Interest and Charges
Oracle FLEXCUBE Corporate Lending 12.1.0.0.0
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ORACLE
FINANCIAL SERVICES

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Interest and Charges
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1. About this Manual

1.1 Introduction

This manual is designed to help you quickly get acquainted with the Interest and Charges module of Oracle FLEXCUBE.

It provides an overview to the module, and provides information on using the Interest and Charges module of Oracle FLEXCUBE.

Besides this User Manual, you can find answers to specific features and procedures in the Online Help, which can be invoked, by choosing 'Help Contents' from the *Help* Menu of the software. You can further obtain information specific to a particular field by placing the cursor on the relevant field and striking <F1> on the keyboard.

1.2 Audience

This manual is intended for the following User/User Roles:

Role	Function
Back office managers/officers	Authorization functions.
Product Managers	Product definition and authorization.
End of day operators	Processing during end of day/ beginning of day.
Financial Controller / Product Managers	Generation of reports.

1.3 Organization

This manual is organized into the following chapters:

Chapter 1	*An Overview of the Interest and Charge Module* gives you a bird's eye view of the Interest and Charges sub-system in Oracle FLEXCUBE.
Chapter 2	*Maintaining Interest Rules* – explains how interest rules can be maintained in the Interest and Charges sub-system.
Chapter 3	*Maintaining System Data Elements* – In this chapter, the process of setting up system data elements or SDEs, is explained.
Chapter 4	*Giving UDE Values for a Condition* — In this chapter, the process of specifying actual values for user date elements (UDEs) for an account class and currency is explained.
Chapter 5	*Building Formulae* – Explains how expressions or formulae can be constructed for the purpose of defining an interest rule.
Chapter 6	*Applying an Interest Product on an Account* - This chapter explains how you can apply an interest product to a customer account or an account class.
Chapter 7	*Defining the attributes specific to an Interest or Charge product* – Explains the definition of attributes specific to an IC product.
Chapter 8	*Checking for Consistency in Data* – This chapter explains the IC Consistency Check Function and reports inconsistencies in maintained data.
Chapter 9	*Daily Processing of Interest and Charges* – Explains the interest and charges batch function, which processes liquidations and accruals for each business day.
Chapter 10	*Liquidating Interest Online* – This chapter explains the online interest liquidation function in the Interest and Charges module.
Chapter 11	*Maintaining Interest Statement Details* – This chapter explains the maintenance of details pertaining to interest statements given to account holders.
Chapter 12	*Appendix A - Accounting Entries and Advices* – Explains the suggested accounting entries that can be set up for the Interest and Charges module.

1.4 Related Documents

- The Procedures User Manual
- The Settlements User Manual

2. An Overview of the Interest and Charge Module

2.1 Introduction

On the balance type of accounts maintained in your bank, you would want to apply interest and charges. Savings accounts, current accounts, nostro accounts, etc., are examples of balance type accounts. Using the Interest and Charges (IC) sub-system of Oracle FLEXCUBE, you can calculate, and apply, interest and charges on these accounts.

Setting up the Interest and Charges sub-system is a one-time activity. Once set up, Oracle FLEXCUBE automatically computes and applies interest and charges on all balance type accounts on which interest and charges apply.

In Oracle FLEXCUBE, interest is calculated for the accounts using the interest rules that you define. You can define the interest rules to suit the specific requirements of your bank.

Defining an Interest Rule

A 'Rule' identifies the *method* in which interest has to be calculated. For example, to calculate interest for an account, you would require the following data:

- The principal (the amount for which you want to calculate interest),
- The period (the number of days for which you want to apply interest), and
- The rate (the rate at which you want to compute interest).

When you define a rule, you define exactly *how* each of these components (the principal, the period, and the rate) is to be picked up from an account for calculating interest. Then, using the expression PNR/100 (or any other, for that matter), you can calculate interest for the account.

The Components of an Interest Rule

The components required to build an interest rule (the principal, period, and rate) are broadly referred to as "data elements". Data elements are of two types:

- System Data Elements (SDEs), and
- User Data Elements (UDEs).

The balance in the account for which the interest has to be calculated depends on the activities that take place in the customer account over a period of time. This information is constantly updated in the system and is readily available for computation of interest. Data elements of this sort are called System Data Elements.

Data elements such as the rate at which *you* would like to apply interest, the tier structure based on which *you* would apply an interest rate, etc., are called User Data Elements (UDEs). UDEs fall into three categories:

- Rate
- Amount
- Number

You can specify different values for a user data element. For example, you can apply *different* interest rates on the basis of the debit balance, as follows:

- Balances between 0 upto 10,000: 5%
- Balances between 10,000 and 20,000: 7.5%
- Balances greater than 20,000: 10%

Using the System Data Elements and the User Data Elements that you define, you can create formulae to compute interest. In other words, formulae connect SDEs to the UDEs to give a result: the interest that applies.

To use a metaphor, SDEs and UDEs are the pillars on which an arch called formula rests. Many arches combine to form a dome called Rule. The things that you choose to put under a dome correspond to the account classes (or accounts themselves) on which the rule applies.

To build an interest rule, you first need to define the System Data Elements that you would use in the Interest Rule. For example, if you would like to apply interest on the basis of the Monthly Minimum Credit Balance, you should define it as an SDE in the System Data Element Maintenance screen. When you apply the interest rule with ‘Monthly Minimum Credit Balance’ defined as the SDE on an account class, interest will be calculated using the monthly minimum credit balance in the accounts belonging to the account class.

Once you have defined an interest rule, you have to define an *interest product*.

What is a Product?

Your bank will pay and receive different types of interest and charges. For example, you would pay credit interest on credit balances in savings types of accounts. Similarly, on current accounts you would levy a debit interest on debit balances, and so on. Credit interest and debit interest are examples of the products that you can define.

The Advantages of Defining a Product

An interest rule is *merely* built with the logic to calculate interest. You still have, however, to specify the accounts on which the logic has to be applied, the types of GLs (expense, income, etc.), and the GLs themselves to which you would like to post the accounting entries. You can define such details for an *interest product*. When you link an interest rule to an interest product, and apply the product on an account, interest will be calculated for the account using the interest rule, and the accounting entries would be automatically posted to the GLs that you specify for the interest product.

Defining 'Conditions'

You can apply an interest product on an account(s) in two ways:

- By linking an account class to a product, thereby making the product applicable to all the accounts of the class. This method of linking accounts is called the definition of a General Condition; or
- By linking an account itself to the product. This method of linking accounts is called the definition of a Special Condition.

Defining a General Condition

Often, you may calculate interest for several account classes using the same interest calculation method. In such a case, you can apply the same product on all the account classes. When creating an interest product, you can specify the account class (es) on which the product applies. However, since the interest rate or the tier structure based on which you would want to calculate interest would be unique to an account class, you can specify *different values* for each account class on which you apply the product.

The implications of applying the same product on several account classes are:

- Interest will be calculated for all the account classes on the basis of the interest rule linked to the product.
- The accounting entries generated will be posted to the GLs specified for the product.

- The frequency with which interest is liquidated and accrued will be the same for all the account classes.
- You can define different UDE values for each account class on which you apply the product.

The definition of a general condition would be the most commonly used facility at your bank.

Defining a Special Condition

When you define interest attributes for an *account itself*, rather than for the account class to which it belongs, it is referred to as a *Special Condition*.

When maintaining an account in the Customer Account Maintenance screen, you can opt to define 'special conditions' for it. If you opt to define special conditions for an account, the 'general conditions' defined for the Account Class to which the account belongs will NOT apply to this account.

Typically, you would want to maintain a special interest condition for a special customer.

Using Prevailing Market Rates

The interest rates for a currency can either be fixed or floating. If you want to apply a fixed interest rate for an account class, you can define so for the product. The prevailing market rate for a currency can be maintained in the Rates Maintenance screen. The rates maintained here can be updated every time there is a change. You can apply prevailing rates on an account class by specifying the rate codes (that you assign in the Rates Maintenance screen) in the UDE Values Maintenance screen.

Combining Accounts

If you have a customer with many accounts, you can combine them for the purpose of application of interest. For example, if you have a corporate customer who has ten current accounts, you can combine them for the calculation and application of interest.

When defining interest details for a customer account (in the Customer Account Maintenance screen) you can maintain the information necessary for the combination of accounts. Combination can be of two types – for **calculation** (this involves combined calculation and booking) or for **booking** only.

- If you specify that the combination is for calculation, the balances in all the accounts will be added to the balance in a specified account and the interest will be calculated on the sum of the balances. When liquidation takes place, the interest and charges will be booked to the specified account.
- If you specify that the combination is for booking only, the interest and charges will be calculated for the individual accounts. When liquidation takes place, the sum of interest and charges for all the accounts will be booked to a specified account.

Calculating Charges

To calculate the charges that you would like to levy on an account, you have to specify the *basis* on which you would like to apply charges. For example, you may want to apply charges on the basis of the *debit turnover* in an account. When you define a Charge product, you have to specify the Charge basis. When you apply the charge product on an account or an account class, charges for the account will be calculated on this basis. The accounting entries would automatically be posted to the GLs that you specify for the charge product.

You can calculate charges for an account on the following bases:

- Number of Account Statements
- Number of checks returned
- Number of checks issued
- Number of Stop Payments
- Turnover
- Number of transactions
- Number of ad hoc Account Statements

For any charge basis, you can define the number of items that should not be charged. Thus, you can apply a charge only if the number of account statements given to the customer exceeds a certain number, and so on.

Other Features

- At any point in the day, you can compute (and not apply) interest for an account or account class. This facility enables you to answer an across the counter query on interest applicable for an account.
- You can maintain the format of the Interest Statement that you would like to generate for an account.

Retrieving Information

Information about the application of interest or charges on accounts can be retrieved in many ways. You can retrieve data in two ways:

- As a report, or
- As an on line query.

When you seek information in the form of a display, on the basis of certain parameters, you perform a *'query'*. Typically, you would 'query' (the system) to provide your customer with immediate information, such as the interest accrued on an account, the interest rates applicable, etc.

A report, on the other hand, is information retrieved mostly in a printed format. However, you can direct a report to one of the following destinations:

- The printer,
- The screen (as a display), or
- A spool file (stored as a spool file to be printed later).

The reports that you have spooled can be printed, or viewed, through the Reports Browser screen.

3. Maintaining Interest Rules

3.1 What is a Rule?

A 'Rule' identifies the *method* in which interest or charge has to be calculated. For example, to calculate interest for an account you would require the following data:

- The principal (the amount for which you want to calculate interest),
- The period (i.e., the number of days for which you want to apply interest), and
- The rate (the rate at which you want to compute interest).

Using the formula PNR/100 you can calculate interest for the account. When you define a rule you define exactly *how* each of these components (the principal, the period, and the rate) is to be to be picked up from the account for calculating interest.

In the case of charges, you may have to specify the conditions for which you would need to apply charges. For example, you may want to apply charges on the basis of the *debit turnover* in an account. When you define a Rule to calculate the charge, you have to specify how the debit turnover in the account has to be picked up and how the charge has to be applied.

3.1.1 Data Elements

The components required to calculate interest (the principal, period, and rate) are broadly referred to as "**data elements**". Data elements are of two types:

- System Data Elements (SDEs) and
- User Data Elements (UDEs).

The balance in the account for which the interest has to be calculated, the turnover of the transactions on which a charge has to be applied, etc., depend on the activities that take place in the customer account over a period of time. This information is constantly updated in the system and is readily available for computation of interest or charges. Data elements of this sort are called **System Data Elements**.

Data elements like the rate at which interest has to applied, the tier structure based on which interest needs to be computed etc., are called **User Data Elements (UDEs)**. UDEs fall into three types:

- Rate
- Amount and
- Number.

You can specify different values for a user data element. For example, you can apply *different* interest rates on the basis of the debit balance, as follows:

- Balances less than 0 upto 10,000: 5%
- Balances between 10,000 and 20,000: 7.5%
- Balances greater than 20,000: 10%

Using the System Data Elements and the User Data Elements you can create formulae to compute interest and charges. In other words, formulae connect SDEs to the UDEs to give a result, which is the interest or charge that has to be applied.

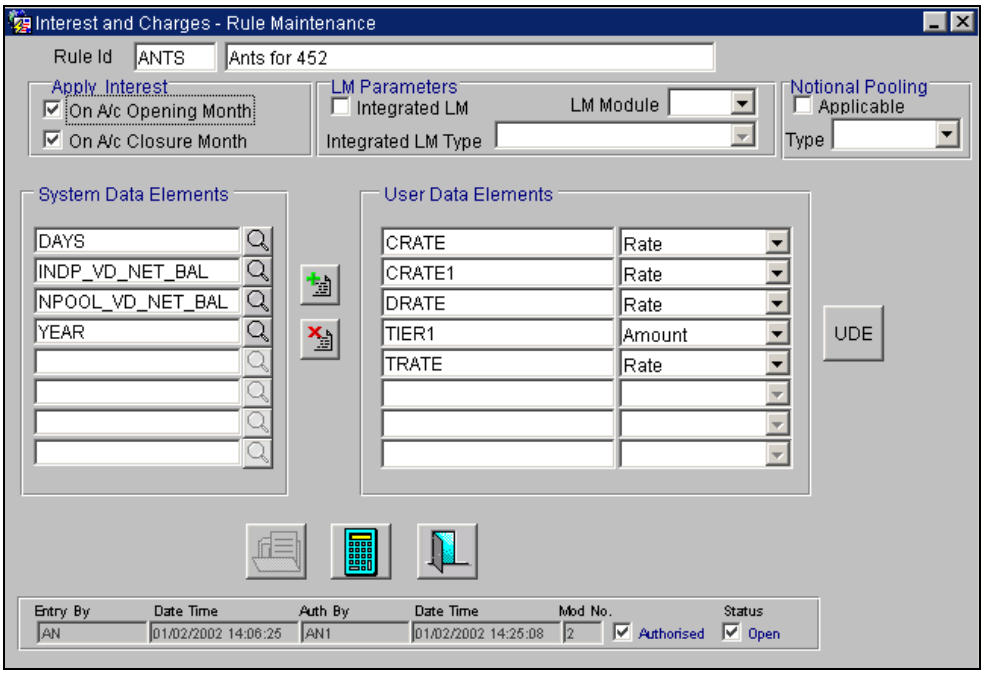
A Rule, therefore, is made up of SDEs, UDEs, and Formula (e).

3.2 Maintaining Rules

You can define Rules in the Interest and Charge Rule Maintenance screens. For a Rule, you can define

- The System Data Elements applicable
- The User Data Elements applicable and
- The formula (e).

In addition to specifying how the SDEs and UDEs are connected through the formulae, you also define certain other attributes for a Rule.



3.2.1 Identifying a Rule

You must assign each Rule that you define a unique code. This code should, ideally, represent the type of interest or charge that you are defining. When you want to link a product to a Rule, it should be possible for you to identify the Rule with only the code you have assigned it.

3.2.2 Identifying the LM sub-module for which you are building the Rule

An account can be a part of the Pooling as well as the Sweeping structure. The Sweeping structure is set through the Cash Management sub-module and the Pooling structure is set using the Cash Pool sub-module of Liquidity Management.

To identify whether an IC Rule pertains to a Sweep or a Pool structure, while creating the IC Rule you need to identify the appropriate sub-module.

You have to set up separate IC Rules for the sweep child, sweep header, pool child and pool header accounts. With each rule you can either associate the Cash Management or Cash Pooling sub-module, depending upon whether the rule is meant for sweeping or pooling respectively

3.2.3 Applying Interest on the Account Opening or Closing Month

By default, interest will always be applied from the day an account is opened till the day before it is closed. However, you have the option of excluding the month in which the account is opened or closed from being considered for interest application.

Example

An account is opened on 10 April 1998. By checking the box adjacent to 'On Account Opening Month' you can indicate that interest has to be applied from 10 April 1998 (the Account Opening Date). If you leave the box unchecked, interest will be applied only from 01 May 1998.

When you do not check the box against the 'Account Opening Month' you indicate that the days in April should be ignored while calculating interest for the account. This will be true even if the account was opened on the 01 April. That is, interest will be applied for the account only from 01 May 1998.

The account closure date is 10 April 1998. By checking the box adjacent to 'On Account Closing Month' you can indicate that interest has to be applied upto 09 April 1998. If you leave the box unchecked, interest will be applied only upto 31 March 1998.

However, please note that while processing interest manually, you have the option to specify a date till which you want to liquidate interest.

3.2.4 Maintaining a 'Notional Pooling' type of Rule

You can also maintain interest rules for calculating interest for a pool type of account structure. In this type of structure, a set of accounts are grouped together to form a pool. A pool consists of a header account and one or more child/source accounts. With a pooling structure, you can consolidate the balances from the child accounts and parent accounts to facilitate interest calculation. Consolidation and interest calculation happens in the parent account.

You have to select the 'Applicable' option if you wish to maintain a rule for a Pool Structure.

If you are maintaining a rule for a pool structure, you also have to identify the type of rule that is to be built to facilitate interest calculation for such accounts. You can create rules of the following types:

Standalone (Individual)

The standalone type of rule will be applicable for accounts (may be header accounts or child accounts) to determine the interest the account would have earned if it were not part of a pool structure but a standalone account. That is, the customer account would be of 'Standalone' type (this is specified through the 'IC Special Conditions Maintenance' screen). In this type, the accrual information will be stored but the accounting entries for accrual will not be posted.

The entries for liquidation will be posted to 'Master' accounts and for 'Child' type of accounts that are marked for accounting (in this case, the option 'With Accounting' is selected for the Pool Structure). Entries will be suppressed for 'Child' accounts not marked for accounting (i.e. without reallocation).

Pool

This type of rule will be applicable for 'Master' accounts in a Pool Structure. The rule will be used to calculate interest on the consolidated balance of the pool. Interest in individual account (standalone) balances will not be given by this rule. In this type, the calculation, accrual and booking entries will be posted to the header/master account of the pool.

STOP The IC Module will use the Rule Type to pick up the appropriate 'IC Product' for interest calculation.

