inception) – 1000 (Option premium) = 200 USD.

Table B-6 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	200	USD	31-May-00
Cr	MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	200	USD	31-May-00
Dr	MKT_VAL_PUR_OPT	PUR_ REVL_GAIN	1100 – 1000= 100	USD	31-May-00
Cr	RV_GAIN_PUR_OPT	PUR_REVL_GAIN	100	USD	31-May-00

Next Revaluation happens on 31-Aug-2000. Suppose the Fair Value of the contract on 31-Aug-2000 is 700 USD.

Last Revaluation Gain = 100 USD

Current Revaluation Loss = 1000 (Option Premium) – 700 (FV on 31-Aug-2000) = 300 USD

Table B-7 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	100	USD	31-Aug-00
Cr	MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	100	USD	31-Aug-00
Dr	RV_LOSS_PUR_OPT	PUR_REVL_LOSS	300	USD	31-Aug-00
Cr	MKT_VAL_PUR_OPT	PUR_REVL_LOSS	300	USD	31-Aug-00

Rate Fixing (RTFX) and Exercise of Option (EXER)

According to the Rate fixing Lag, Reset Basis and Reset Date Movement, Rate fixing event (RTFX) take places on 25-Sep-2000 and settlement amount are determined.

If 6M LIBOR is 11% on 25-Sep-2000 then

Settlement amount = 50000 * (11-9)% * 180 / (360*100) = 500 USD

Actual settlement for this amount happens on 30-Sep-2000.

Accounting entries passed on event EXER

Table B-8 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_OPT_SET_REC	PUR_INTR_SETL_AMT	500	USD	25-Sep-00

Table B-8 (Cont.) Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Cr	PUR_OPT_INCOME	PUR_INTR_SETL_AMT	500	USD	25-Sep-00

Exercise Settlement (EXST)

Exercise settlement happens on the 30-Sep-2000 for the above exercise:

Table B-9 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_SETL_AMT	500	USD	30-Sep-00
Cr	PUR_OPT_SET_REC	PUR_SETL_AMT	500	USD	30-Sep-00

The event RTFX is triggered on every rate fixing date. Event EXER and EXST is triggered depending on whether the option is in the money or not on the rate fixing date.

Final Settlement

Now suppose the option is in-the money on the last rate fixing date (Final settlement). The following events and accounting entries are processed.

Rate Fixing event (RTFX) is on 26-Mar-2003.

If 6M LIBOR is 12% on 26-Mar-2000 then

Settlement amount = 50000* (12-9)% * 180 / (360*100) = 750 USD

Revaluation on final Settlement is triggered @ Current FV (Settlement amount).

Last Revaluation Gain= 50 USD (Assumed)

Current Revaluation Loss= 1000 (Option premium) – 750 (Settlement amount) = 250 USD

Table B-10 Revaluation of Option (REVL) - Final Settlement

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	50	USD	26-Mar-03
Cr	MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	50	USD	26-Mar-03
Dr	RV_LOSS_PUR_OPT	PUR_REVL_LOSS	250	USD	26-Mar-03
Cr	MKT_VAL_PUR_OPT	PUR_REVL_LOSS	250	USD	26-Mar-03

Amortization of inception Gain/Loss (AMRT) - Final Settlement

Residual amortization of Inception Gain is done on final settlement

Total Amt to Amort = 200 USD

Amt already Amortized = 175 USD (Assumed)

Current Amt to Amort = 200 – 175 = 25 USD

Table B-11 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	25	USD	26-Mar-03
Cr	PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	25	USD	26-Mar-03

Table B-12 Exercise of Option (EXER) - Final settlement

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_OPT_SET_REC	PUR_SETL_AMT	750	USD	26-Mar-03
Cr	MKT_VAL_PUR_OPT	PUR_SETL_AMT	750	USD	26-Mar-03

Moving Revaluation Gain/Loss to Income/Expense on Final Settlement

Table B-13 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_OPT_EXPENSE	PUR_REVL_LOSS	250	USD	26-Mar-03
Cr	RV_LOSS_PUR_OPT	PUR_REVL_LOSS	250	USD	26-Mar-03

Moving Inception Gain to Income on Final Settlement

Table B-14 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	200	USD	26-Mar-03
Cr	PUR_OPT_INCOME	PUR_INCEP_GAIN	200	USD	26-Mar-03

Exercise Settlement (EXST) - Final settlement

Exercise settlement happens on the 31-Mar-2003 for the above exercise:

Table B-15 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_SETL_AMT	750	USD	31-Mar-03
Cr	PUR_OPT_SET_REC	PUR_SETL_AMT	750	USD	31-Mar-03

Termination (TERM)

Now suppose the above contract is terminated on 10-Oct-2000 after the first exercise.

Suppose the contract is sold back to the writer of the option for 800 USD whereas the Contract Fair Value on 10-Oct-2000 was 1100 USD

Contract FV on termination = 1100 USD

Termination Loss = 1100 – 800 = 300 USD

Table B-16 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_TERM_FV	1100	USD	10-Oct-00
Cr	MKT_VAL_PUR_OPT	PUR_TERM_FV	1100	USD	10-Oct-00
Dr	PUR_OPT_EXPENSE	PUR_TERM_LOSS	300	USD	10-Oct-00
Cr	CUSTOMER	PUR_TERM_LOSS	300	USD	10-Oct-00

REVL at termination

Revaluation is triggered @ Contract Fair Value at termination

Last Revaluation Loss = 300 USD (As on 31-Aug-2000)

Current Revaluation Gain =1100 (FV at termination) – 1000 (Option premium) =100 USD

Table B-17 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	MKT_VAL_PUR_OPT	PUR_LAST_REVL_LOSS	300	USD	10-Oct-00
Cr	RV_LOSS_PUR_OPT	PUR_LAST_REVL_LOSS	300	USD	10-Oct-00

Table B-17 (Cont.) Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	MKT_VAL_PUR_OPT	PUR_REVL_GAIN	100	USD	10-Oct-00
Cr	RV_GAIN_PUR_OPT	PUR_REVL_GAIN	100	USD	10-Oct-00

AMRT at termination

Inception gain to Amortize = 200 USD

Amt amortized till date = 27.78 USD (As on 31-Aug-2000)

Amt to amortize on termination = 200 – 27.78 =172.22 USD

Table B-18 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	172.22	USD	10-Oct-00
Cr	PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	172.22	USD	10-Oct-00

Moving Revaluation Gain/Loss to Income/Expense on Final Settlement

Table B-19 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	RV_GAIN_PUR_OPT	PUR_REVL_GAIN	100	USD	10-Oct-00
Cr	PUR_OPT_INCOME	PUR_REVL_GAIN	100	USD	10-Oct-00

Moving Inception Gain to Income on Final Settlement

Table B-20 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	200	USD	10-Oct-00
Cr	PUR_OPT_INCOME	PUR_INCEP_GAIN	200	USD	10-Oct-00

Expiry (EXPR)

Now suppose the option is out-of-the-money on the last rate fixing date (Final settlement). The following events and accounting entries are processed.