Refer the section titled 'Maintaining a Pool Structure' of the 'Applying an Interest Product on an Account' chapter of this User Manual for details on maintaining a pool structure to enable notional pooling of customer accounts

3.2.5 Specifying System Data Elements (SDEs)

The first thing that you have to do while defining a Rule is to pick up the System Date Elements that you would use in the rule. You can pick up as many of them as necessary; only those that are picked up here can be used in the formulae for the Rule subsequently.

To recall, an SDE identifies the principal and the period for which you would like to apply interest or charges. The attributes for each SDE are defined through the System Data Elements Maintenance screen. In this screen you can only identify the SDEs, which you would like to use to build interest rules.

3.2.6 User Data Elements (UDEs)

In the same way that you pick up the SDEs applicable for the rule, which you are defining, you should identify the UDEs, which you would be using in the rule. The UDEs that you pick up could be any of the following types:

- Rate
- Amount
- Number

The interest that you charge on a debit balance is an example of a debit rate. The interest that you pay on a credit balance is an example of a credit rate.

A User Data Element will be an amount under the following circumstances:

- In the case of a tier structure, the upper and lower limit of a tier or a tier amount;
- In the case of a charge, when it is indicated as a flat amount; and
- Any amount that can be used in the definition of formula(e).

A UDE as a number is typically used for a Rule where interest or charges are defined based on the number of transactions. A UDE under this category can also be used to store a numerical value that may be used in a formula. For example, in the formula you would like to multiply an intermediate result with a certain number before arriving at the final result. The "certain number" in the formula can be a UDE.

You can enter the actual values of the UDEs (like the interest rate, the upper limit for the tier, etc.) in the IC User Data Element Maintenance screen. This is because you can specify different values for each data element. A rule can, therefore, be applied on different accounts since it just represents a method of interest calculation. The following example illustrates this.

Example

You have different current account classes: one for accounts in the local currency (CLC1) and one for accounts in GBP (CBP1). The method in which you want to apply interest on both types of accounts is the same: that is, on the *monthly minimum credit balance*. The other conditions that you want to apply on the account classes, such as not applying interest for the account opening and closing months are also the same for all the accounts.

However, the interest rates that you want to apply for CLC1 is 5%; for CBP1 is 6%.

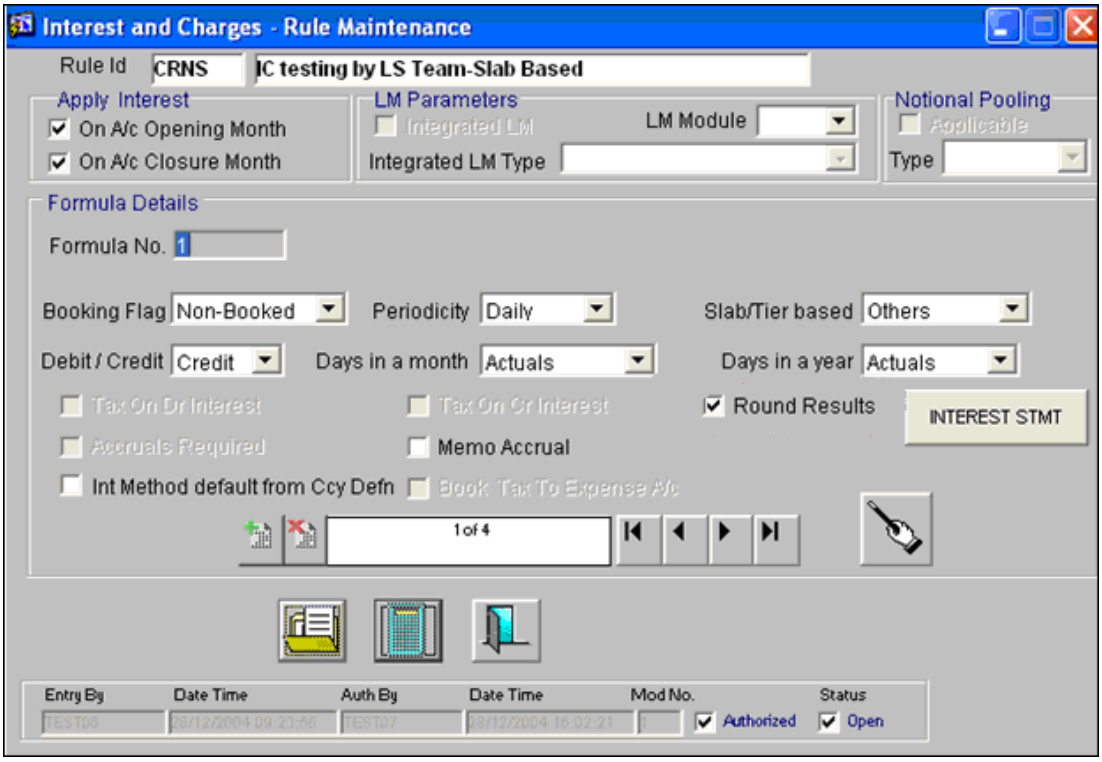
You can create one rule (RULE 01, for example), using the SDEs and UDEs required, and only change the values for the UDE: that is, the Rate. You can do this in the UDE Values Maintenance screen when you define an interest product (refer the chapter 'Creating Products'). In this screen, you can define different UDE values for each account class on which you apply the RULE 01.

That is, you can specify that the rate to be applied for CLC1 is 5%, the rate to be applied to CBP1, 6%.

STOP You can modify the values of the UDEs that you choose. However, remember to check the formulae where you have used the user data element. The modified data element will apply only from the current interest period. It will not have a retrospective effect.

3.2.7 Attributes of a Formula

Using the SDEs and the UDEs that you have specified for a Rule, you can calculate interest. You have to specify the method for calculating interest in the form of formulae. Using the SDEs and the UDEs you can create any number of formulae for a Rule.



The following are the attributes of a formula:

3.2.8 Booking Flag

The Booking Flag of a formula denotes whether the result of a formula should be:

- Booked (that is, if the resulting amount should be posted to the customer account);
- Non-booked (that is, the result of the formula is to be used in another formula and not to be posted to the customer account); or
- Tax (that is, the formula is used to calculate tax. The tax can be borne either by the customer or the bank)

3.2.9 Periodicity of Application

The Periodicity of a rule application denotes whether the formula you are defining has to be:

- Applied for each change during the interest period (or daily); or
- Only for the last day of interest period (periodic).

The following example illustrates how the concept of periodicity of application of a formula functions:

Example

CACLY1 is an account class. On all the accounts belonging to this class, you want to apply a credit interest on the minimum monthly balance. The interest liquidation periodicity is every quarter.

Let us consider the liquidation period of January, February and March 1998. The monthly minimum balance in an account belonging to the class is as follows:

January USD 10,000

February USD 15,000

March USD 5,000

The current market rate should be applied on the account, and the rate varies as follows for the three months:

- On 31 January 5%
- On 28 February 5.5%
- On 31 March 4.5%

If the application periodicity is daily, the interest will be applied on the account as follows:

January 5% on 10,000

February 5.5% on 15,000

March 4.5% on 5,000

You will notice that the balance considered is the minimum for each month, and the rate applied is the rate as of the end of each month. The sum of the interest for all these months will be the interest for the period.

If the application periodicity is by period, the interest will be applied on the account as follows:

(4.5% on 5,000) * 3

This is because, for the 'by period' application periodicity, the minimum in the month of March will be picked up, on which the rate applicable at the end of the period (which is 4.5% on 31 March) will be applied for the three months.

Note that the periodicity that you enter here is different from the liquidation periodicity. The Periodicity that you define for a rule is a calculation periodicity. The Liquidation Periodicity is the interval between two successive automatic liquidations.

- You can define the liquidation periodicity when you create a product.
- You define the periodicity of formula application in this screen.

3.2.9.1 System Data Elements (SDEs) available for notional pooling

The following SDEs have been introduced to get the standalone balances of accounts. These will be used to build a stand alone formula to get the balance of the stand alone system account, child account with reallocation, child account without reallocation and header account.

System Data Element ID	Description
INDP_VD_CR_BAL	Independent Value dated credit balance
INDP_VD_DR_BAL	Independent Value dated debit balance
INDP_VD_NET_BAL	Independent Value dated net balance

The following SDEs have been provided to derive the pool balance of the structure. This would typically be the sum of value dated balances of the child accounts and header accounts linked to the pool. It would be denoted in the currency of the header account itself. This would return a value only for the pool system account.

System Data Element ID	Description
NPOOL_VD_CR_BAL	Value dated credit balance for the pool
NPOOL_VD_DR_BAL	Value dated debit balance for the pool
NPOOL_VD_NET_BAL	Value dated net balance for the pool

The SDE 'ACCOUNT_TYPE' will be used in the formula to by pass calculation of some formulae depending on the value of this SDE.

The values returned by the same will be as follows:

- Stand alone system accounts with reallocation – 0
- Child system accounts without reallocation – 1
- Child system accounts with reallocation – 2
- Header system accounts with reallocation – 3
- Pool system accounts – 4
- Header system accounts without reallocation - 5
- Stand alone system accounts without reallocation - 6

3.2.10 Indicating the Nature of the Result of a Formula

The result of a formula will be an amount that has to be either *debited* from the customer account or *credited* to it. For example, the debit interest that you charge on an overdraft would be debited from the customer account; while, the credit interest that you pay would be credited to the customer account. In this screen, you indicate this.

Often, when calculating interest for an account, you would want to debit interest under certain conditions and, under certain other conditions, credit interest. In such a case, you can build formulae to suit *both* conditions. The formula that is used to calculate interest for the account would depend on the condition that is fulfilled.

Example

Requirement:

For overdrafts in Current Account 01 (CLC1) you want to apply debit interest based on the daily net balance in the accounts. If the account is in credit balance throughout the interest period, you would like to pay credit interest.

Approach:

- Build a rule with two formulae.
- Indicate that if the account is in a debit balance, the result of the formula is to be debited from the customer account. Build a second formula in which you indicate that if the account has a credit balance throughout the interest period, the result of the formula is to be credited to the customer account.
- Specify the Booking Flag for both these formulae as Booked (meaning the result should be used to post an entry into the customer account).

When this rule is applied on an account, only one formula will be picked up for interest calculation because only one condition would be fulfilled. Interest would be calculated using the formula that is picked up.

3.2.11 Indicating whether the formula is for calculating tax on interest

You may wish to charge stamp duty on debit interest or withholding tax on credit interest. While maintaining the details for a particular formula in the Interest and Charges – Rule Maintenance screen, select the 'Tax on Dr. Interest' option to indicate that the formula is for computing stamp duty. Similarly, if you are defining a formula for computing withholding tax on credit interest, select the 'Tax on Cr. Interest' option.

You can select only one of the above options for a particular formula. Either option can be selected ONLY if the formula type is 'Debit' and the Booking Flag is set to 'Booked' or 'Tax'.

3.2.11.1 Interest Statement Generation

For including stamp duty and/or withholding tax in the interest statement, you should include the '_TAXONDEBIT_' and '_TAXONCREDIT_' tags in the interest statement advice format.

3.2.12 Arriving at the Number of Days for Interest Calculation

The method in which the "n" of the formula for interest calculation, PNR/100, has to be picked up is specified for a formula. This is done through two fields: Days in a month and Days in a year.

Days in a month

The number of interest days for an account can be arrived at in three ways. One, by considering:

- The actual number of days in a month;

- Two, the US method of considering 360 days in a year
- Three, the Euro method of considering 360 days in a year.

Example

If you indicate that you want to take the actual number of days in a month for calculating the interest days,

- 31 days be considered in January
- 28 days would be considered in February (for a non-leap year)
- 29 days would be considered in February (for a leap year) and so on.

If you indicate that 30 days should be considered as the interest days in a month:

- 30 days would be considered in January (for both the Euro and the US methods);
- 30 days would be considered as interest days in February in the case of the Euro method (irrespective of leap or non-leap year); In the US method, the actual number of days would be considered (i.e. 28 days for a non-leap year and 29 days for a leap year).
- 30 days in March would be considered as interest days; and so on, irrespective of the actual number of days in the month.

Based on your input here, the number of days will be picked for a *"complete"* month for which interest has to be applied. Elaborating:

Example

You have indicated that the *actual number of days* in a month should be considered for interest calculation. Interest was last liquidated on an account on 31 December '97 and the interest liquidation cycle is quarterly. You would like to liquidate on 15 March '98. The number of days considered, in this case, for interest calculation would be:

- January 31 days
- February 28 days
- March 14 days (unless you specify during liquidation that it has to be 15 days)

If you had said *30 days* should be considered for interest calculation in a month, the days would be:

- January 30 days
- February 30 days (In the US method it would be 28 or 29 days depending on whether it is a leap year or a non-leap year.)
- March 14 days (unless you specify during liquidation that it has to be 15 days)

In the latter case, if you are liquidating on 28 February, as of 27 February, it will be:

- January 30 days
- February 27 days

If you liquidate on 28 February, as of 28th February, it will be:

- 30 Days for February (in case of a non leap year)
- 28 days for February (in case of a leap year)

If you liquidate as of 29 February on a leap year, it will be:

- 30 Days for February

If you specify that the actual days in a month should be used for calculation of interest days, all calculations will be according to the calendar. The value will be the exact number of days in the relevant period, for example, 31 days in January, 28 days in February, 29 days if it is a leap year and so on.

If you choose to consider each month as having 30 days all calculations will be based on this assumption. Irrespective of the number of days in the relevant month according to the calendar, the value will be calculated on the assumption that there are 30 days in every month.

Days in a year

The interest rate is always taken to be quoted as per annum. You must therefore indicate the denominator value (the total number of days in the year) based on which interest has to be applied.

You can specify the days in a year as

- Actual number of days (leap year will be 366, non leap year will be 365),
- 360 days, or
- 365 days (leap and non leap will be 365).

If you specify that the actual days in a year should be used for calculation of interest days, all calculations will be according to the number of calendar days in the year. For example, if it is a leap year, 366 days will be taken as the total period.

In case you choose to consider each year as having 360 days all calculations will be based on this assumption. Irrespective of the number of days in the relevant year according to the calendar, the value will be calculated on the assumption that there are 360 days in the year.

In conclusion, the number of days to be used for calculation of interest can be any of the following combinations:

- Actual / Actual (the actual number of days in a month / Actual number of days in a year)
- Actual / 360
- 360 / Actual
- 360/360
- 360/365

The following table illustrates how this is achieved in Oracle FLEXCUBE:

Days to be considered	**Specification in Oracle FLEXCUBE**
Actual / Actual	Click on Actuals in 'Days in a Month' field; Click on Actuals in 'Days in a Year' field.
Actual / 360	Click on Actuals in 'Days in a Month' field; Click on 360 days in 'Days in a Year' field.
360 / Actual	Click on 30 days in 'Days in a Month' field; Click on Actuals in 'Days in a Year' field.
360 / 360	Click on 30 days in 'Days in a Month' field; Click on 360 days in 'Days in a Year' field.

Round Results

Check this box to specify that the result of the non-booking formula has to be rounded. This option is checked and disabled for booking and tax formula.

3.2.13 Indicating Interest Accruals

Only if you indicate that interest should be accrued (for a formula) will it be done. You can opt to accrue the interest due to one formula and choose not to accrue the interest due to another formula that you are defining for the same rule.

Please note that only a booking formula can have accruals.

You can indicate, as a preference (in the Product Preferences screen), if all the accrual entries generated can be passed for a product rather than for individual accounts linked to the product.

The interest that is accrued can be posted into different accounts. The result of each formula is an accounting role and you can map each into a different GL/SL (Accounting Head).

3.2.14 Specifying who bears the Tax

If the formula that you are creating is a tax formula, you have to specify if the tax amount would be borne by the customer or the bank. For example, if the tax on the credit interest that you pay your customer is borne by the customer, you need to indicate this here.

If, on the other hand, you charge a customer interest on the debit balance and bear the tax on your income, you should indicate that the bank would bear the tax.

In either case, when you have to pay tax ultimately, one entry would involve the Tax Payable GL. The accounting Role, in both cases would be 'Tax'. Choose the GL/SL head depending on whether the customer or the bank bears the tax.

Please note that when the formula is Tax, you will invariably be using the result of a previous formula(e), which would return the actual interest that is applied. The tax formula should then indicate the method in which tax should be calculated *on* this interest. Note that a tax formula will not be accrued. It is suggested that a tax formula be 'periodic'.

When you create a product, the accounting roles available would depend on the formulae that you have defined. For example, only if you have built a tax formula for an interest rule, would the accounting role 'Tax' be available for the product.

3.2.15 Specifying whether the rule is tier or slab based

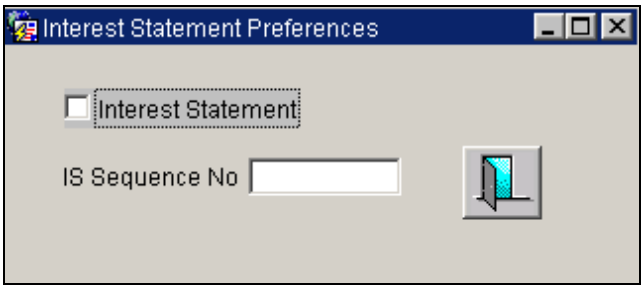
When defining an Interest Rule, you can opt for one of the following basis for interest calculation:

- Slabs,
- Tiers or
- Others

This will be used as a reporting field and will be handed off in the ICO handoff. There would be no processing in Oracle FLEXCUBE with this field.

3.2.16 Maintaining Interest Statement details for the formula

For each formula that you create, you can maintain interest statement details through the 'Interest Statement Preferences' screen. Click on the INTEREST STMT button to access this screen.