Rate Fixing event (RTFX) happens on 26-Mar-2003

Expiry (EXPR) event is triggered on 31-Mar-2003

Event REVL (On Expiry)

Revaluation on Expiry is triggered @ 0

Last Revaluation Gain = 50 USD (Assumed)

Current Revaluation Loss = 1000 (Option premium) – 0 = 1000 USD

Table B-21 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	RV_GAIN_PUR_OPT	PUR_LAST_REVL_GAIN	50	USD	26-Mar-03
Cr	MKT_VAL_PUR_OPT	PUR_LAST_REVL_GAIN	50	USD	26-Mar-03
Dr	RV_LOSS_PUR_OPT	PUR_REVL_LOSS	1000	USD	26-Mar-03
Cr	MKT_VAL_PUR_OPT	PUR_REVL_LOSS	1000	USD	26-Mar-03

Event AMRT (On Expiry)

Residual amortization of Inception Gain is done Expiry

Total Amt to Amort = 200 USD

Amt already Amortized = 175 USD (Assumed)

Current Amt to Amort = 200 – 175 = 25 USD

Table B-22 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_DEF	PUR_NET_INCEP_GAIN	25	USD	26-Mar-03
Cr	PUR_IN_GAIN_OPT	PUR_NET_INCEP_GAIN	25	USD	26-Mar-03

Moving Revaluation Gain/Loss to Income/Expense on Final Settlement.

Table B-23 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_OPT_EXPENSE	PUR_REVL_LOSS	1000	USD	26-Mar-03
Cr	RV_LOSS_PUR_OPT	PUR_REVL_LOSS	1000	USD	26-Mar-03

Moving Inception Gain to Income on Final Settlement.

Table B-24 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IN_GAIN_OPT	PUR_INCEP_GAIN	200	USD	26-Mar-03
Cr	PUR_OPT_INCOME	PUR_INCEP_GAIN	200	USD	26-Mar-03

B.1.2 Example II - Currency Options

On 1st June 2002, your bank buys a call option on 1000USD (in terms of INR) with a strike price of INR 50, and December 31st 2002 as the maturity date. The parameters of the deal are as follows:

Table B-25 Example II

Contract Type	Hedge
Contract Amount	1000
Contract Currency	USD
Counter Currency	INR
Option premium	2500 INR
Booking Date	01
Jun	2002
Value Date	01
Jun	2002
Premium Pay Date	01
Jun	2002
Strike price	50 INR/USD
Current Spot Rate	52 INR/USD
Option Style	Plain Vanilla
Expiration Style	American
Earliest Exercise Date	15
Oct	2002

Table B-25 (Cont.) Example II

Contract Type	Hedge
Barrier Type	Double Knock Out
Barrier	53 INR/USD
Lower Barrier	48 INR/USD
Rebate	100 AUD
Payment At	Maturity
Barrier Window Start Date	01
Sep	2002
Barrier Window End Date	01
Nov	2002
Revaluation Frequency	Half Yearly
Revaluation Start Month	August
Revaluation Start Day	1

It is assumed the local currency in this case is neither USD nor INR or AUD

Intrinsic Value at Inception – Intrinsic value at inception is the pay off that can occur to the buyer if he were to exercise the option today.

Intrinsic Value = Contract Amount * (Spot rate – Strike Rate) in Counter CCY

In this case, the payoff is = 1000 * (52 –50) = 2000 INR

Time Value of the deal = Option premium paid – Intrinsic Value It is assumed the local currency in this case is neither USD nor INR or AUD Intrinsic Value at Inception – Intrinsic value at inception is the pay off that can occur to the buyer if he were to exercise the option today. Intrinsic Value = Contract Amount * (Spot rate – Strike Rate) in Counter CCY In this case the payoff is = 1000 * (52 –50) = 2000 INR Time Value of the deal = Option premium paid – Intrinsic Value = 2500 – 2000 = 500 INR

If the spot rate on the booking day was say 49 INR/USD (Lower than the strike rate), then the intrinsic value of the deal is 0 and the time value is the option premium paid.

BOOK

Table B-26 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_IV_DEF	PUR_INCEP_IV	2000	INR	01-Jun-02
Cr	OPT_PREM_PAY	PUR_INCEP_IV	2000	INR	01-Jun-02
Dr	PUR_TV_DEF	PUR_INCEP_TV	500	INR	01-Jun-02
Cr	OPT_PREM_PAY	PUR_INCEP_TV	500	INR	01-Jun-02

PRPT

Since option premium is paid on the booking date itself, this event triggers along with the BOOK event.

Table B-27 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	OPT_PREM_PAY	PUR_OPTION_PREM	2500	INR	01-Jun-02
Cr	CUSTOMER	PUR_OPTION_PREM	1000	INR	01-Jun-02

REVL

Amortization of Time Value occurs on 01-Aug-2002 as per the revaluation frequency.

Amt to Amort Till date = 500 * 60 / (7 * 30) = 142.86 INR

Table B-28 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	EXP_ON_HEDGE	NET_AMORT_TV	142.86	INR	01-Jun-02
Cr	PUR_TV_DEF	NET_AMORT_TV	142.86	INR	01-Jun-02

Option Getting Knocked Out

An option is get knocked out if the spot rate touches or crosses a predefined barrier between the barrier window start date and end date.

Event KNOT (Knock Out)

Now suppose, on 10-Sep-2002, the spot rate touches or crosses 53 INR/USD. The option is Knocked Out and a pre-specified rebate of 100 AUD is paid at maturity. On Knock Out deferred intrinsic value and the remaining time value is recognized as Expense.