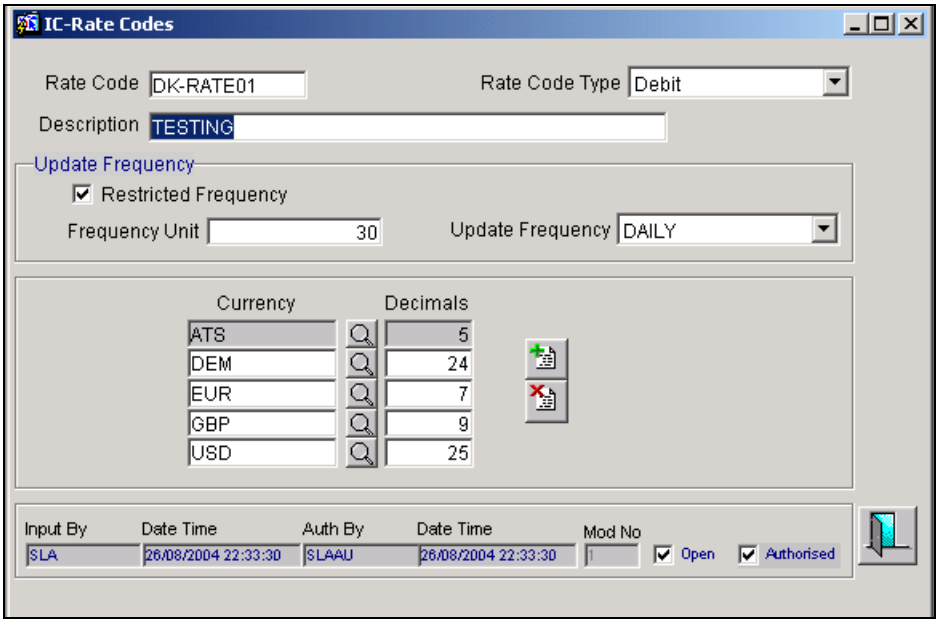


Typically, Oracle FLEXCUBE includes only 'Booked' formula (denoted by the 'Booking Flag') in the statements. However, you have the option to include 'Non-Booked' formulae (intermediate types – the result of which is used in other formulae) as well in the interest statements. To achieve this, you have to select the 'Interest Statement' option as a preference for the formula being created.

If you opt to include the formula in the statement, you also have to specify the 'Interest Statement Sequence Number' to indicate the order in which formulae are to be presented in the Interest Statement.

Refer the chapter titled 'Maintaining Interest Statement details' of this User Manual for information on Interest Statement Format Maintenance.Maintaining Rate Codes

You can define Rate Codes for Interest & Charges in the IC – Rate Codes screen. You can invoke this screen under Interest Rates menu in the Application Browser.



The following details need to be stored for maintaining Rate Codes:

3.2.17 Identifying a Rate Code

You must assign each Rate Code that you define a unique code. This code should, ideally, represent the type of rate code that you are defining. When you want to link a Rate Code to an IC Product, it should be possible for you to identify the Rule with only the code you have assigned it.

The Rate Code can be an alphanumeric value of 10 characters length.

3.2.18 Specifying a Description for the Rate Code

You can give an appropriate description for the Rate Code defined. Description can be maximum 35 characters in length.

3.2.19 Specifying the Rate Code Type

For the Rate Code you are defining, you can specify if the Rate Code Type is Debit, Credit, Both or Tax by selecting from the drop-down list.

3.2.20 Specifying the Update Frequency details

For every Rate Code that you define, you can specify the following:

Indicate if it is a Restricted Frequency

You can indicate whether the Update Frequency for Rate Code you are defining is restricted or not. If this option is checked, you cannot modify the Update Frequency details for this Rate Code later.

Update Frequency

You can specify the update frequency details for the Rate Code that determines the frequency of revision of the Rate Code.

The frequency can be:

- Daily
- Monthly

Select the same from the drop-down list.

The Rate for this Rate Code cannot be changed before the specified frequency. This is applicable for back valued rate changes also.

Update Frequency Unit

You can specify the Update Frequency Unit for the Rate Code you are defining by entering a value in this field.

The examples below explain how the Update Frequency and Update Frequency Unit together determine the frequency of revision of the Rate Code.

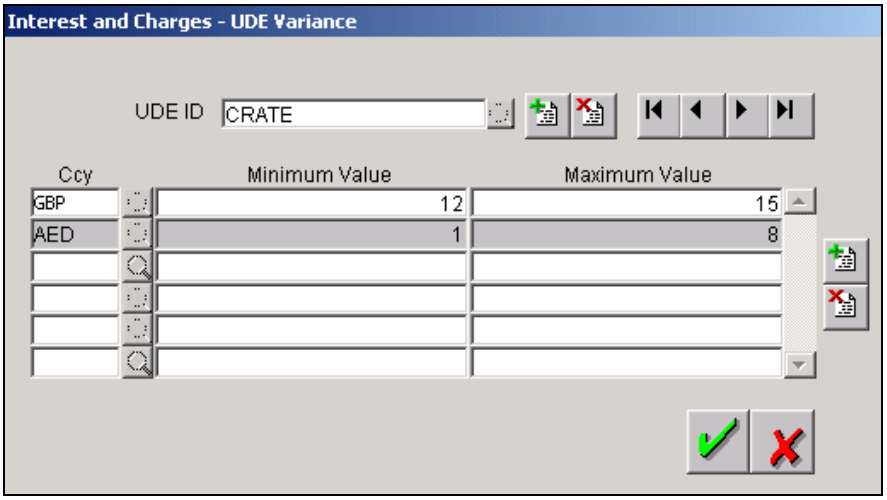
- If you select the Update Frequency chosen as daily and you enter 02 for the Update Frequency Unit, then the Rate Code is revised once in every two days.
- If you select the Update Frequency chosen as weekly and you enter 01 for the Update Frequency Unit, then the Rate Code is revised every week.
- If you select the Update Frequency chosen as monthly and you enter 03 for the Update Frequency Unit, then the Rate Code is revised every quarter.

3.2.21 Specifying the Currency details

You can provide the currency details i.e., the currencies allowed for this Rate Code and the maximum decimals allowed for each of these currencies, for the Rate Code you are defining.

3.3 Maintaining UDE values for a currency

When defining User Data Elements for an Interest Rule, you should also define the maximum and minimum values for an element for each currency. You can maintain these set of values in the 'Interest and Charges – UDE Variance' screen. Click on the UDE button in the 'Rule Maintenance' screen to invoke it.



In this screen you can maintain a limit for each currency for a specific UDE. You also have the option to maintain a single set of values for all the currencies. For this, select 'ALL' from the option-list provided for the currency. The values will be expressed in percentage.

The interest for an account will be calculated based on the rate maintained for an UDE in the 'IC UDE Values Maintenance' screen. The rates are maintained for an Interest Product, Account Class, Currency and Effective Date combination.

Refer the section titled 'Giving UDE Values for a General Condition' of the 'Applying an Interest Product on an Account' chapter of this User Manual for details.

During IC EOD, the system will compare the interest applicable for an account with the limits maintained for the UDEs in the 'UDE Variance' screen. If the interest is below the minimum rate (as maintained in the UDE Variance screen at the Rule level), the minimum rate will be considered for interest calculation of the account. Likewise, the maximum rate will be considered if the interest rate exceeds the maximum rate maintained at the 'UDE Variance' screen for the rule.

These values will be applied only to 'RATE' and 'TAX RATE' UDEs.

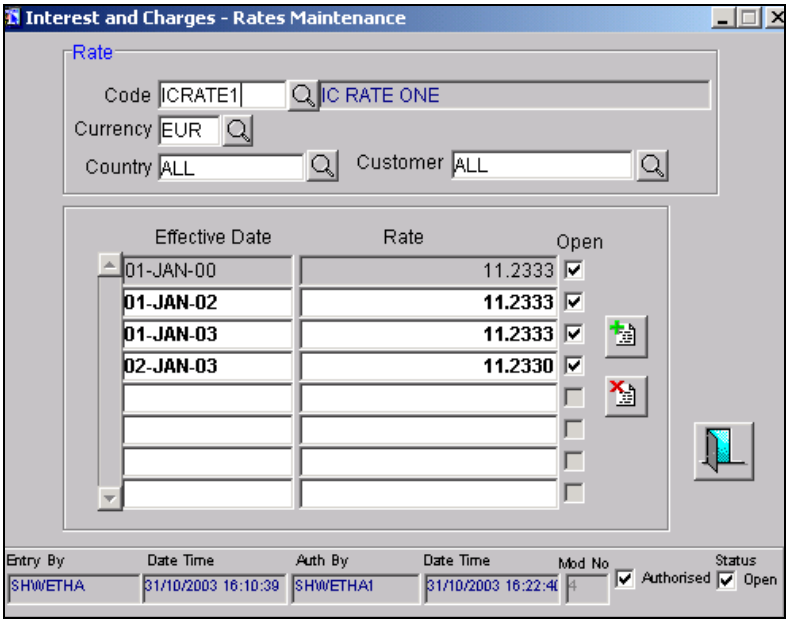
3.4 Applying tax rates on the basis of country and customer

At your bank, the tax rate that you apply on the interest a customer earns may vary with customers, currencies and the country of domicile. To achieve this in Oracle FLEXCUBE, you have to:

1. Maintain tax rate codes and rates for the customers, currencies, and countries concerned.
2. Identify suitable UDEs for tax when building a Rule.
3. Define the tax attributes for the IC Product you choose to apply on the accounts concerned.
4. Associate suitable tax rate codes to the UDEs identified for the product that applies on the account class or a specific account.

3.4.1 Maintaining tax rates for specific customers and countries

To maintain customer and country specific interest and charges rates, invoke the Interest and Charges Rates Maintenance screen from the Interest and Charges menu in the Application Browser.



For a rate code, which you can select from the option list provided, for different effective dates, you can maintain different rate values. The Rate Codes displayed in the option list will be the Rate Codes that are separately maintained for I & C products under I & C Maintenance menu. You can maintain these rates for different currency, customer and country combinations.

STOP Note that Oracle FLEXCUBE applies the tax rate code in the following order:

	Rate Code	Tax Currency	Country	Customer
1.	Specific	Specific	Specific	Specific
2.	Specific	Specific	Specific	All
3.	Specific	Specific	All	All

STOP If you want to maintain one or both of the first two types of combinations for a rate code, you also *have to* maintain the third combination. Therefore, to define a standard record for a specific Rate Code and Tax Currency, you will choose ALL in the Country and as well as the Customer fields.

Given below are samples of all three types of Tax Rate records for a given Rate Code:

Record I

Rate Code	**AT-RATE01**
Currency	USD
Country	AT (Austria)
Customer	TAXCUS02

Effective Date	**Rate**	**Open**
01-JAN-01	5.00000	Yes

Record II

Rate Code	**AT-RATE01**
Currency	USD
Country	PL (Poland)
Customer	ALL

Effective Date	**Rate**	**Open**
01-JAN-01	13.00000	Yes

Record III

Rate Code	**AT-RATE01**
Currency	USD
Country	ALL

Rate Code	AT-RATE01
Customer	ALL

Effective Date	Rate	Open
01-JAN-01	15.00000	Yes

Rates and Effective Dates

For a currency, country, and customer combination, you can maintain different rate values for different effective dates. A rate continues to apply on an account until a record with another effective date (with the same rate code, currency, customer and country) comes into effect.

The following example illustrates this point:

Example

Rate Code AT-RATE02

Currency DEM

Country ALL

Customer ALL

Effective Date	Interest Rate
01-FEB-01	4.61000
01-MAR-01	4.40233
01-APR-01	4.74733
01-MAY-01	4.29580

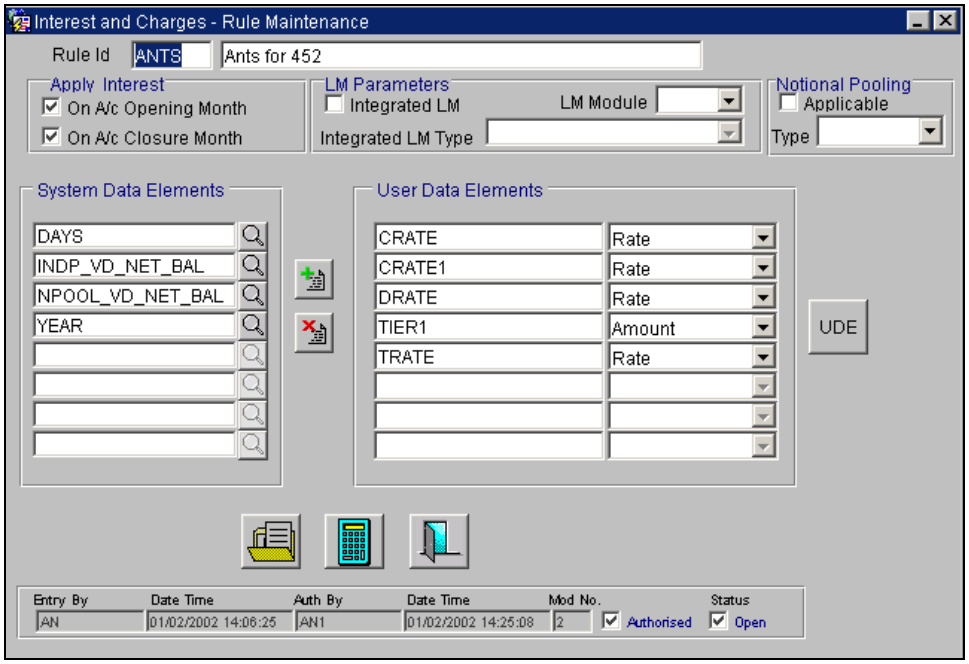
Effective Date	Interest Rate
01-JUN-01	4.26160

These rates will apply as follows:

Period	Interest Rate
01 February to 28 February 01	4.61000
1st March to 31st March 01	4.40233
1st April to 30th April 01	4.74733
01 May to 31st May 01	4.29580
1st June onwards	4.26160

3.4.2 Identifying suitable UDEs for a rule

If you would like to apply different tax rates on based on the customer, currency, and country of domicile, you have to build rules with suitable UDEs. While creating a rule, you have to identify UDEs that should be used for calculating tax on the interest earned.



When identifying the UDEs for a rule, choose ‘Tax Amount’ or ‘Tax Rate’ to indicate that the UDE is for tax purposes.

If you have associated only ‘Tax Rate’ type UDEs for the rule linked to the product, by default, the system will only look for the following record combination while applying the tax rate.

Rate Code	Tax Currency	Country	Customer
Specific	Specific	All	All

3.4.3 Maintaining Tax details for the IC product

While paying credit interest on foreign and local currency accounts, you can choose to compute and pay the withholding tax applicable on the interest amount either in the account currency or in the local currency.

When specifying your preferences for an interest product, you have to maintain the tax details for the product. The details that you need to specify include:

The Tax Currency

You have to identify the currency in which the tax amount is to be calculated and paid. The options available are as follows:

- ACY – Account Currency
- LCY – Local Currency

If the tax currency is different from the account currency, before deducting tax during transaction processing the system automatically converts the tax amount from the tax currency to the account currency.

The Rate Code

This is the rate code for which will be used when the account currency is different from the tax currency. You can identify the relevant rate code from the list of codes maintained in the Currency Rate Code Maintenance screen.

The Rate Type

You have to identify the Rate Type which is to be associated with the Rate Code and Currency combination. The options available are:

- Mid
- Buy
- Sell

You can select the applicable rate type.

The Treatment of Decimals

While converting the interest amount into the tax currency you have to indicate the manner in which the decimals should be treated. The options available are:

- Truncate – the digits after the decimal points will be eliminated.

- Round – the digits after the decimal points will be rounded off as per the currency definition. For instance, if the currency is a three decimal currency, this amount will be rounded off to three decimals.

Example

Assume that a non-resident customer is due to be paid an interest of 12 USD for the liquidation cycle that is due.

The withholding tax rate is 5%.

The prevalent exchange rate of 4.2 PLN/USD

You have indicated that the decimals should be truncated. As per your specifications the following calculations will be carried out:

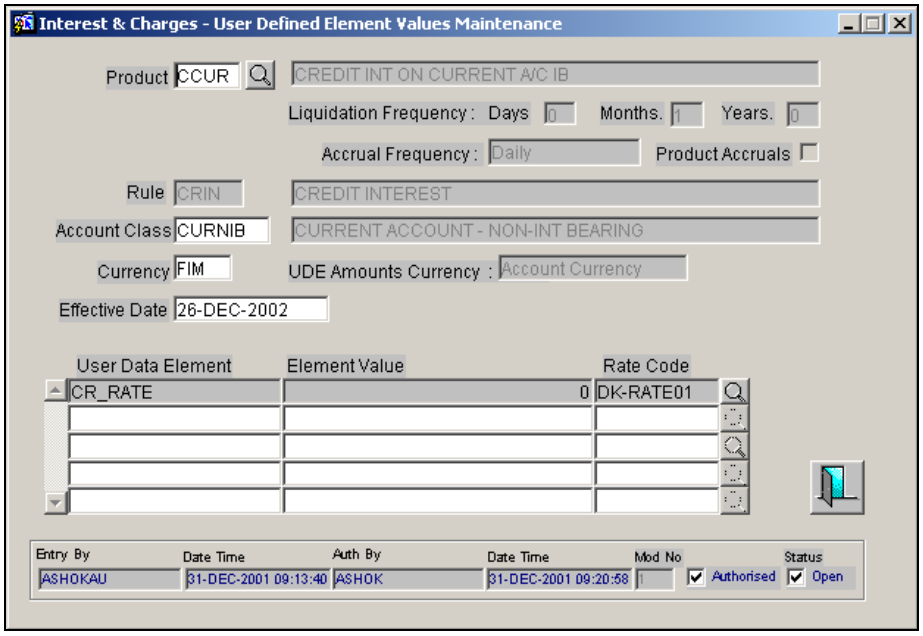
- 12USD @ 4.2PLN/USD = 50.4 PLN.
- 50.4 PLN truncated = 50PLN.
- Tax computed = 50PLN * 5/100 = 2.5PLN.
- Tax to be collected is truncation of the computed tax amount of 2.5PLN = 2PLN.
- The net amount due to customer is 12 USD – 2 PLN @ 4.2 PLN/USD = 11.52USD.