Table B-29 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_REBATE_REC	PUR_REBATE_AMT	300	AUD	10-Sep-02
Cr	PUR_OPT_INCOME	PUR_REBATE_AMT	300	AUD	10-Sep-02
Dr	PUR_HED_EXPENSE	PUR_INCEP_IV	2000	INR	10-Sep-02
Cr	PUR_IV_DEF	PUR_INCEP_IV	2000	INR	10-Sep-02

Remaining amortization of time value is done at the time of the option getting knocked out and the total expense is moved to the main option expense GL.

REVL on Knock Out

TV amortized Till date = 142.86 INR

Total TV to be amortized = 500 INR

Current TV to be amortized = 500 – 142.86 = 357.14 INR

Table B-30 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	EXP_ON_HEDGE	NET_AMORT_TV	357.14	INR	10-Sep-02
Cr	PUR_TV_DEF	NET_AMORT_TV	357.14	INR	10-Sep-02

Moving Inception TV to final Expense GL from Revaluation Expense GL

Table B-31 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_HED_EXPENSE	PUR_INCEP_TV	500	INR	10-Sep-02
Cr	EXP_ON_HEDGE	PUR_INCEP_TV	500	INR	10-Sep-02

Event KNST (Knock Out Settlement)

In the above case the rebate is actually received on the maturity date of the contract. Accounting entries posted on the maturity i.e. 31-Dec-2002 are:

Table B-32 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_REBATE_AMT	300	AUD	31-Dec-02
Cr	PUR_REBATE_REC	PUR_REBATE_AMT	300	AUD	31-Dec-02

Option not getting Knocked In

Let us assume that the barrier type is Double Knock In instead of Double Knock Out. If the option gets knocked in during the barrier window, it can be exercised any time according to the Expiration style. If it doesn't get knocked in, a rebate is payable at expiry. Let us suppose that the option doesn't get knocked in. The accounting entries and the events triggered at expiry in this case are given below.

REVL at expiry

TV amortized Till date = 142.86 INR

Total TV to amortize = 500 INR

Current TV to amortize = 500 – 142.86 = 357.14 INR

Table B-33 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	EXP_ON_HEDGE	NET_AMORT_TV	357.14	INR	31-Dec-02
Cr	PUR_TV_DEF	NET_AMORT_TV	357.14	INR	31-Dec-02

KIST (Knock In settlement) at expiry

As mentioned above, a rebate amount is payable to the buyer of the option on expiry if the option does not get knocked in during the barrier window.

Table B-34 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_REBATE_AMT	300	AUD	31-Dec-02
Cr	PUR_OPT_INCOME	PUR_REBATE_AMT	300	AUD	31-Dec-02

EXPR (Expiry)

On Expiry, the deferred intrinsic value is recognized as expense

Table B-35 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_HED_EXPENSE	PUR_INCEP_IV	2000	INR	31-Dec-02
Cr	PUR_IV_DEF	PUR_INCEP_IV	2000	INR	31-Dec-02

Moving Inception TV to final Expense GL from Revaluation Expense GL

Table B-36 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_HED_EXPENSE	PUR_INCEP_TV	500	INR	31-Dec-02

Table B-36 (Cont.) Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Cr	EXP_ON_HEDGE	PUR_INCEP_TV	500	INR	31-Dec-02

Contract Termination (TERM)

Now let us assume that the currency option contract was terminated on 01-Sep-2002

Termination Value (User I/P) = 2700 INR

Termination Gain = 2700 – 2000 (Inception IV) = 700 INR

Accounting entries passed at termination –

Table B-37 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_INCEP_IV	2000	INR	01-Jul-02
Cr	PUR_IV_DEF	PUR_INCEP_IV	2000	INR	01-Jul-02
Dr	CUSTOMER	HED_TERM_GAIN	700	INR	01-Jul-02
CR	PUR_GAIN_DEF	HED_TERM_GAIN	700	INR	01-Jul-02

Event REVL at termination

Remaining time value of the option is recognized as expense on termination.

TV amortized Till date = 142.86 INR (As on 01-Aug-2002)

Total TV to be amortized = 500 INR

Current TV to be amortized = 500 – 142.86 = 357.14 INR

Table B-38 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	EXP_ON_HEDGE	NET_AMORT_TV	357.14	INR	01-Sep-02
Cr	PUR_TV_DEF	NET_AMORT_TV	357.14	INR	01-Sep-02

Moving Inception TV to final Expense GL from Revaluation Expense GL after REVL on TERM.

Table B-39 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_HED_EXPENSE	PUR_INCEP_TV	500	INR	01-Sep-02
Cr	EXP_ON_HEDGE	PUR_INCEP_TV	500	INR	01-Sep-02

AMDG after termination

Deferred termination gain in case of hedge deals is amortized over a period from Contract termination date (01-Sep-2002 in this case) to the contract maturity date. Suppose according to the frequency of amortization, deferred termination gain is amortized on the 01-Nov-2002.

Amount to be amortized Till date = 700 * (2 * 30) / (6 * 30) = 233.33 INR

Table B-40 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_GAIN_DEF	NET_GAIN_DEF	233.33	INR	01-Nov-02
CR	PUR_OPT_INCOME	NET_GAIN_DEF	233.33	INR	01-Nov-02

If there is no other frequency of amortization between the contract termination date and contract maturity date where the deferred termination gain can be amortized, the remaining part is amortized on the contract maturity date. Since the contract has already been terminated, only the event AMDG is triggered. The accounting entries are

Amt to amortize till date = 700 INR

Amt already amortized = 233.33 INR

Current amount to amortize = 700 – 233.33 = 467.67 INR

Table B-41 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_GAIN_DEF	NET_GAIN_DEF	467.67	INR	31-Dec-02
CR	PUR_OPT_INCOME	NET_GAIN_DEF	467.67	INR	31-Dec-02

Contract Exercise (EXER)

Contract Exercise happens depending on the Expiration style. In this case, since it's a Plain Vanilla option with American Expiration style, it can be exercised anytime between the earliest exercise date (15-Oct-2002) and contract maturity (31-Dec-2002) if it doesn't get knocked out during the barrier window.

Suppose the spot rate on 15-Dec-2002 is 55INR/USD. Since the strike is 50 INR/USD, the option is in the money on this date and the buyer can exercise the option.

Settlement Amount = 1000 (Contract Amount) * (55 – 50) = 500 INR

Table B-42 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_OPT_SET_REC	PUR_INCEP_IV	2000	INR	15-Dec-02
CR	PUR_IV_DEF	PUR_INCEP_IV	2000	INR	15-Dec-02
Dr	PUR_HED_EXPENSE	HED_EXER_LOSS	1500	INR	15-Dec-02
Cr	PUR_OPT_SET_REC	HED_EXER_LOSS	1500	INR	15-Dec-02

It is important to note here that even though, the option is in the money, the amount tag populated here is HED_EXER_LOSS. This is so because even though the buyer of the option is getting a pay off equal to 500 INR, he is in an over all loss of 1500 INR (Inception IV – pay off).

AMRT on EXER

Remaining time value of the option is recognized as expense at the time of Exercise.

TV amortized Till date = 142.86 INR (As on 01-Aug-2002)

Total TV to be amortized = 500 INR

Current TV to be amortized = 500 – 142.86 = 357.14 INR

Table B-43 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	EXP_ON_HEDGE	NET_AMORT_TV	357.14	INR	15-Dec-02
Cr	PUR_TV_DEF	NET_AMORT_TV	357.14	INR	15-Dec-02

Moving Inception TV to final Expense GL from Revaluation Expense GL on EXER after AMRT.

Table B-44 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	PUR_HED_EXPENSE	PUR_INCEP_TV	500	INR	15-Dec-02
Cr	EXP_ON_HEDGE	PUR_INCEP_TV	500	INR	15-Dec-02

EXST (Exercise Settlement) after EXER

The following accounting entries pass on settlement after exercise of the currency option above. In this case the settlement event is triggered along with the exercise event.

Table B-45 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CUSTOMER	PUR_SETL_AMT	500	USD	15-Dec-02
Cr	PUR_OPT_SET_REC	PUR_SETL_AMT	500	USD	15-Dec-02

B.1.3 Example III – Contingent Entries and Delta Accounting

This section is applicable only for physical currency options. Let us consider the following parameters of a deal.

Table B-46 Example III

Contract Type	Trade
Buy or Sell	Sell
Call or Put	Call
Contract Amount	1000
Contract Currency	USD
Counter Currency	GBP
Exchange rate b/n USD/GBP	1.5
Option premium	2500 INR
Booking Date	01
June	2002
Value Date	01
June	2002
Premium Pay Date	01
Jun	2002
Strike price	50 INR/USD
Current Spot Rate	52 INR/USD
Option Style	Plain Vanilla
Expiration Style	American
Earliest Exercise Date	15
Oct	2002
Barrier Type	Double Knock Out
Barrier	53 INR/USD
Lower Barrier	48 INR/USD

Table B-46 (Cont.) Example III

Contract Type	Trade
Rebate	100 AUD
Payment At	Maturity
Barrier Window Start Date	01
Sep	2002
Barrier Window End Date	01
November	2002
Maturity Date	31
Description	2002

Since the exchange rate between USD/GBP on inception is 1.5, the counter currency amount (Contract amount in counter currency) is 1000*1.5 = 1500 GBP.

On 01-Jun-2002 the booking event triggers with the following contingent entries.

Since the other entries have already been explained we are not explaining those entries again.

Suppose the LCY is INR. Let us assume the rate between USD/INR is 40 and GBP/INR 30.

The LCY amount for contract currency amount = 1000*40 =40000

LCY amount for Counter Currency amount = 1500*30 = 45000

Average LCY amount = (40000+45000)/2 = 42500

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Table B-47 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	LCY AMT	Date
Dr	CON_WRI_CALL	WRI_CALL_AMT	1500	GBP	42500	01-Jun-02
Cr	CON_WRI_CAL_OFF	WRI_CALL_AMT_EQ	1000	USD	42500	01-Jun-02

Suppose the delta factor maintained for 01-Jun-2002 is 0.8. The delta amount is calculated as follows:

Counter Currency Amount * delta factor =1500*0.8 =1200 GBP.

At the end of the day when the batch process is run, the delta accounting entries are posted as follows:

Table B-48 DLTA

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CON_DELTA_AC	DELTA_AMT	1200	GBP	01-Jun-02

Table B-48 (Cont.) DLTA

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Cr	CON_DELTA_OFF	DELTA_AMT	1200	GBP	01-Jun-02

Now on 2nd of June, when the batch process is run, the previous days delta entries are reversed. Suppose the delta factor maintained for 01-Jun-2002 is 0.6. The delta amount is calculated as follows:

Counter Currency Amount * delta factor = 1500*0.6 =900 GBP

Table B-49 DLTA

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CON_DELTA_OFF	ANTI_DELTA_AMT	1200	GBP	02-Jun-02
Cr	CON_DELTA_AC	ANTI_DELTA_AMT	1200	GBP	02-Jun-02
Dr	CON_DELTA_AC	DELTA_AMT	900	GBP	02-Jun-02
Cr	CON_DELTA_OFF	DELTA_AMT	900	GBP	02-Jun-02

Suppose the option gets knocked out on 01-Sep-2002, the entries passed are as follows:

Table B-50 DLTA

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	Date
Dr	CON_DELTA_OFF	ANTI_DELTA_AMT	900	GBP	01-Sep-02
Cr	CON_DELTA_AC	ANTI_DELTA_AMT	900	GBP	01-Sep-02

KNOT (Only contingent reversal is shown)

Assuming that the rates between USD/INR and GBP/INR have not changed for calculation of LCY amount. Any such change are taken care of by the account revaluation batch.

Table B-51 Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	LCY AMT	Date
Dr	CON_WRI_CAL_OFF	WRI_-CALL_AMT_EQ	1000	USD	42500	01-Sep-02

Table B-51 (Cont.) Accounting Entries

Dr/Cr	Accounting Role	Amount Tag	FCY Amount	FCY/CCY	LCY AMT	Date
Cr	CON_WRI_CALL	WRI_CALL_AMT	1500	GBP	42500	01-Sep-02

The above example is only for a Written and Call physical currency option. For other Purchase/Written – Call/Put options, you can refer Annexure A for a list of accounting entries.

B.1.4 Example IV – Swaption with European Expiration

On 01-Jan-1998, Tata Projects Ltd. (TPL) foresees a 3-year floating rate-funding requirement, contingent on being awarded a tender after 9 months. A forward swap contract proves costly if the tender bid is unsuccessful. Instead, TPL buys a payer's swaption from National Bank with an exercise date matching the tender acceptance date – 31-Aug-1998. If interest rates rise by end-August, TPL can raise floating rate funds in the market and simultaneously exercise the in-the-money swaption. Then, it pays fixed rate interest to National Bank and receive floating rate interest from them, with which it pays back in the market. If interest rates decline, the swaption are out of the money and TPL will let it expire and fund itself at the lower rate that it gets in the market.