If you choose not to use the netting option the accounting entries to be passed would be as follows:

- Dr. Reserve for interest with USD 12.00 @ 4.2 PLN/USD = 50.4 PLN
- Cr. Customer account with USD 12.00 @ 4.2 PLN/USD = 50.4 PLN.
- Dr. Customer account USD 0.48 @ 4.2 PLN/USD = 2 PLN.
- Cr. Reserve for taxes PLN 2.00.

3.4.4 Associating a tax rate code to a UDE

Once you have maintained tax rate codes and rates, built rules with suitable UDEs, and defined the tax attributes for a product, you have to indicate the actual values of the tax UDEs in the UDE Values Maintenance screen.



In this screen, for each tax UDE, associate the appropriate tax rate code that has been maintained in the IC Rates Maintenance screen. The rate corresponding to the effective date will apply on all accounts belonging to the class.

For a special condition…

If you would like to apply a different rate on a specific account in an account class (a special condition), associate a suitable tax rate code in the UDE values section of the IC Special Conditions Maintenance screen.

3.5 Reallocating interest based on the header account balance

You can opt to apply interest on the Parent Account in an account structure and, subsequently, reallocate the interest earned to minor accounts in the structure, based on their contributions. The rate that you use for interest computation can either be based on the Pool balance or on the Pre-sweep, Post-sweep, or Pool balance of the header account. You can achieve all this by suitably setting up the IC module at your bank.

3.5.1 Creating a rule for interest reallocation

While creating Interest Rules in the IC Rule Maintenance screen, you can build rules that meet your requirement by associating the required SDEs with the rule.

The option list positioned next to the SDE field contains a set of pre-defined SDEs. From this list, you can select the SDEs that need to be associated with the interest rule you are creating.

System Data Element ID	Description
PRE_LM_BD_BAL	Pre LM Booking Date Balance
POST_LM_BD_BAL	Post LM Booking Date Balance
PRE_LM_VD_BAL	Pre LM Value Date Balance
POST_LM_VD_BAL	Post LM Value Date Balance
PRE_LM_AVAIL_BAL	Pre LM Available Balance
POST_LM_AVAIL_BAL	Post LM Available Balance
HD_PRE_LM_BD_BAL	Header Pre LM Booking Date Balance
HD_POST_LM_BD_BL	Header Post LM Booking Date Balance
HD_PRE_LM_VD_BAL	Header Pre LM Value Date Balance
HD_POST_LM_VD_BL	Header Post LM Value Date Balance
HD_PRE_LM_AVL_BAL	Header Pre LM Available Balance
HD_POST_LM_AL_BL	Header Post LM Available Balance
BD_NET_POOL_BAL	Booking Date Net Pool Balance
VD_NET_POOL_BAL	Value Date Net Pool Balance
BD_CR_CONTRIBUTION_AMT	Booking Date CR Contribution Amount

System Data Element ID	Description
BD_DR_CONTRIBUTION_AMT	Booking Date DR Contribution Amount
BD_NET_CONTRIBUTION_AMT	Booking Date Net Contribution Amount
VD_CR_CONTRIBUTION_AMT	Value Date CR Contribution Amount
VD_DR_CONTRIBUTION_AMT	Value Date DR Contribution Amount
VD_NET_CONTRIBUTION_AMT	Value Date Net Contribution Amount

Example

Let us assume that you want to re-allocate interest using the following parameters:

- Interest should be re-allocated from the Major (Header) account to the minor accounts in the structure based on the contribution of the individual accounts to the aggregate balance of the group.
- You would like to use the interest rate of the Major account prior to the sweep.

To meet this requirement, you would set up an IC Rule with the following parameters:

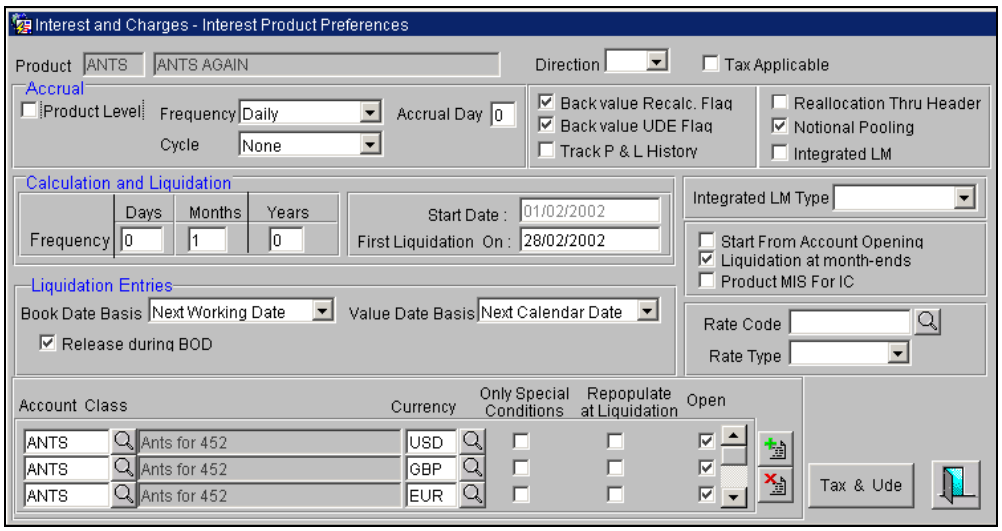
Fields in this screen	Your Entry/Validation
Rule ID	NPCC.
Rule Description	Notional Pooling Credit Child.
Apply Interest	On Account Opening Month. On Account Closure Month.
System Date Elements	DAYS HD_PRE_LM_VD_BAL VD_NET_CONTR_AMT YEAR
User Date Elements	NP_CRE_RATE (Amount)

Fields in this screen	Your Entry/Validation
	NP_DEB_RATE (Amount)

The formula that you need to associate with this Rule should be as follows:

Case	Result
HD_PRE_LM_VD_BAL >= 0 AND VD_NET_CONTR_AMT > 0	VD_NET_CONTR_AMT * NP_CRE_RATE * DAYS / (100*YEAR)
HD_PRE_LM_VD_BAL < 0 AND VD_NET_CONTR_AMT > 0	VD_NET_CONTR_AMT * NP_DEB_RATE * DAYS / (100*YEAR)

Subsequently, when linking this rule with a product, you would have to indicate that the system should re-allocate interest by debiting the Header account instead of the internal Profit and Loss account. You can do this by checking the box positioned next to the 'Reallocation through Header' field in the Preferences section of the IC Product Definition screen.



<u>An example of interest re-allocation based on the balance in a header account</u>

Let us assume that you have linked the parent account to a set of three sub-accounts. They are as follows:

Parent Account	**FI1000701 (EUR)**
Sub Accounts	FI1000703 (EUR)
	FI1000704 (EUR)
	FI1000705 (EUR)

The sub-account FI1000703 has a credit balance of 1000. FI1000704 has a debit balance of 1000 and FI1000705 has a credit balance of 1000.

If you identify ‘Pooling’ or ‘Sweeping’ as the scheme that is to be used, the system will consider the sum of all credit balances minus the sum of all debit balances. This amount equals to 1000 EUR.

The credit and debit interest rates you have specified are 5 % and 10% respectively. Since the balance in the Header account is Positive, and the interest rate is based on the pre-sweep balance of the Header account, the credit interest applied across the pool is irrespective of the individual balances:

FI1000703	**Cr. 50 EUR**
FI1000704	Dr. 50 EUR
FI1000705	Cr. 50 EUR

4. Maintaining System Data Elements

4.1 Data Elements

To calculate interest or charges for an account, you require the following data:

- The principal (the amount for which you want to calculate interest)
- The interest period (i.e., the number of days for which you want to apply interest) and
- The interest rate.

These components, required to calculate interest, are called *'data elements'* (the elements that provide the required data to calculate interest). Data elements are of two types:

- System Data Elements (SDEs)
- User Data Elements (UDEs)

The values for data elements like the balance in an account, on which interest has to be applied; the number of transactions in a day; and so on, are called System Data Elements (SDEs). Such information is constantly updated in the system and is readily available for computation of interest. They are therefore called SDEs.

As a corollary, these values will necessarily be picked up *by the system* while applying interest. You cannot, for example, indicate to the system that a certain amount should be picked up as the balance if that is not the balance in the account. On the other hand, you can indicate to the system that interest should be applied at a specific rate. For a certain period, you can indicate that interest should be calculated at five percent. While, for some other period, you can indicate that interest should be applied at six percent.

Thus, the interest rate is a value that you have control on and whose value *you* can specify. Such elements are called User Data Elements (UDEs). Another example for UDEs is the tier or slab structure based on which interest has to be applied on an account (since you would specify the slab and the tier structure).

SDEs *and* UDEs are used to build formulae that result in the amount of interest that has to be applied.

Example

You pay interest on the minimum credit balance in a customer's account during the month. 'Monthly Minimum Credit Balance' is an example of an SDE. (You cannot provide the value for any given month, for any account in your branch. The system would have to pick up the actual value from each account, for the month).

You charge interest on a customer's daily debit turnover. 'Daily Debit Turnover' is an example of an SDE (again, you cannot define the value, the system picks up the value).

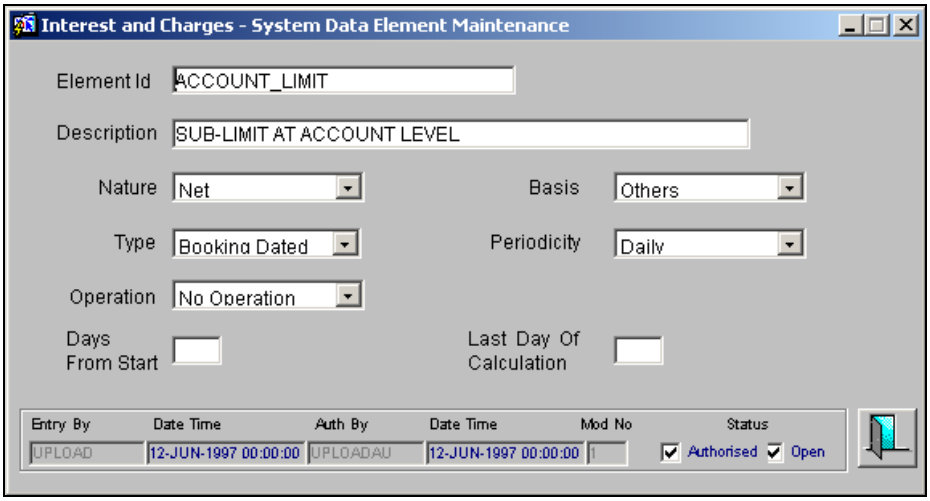
If you have defined 'Monthly Minimum Credit Balance' as an SDE, the system will pick up the monthly minimum credit balance from the account and use it to compute interest for the month.

Similarly, if you have defined 'Daily Debit Turnover' as an SDE, the system will pick up the daily debit turnover in the account and use it to calculate charges. The manner, in which interest is applied, based on an SDE, is defined for an interest product.

4.1.1 Defining SDEs

You will have different types of accounts in your bank, such as current accounts, savings accounts, etc. On each of these accounts you would want to apply interest differently. On a savings account, for example, you may want to apply credit interest on the basis of the minimum credit balance during the month. On a current account you may want to apply charges on the basis of the turnovers, or, levy debit interest on the basis of overdrafts. Similarly, there may be various criteria based on which you would want to apply interest on an account.

Each such criterion (which the system has to pick up) has to be defined as an SDE in the Interest and Charges – System Data Element Maintenance screen.



These SDEs should be combined with UDEs into formulae to arrive at a method in which interest or charge has to be calculated.

Let us study the transactions that typically take place in a current account to understand how SDEs are defined.

Example

The balance in Cavillieri and Barrett Finance Corporation's current account with you, on 01 March 1998, is USD 10,000.

Subsequently, the following are the transactions involving the account:

No.	Booking Date	Value Date	Amount	Dr/Cr
1	3 March	3 March	50,000	Cr
2	3 March	5 March	20,000	Dr
3	3 March	1 March	10,000	Dr
4	10 March	10 March	50,000	Dr
5	25 March	25 March	60,000	Cr

No.	Booking Date	Value Date	Amount	Dr/Cr
6	30 March	30 March	50,000	Dr

4.1.1.1 Indicating the 'Basis' for Calculating Interest

Interest can be applied on this account differently, using different data as the basis. That is, you can apply interest on the basis of 'item count', the balance, the turnover in the account or the overdue debit balance for the account. In Oracle FLEXCUBE, Balances and Turnovers are referred to as 'Basis'. While balances will typically be used for interest application, turnovers could be considered for charges.

A '*turnover'* is any movement in an account.

Balances and turnovers, in turn, can be considered *as of* the 'booking date' or the 'value date' of a transaction.

The booking date is the date on which a transaction is captured in the system. However, the date on which a transaction *takes effect* (that is, the date as of which the accounting entries are passed and the balances updated) could either be the booking date itself, or a date in the past, or future. This date is called the *value date* of the transaction. The following are examples of value dates and booking dates:

- Ms. Yvonne Cousteau withdraws cash from her account today. The booking date and the value date of the transaction are the same (that is, today's date).
- You pass a loan interest recovery transaction into your customer's account, as of a date in the past. The booking date of the transaction will be today while the value date will be the date as of which the transaction has to take effect. The account will be debited as of the value date.
- A customer presents a cheque, which has to be sent for clearing. The float period for clearing is three days. The booking date for this transaction is today's date and the value date three days hence.

Balances

The balance in an account will be different when you consider it to be as of the booking date or as of the value date.

In the example discussed in the beginning of this section, the *booking dated net balances* are as follows:

03 March 1998	**30,000 Cr**
10 March 1998	20,000 Dr
25 March 1998	40,000 Cr
30 March 1998	10,000 Dr
31 March 1998	10,000 Dr

The *value dated net balances* on these days and the other value dates discussed, would be as follows:

01 March 1998	**Nil**
03 March 1998	50,000 Cr
05 March 1998	30,000 Cr
10 March 1998	20,000 Dr
25 March 1998	40,000 Cr
30 March 1998	10,000 Dr
31 March 1998	10,000 Dr

If you want to apply interest on an account based on the balance in the account, you have to first specify whether you would want to consider booking dated or value dated balances. Subsequently, you have to specify other characteristics for the balance.

Turnovers

The charges that you apply on an account can be based on the turnover in the account. Turnovers can either be debit or credit in *nature*.

The sum of all the debit transactions in an account, in a day, is the daily debit turnover of the account. When calculating the debit turnover, the credit transactions involving the account would not be considered. If there are, say, two debit transactions in an account in a day; the debit turnover for the day would be the sum of the two -- irrespective of the credit transactions involving the account on that day. The same concept applies to credit turnovers also. You could have monthly debit or credit turnover also.

Going back to the example, the booking dated *debit* turnover, in the account, for the month of March is 130,000. That is, the sum of the following debit transactions in the course of the month:

03 March 1998	**30,000**
10 March 1998	50,000
25 March 1998	NIL
30 March 1998	50,000

The booking dated *credit* turnover in the account for the month of March is 110,000. That is, the sum of the following credit transactions in the course of the month:

03 March 1998	**50,000**
10 March 1998	NIL
25 March 1998	60,000
30 March 1998	NIL

The value dated debit and credit turnovers will be calculated in a similar fashion.

Note that an SDE based on turnovers will be applied on an account only if the transaction code of the transaction is defined with “Include for Account Turnover = Yes.”

Overdue Debit Balance

Oracle FLEXCUBE facilitates the tracking of overdue debits for customer accounts. Overdue debit tracking will be based on the value dated turnovers of the customer account.

You can apply penalty interest/charge on the overdue debit balance after the normal tenor. The 'Net' balance as of the value date of the debit entry will be considered for interest calculation.

For interest calculation, the system will first consider the tenor maintained for the customer (in the Customer Information Maintenance screen), if not found, it will check for the tenor associated with the liability line linked to the customer. The tenor maintained at the branch level will take priority ONLY if the same is not maintained for the customer or the liability line.

Refer the Core Services (CS), Core Entities (CE) and the Central Liability (CL) User Manuals for more information on maintaining the overdue tracking preferences.

You can maintain a rule for penalty interest calculation. Refer the 'Maintaining Interest Rules' chapter of this User Manual for a detailed explanation on setting up an interest rule.

4.1.1.2 The Nature of the Basis

Once you fix the 'basis' on which you want to apply interest for the SDE that you are defining (either balances or turnovers which, in turn, could be as of the booking date or the value date), you have to specify the Nature of the balance or turnover. The nature could be:

- Debit
- Credit, or
- Net.

In the example discussed in the beginning of this section, we have seen various types of balances: on certain days there is a debit balance while on certain other days there is a credit balance in the account. These are referred to as debit balances and credit balances respectively.

Each balance in turn will have a periodicity and an aggregation operation attached to it. These two are explained subsequently.

4.1.1.3 Specifying the Periodicity

The periodicity decides the period over which a balance or a turnover should be considered for interest application. This periodicity could be daily, monthly, quarterly (three months), semi annual (six months), or annual. When a balance or turnover has to be picked up for interest application, it will be picked up for this period.

An example for a balance with daily periodicity could be the daily net balance in the account. Similarly, the monthly minimum credit balance, monthly maximum debit balance, etc. are examples of a balance with monthly periodicity. Similarly, you could consider the minimum credit balance over a quarter for interest application.

STOP Please note that this periodicity is for picking up the value of an SDE. It is *not* the periodicity at which interest is liquidated. The periodicity with which interest is liquidated is called 'Liquidation Frequency'. Whenever interest has to be liquidated (either according to the liquidation frequency or on an ad-hoc basis, the balance will be picked up based on the SDE periodicity and applied for the entire liquidation period. The following example accentuates the difference between SDE periodicity and liquidation periodicity.