Assume that TPL buys a payer's swaption from National Bank with the following terms:

Table B-52 Example IV

Contract Type	Value
Booking date	01-Jan-1998
Option expiration date	01-Sep-1998
Exercise style	European
Exercise date	01-Sep-1998
Option Type	Right to pay fixed rate (payer's swaption)
Premium	1% of notional principal
Settlement	Deliverable

Terms of the underlying swap between TPL and National Bank:

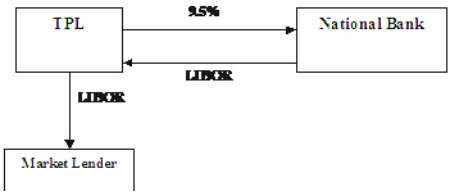
Table B-53 Example IV

Contract Type	Value
Notional Principal	50,000,000 USD
Effective Date	01-Sep-1998
Fixed Rate	9.5% p.a. payable semi annually
Floating Rate	6-Month LIBOR
Fixed & Floating Payment Dates	March 1 and September 1, starting March 1, 1999 and ending September 1, 2001
Floating Rate Reset Dates	Given in the following table

On 30-Aug-98, the market swap rate for a 3-year fixed to LIBOR swap with half-yearly resets is 10% -- that is, fixed rate has to be paid at 10% to receive LIBOR at six-monthly intervals over the next 3 years.

Since the market rate is higher than the strike rate (9.5%), TPL exercises the swaption. Simultaneously, it borrows 50,000,000 USD from the market with six-monthly interest payment at LIBOR.

Figure B-1 Flow Diagram



The resultant swap after exercise of the swaption, along with the impact of the market borrowing, is diagrammatically shown as follows:

The floating rates obtaining on the various rate reset dates are as follows:

Table B-54 Reset Dates

Reset Date	LIBOR (%)
Aug 30, 1998	9.8
Feb 27, 1999	9.2
Aug 30, 1999	9.5
Feb 28, 2000	8.9
Aug 30, 2000	9.7
Feb 27, 2001	10.2

The fixed and floating payments over the life of the swap are as follows:

Table B-55 Fixed and Floating Payments

Date	Fixed Rate Payment (Paid by TPL) (USD)	Floating Rate Payment (Paid by National Bank) (USD)
Mar 1, 1999	50MM*9.5*181/36000=2,388,194.44	50MM*9.8*181/36000=2,463,611.11
Sep 1, 1999	50MM*9.5*184/36000=2,427,777.78	50MM*9.2*184/36000=2,351,111.11
Mar 1, 2000	50MM*9.5*182/36000=2,401,388.89	50MM*9.5*182/36000=2,401,388.89
Sep 1, 2000	50MM*9.5*184/36000=2,427,777.78	50MM*8.9*184/36000=2,274,444.44
Mar 1, 2001	50MM*9.5*181/36000=2,388,194.44	50MM*9.7*181/36000=2,438,472.22

Table B-55 (Cont.) Fixed and Floating Payments

Date	Fixed Rate Payment (Paid by TPL) (USD)	Floating Rate Payment (Paid by National Bank) (USD)
Sep 1, 2001	50MM*9.5*184/36000=2,427,777.78	50MM*10.2*184/36000=2,606,666.60

B.2 Examples of Different Types of Exotic Currency Options

This topic describes the various examples for different types of exotic currency options.

This topic has following examples:

- Example 1
- Example 2
- Example 3
- Example 4
- Example 5
- Example 6
- Example 7
- Example 8
- Example 9
- Example 10
- Example 11
- Example 12

B.2.1 Example 1

On 01-Jun-2003, Options Bank buys a call option on 10,000 USD against INR with a strike price of 50 INR. Maturity date – 31-Dec-2003. Premium paid – 100 USD.

Parameters of the deal:

Table B-56 Example 1

Contract Type	Value
Contract Amount	10,000
Contract Currency	USD
Counter Currency	INR
Option premium	100 USD
Strike price	50 INR/USD
Current Spot Rate	48 INR/USD
Option Style	Binary
Expiration style	American

Table B-56 (Cont.) Example 1

Contract Type	Value
Barrier	None
Fixed Amount to be paid	500
Fixed Amount Currency	EUR
Earliest exercise date	01-Oct-2003

If at any time during 01-Oct-2003 and 31-Dec-2003, the spot rate touches or crosses 50 INR/USD, the seller of the option becomes liable to pay a fixed amount of 500 EUR to Options Bank. This example also illustrates that the settlement does not have to be in the contract currency or the counter currency. It can be in a pre-determined currency, which are different from both.

B.2.2 Example 2

We continue with the Example 1, but add on the following new parameters:

Table B-57 Example 2

Contract Type	Value
Barrier type	Double Knock Out
Barrier	52 INR/USD
Lower barrier	47 INR/USD
Rebate	20 EUR
Barrier Window Start Date	01-Sep-2003
Barrier Window End Date	01-Nov-2003

If, at any time during 01-Sep-2003 and 01-Nov-2003, the spot rate touches or crosses 52 INR/USD or becomes less than 47 INR/USD, this option ceases to be in effect (are knocked out). The option writer pays a rebate of 20 EUR to Options Bank. If, on 15-Oct-2003, the spot rate touches the strike price, the option can be exercised even though the barrier window has not yet been completed. In this case, the seller of the option becomes liable to pay a sum of 500 EUR to Options Bank.

B.2.3 Example 3

We continue with Example 1, but add on the following new parameters:

Table B-58 Example 3

Contract Type	Value
Barrier type	Single Knock In
Barrier	52 INR/USD
Option Style	Digital
Rebate	20 EUR

Table B-58 (Cont.) Example 3

Contract Type	Value
Expiration Style	European
Barrier Window Start Date	01-Sep-2003
Barrier Window End Date	01-Nov-2003

If any time during 01-Sep-2003 and 01-Nov-2003, the spot rate touches or crosses 52 INR/SD, this option comes into effect (get knocked in). Now, if on 31-Dec-2003, the spot rate is equal to or greater than 50 INR/USD (the strike price), the seller of the option pays a fixed amount of 500 EUR to Options Bank. If the spot rate is below 50 INR/USD on31-Dec-2003, the option expires worthless.

If the above option never comes into existence because of the spot rate never touching 52 INR/USD between 01-Sep-2003 and 01-Nov-2003, then a rebate amount of 20 EUR are paid to Options Bank by the seller of the option.

B.2.4 Example 4

On 01-Jun-2003, National Bank buys a call option on 10,000 USD against the INR with a strike price of 50 INR with 31-Dec-2003 as the maturity date. National Bank pays a premium of 100 USD for the option.

Parameters of the deal:

Table B-59 Example 4

Contract Type	Value
Contract Amount	10000
Contract Currency	USD
Counter Currency	INR
Option premium	100 USD
Current Spot Rate	48 INR/USD
Option Style	No Touch
Fixed Amt to be paid	500
Fixed Amount Currency	EUR
Barrier	49 INR/USD
Lower Barrier	46 INR/USD
Rebate	50 AUD
Barrier Window Start Date	01-Sep-2003
Barrier Window End Date	01-Nov-2003

Here, if at any time during 01-Sep-2003 and 01-Nov-2003, the spot rate touches or goes below 46 INR/USD or touches or goes above 49 INR/USD, the option is knocked out and a rebate of 50 AUD is paid by the seller of the option to National Bank, either on the knock out date or on maturity (31-Dec-2003). If the spot rate does not touch either barrier during the barrier window, a fixed amount of 500 EUR is paid by the seller of the option to National Bank on the maturity date.

B.2.5 Example 5

The below examples explain the UIKI barrier option introduced instead of Single Knock In as per Swift 2023 standard.

Market price is greater than barrier

On 01-Mar-2023, Options Bank buys a call option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP.

Table B-60 Example for UIKI

Contract Type	Value
Trade date	Wednesday,01 March 2023
Value date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1,000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier type	UIKI (Up and IN Knock In)
Expiration style	NA
Barrier	1.5
Fixed Amount to be paid	50
Fixed Amount Currency	GBP
Earliest exercise date	NA
Barrier Monitoring Period	1 March to 31 March

Knock In (KNIN) will fire since spot rate is higher than the barrier.

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate goes higher than 1.5 GBP/USD, this option comes into effect (get knocked in) and the seller of the option becomes liable to pay a fixed amount of 50 GBP to Options Bank.

During window period, if barrier was never hit, the option will expire. All the cases are applicable for EOD processing and Manual Knock in and Knock Out screen (OTDXKIKO).

B.2.6 Example 6

The below examples explain the UOKO barrier option introduced instead of Single Knock Out as per Swift 2023 standard.

Case 1 - market price equal to barrier

On 01-Mar-2023, Options Bank buys a put option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP.

Parameters of the deal:

Table B-61 Example A for UOKO

Contract Type	Value
Trade Date	Wednesday, 01 March 2023
Value Date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike Price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier Type	UOKO (Up and Out Knock Out)
Expiration Style	NA
Barrier	1.5
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Monitoring Period	01 March to 31 March

SKOT will fire since barrier is hit.

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate equal to the barrier 1.5 GBP/USD, this option gets knocked out and a rebate is paid by the seller of the option to buyer either on the knock out date or on maturity date.

Case 2- Market price is greater than barrier

On 01-Mar-2023, Options Bank buys a call option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP.

Table B-62 Example B for UOKO

Contract Type	Value
Trade date	01 March 2023
Value date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1,000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY

Table B-62 (Cont.) Example B for UOKO

Contract Type	Value
Barrier type	UOKO (Up and OUT Knock OUT)
Expiration style	NA
Barrier	1.5
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Barrier Monitoring Period	01 March to 31 March

SKOT will fire since spot rate is higher than the barrier.
If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate goes higher than 1.5 GBP/USD, this option gets knocked out and a rebate is paid by the seller of the option to buyer either on the knock out date or on maturity.

During the window period, if the barrier was never hit, the buyer of the option shall have the right to exercise it.

All the cases are applicable for EOD processing and Manual Knock In and Knock Out screen (OTDXKIKO).

B.2.7 Example 7

The below example explains the DIKI barrier option introduced instead of Single Knock In as per Swift 2023 standard.

Case 1 - market price equal to barrier

On 01-Mar-2023, Options Bank buys a option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and the Premium paid is 100 GBP.

Parameters of the deal:

Table B-63 Example A for DIKI

Contract Type	Value
Trade Date	Wednesday, 01 March 2023
Value Date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike Price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier Type	DIKI (Down and In Knock In)

Table B-63 (Cont.) Example A for DIKI

Contract Type	Value
Expiration Style	NA
Barrier	1
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Monitoring Period	01 March to 31 March

SKIN will fire since barrier is hit.

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate is equal to the barrier (1 GBP/USD), the seller of the option becomes liable to pay a fixed amount of 50 GBP to Options Bank.

Case 2- Market price is lower than barrier

On 01-Mar-2023, Options Bank buys a call option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP.

Table B-64 Example B for DIKI

Contract Type	Value
Trade date	Wednesday, 01 March 2023
Value date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1,000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier type	DIKI (Down and In Knock In)
Expiration style	NA
Barrier	1
Fixed Amount to be paid	50
Fixed Amount Currency	GBP
Earliest exercise date	NA
Barrier Monitoring Period	01 March to 31 March

SKIN will fire since the spot rate is lower than the barrier

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate goes lower than the barrier (1 GBP/USD), the seller of the option becomes liable to pay a fixed amount of 50 GBP to Options Bank.

During the window period, if barrier was never hit, the option will expire. All the cases are applicable for EOD processing and online manual Knock in and Knock out screen (OTDXKIKO)

B.2.8 Example 8

The below example explains the DOKO barrier option introduced instead of Single Knock Out as per Swift 2023 standard.

Case 1 - market price equal to barrier

On 01-Mar-2023, Options Bank buys a put option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023. Premium paid is 100 GBP

Parameters of the deal:

Table B-65 Example A for DOKO

Contract Type	Value
Trade Date	Wednesday, 01 March 2023
Value Date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike Price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier Type	DOKO (Down and Out Knock Out)
Expiration Style	NA
Barrier	1
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Monitoring Period	01 March to 31 March

SKOT will fire since barrier is hit.

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate is equal to the barrier (1 GBP/USD), this option gets knocked out and a rebate is paid by the seller of the option to buyer either on the knock out date or on maturity.