Example

The SDE based on which interest has to be applied is Monthly Minimum Credit Balance. The SDE periodicity is monthly. If the liquidation frequency for an account is quarterly, interest will be calculated as follows:

Total interest for the liquidation period (three months) would be:

Interest on the minimum credit balance for the first month + interest on the minimum credit balance for the second month + interest on the minimum credit balance for the third month

On the other hand, if the SDE periodicity is quarterly, the SDE would be the minimum credit balance over the quarter. Hence, the interest for the liquidation period would be the interest on the minimum credit balance during the entire three-month period.

STOP The periodicity that you define for an SDE is not the same as the periodicity of rule application (defined for an interest rule). The periodicity of rule application (which could be daily or by periodic) also has a role in the way an SDE is picked up (please refer the chapter 'Maintaining Rules' for details).

4.1.1.4 Specifying the Aggregation Operation

An aggregation operation denotes the method in which a balance or turnover should be picked up over its periodicity. As discussed under 'Specifying the periodicity', for the 'minimum' credit balance that has to be picked up over a month, the 'maximum' debit balance for the month, the 'minimum' and 'maximum' denote an aggregation operation. Another aggregation operation would be the 'average'. For example, you could have the average monthly debit balance or the average monthly credit balance as the attributes of an SDE.

In the example discussed under Defining SDEs, the monthly minimum credit balance is zero (this is because the account went into debit balance during the month). If the account was in credit throughout the month, the minimum of the balances would be returned by this SDE.

Similarly, the monthly maximum debit balance for the month of March would be 20,000.

The monthly average credit balance for the account will be the average of the credit balances in the account throughout the month. To recall, the Value Dated balances for the account we are discussing are as follows:

01 March 1998	**Nil**
03 March 1998	50,000 Cr
05 March 1998	30,000 Cr
10 March 1998	20,000 Dr
25 March 1998	40,000 Cr
30 March 1998	10,000 Dr
31 March 1998	10,000 Dr

Balances in the account, for differing number of days, would be as follows:

From	**To**	**Balance**	**Number of Days**
01 March 1998	02 March 1998	0	2
03 March 1998	04 March 1998	50,000 Cr	2
05 March 1998	09 March 1998	30,000 Cr	5
10 March 1998	24 March 1998	20,000 Dr	15
25 March 1998	29 March 1998	40,000 Cr	5
30 March 1998	31 March 1998	10,000 Dr	2

The monthly average credit balance in this account for March 1998 would be:

[(50,000 * 2) + (30,000 * 5) + (40,000 * 5)] / 31

Hence, the monthly average credit balance works out to be: 17741.93.

The monthly average debit balance in this account would be:

[(20,000 * 15) + (10,000 * 2)] / 31

Hence, the monthly average debit balance works out to be: 10322.58

The average net balance for the month in this account would be:

[(50,000 * 2) + (30,000 * 5) + (40,000 *5) + (- 20,000 * 15) + (- 10,000 * 2)] / 31

Hence, the average monthly net balance for the month works out to be 4193.54

If you choose to apply interest on the basis of the credit, debit or the net balance, you can specify that the balance to be considered is

- The minimum,
- The maximum, or
- The average balance in the account, over the period specified by you.

If the periodicity for an SDE is *daily* and the basis is balance, the balance taken will always be the *net balance* for the day. It cannot be the minimum, maximum or average balance.

The aggregation operation of 'sum' can be used when you want the SDE to return a value that is a sum of a few values. A typical usage of this aggregation operation will be when you want the sum of turnovers (debit or credit), or a sum of debit or credit items, over a period.

4.1.1.5 Days for Calculation

You may have a requirement wherein you have to consider the balances or turnovers, only during a specific period of the month. For example, in some countries, credit interest for Savings Bank accounts is given for the minimum credit balance in the account during the month, between the 10 and 25 of the month.

To define an SDE that returns the minimum balance between 10 and 25 of the month, you should define it as follows:

Basis	**Balance**
Nature	Credit
Type	Value dated
Periodicity	Monthly
Operation	Minimum
Days from Start	10
Last Day of Calculation	25

The minimum balance between 10 and 25 (both inclusive) will be returned by this SDE. However, the number of interest days will be the *entire* month, unless you specify otherwise while defining the interest calculation formulae for an Interest Rule involving the SDE (Please refer the chapter 'Building formulae').

The following is a list of the SDEs already available in the system:

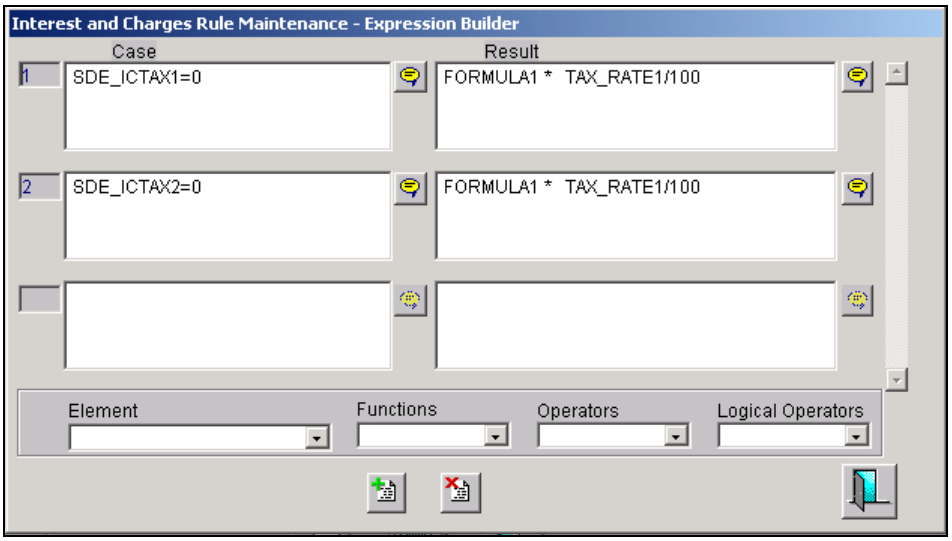
- ACCOUNT_LIMIT
- ACCOUNT _TOD
- LINE_AMOUNT
- REPORTING_AMOUNT
- DAYS
- MONTH

- YEAR
- MIN_BAL_REQD
- CURRENT_BAL
- OPENING_BAL

4.2 IC product setup for Tax categories

In Oracle FLEXCUBE, an Interest and Charges (IC) Rule contains the logic for calculating the costs. The IC Rule is linked to an IC product. The IC rule and product is used for computing the tax charges.

Refer to the Tax user manual for further details on tax category maintenance under the section 'Maintaining Tax categories for contracts'.



Fro each tax category you have maintained, the system creates an IC rule 'SDE_xxx' where 'xxx' is the tax category defined. This will be used for tax cost computation. In Oracle FLEXCUBE, a 'Rule' identifies the *method* in which the tax cost has to be calculated. A Rule is made up of System Data Elements (SDEs), User Data Elements (UDEs), and Formula (e).

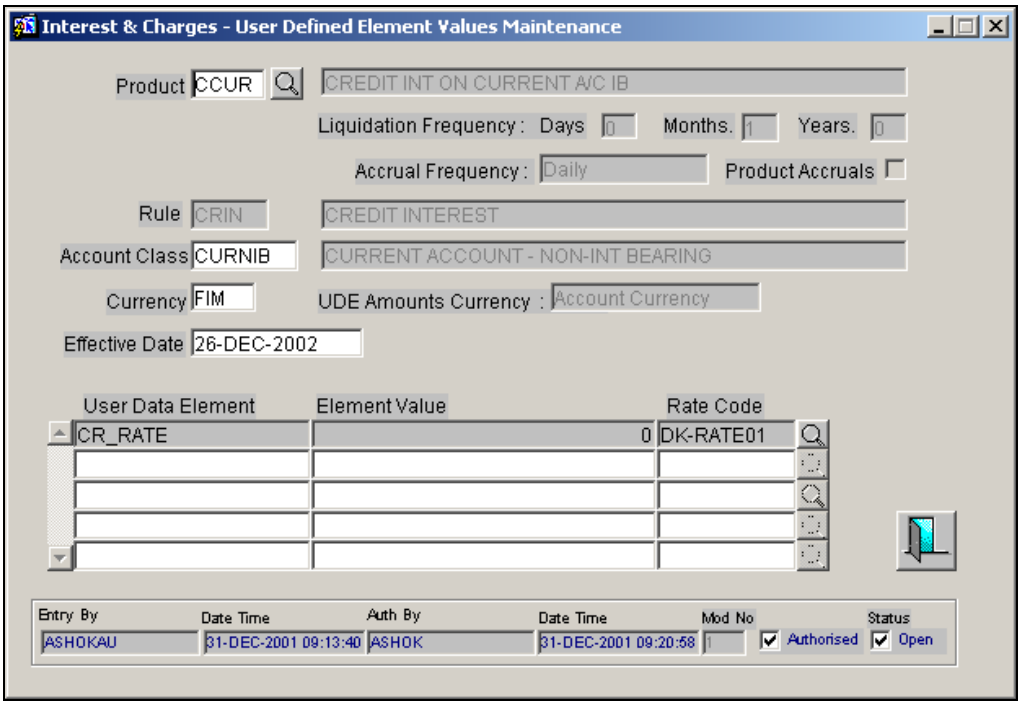
If you maintain the SDE value as zero, the tax will be calculated for the customer with the specified tax category. If the tax is waived for the customer, then the value of the SDE has to be set at 1.

For further details on UDEs and IC Rules, refer to the respective chapters in this user manual.

5. Giving UDE Values for a Condition

You will recall that when creating a product you link it to an interest rule. A rule consists of System Data Elements (SDEs) and the User Data Elements (UDEs). An interest rule identifies the method in which interest is to be calculated. When building a rule, you do not identify the *values* of the UDEs. This is because, when you apply a product on account classes (in the Product Preferences screen), interest for *all* the accounts in the classes will be calculated according to the rule that you have linked to the product. That is, the principal, period and type of rate (*not the numeric value*) will be picked up from the accounts in the same manner. However, you may want to apply different rates (the actual *numeric value*) on each account class.

You can enter the actual values of the UDEs for each account class and currency combination to which you link the product in the UDE Values Maintenance screen.



When interest is calculated for the account classes, the principal, period and the rate will be picked up in the same manner. However, the value of the rate that is to be applied on each account class will be different.

5.1.1 Maintaining Different Effective Dates for UDEs

Example

You have defined a product 'SAUSD1'. While creating the product, you linked it to the rule 'CRIN'. For CRIN, you specified the SDE as 'Monthly Minimum Credit Balance' and the UDE as 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4.

You have two classes of savings accounts: 'Smart Save Money' and Save Money'. You calculate interest for savings bank accounts based on the monthly minimum credit balance. In the Product Preferences screen you can, therefore, apply 'SAUSD1' to both these account classes (since the interest calculation method is the same).

However, the interest rate that you want to apply on each account class is different.

On Smart Save Money accounts you want to pay the following rates of credit interest:

Amount 1	**> 5000 >= 10000**		**15% (Rate 1)**
Amount 2	> 10000 >= 12500		15.5% (Rate 2)
Amount 3	> 12500 >= 15000		16% (Rate 3)
Amount 4	> 15000		16.5 % (Rate 4)

On Save Money accounts you want to apply the following rates of credit interest:

Amount 1	**> 1000 >= 2000**		**9% (Rate 1)**
Amount 2	> 2000 >= 2500		11% (Rate 2)
Amount 3	> 2500 >= 3000		12% (Rate 3)
Amount 4	> 3000		14% (Rate 4)

Now, in the UDE Maintenance screen, you can maintain *separate* records for each of these account classes. The record that you maintain would contain the actual values of the UDEs for each account class.

When interest is calculated for Smart Save Money accounts, the actual values for 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4 will be picked up from (the record that you have maintained for Smart Save Money) the UDE Maintenance Screen.

Similarly, when interest is calculated for Save Money accounts, the actual values for 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4 will be picked up from (the record that you have maintained for Save Money) the UDE Maintenance screen.

You must maintain the UDE values for each account class and currency combination on which you apply a product. If not, the system will assume all UDE values to be zero.

5.1.2 Choosing a Product

Every product that you create is linked to a rule. When you build a rule, you identify the UDEs that would be required to calculate interest or charges. You do not give the UDE a *value*. This is because you can link a rule to many products and apply a product to many account classes (for which interest or charge is calculated using the same method *but which have different UDE values*).

For *each* account class (and currency) on which you apply a product, you should specify the values of the UDEs (which you identified for the rule that is linked to the product) in the UDE Values Maintenance screen.

The UDE values that you maintain here for a condition will be picked up when interest or charge is calculated for the account class. The UDEs of amount type will be either in the local currency or in the account currency – the currency is defaulted from the product preferences.

Example

1. When you create CRIN, an interest rule, you identify the SDE as 'Monthly Minimum Credit Balance' and the UDE as Rate 1. *At this stage, you do not define the value of Rate 1*.

2. You link CRIN to PROD1, an interest product. You apply PROD1 to two savings account classes: SMTMN 1 (Smart Money local currency) and SMTMN 2 (Smart Money USD).

Interest for these account classes will be calculated using the monthly minimum credit balance in the accounts.

Now, you want to apply different rates of interest on each of these account classes: 10% on the monthly minimum credit balance in Smart Money 1 accounts; and 10.5% on the monthly minimum credit balance in the Smart Money 2 accounts.

In the UDE maintenance screen, you have to maintain the value of Rate 1 for SMTMN 1 (as 10%) and the value of Rate 1 for SMTMN 2 (as 10.5%), *individually*.

The UDE values are maintained for a combination product, account class and a currency for an effective date. Different UDE values may be maintained for different effective dates and currency combinations given a product and account class combination.

5.1.3 Specifying the Effective Date for UDE Value Pickup

The “Effective Date” of a record is the date from which a record takes effect. You can maintain different values for a UDE, for different effective dates for each account class (and currency) on which you apply a product. When interest is calculated on a particular day for the account class, the value of the UDE corresponding to the date will be picked up.

The UDE *values* of a condition can be different for different dates. Typically, you would want to open records with different Effective Dates if the values of UDEs vary within the same liquidation period.

Example

REQUIREMENT 1

In your bank, you have maintained ‘Save Money LCY’ as an account class. On this class of accounts, you want to pay credit interest based on the monthly minimum credit balance. You have defined the credit balance in terms of a slab structure and wish to pay a different rate of interest for each slab, as follows:

Amount 1	**> 1000 >= 2000**		**6%**	**(Rate 1)**
Amount 2	> 2000 >= 3000		7%	(Rate 2)
Amount 3	> 3000 >= 5000		7.5%	(Rate 3)
Amount 4	> 5000		10%	(Rate 4)

You would like to liquidate interest for this account class every six months. The current liquidation cycle begins on 1-1-98.

SETUP PROCEDURE

Step 1

You define 'Monthly Minimum Credit Balance' as an SDE (in the SDE Maintenance screen). You define a rule, 'CRIN', to calculate interest based on the monthly minimum credit balance (in the Rule Maintenance screen). While creating the rule you identified the SDE as Monthly Minimum Credit Balance and the UDEs as Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3 and Rate 4.

Step 2

You link this rule to a credit interest product that you have defined (in the Product Definition screen). You apply this product to the 'Save Money LCY' class of accounts (in the Product Preferences screen). You define the liquidation cycle as half yearly. The first liquidation will be in June and the next will be in December (since the current liquidation cycle begins on 1-1-98).

Step 3

In the UDE maintenance screen you must specify the UDE values as follows:

Product Code CRIN

Account Class Save Money

Currency LCY

Effective Date 01/01/98

Amount 1	**> 1000 >= 2000**	**=**	**Rate 1 :**	**6%**
Amount 2	> 2000 >= 3000	=	Rate 2 **:**	7%
Amount 3	> 3000 >= 5000	=	Rate 3 **:**	7.5%
Amount 4	> 5000	=	Rate 4 **:**	10%

RESULT

Unless you change the UDE values, the values that you have specified in this record will be picked up when you calculate interest for 'Save Money LCY'. That is, for balances between 1000 and 2000 in accounts linked to 'Save Money LCY', interest will be calculated at the rate of 6%, and so on.

REQUIREMENT 2

Now in April, you change the interest rate for the first tier, that is, Amount 1. You change the rate from 6% to 6.5%. The other tier limits and rates remain the same. In order that the new rates apply to accounts from 1-4-98, you must maintain a new record (for the 'Save Money LCY').

SETUP PROCEDURE

You must open a record in the UDE maintenance screen with the following details:

Product Code CRIN

Account Class Save Money

Currency LCY

Effective Date 01/04/98

Amount 1	**> 1000 >= 2000**	**=**	**Rate 1**	**6.5%**
Amount 2	> 2000 >= 3000	=	Rate 2	7%
Amount 3	> 3000 >= 5000	=	Rate 3	7.5%
Amount 4	> 5000	=	Rate 4	10%

GRAND RESULT

For the same account class - currency and rule combination, the Rate has been changed. This is effective from 1st April.

Now, the first half-yearly liquidation is in June. For the first three months (January - March), the values specified in the record dated *01-1-98* will be applicable. For the period from April to June, the values specified in the record dated *01-04-98* will be applicable.

Implications of Closing a UDE record

Continuing with the example, if you close the UDE record with Effective Date 01 January 1998, in May 1998, for the entire liquidation period the UDE values specified for 01 April 1998 will apply for the product CRIN.

Please note that only if the periodicity (specified while creating a rule) is '*Daily*' will the UDE values that you define for different effective dates be picked up. If you specified the rule application periodicity as *'Periodic'* the UDE value *as of* the liquidation date will be picked up.

The following example illustrates this.

Example

You maintain a rule: RULE 01 and specify the *periodicity of application* as 'Monthly'. This means that the rule will be applied on an account class or account every month. You identify the UDE for this rule as RATE 1.

You link this rule to a product 'CRIN'. You specify the *liquidation* periodicity of the product as 'Quarterly'. Next, you apply CRIN to the 'Smart Money' class of accounts. This means that the interest that is calculated for Smart Money accounts will be liquidated every three months.