Case 2- Market price is greater than barrier

On 01-Mar-2023, Options Bank buys a call option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023. Premium paid is 100 GBP.

Table B-66 Example B for DOKO

Contract Type	Value
Trade date	Wednesday, 01 March 2023
Value date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1,000
Contract Currency	GBP
Counter Currency	USD
Option premium	100
Strike price	1.2
Current Spot Rate	1.2
Option Style	BINARY
Barrier type	DOKO (Down and Out Knock Out)
Expiration style	NA
Barrier	1
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Barrier Monitoring Period	01 March to 31 March

SKOT will fire since barrier is hit

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate goes higher than the barrier (1 GBP/USD), this option gets knocked out and a rebate is paid by the seller of the option to buyer either on the knock out date or on maturity.

During the window period, if the barrier was never hit, the buyer of the option shall have the right to exercise it.

All the cases are applicable for EOD processing and Manual Knock In and Knock Out screen (OTDXKIKO).

B.2.9 Example 9

The below example explains the DKOT barrier option.

On 01-Mar-2023, Options Bank buys a put option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP.

Parameters of the deal:

Table B-67 Example for DKOT

Contract Type	Value
Trade Date	Wednesday, 01 March 2023
Value Date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1000
Contract Currency	GBP

Table B-67 (Cont.) Example for DKOT

Contract Type	Value
Counter Currency	USD
Option premium	100
Strike Price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier Type	DKOT (Double Knock Out)
Expiration Style	NA
Barrier	1.5
Lower Barrier	1
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Monitoring Period	01 March to 31 March

DKOT will fire since barrier is hit.

If, at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate is equal to or higher than the barrier (1.5 GBP/USD) or becomes less than or equal to the lower barrier (1 GBP/USD), this option ceases to be in effect (are knocked out). If on 15-Mar-2023 the spot rate touches the strike price, the option can be exercised even though the barrier window has not yet been completed.

During window period, if barrier was never hit, the buyer of option shall have the right to exercise. All the cases are applicable for EOD processing and online manual Knock in and Knock out screen (OTDXKIKO).

B.2.10 Example 10

The below example explains the DKIN barrier option.

On 01-Mar-2023, Options Bank buys a put option on 1,000 GBP against USD with a strike price of 1.2 GBP. Maturity date is 31-Dec-2023 and Premium paid is 100 GBP

Parameters of the deal:

Table B-68 Example for DKIN

Contract Type	Value
Trade Date	Wednesday, 01 March 2023
Value Date	Wednesday, 01 March, 2023
Maturity date	Sunday, 31 December 2023
Contract Amount	1000
Contract Currency	GBP
Counter Currency	USD

Table B-68 (Cont.) Example for DKIN

Contract Type	Value
Option premium	100
Strike Price	1.2
Current Spot Rate at the time of booking	1.2
Option Style	BINARY
Barrier Type	DKIN (Double Knock In)
Expiration Style	NA
Barrier	1.5
Lower Barrier	1
Fixed Amount to be paid	NA
Fixed Amount Currency	GBP
Earliest exercise date	NA
Monitoring Period	01 March to 31 March

DKIN will fire since barrier is hit.

If at any time during 01-Mar-2023 and 31-Mar-2023, the spot rate is equal to or higher than the barrier (1.5 GBP/USD), or becomes less than or equal to the lower barrier (1 GBP/USD), this option gets in effect (knocked in). If, on 15-Mar-2023, the spot rate touches the strike price, the option can be exercised even though the barrier window has not yet been completed. In this case, the seller of the option becomes liable to pay a sum of 500 GBP to Options Bank.

During window period if barrier was never hit, the option shall expire. All the cases are applicable for EOD processing and online manual Knock in and Knock out screen (OTDXKIKO)

B.2.11 Example 11

Vanilla option with barrier settling fixed amount payment at maturity

MT 306 is generated during book.

Table B-69 Parameters of the contract

Contract Type	Value
Option Style	Vanilla
Booking Date	3 Jan 2023
Maturity Date	31 Jan 2023
Barrier Type	Knocked in
Expiration Style	American
Earliest Exercise Date	20 Jan 2023
Exercise Payment at	Maturity
Payment Lag days	2

Table B-70 Event wise contract status

Event	Date	Contract Status
Book	3 Jan 2023	Active
KNIN	17 Jan 2023	Knocked in
EXER	20 Jan 2023	Exercise initiated

Also, MT 306 is generated during KNIN (i.e., 22k Type of Event is KNIN) should populate 30F - Final Settlement Date (sequence B)

On Maturity date 31 Jan 2023, contract status remains Exercise initiated. Considering SGEN as 1 day.

Table B-71 Event wise contract status

Event	Date	Contract Status
SGEN (payment message)	01 Feb 2023	Exercise initiated
EXST (Accounting)	03 Feb 2023	Exercised

Since 02 Feb 2023 is being a holiday, EXST is triggered on Feb 3rd once EXST and the contract status will change to Exercised.

B.2.12 Example 12

Vanilla option with barrier settling difference between strike and spot payment at hit.

Case 1

MT 306 is generated during book.

Table B-72 Parameters of the contract

Contract Type	Value
Option Style	Vanilla
Booking Date	03 Jan 2023
Maturity Date	31 Jan 2023
Barrier Type	Knocked in
Expiration Style	American
Earliest Exercise Date	20 Jan 2023
Exercise Payment at	Hit
In the money	On same day
Payment Lag days	2

Table B-73 Event wise contract status

Event	Date	Contract Status
Book	Jan 3rd	Active
KNIN	Jan 17th	Knocked In
EXER	Jan 20th	Exercise Initiated

Table B-73 (Cont.) Event wise contract status

Event	Date	Contract Status
SGEN	Jan 21st	Exercise Initiated
EXST	Jan 22nd	Exercise

Case 2

MT 306 is generated during book.

Table B-74 Parameters of the contract

Contract Type	Value
Option Style	Vanilla
Booking Date	03 Jan 2023
Maturity Date	31 Jan 2023
Barrier Type	Knocked in
Expiration Style	American
Earliest Exercise Date	20 Jan 2023
Exercise Payment at	Hit
In the money	On next day
Payment Lag days	0

Table B-75 Event wise contract status

Event	Date	Contract Status
Book	Jan 3rd	Active
KNIN	Jan 17th	Knocked in
EXER, SGEN and EXST	Jan 21st	Exercised

Since lag day is zero, exercise settlement takes place on maturity date.