You define the value of the UDE (Rate 1) as 6% in the UDE Maintenance screen and specify the Effective Date as 01 January 1998. On 15 March 1998, you want to apply a different rate (6.5%) of interest. When interest is liquidated on 31 March 1998 for Smart Money accounts, interest will be calculated for the period between 01 January 1998 and 30 March 1988 the rate of interest will be 6.5% for the whole period.

Please note that interest will *not* be calculated for the period between 01 January 1998 and 14 March 1998 at the rate of 6% and for the period between 15 April 1998 and 30 March 1998 at 6.5%.

However, if you defined the periodicity for the rule as 'Daily', the rule will be applied daily on the accounts and the UDE value that is applicable for the period (for which you are calculating interest) will be picked up. In this case, interest for the period between 01 January 1998 and 14 March 1998 will be calculated at 6% and for the period between 15 March 1998 and 30 March 1998 at 6.5%.

5.1.4 Identifying and Specifying Values for UDEs

For each account class, you must specify the values of all the UDEs that you identified while building the rule. The UDE value that you specify here will be picked up while calculating interest for the account class.

All the UDEs that you have identified for the rule (to which the product is linked) will be displayed here. The UDEs that are displayed here can be of three types. They are:

- Rate
- Amount
- Number

The interest that you charge on a debit balance is an example of a debit rate. The interest that you charge on a credit balance is an example of a credit rate.

A User Data Element will be an amount under the following circumstances:

- In the case of a tier structure, the upper and lower limit of a tier or a tier amount;
- In the case of a charge, when it is indicated as a flat amount; and
- Any amount that can be used in the definition of formula/e.

When you build a rule you will indicate the UDE to be a number if the interest or charge is defined based on the number of transactions or the number of account statements. A UDE under this category can also be used to store a numerical value that may be used in a formula.

Now, for each of the UDEs that are displayed, you must specify the values. If the type of UDE that you have identified for the rule is a 'Rate' element, you can either specify a Rate Code or enter a "value" for the Rate element.

If you specify a Rate Code for the UDE, the value that you have maintained for the rate code will be picked up while calculating interest. However, if you choose to enter a "spread" for the Rate Code, the appropriate value will be computed. (A "Spread" is a positive or negative value that you add or deduct to the value specified for the Rate Code and is entered in the Value column). If you do not specify a spread, the rate maintained for the Rate Code will be picked up.

If the type of UDE is an amount, the value that you enter will be in the currency that you specified in the UDE amounts currency field (in the Interest Preferences screen). If you specified the UDE amounts currency as the local currency and the account class is in a foreign currency, all UDE values will be converted to the currency of the account. Currency conversions will be on the basis of the exchange rates (mid rate) maintained for the day.

5.1.5 Maintaining Rate Codes

An Interest Rule is made up of SDEs, UDEs and formulae (refer the chapter 'Maintaining Rules' for details). While creating a rule you only identify the UDEs that you would be using to calculate interest. UDEs can be of the following types:

- Amount
- Number and
- Rate

You enter the values of UDEs such as Amount and Number in the UDE Maintenance screen. The Debit or Credit rate is the rate at which interest has to be calculated for the accounts linked to the Interest Rule. These rates can be either:

- Fixed or
- Floating

If the rates are fixed, you can specify their values in the UDE Maintenance screen. If you want to apply floating rates, you should link the rate type UDEs (identified for the interest rule) to a Rate Code in the UDE Maintenance screen. You can select the Rate Code from the option list provided. The Rate Codes listed will be the Rate Codes maintained separately for I & C products in I & C Maintenance menu. You can also specify a spread.

Typically, you would apply different rates of interest to different types of accounts. For example, you would apply different interest rates for current and savings accounts. For each currency, therefore, you will have to maintain different interest rates. The following example illustrates this.

Example

You have the following types of accounts in your bank:

- Savings Bank accounts (in USD), and
- Current accounts (in USD)

Now, the rate of interest that you pay on current accounts in USD would be different from that which you pay on savings accounts in USD.

In the Rates Maintenance screen, therefore, you would have to maintain two different interest rates. One, which you would want to apply to savings accounts, and another which you would want to apply to current accounts.

You must assign the different rates that you maintain for a currency unique Rate Codes. For example, for savings accounts in USD you can define a Rate Code such as ‘SBUSD’. When you calculate interest for USD savings accounts linked to the rate code ‘SBUSD’, the rate that you maintain here will be picked up.

If a Rate Code of a different direction is mapped to an IC Product of another direction i.e., Rate Code is in the Debit direction and the Product is in the Credit direction, the system will display the following override message.

"Product and Rate Code are not of same direction. Do you want to proceed?"

5.1.6 Defining an Effective Date for a Rate Code

Each rate that you maintain for a Rate Code and Currency combination should have an Effective Date associated with it. The "Effective Date" of a record is the date on which a record takes effect.

The Effective Date that you specify for a rate is the date on which the rate comes into effect. Once a rate comes into effect, it will be applicable till a rate with another Effective Date is given for the same Rate Code and Currency combination. The following example illustrates this.

Example

Rate Code SBUSD

Currency USD

Effective Date	**Interest Rate**
01 Jan '98	12.5%
14 Jan '98	12.0%
31 Jan '98	13.0%

These rates will be applicable for the following periods:

Period	**Interest Rate**
01 Jan to 13 Jan '98	12.5%
14 Jan to 30 Jan '98	12.0%
31 Jan to one day before the rate is changed	13.0%

Note the following:

- The Effective Date for a particular rate should be later than the Effective Date of the first rate that you have maintained for the Rate Code.
- The dates from which the debit and credit rates are effective can be different.

- There can be only one rate for an Effective Date.
- The same rate cannot be entered for two consecutive dates for a Rate Code.
- Note that only if you defined the application periodicity for the rule (to which you link a product) as daily will the changes in rate apply for accounts linked to the product. If the application periodicity is periodic, the rate as of the liquidation date will be applied.

5.1.7 Closing a Rate for a Date

This feature may be used if you do not want to use a rate for back-dated processing done, past the date. For example, you are on 31 March 1998 and your rate table has got rates for 01 March 1998, 15 March 1998, and 31 March 1998. If you close the rates for 01 March and 15 March, any back-dated processing that is done today, or subsequently, the rates defined for 01 March or 15 March will not be used. The rate as of 31 March will be used.

6. Building Formulae

To apply interest or charges on an account, you require certain data. For example, to calculate interest for an account you would require the following data:

- The principal (the amount for which you want to calculate interest),
- The period (i.e., the number of days for which you want to apply interest), and
- The rate (the interest rate).

When you want to apply charges on an account, you may have to specify the conditions for which you would need to apply charges. The amount that is charged may be different for different conditions. For example, you may want to apply charges on every *extra* account statement that has to be given to the customer.

When you define a 'Rule', you specify exactly how such data is to be picked up for calculating either the interest or charge. A 'Rule' identifies the *method* in which interest or charges have to be calculated.

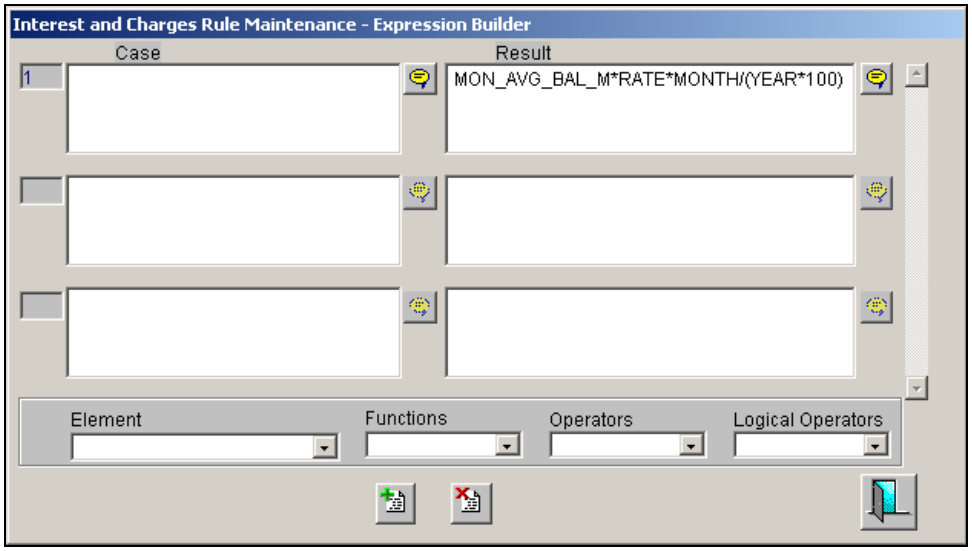
The data required to calculate interest and charges are broadly referred to as 'data elements'. Data elements are of two types:

- System Data Elements
- User Data Elements

Using the System Data Elements and the User Data Elements that you define for a rule, you can create formulae. Formulae connect SDEs and UDEs to give a result. The result of a formula is the interest or charge that has to be applied on an account.

To use a metaphor, SDEs and UDEs are the pillars on which an arch called formula rests. Many arches combine to form a dome called Rule. The things that you choose to put under a dome correspond to account classes (or accounts themselves) to which the rule applies.

You can build arches (formulae) to complete the domes (rules) that you are creating in the IC Rule Maintenance - Expression Builder screen.



You can define any number of formulae for a rule.

6.1 The Building Blocks of Formulae

Element

To build a formula you require certain building blocks. These blocks could be SDEs, UDEs or (the result of) other formulae that you have previously created.

Operators

Operators are symbols that you would use to build mathematical expressions while defining a formula. The following is a list of symbols that you would require to build a formula.

Operator	Description
+	plus
-	minus
/	divide by

Operator	Description
*	multiply

Logical Operators

Logical Operators are indicators of certain conditions that you specify while building a formula. The following is a list of logical operators that you would require to build a formula: ‘AND’ ‘OR’ and:

AND	the conjunction ‘and’
OR	the conjunction ‘or’
>	greater than
>=	greater than or equal to (please note that there is no space between the two symbols)
<	less than
<=	less than or equal to (please note that there is no space between the two symbols)
< >	Not equal to (please note that there is no space between the two symbols)
=	equal to

Functions

The following are the functional operators available while defining a formula:

Operator	Description
ABS	Absolute value of
LEAST	minimum of
GREATEST	maximum of

Operator	Description
SUM	the total value of
ROUND	round to
TRUNC	integer part of
FLOOR	round off to the (lower) nearest
CEILING	round off to the (higher) nearest
POWER	to the power of
MOD	the remainder

6.2 Building Formulae

Using the building blocks discussed earlier, you can create or build formulae. You can build any number of formulae for a rule using the SDEs, UDEs and the results of formulae that you have defined for the rule.

The following example illustrates the procedure to create a formula.

Example

Requirement

You would like to pay interest on the monthly minimum credit balance for all current accounts.

You would like to apply different rates of interest for the following credit balances:

Credit balance	Rate
1 - 10,000	1.5%
10,001 - 15,000	1.75%
15,001 - 20,000	2%

Credit balance	Rate
Above 20,000	3%

Solution

Step 1

You define 'Monthly Minimum Credit Balance' (MMCB) as an SDE *(in the SDE maintenance screen)*.

Step 2

You define a rule (let us say, Rule 1) and specify 'Monthly Minimum Credit Balance', Days, and Year as the SDEs. The following will be the UDEs for the Rule:

Amount 1, Amount 2, and Amount 3 (these will represent the three upper limits in the tier structure)

Rate 1, Rate 2, Rate 3 and Rate 4 (these will represent the four rates applicable for different amounts in the tier)

Step 3

When you build formulae to calculate credit interest for current accounts, you choose these SDEs and UDEs appropriately, along with the intermediate results, in the following manner:

Slab Structure:

	Case	Result
1)	MMCB <= AMOUNT1	(MMCB * DAYS * RATE1) / YEAR
2)	MMCB <= AMOUNT2	(MMCB * DAYS * RATE2) / YEAR
3)	MMCB <= AMOUNT3	(MMCB * DAYS * RATE3) / YEAR
4)	MMCB > AMOUNT 3	(MMCB * DAYS * RATE4) / YEAR

Tier Structure:

Formula 1: **Non-booked**

Case	Result
MMCB <= AMOUNT1	(MMCB * DAYS * RATE1) / YEAR

Formula 2: **Non-booked**

MMCB > AMOUNT1	[LEAST (MMCB, AMOUNT2) - AMOUNT1] * DAYS * RATE2 / YEAR

Formula 3: **Non-booked**

MMCB > AMOUNT2	[LEAST (MMCB, AMOUNT3) - AMOUNT2] * DAYS * RATE3 / YEAR

Formula 4: **Non-booked**

MMCB > AMOUNT3	[LEAST (MMCB, AMOUNT4) - AMOUNT3] * DAYS * RATE4 / YEAR

Formula 5: **Booked**

Formula 1 + Formula 2 + Formula 3 + Formula 4

7. Applying an Interest Product on an Account

You can apply an interest product on an account in two ways:

- By linking an account class to a product, thereby making the product applicable to all the accounts of the class. This method of linking accounts is called the definition of a General Condition; or
- By linking an account itself to the product. This method of linking accounts is called the definition of a Special Condition.

In the Interest Product Preferences screen, you can link a product to an account class. Often, you may calculate interest for several account classes using the same interest calculation method. In such a case, you can apply the same product to all the account classes. However, since the interest rate or tier structure (*the values*) that you wish to apply on each account class may be different, you can specify different *values* for each of the account classes in the UDE Maintenance screen. To recall, a tier structure or interest rate is defined as User Data Element (UDE) while building an interest rule.

7.1 Defining a General Condition

When you apply a product on an account class-currency combination (in the Interest Product Preferences screen), you are defining a *General Condition*. The attributes that you have defined for the product will apply to *all accounts belonging to this account class-currency* combination.

For this combination of account class and currency, you should define the UDE values in the UDE Values Maintenance screen. The attributes of a product can be applied on several account classes, even though the UDE values differ for each account class-currency combination.

The following example illustrates this:

Example

Requirement:

You have two classes of savings bank accounts: ‘Save Money’ and ‘Smart Save Money’. On both these classes of accounts you want to pay interest on the monthly minimum credit balance. You specify that the minimum credit balance in the Save Money accounts should be USD 2000, while that in the Smart Save Money accounts should be USD 5000.

Due to the difference in the balance to be maintained in the respective account classes, you want to pay different rates of interest, as follows:

Save Money	**5%**
Smart Save Money	10%

The set-up:

1. You maintain ‘Monthly Minimum Credit Balance’ as an SDE.
2. You create a rule called ‘Rule01’ and identify ‘Monthly Minimum Credit Balance’ and ‘Credit Interest’ as the SDE and UDE respectively.

Note the following:

- To calculate interest for Save Money and Smart Save Money accounts you require the same SDE and UDE as that specified for Rule01 (you can therefore apply the product to which you link Rule01 to both the account classes).
- You do not specify the UDE values when you build the rule.

3. You create a product called ‘SBUS01’ and link it to Rule01.

In the Interest Product Preferences screen, you apply this product to both the account classes (Smart Save Money and Save Money).

Finally, in the UDE Values Maintenance screen you specify the value of the Credit Rate for each account class linked to the product SBUS01, individually. For Save Money you enter the rate as 5% and, for Smart Save Money you enter the rate as 10%.

Interest for Save Money accounts would be calculated based on the minimum balance in the account, for the month, at the rate of 5%.

Interest for Smart Save Money accounts would be calculated based on the minimum balance in the account, for the month, at the rate of 10%.

7.1.1 Waiving a General Condition for a Specific Account

Many General Conditions can be defined for an account class. For example, you could define a condition by linking a credit interest product, a debit interest product, and an interest for non-utilization of credit limit product. All the products will be applied on all the accounts belonging to the account class.

You can, however, waive a product from being applied on an account. This would mean that of all the General Conditions defined for an account class, you do not want to apply one or more products to a specific account.

Continuing with the example, for a specific account, you could waive the application of debit interest.

The procedure

From the Customer Accounts Maintenance Screen, you can invoke the IC screen. In the Product Details window, select the product that you want to waive for the account and click the "waive product" field to waive the General Condition applicable to the account.

7.1.2 Repopulate at Liquidation

If you have created “Special Conditions” for an account, but would like the general conditions (defined for the account class to which it belongs) to apply at the end of the current liquidation cycle, you must indicate it in the Product Preferences screen. If you specify so, the UDE values defined for the General Condition will be picked up for the account at the end of the current liquidation cycle.

7.1.3 Closing a General Condition

More than one product may be applicable on an account class at the same time. You can temporarily stop applying a product on an account class by "closing" it. You can achieve this by removing the tick for the field "open" in the Product Preference screen. The product will cease to be applied on the account class. You can make the product applicable again by ticking the "open" box. This feature is useful when you have to temporarily stop the application of interest due to a condition.

Please note that when you stop the application of an interest product on an account class, it will affect the entire current liquidation period. If any accrual entries have been passed for the accounts due to the product that is closed, they will be reversed by the IC Daily function at the end of the day. All pending accruals will be reversed. As a corollary, when an interest product on an account class is applied again, it will affect the entire current liquidation period. The necessary accrual entries will be passed for the accounts by the IC Daily function at the end of the day.

On the other hand, you can close the product itself if you want to close all the conditions applied for the product. This should be done when you will no longer use the product. All pending accruals will be reversed.

7.1.4 Maintaining Rate Codes

An Interest Rule is made up of SDEs, UDEs and formulae (refer the chapter 'Maintaining Rules' for details). While creating a rule you only identify the UDEs that you would be using to calculate interest. UDEs can be of the following types:

- Amount
- Number
- Debit Rate
- Credit Rate

You enter the values of UDEs such as Amount and Number in the UDE Maintenance screen. The Debit or Credit rate is the rate at which interest has to be calculated for the accounts linked to the Interest Rule. These rates can be either:

- Fixed or
- Floating

If the rates are fixed, you can specify their values in the UDE Maintenance screen. If you want to apply floating rates, you should link the interest rule to a Rate Code. You can do this by specifying the Rate Code instead of entering the actual value in the UDE Maintenance screen.

For each currency you can maintain different interest rates. The following example illustrates this.

Example

You have the following types of accounts in your bank:

- Savings Bank accounts and
- Current accounts.

The accounts are in the following currencies:

- USD (the local currency)
- GBP and
- JPY.

Now, the rate of interest that you pay on savings accounts in USD would be different from that which you pay on current accounts in USD.

In the Rates Maintenance screen you can maintain different rates of interest for the same currency.

You must assign the different rates that you maintain for a currency unique Rate Codes. For example, for savings accounts in USD you can define a Rate Code such as 'SBUSD'. When you calculate interest for USD savings accounts linked to the rate code 'SBUSD', the rate that you maintain here will be picked up.

7.1.5 Defining an Effective Date for a Rate Code

Each rate that you maintain for a Rate Code and Currency combination should have an Effective Date associated with it. The "Effective Date" of a record is the date on which a record takes effect.

The Effective Date that you specify for a rate is the date on which the rate comes into effect. Once a rate comes into effect, it will be applicable till a rate with another Effective Date is given for the same Rate Code and Currency combination. The following example illustrates this.

Example

Rate Code SBUSD

Currency USD

Effective Date	Interest Rate

Effective Date	Interest Rate
01 Jan ‘98	-12.5%
14 Jan ‘98	-12.0%
31 Jan ‘98	13.0%

These rates will be applicable for the following periods:

Period	Interest Rate
01 Jan to 13 Jan ‘98	12.5%
14 Jan to 30 Jan ‘98	12.0%
31 Jan to one day before the rate is changed	13.0%

Note the following:

- The Effective Date for a particular rate should be later than the Effective Date of the first rate that you have maintained for the Rate Code.
- The dates from which the debit and credit rates are effective can be different.
- There can be only one rate for an Effective Date.
- The same rate cannot be entered for two consecutive dates for a Rate Code.
- Note that only if you defined the application periodicity for the rule (to which you link a product) as daily will the changes in rate apply for accounts linked to the product. If the application periodicity is periodic, the rate as of the liquidation date will be applied.

7.1.6 Closing a Rate for a Date

An entry passed into an account for with a value date prior to the booking date is called a "back-dated" entry. For such a transaction, you can specify whether you want to use the rate as of the period of the back dated entry or the rate of the current period. This can be achieved by closing a rate for an effective date. The following example illustrates this concept:

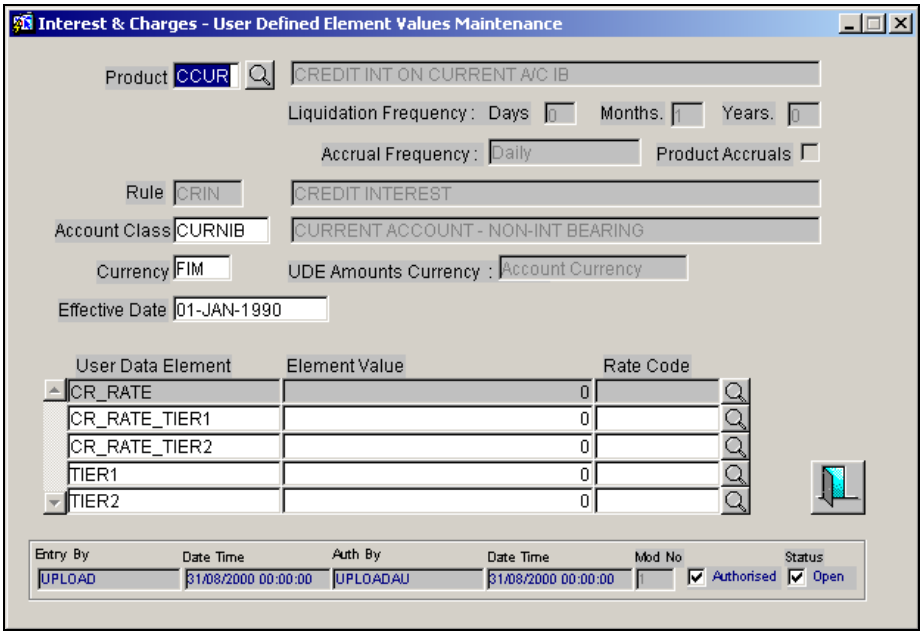
You are on 31 March and your rate table has got rates for the following dates: 01 March and 15 March. You pass an entry back-dated to 03 March. For this transaction, the rate applicable will be picked up in the following manner:

- If the record for 01 March is open, the rates applicable as of 01 March will be picked up.
- If the record for 01 March is closed, the rate applicable as of 15 March will be picked up.

7.1.7 Giving UDE Values for a General Condition

You will recall that when creating a product you link it to an interest rule. A rule consists of System Data Elements (SDEs) and the User Data Elements (UDEs). An interest rule identifies the method in which interest is to be calculated. When building a rule, you do not identify the *values* of the UDEs. This is because, when you apply a product on account classes (in the Product Preferences screen), interest for *all* the accounts in the classes will be calculated according to the rule that you have linked to the product. That is, the principal, period and type of rate (*not the numeric value*) will be picked up from the accounts in the same manner. However, you may want to apply different rates (the actual *numeric value*) on each account class.

You can enter the actual values of the UDEs, for each account class to which you link the product, in the UDE Values Maintenance screen.



When interest is calculated for the account classes, the principal, period and the rate will be picked up in the same manner. However, the value of the rate that is to be applied on each account class will be different.

Example

You have defined a product 'SAUSD1'. While creating the product, you linked it to the rule 'CRIN'. For CRIN, you specified the SDE as 'Monthly Minimum Credit Balance' and the UDE as 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4.

You have two classes of savings accounts: 'Smart Save Money' and Save Money'. You calculate interest for savings bank accounts based on the monthly minimum credit balance. In the Product Preferences screen you can, therefore, apply 'SAUSD1' to both these account classes (since the interest calculation method is the same).

However, the interest rate that you want to apply on each account class is different.

On Smart Save Money accounts you want to pay the following rates of credit interest:

Amount 1	**> 5000 >= 10000**	**15% (Rate 1)**
Amount 2	> 10000 >= 12500	15.5% (Rate 2)

Amount 1	**> 5000 >= 10000**	**15% (Rate 1)**
Amount 3	> 12500 >= 15000	16% (Rate 3)
Amount 4	> 15000	16.5 % (Rate 4)

On Save Money accounts you want to apply the following rates of credit interest:

Amount 1	**> 1000 >= 2000**	**9% (Rate 1)**
Amount 2	> 2000 >= 2500	11% (Rate 2)
Amount 3	> 2500 >= 3000	12% (Rate 3)
Amount 4	> 3000	14% (Rate 4)

Now, in the UDE Maintenance screen, you can maintain separate records for each of these account classes. The record that you maintain would contain the actual values of the UDEs for each account class.

When interest is calculated for Smart Save Money accounts, the actual values for 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4 will be picked up from (the record that you have maintained for Smart Save Money) the UDE Maintenance Screen.

Similarly, when interest is calculated for Save Money accounts, the actual values for 'Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3, and Rate 4 will be picked up from (the record that you have maintained for Save Money) the UDE Maintenance screen.

You must maintain the UDE values for each account class and currency combination on which you apply a product. If not, the system will assume all UDE values to be zero

7.1.8 Choosing a Product

Every product that you create is linked to a rule. When you build a rule, you identify the UDEs that would be required to calculate interest or charges. You do not give the UDE a *value*. This is because you can link a rule to many products and apply a product to many account classes (for which interest or charge is calculated using the same method *but which have different UDE values*).

For *each* condition you have defined for a product, you should specify the values of the UDEs (which you identified for the rule that is linked to the product) in the UDE Values Maintenance screen. The UDE values that you maintain here for a condition will be picked up when interest or charge is calculated for the account class.

Example

1. When you create CRIN, an interest rule, you identify the SDE as 'Monthly Minimum Credit Balance' and the UDE as Rate 1. *At this stage, you do not define the value of Rate 1*.

2. You link CRIN to PROD1, an interest product. You apply PROD1 to two savings account classes: SMTMN 1 (Smart Money local currency) and SMTMN 2 (Smart Money USD).

Interest for these account classes will be calculated using the monthly minimum credit balance in the accounts.

Now, you want to apply different rates of interest on each of these account classes: 10% on the monthly minimum credit balance in Smart Money 1 accounts; and 10.5% on the monthly minimum credit balance in the Smart Money 2 accounts.

In the UDE maintenance screen, you have to maintain the value of Rate 1 for SMTMN 1 (as 10%) and the value of Rate 1 for SMTMN 2 (as 10.5%), *individually*.

7.1.9 Specifying the Effective Date for UDE Value Pickup

The "Effective Date" of a record is the date from which a record takes effect. You can maintain different values for a UDE, for different effective dates for a condition. When interest is calculated on a particular day for the account class, the value of the UDE corresponding to the date will be picked up.

The UDE *values* of a condition can be different for different dates. Typically, you would want to open records with different Effective Dates if the values of UDEs vary within the same liquidation period.

Example

REQUIREMENT 1

In your bank, you have maintained 'Save Money LCY' as an account class. On this class of accounts, you want to pay credit interest based on the monthly minimum credit balance. You have defined the credit balance in terms of a slab structure and wish to pay a different rate of interest for each slab, as follows:

Amount 1	**> 1000 >= 2000**	**6%**	**(Rate 1)**
Amount 2	> 2000 >= 3000	7%	(Rate 2)
Amount 3	> 3000 >= 5000	7.5%	(Rate 3)

Amount 1	**> 1000 >= 2000**	**6%**	**(Rate 1)**
Amount 4	> 5000	10%	(Rate 4)

You would like to liquidate interest for this account class every six months. The current liquidation cycle begins on 1-1-98.

SETUP PROCEDURE

Step 1

You define 'Monthly Minimum Credit Balance' as an SDE (in the SDE Maintenance screen). You define a rule, 'CRIN', to calculate interest based on the monthly minimum credit balance (in the Rule Maintenance screen). While creating the rule you identified the SDE as Monthly Minimum Credit Balance and the UDEs as Amount 1, Amount 2, Amount 3, Amount 4, Rate 1, Rate 2, Rate 3 and Rate 4.

Step 2

You link this rule to a credit interest product that you have defined (in the Product Definition screen). You apply this product to the 'Save Money LCY' class of accounts (in the Product Preferences screen). You define the liquidation cycle as half yearly.

The first liquidation will be in June and the next will be in December (since the current liquidation cycle begins on 1-1-98).

Step 3

In the UDE maintenance screen, you must specify the UDE values as follows:

Product Code CRIN

Account Class Save Money

Currency LCY

Effective Date 01/01/98

Amount 1	**> 1000 >= 2000**	**=**	**Rate 1 :**	**6%**
Amount 2	> 2000 >= 3000	=	Rate 2 **:**	7%
Amount 3	> 3000 >= 5000	=	Rate 3 **:**	7.5%

Amount 1	**> 1000 >= 2000**	**=**	**Rate 1 :**	**6%**
Amount 4	> 5000	=	Rate 4 **:**	10%

RESULT

Unless you change the UDE values, the values that you have specified in this record will be picked up when you calculate interest for 'Save Money LCY'. That is, for balances between 1000 and 2000 in accounts linked to 'Save Money LCY', interest will be calculated at the rate of 6%, and so on.

REQUIREMENT 2

Now in April, you change the interest rate for the first tier, that is, Amount 1. You change the rate from 6% to 6.5%. The other tier limits and rates remain the same. In order that the new rates apply to accounts from 1-4-98, you must maintain a new record (for the 'Save Money LCY').

SETUP PROCEDURE

You must open a record in the UDE maintenance screen with the following details:

Product Code CRIN

Account Class Save Money

Currency LCY

Effective Date 01/04/98

Amount 1	**> 1000 >= 2000**	**=**	**Rate 1**	**6.5%**
Amount 2	> 2000 >= 3000	=	Rate 2	7%
Amount 3	> 3000 >= 5000	=	Rate 3	7.5%
Amount 4	> 5000	=	Rate 4	10%

GRAND RESULT

For the same account class - currency and rule combination, the tier limit has been changed. This is effective from 1st April.

Now, the first half-yearly liquidation is in June. For the first three months (January - March), the values specified in the record dated *01-1-98* will be applicable. For the period from April to June, the values specified in the record dated *01-04-98* will be applicable.

Only if the periodicity (specified while creating a rule) is '*Daily*' will the UDE values that you define for different effective dates be picked up. If you specified the rule application periodicity as *'Periodic'* the UDE value *as of* the liquidation date will be picked up.

The following example illustrates this.

Example

You maintain a rule: RULE 01 and specify the periodicity of application as 'Monthly'. This means that the rule will be applied on an account class or account every month. You identify the UDE for this rule as RATE 1.

You link this rule to a product 'CRIN'. You specify the liquidation periodicity of the product as 'Quarterly'. Next, you apply CRIN to the 'Smart Money' class of accounts. This means that the interest that is calculated for Smart Money accounts will be liquidated every three months.

You define the value of the UDE (Rate 1) as 6% in the UDE Maintenance screen and specify the Effective Date as 01 January 1998. On 15 March 1998, you want to apply a different rate (6.5%) of interest. When interest is liquidated on 31 March 1998 for Smart Money accounts, interest will be calculated for the period between 01 January 1998 and 30 March 1988 the rate of interest will be 6.5% for the whole period.

Please note that interest will not be calculated for the period between 01 January 1998 and 14 March 1998 at the rate of 6% and for the period between 15 April 1998 and 30 March 1998 at 6.5%.

However, if you defined the periodicity for the rule as 'Daily', the rule will be applied daily on the accounts and the UDE value that is applicable for the period (for which you are calculating interest) will be picked up. In this case, interest for the period between 01 January 1998 and 14 March 1998 will be calculated at 6% and for the period between 15 March 1998 and 30 March 1998 at 6.5%.

7.1.10 Identifying and Specifying Values for UDEs

For each account class, you must specify the values of all the UDEs that you identified while building the rule. The UDE value that you specify here will be picked up while calculating interest for the account class.

All the UDEs that you have identified for the rule (to which the product is linked) will be displayed here. The UDEs that are displayed here can be of four types. They are:

- Credit Rate
- Debit Rate
- Amount

- Number

The interest that you charge on a debit balance is an example of a debit rate. The interest that you charge on a credit balance is an example of a credit rate.

A User Data Element will be an amount under the following circumstances:

- In the case of a tier structure, the upper and lower limit of a tier or a tier amount;
- In the case of a charge, when it is indicated as a flat amount; and
- Any amount that can be used in the definition of formula (e).

When you build a rule you will indicate the UDE to be a number if the interest or charge is defined based on the number of transactions or the number of account statements. A UDE under this category can also be used to store a numerical value that may be used in a formula.

Now, for each of the UDEs that are displayed, you must specify the values. If the type of UDE that you have identified for the rule is a 'Rate' element, you can either specify a Rate Code or enter a "value" for the Rate element.

If you specify a Rate Code for the UDE, the value that you have maintained for the rate code will be picked up while calculating interest. However, if you choose to enter a "spread" for the Rate Code, the appropriate value will be computed. (A "Spread" is a positive or negative value that you add or deduct to the value specified for the Rate Code). If you do not specify a spread, the rate maintained for the Rate Code will be picked up.

If the type of UDE is an amount, the value that you enter will be in the currency that you specified in the UDE amounts currency field (in the Interest Preferences screen). If you specified the UDE amounts currency as the local currency and the account class is in a foreign currency, all UDE values will be converted to the currency of the account. Currency conversions will be on the basis of the exchange rates maintained for the day.

7.2 Defining a Special Condition

When you define interest attributes for an *account itself*, rather than for the account class to which it belongs, it is referred to as a *Special Condition*. Typically, you would want to maintain a special interest condition for a special customer.

Example

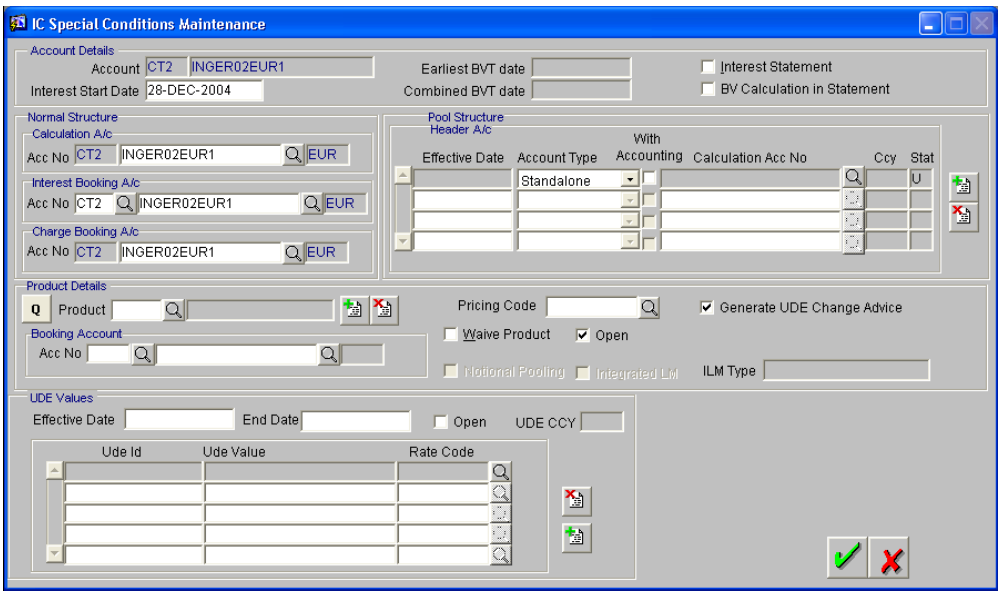
For ‘Smart Current Money’ accounts in your bank you have specified that you would charge 3% debit interest. Cavillieri and Barrett Finance Corporation, has three accounts under this class. Of these, you want to charge a debit interest of only 2.5% for one account.