B.3 Explanation of Terms Associated with IRO Markets/ Transactions

This topic describes the terms associated with IRO Markets or Transactions.

Option Buyer (holder)

This is the party that obtains, on payment of a fee, the right to lend or borrow (notionally) a pre-determined quantity of money at a specified rate of interest for a specified period starting from a specified date. In effect, she obtains the right to compensation in the event of a future adverse movement in a floating benchmark interest rate, which can, for example, be the USD 6-month LIBOR.

Option Seller (writer)

This is the party that enters into an obligation, in return for a fee, to provide compensation to the option buyer in the event of a future adverse movement in a floating benchmark interest rate.

Example

On May 02, 2003, Sarah Williams buys a Put IRO from Options Bank, giving her the right to lend 1 million USD at 5% for the period July 01, 2003 to December 31, 2003. The benchmark rate is 6-M LIBOR. On June 27, 2003, when rate fixation takes place for the period July 01 – December 31, 2003, 6-M USD LIBOR is 4%. Options Bank has to pay Sarah Williams a sum of:

1,000,000 X ((0.05-0.04) X (183/360)) = 5,083.33 USD

Had USD LIBOR for the period July 01 – December 31, 2003 been 5.5%, Sarah Williams can not have exercised the Call IRO.

Notional principal / Contract amount

This is the underlying principal amount, based on which payments or receipts for an IRO are calculated. It is 'notional', since the IRO contract contains no obligation for either counterparty to lend or borrow funds at the contracted rate. In the previous example, the notional principal is 1,000,000 USD.

Premium

This is the upfront fee or price paid by the option buyer to the option writer. This is sometimes expressed as a percentage of the notional principal / contract amount. The premium is usually payable on the same day when the option deal is struck, or within two business days from the deal date.

Transaction date / Deal date / Trade date

This is the business day on which the option deal is entered into.

Interest period

The interest period or the contract period is the duration for which the underlying interest rate is to apply and is the tenor basis on which the settlement amount is computed. This is the period between the value date and the maturity date. In the previous example, the interest period is between July 01 and December 31, 2003.

Value date / Effective date

This is the business day which is the first day of the interest period. In the previous example, July 01, 2003 is the value date.

Maturity date

This is the last day of the interest period. In the previous example, December 31, 2003 is the maturity date.

Settlement date

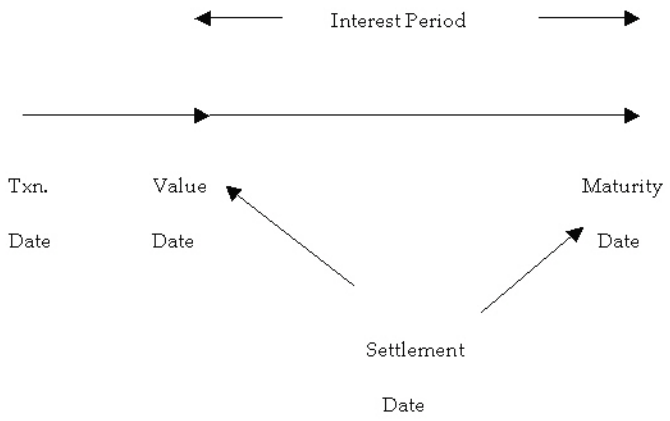
This is the date on which the settlement is effected. The settlement date can either be the value date (for deals settling in advance) or the maturity date (for deals settling in arrears).

Fixing date / Strike date / Exercise date

This is the date on which the strike and reference rates (both are defined later in this document) are compared and the settlement amount is arrived at. This is usually either the same date as the value date or a couple of days prior to the value date.

The above dates are depicted in the figure given below:

Figure B-2 Example



Reference / Underlying rate

This is the rate against which the strike rate is compared to determine the payable or receivable amount. Typically, the reference rate is a benchmark market interest rate, such as the LIBOR.

Strike rate / Exercise rate

This is the rate mentioned in the option contract, against which the reference rate as on the day of exercise is compared. If the reference rate is below or above the strike rate (depending on whether the option is a put or a call), payment is required to be made to the option buyer by the option writer. An option holder ‘strikes’ (exercise her option) at this rate, or a rate lower (if put) or higher (if call) than this rate.

In the previous example, the strike rate is 5%.

Intrinsic value

The intrinsic value of an IRO contract on any given day is the pay-off to the option holder if the option is exercised on that day. Refer to the pay-off diagrams earlier in this section.

Time value

Apart from the intrinsic value, the value of an option also contains another – a probabilistic – component, which is based on a forecast of the possible movement of the reference / underlying rate over the time left till maturity. This component of the option’s value – called the time value – is a function of the volatility of the underlying and the time to expiry. Time value is determined by Oracle Banking Treasury Management as the user-entered fair value of the option, less its intrinsic value.

Settlement amount

This is the amount payable by the writer to the holder on the settlement date when the option is exercised. The exact quantum of the settlement amount is shown below. As can be seen, the strike rate is compared to the reference rate on the settlement date. The settlement date can be the maturity date of the contract (end of the interest period) or the value date of the contract (beginning of the interest period). If the contract is settled on the value date, the amount that changes hands is the discounted present value of the settlement amount.

Table B-76 Accounting Role - Amount Tag

Option Type	Settlement on Maturity Date	Settlement on Value Date
Put	P * N * (S-R)/(Y*100)	[P * N * (S-R)/(Y*100)] / [1 + (R*N/Y*100)]
Call	P * N * (R–S)/(Y*100)	[P * N * (R–S)/(Y*100)] / [1 + (R*N/Y*100)]

Where:

P = notional principal (which is contractually agreed);

N= number of days in the contract period (as per the contract);

S = strike rate (contractually agreed);

R = reference rate (value of the benchmark, say, LIBOR, as on the rate fixing date)

Y = number of days in the year (this depends on day count convention)

In-the-money, Out-of-the-money and at-the-money

An option is said to be in-the-money if the settlement amount is positive, that is, the strike rate is more favorable than the reference rate and the IRO is exercised. If the reference rate is more favorable than the strike rate, the IRO is not exercised and is said to be out-of-the money. If the reference rate is exactly equal to the strike rate, the IRO is said to be at-the money.

> **Note:**
>
> The pay-off to the option holder is the settlement amount, less the upfront premium that she pays when entering into the option contract.
>
> The IRO terminology mentioned above is applicable to COs as well. While understanding these terms for COs, you have to read them in context.

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