To achieve this, you would define a “Special Condition” for one account on which you charge 2.5% while the other two falls under the General Condition defined for Smart Current Money accounts.

Note that the product has first to be linked to the account class to which the account belongs.

When maintaining an account in the Customer Account Maintenance screen, you can opt to define ‘special conditions’ for it. If you opt to define special conditions for an account the ‘general conditions’ defined for the Account Class, to which the account belongs, will NOT apply to this account.

To define special conditions invoke the IC Special Conditions Maintenance screen from the Customer Account Maintenance screen.



In this screen, you can view the account number (and the branch to which the account belongs) for which you are defining special conditions. In addition, you can maintain a Pool Structure for the purpose of notional pooling. This is explained in detail under the section titled 'Maintaining a Pool Structure' later in this document.

7.2.1 Specifying the Date from which Interest will be Applied

For the account for which you are defining special conditions, you must specify the date from which you would like to apply interest. Interest for this account will be calculated according to the special conditions that you define subsequently.

7.2.2 Specifying whether an Interest Statement should be generated

You can also indicate if you would like to generate an interest statement for the account. The Interest Statement will furnish the values of the SDEs and UDEs and the interest rule that applies on the account.

7.2.3 Specifying whether back-valued interest calculation details should be displayed in an Interest Statement

While defining Customer Accounts you can indicate if you would like to show the back-valued interest adjustment calculation details in the Interest Statement generated for the account holder. If the option is enabled, then for a back valued entry, the system will automatically calculate the adjusted interest and display the same in the Interest Statements.

If you have selected the 'B. V. Calculation in Statement' option at the time of maintaining the Account Class, the same will get defaulted to all accounts associated with the Account Class. However, during individual account maintenance, you can choose to uncheck this option while defining the special conditions for the account. If the option is not enabled for the account class, the same is disabled at the individual account level.

The following tags would be used to display the Back-Valued Interest Adjustment Calculations in the Interest Statements:

- Value Date
- Balance
- Days

- Rate
- Current Adjustments
- Previous Adjustments
- Adjustments

The following example illustrates the procedure for making adjustments to interest previously calculated on a back-valued transaction, and the subsequent display in the Interest Statement:

Example

Your bank generates interest statements for all customers on a month end basis.
Ms Sally Williams has an account with your bank. As on 1st April 2002, the balance in her account is 2800 USD. The interest details for the account are as follows:

- Interest Rate – 10
- Interest Basis – Actual /365

Today, you are on 31st April 2002. The interest due to Ms. Williams on the balance amount, for the period 1st April 2002 to 31st April 2002 will be calculated as follows:

(2800 * 10 * 30)/365*100 = 23.01 USD (Old Interest)

Now, a back dated entry is passed to the account of Ms. Williams for 16th April 2002 (you are 31st April 2002) as a result of which the balance in her account goes up to 3,200 USD. Under such a situation, the system will first compute the interest on the earlier balance (2,800 USD) for the period 1st April 2002 to 15th April 2002 and then compute the interest on the new balance (3,200 USD) for the period 16th April (back valued entry date) to 30th April 2002 (the rate and interest basis remain the same).

- Interest on 2,800 USD = (2,800 * 10 * 15)/365*100 = 11.51 USD
- Interest on 3,200 USD = (3,200 * 10 * 15)/365*100 = 13.15 USD

The sum total of the both the interests = 11.51 + 13.15 = 24.66 (New Interest)

In the absence of a back valued entry the interest calculated was 23.01.

The adjusted interest is the difference between the old interest and the new interest
= (24.66 – 23.01) = 1.65 USD

When the interest statement is generated, the above calculations will be displayed in the following manner:

VALUE DATE	BALANCE	DAYS	RATE	CURR VALUE	PREV AMOUNT	ADJUSTMENT	
01.04.2002	2,800.00	15	10	11.51	23.01	-11.5	
16.04.2002	3,200.00	15	10	13.15	0.0	13.15	

ADJUSTED CREDIT INTEREST: 1.65

7.2.4 Applying a Product on an Account

To calculate interest for an account, you must apply an interest product on the account. To recall, every interest product that you create is linked to an interest rule. The logic to calculate interest is built into an interest rule. When you apply an interest product on the account, interest for the account will be calculated according to the interest rule definition.

For the account for which you are defining special conditions choose the product(s) that you wish to apply. To recall, you can define a Special Condition for an account only if the account class of the account has a General Condition defined for the product. Thus, the option-list from where you select the product for which you want to define a Special Condition will contain products that satisfy the following conditions:

- A General Condition has been defined for the product and account class combination, or
- The product has been defined as a special conditions only product.

The interest rule that is linked to the product(s) will determine the interest that is applied on the account.

You may want to apply more than one interest product on an account. For example, you may want to pay credit interest on the credit balance maintained in a current account and levy a debit interest if the account lapses into a debit balance. In order to achieve this, you would have to apply two products (one defined for credit interest and another defined for debit interest). In this screen, you can choose the interest products that you want to apply on an account.

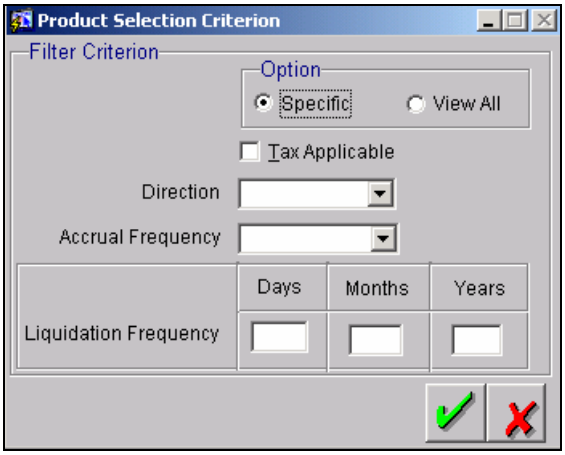
STOP The UDE currency, defined for the product (in the Interest Product Preferences screen) that you apply on the account, is displayed. Note that the UDE values that you specify for the account subsequently will be taken to be in this currency.

You can opt to generate an advice, for the benefit of the customer, when the values of the UDEs defined for the interest rule change.

7.2.5 Indicating the Filtering Criteria

For selecting the IC products for providing Special Conditions, you can specify the filtering criteria for the selection in the 'Product Selection Criterion' screen.

Click on the button in the 'IC Special Conditions Maintenance' screen to launch the 'Product Selection Criterion' screen wherein you can define the filtering criteria specific to the Customer account.



The following attributes will be available for the filtering criteria:

- Option
- Tax Applicable
- Direction
- Accrual Frequency
- Liquidation Frequency

These fields will be defaulted from the IC Interest Product preferences level but can be modified at the Customer account level.

Option

You can select the option to view either Specific or All IC products by selecting the appropriate button. The View All option is applicable only for modification of special conditions for a customer account.

You can select this option only if the branch level 'SC Prod Select Criterion' option is checked. If that option is unchecked, all the products will be shown on the screen.

Tax Applicable

You can check this option if Tax should be applied to IC products chosen for special conditions, else leave it unchecked.

Direction

You can specify the direction, whether Debit (Dr) or Credit (Cr), for choosing the IC products for the special conditions by selecting from the drop-down list. Choose Debit if you want to debit the account with the interest calculated and choose Credit if you want to credit the account with the interest calculated.

Accrual Frequency

You can specify the accrual frequency by selecting from the drop-down list provided. The frequency can be:

- Daily
- Monthly
- Quarterly
- Semi-annual
- Annual or
- On liquidation (accrues only when you liquidate interest).

Liquidation Frequency

You can specify the liquidation frequency for the Interest product chosen in

- Days
- Months or

- Years

Days	If you want to liquidate interest every 15 days, enter ‘15’. If you want to liquidate interest every 9 days enter ‘09’.
Months	If you want to liquidate interest every month enter ‘01’. If you want to liquidate interest every quarter enter ‘03’.
Years	If you want to liquidate interest every year enter ‘01’.

7.2.6 Specifying the Booking Account details for Special conditions

You can choose to maintain a separate booking account at the product level for interest for special conditions. This is allowed only if you have maintained it as a special condition at the Customer level.

The system will default the booking account from the Product level if it is maintained and you can select the Booking Account branch from the option list provided.

7.2.7 Maintaining a Pool Structure

At the time of defining customer accounts in Oracle FLEXCUBE, you can group them to form a pool. You can achieve this by selecting the ‘Notional Pooling’ option in the ‘IC Branch Parameters’ screen (refer the ‘Daily Processing of Interest and Charges’ chapter of this User Manual) and in the ‘Account Class Maintenance’ screen (refer the Core Entities User Manual).

A pool consists of a header account and one or more child/source accounts. With a pooling structure, you can consolidate the balances from the source accounts and header accounts to facilitate interest calculation. However, actual cash movement does not occur, only a notional movement of balances from the individual source accounts to the header account takes place.

If an account pool hops, and a back valued transaction is posted to the account with a value date that spans the pool hopping period, the system will calculate interest for each pool that the account was in for that period. If the account were standalone for a time, then standalone interest will be calculated.

Example

Assume that you create a pool structure 'A' effective 1st January 2004. A child/source account 'B' is linked to the structure. On 28th Feb '04 (current date), another source account 'C' joins the pool. It was a standalone account prior to joining pool 'A'. Now, you post a back dated entry to account 'C' with value date 15th Feb '04. In this case, the system will calculate two types of interest for the following periods:

Standalone Interest: for the period starting from the account open date (effective date) to 27th Feb '04

Consolidated interest for the pool: from 28th Feb until such time that the account joins another pool or decides to be a standalone account.

You can maintain the 'Pool Structure' for accounts which are identified for notional pooling in the 'IC Special Condition Maintenance' screen.

The following details have to be maintained as part of the Pool Structure:

Effective Date

By default, the pool structure will become effective on the day you open the account in the system. You will not be allowed to change the date if the account open date is in the past. Further, you will not be allowed to create a new structure with a back valued effective date. However, you can create structures with effective dates in the future.

Account Type

This field will indicate the nature of the structure being defined. By default, the structure will be of the 'Normal' (or Standalone) type. You can, however, maintain a structure of the following types:

- Master
- Standalone
- Child

You have to maintain a 'Master' account explicitly and only such accounts will be available for linking to 'Child' accounts. Further, when you dissociate all child accounts, you also have to change the account type from 'Master' to 'Normal/Standalone'.

With Accounting

A pool structure enables you to consolidate the balances into a pool for interest calculation. A pool, as stated earlier, consists of a header/master account and one or more child/source accounts. In a 'Child' account 'With Accounting' type of structure (i.e. with reallocation), you can calculate the interest on the pool balance and subsequently reallocate the interest to the child accounts based on their individual contributions. The following entries will be posted in this type of a structure:

For credit interest:

Dr	Master Account
Cr	Child Account

For debit interest:

Dr	Child Account
Cr	Master Account

In a Child without Accounting (without reallocation in other words), the interest calculated on the pool balance will be posted (liquidated) to the Booking account of the Master account. Reallocation will not be done in this case.

Calculation Account Number

Here, you have to select the Header account to which the 'Child' account is linked. By default, it will be same as the customer account.

When you change the 'Standalone' structure to a 'Child' type of structure, you will also be required to change the Header/Calculation account to a Header or Normal/Standalone kind of account. When you attach a child account to a standalone account, the 'Account Type' for the standalone account will be automatically updated to 'Master' upon authorization of the child structure. If you attempt to link a child account to another child account, the system will display an error message to report the same.

On selection of the header /calculation account, the account currency will be displayed in the adjacent field. The currency of the header account can be different only if the customer account currency is a 'EURO IN' currency and when the header account currency is a 'EURO'. In this case, the option-list for the calculation account will consist of accounts in 'EURO' and 'EURO IN' currencies. This filter will be done internally by the system.

Note the following:

- Upon authorization of a customer account that is linked to an account class which is marked for 'Notional Pooling', the system will automatically create a stand alone pooling structure with the header account same as the customer account. The effective date for the structure will be same as the account open date.
- At any given point of time, you cannot maintain more than one future dated pool structure in the 'IC Special Condition Maintenance' screen.

7.2.7.1 System Accounts

In this kind of pooling structure, tracking of balances and interest calculation will actually occur at the system account level. A system account is created automatically when you open a customer account in Oracle FLEXCUBE. A system account is, in effect, a mirror account which inherits the basic attributes (like account class, currency and customer id) of the corresponding customer account.

When an account is opened for the first time, a standalone/normal system account will be created. Depending upon the role of the account (whether header or child) in the pooling structure that you maintain, the corresponding header system account and child system account will be created internally. Further, any change in the role of the account (from header to child or vice versa) or a structure hopping of the account will result in the creation of a new system account.

A header system account will be created on authorization of a child structure. In addition, for a header-child structure, a pool system account will also be created wherein the interest calculation for the pool occurs. However, for the individual accounts in the pool, interest will be calculated at the respective child system account and header system account levels.

You can define a formula for interest calculation for notional pooling related processing.

Refer the 'Maintaining Interest Rules' chapter of this User Manual for more details on defining different formula types.

7.2.8 Closing a Special Condition

More than one product may be applicable on an account at the same time. You can temporarily stop applying a product on an account by "closing" it. You can achieve this by removing the tick for the field "open". The product will cease to be applied on the account. You can make the product applicable again by ticking the "open" box.

This feature is useful when you have to temporarily stop the application of interest due to a condition.

Please note that when you stop the application of an interest product on an account, it will affect the entire current liquidation period. If any accrual entries have been passed for the account due to the product that is closed, they will be reversed by the IC Daily function at the end of the day.

As a corollary, when an interest product on an account is applied again, it will affect the entire current liquidation period. The necessary accrual entries will be passed for the account by the IC Daily function at the end of the day.

On the other hand, you can close the product itself if you want to close all the conditions applied for the product. This should be done when you will no longer use the product.

7.2.9 Defining UDE Values for the Account

A rule identifies the method in which interest or charge is to be calculated. An interest rule consists of System Data Elements and User Data Elements.

When you apply a product on an account (while defining special conditions for it), interest for the account will be calculated according to the interest rule that you have linked to the product. That is, you merely define the following:

- How the principal should be picked up from the account;
- The period for which you want to apply interest; and
- The type of rate (*not the numeric value*) that should apply.

You now have to specify the *numeric values* of all the UDEs that you identified for the interest rule. The value that you specify here will be used to calculate interest for the account.

All the UDEs that you have identified for the rule (to which the product is linked) will be displayed here. The UDEs that are displayed here can be of four types. They are:

- Credit Rate
- Debit Rate
- Amount
- Number

The interest that you charge on a debit balance is an example of a debit rate. The interest that you charge on a credit balance is an example of a credit rate.

A User Data Element will be an amount under the following circumstances:

- In the case of a tier structure, the upper and lower limit of a tier or a tier amount;
- In the case of a charge, when it is indicated as a flat amount; and
- Any amount that can be used in the definition of formula(e).

When building an interest rule you may have indicated the UDE to be a number if the interest or charge is based on the number of transactions or the number of account statements. A UDE under this category can also be used to store a numerical value that may be used in a formula.

Now, for each of the UDEs that are displayed, you must specify the values *individually*. If the type of UDE that you have identified for the rule is a 'Rate' element, you can either specify a Rate Code or enter a "value" for the Rate element.

If you specify a Rate Code for the UDE, the value that you have maintained for the rate code will be picked up while calculating interest. However, if you choose to enter a "spread" for the Rate Code, the appropriate value will be computed. (A "Spread" is a positive or negative value that you add or deduct to the value specified for the Rate Code). If you do not specify a spread, the rate maintained for the Rate Code will be picked up.

If the type of UDE is an amount, the value that you enter will be in the currency that you specified in the UDE Amounts Currency field (in the Interest Product Preferences screen). If you specified the UDE amounts currency as the local currency and the account is in a foreign currency, the currency conversions will be on the basis of the mid rate for the day.

Note that the UDE values that you specify here will only be applied to this account.

7.2.10 Specifying the Effective Date for UDE Value Pickup

The 'Effective Date' of a record is the date from which a record takes effect. You can maintain different values for a UDE, for *different effective dates,* for an account. When interest is calculated on a particular day for an account with special conditions applicable, the value of the UDE corresponding to the date will be picked up.

Typically, you would want to open records with different Effective Dates if the values of UDEs vary within the same liquidation period.

7.2.11 Specifying the End Date

The 'End Date' of a record is the date after which the system calculates the interest for an account with the general conditions applicable. The 'End Date' cannot be less than the global application date.

If a special condition exists for an effective date and end date combination, then you cannot apply any new special condition for that particular IC product between the two dates, even if the existing special condition is closed.

If the existing special condition maintenance does not have an end date maintained, then the next special condition maintenance will be allowed only when the end date is maintained for the existing special condition and if the field 'Allow Spl Cond Dt' is checked.

The 'End Date' field is enabled only if :'Allow Spl Cond Dt' box is checked in the 'Account Class Maintenance'. This field is disabled for IC Products having 'Notional Pooling' or 'ILM' setup.

7.2.12 Closing the Values Applicable for an Effective Date

An entry passed into an account for with a value date prior to the booking date is called a "back-dated" entry. For such a transaction, you can specify whether you want to use the UDE values as of the period of the back dated entry or that of the current period. This can be achieved by closing a UDE value for an effective date. The following example illustrates this concept:

You are on 31 March and you have two UDE values, for the following dates: 01 March and 15 March. You pass an entry back-dated to 03 March. For this transaction, the UDE values applicable will be picked up in the following manner:

If the record for 01 March and 15 March is open, the UDE values applicable for those periods will be picked up.

If the records for 01 March are closed, the UDE values applicable as of 15 March will be picked up.

7.2.13 Identifying Booking Accounts for Interest liquidation and account charges

While creating an IC Product you have to identify the Booking Account Type depending on the IC product type you are creating. If the account type is Interest, the Interest/Charge is liquidated into the Interest account. Similarly, if the account type is Charge, the Interest/Charge will be liquidated to the Charge account. You have to identify the Booking/Interest accounts in this screen.

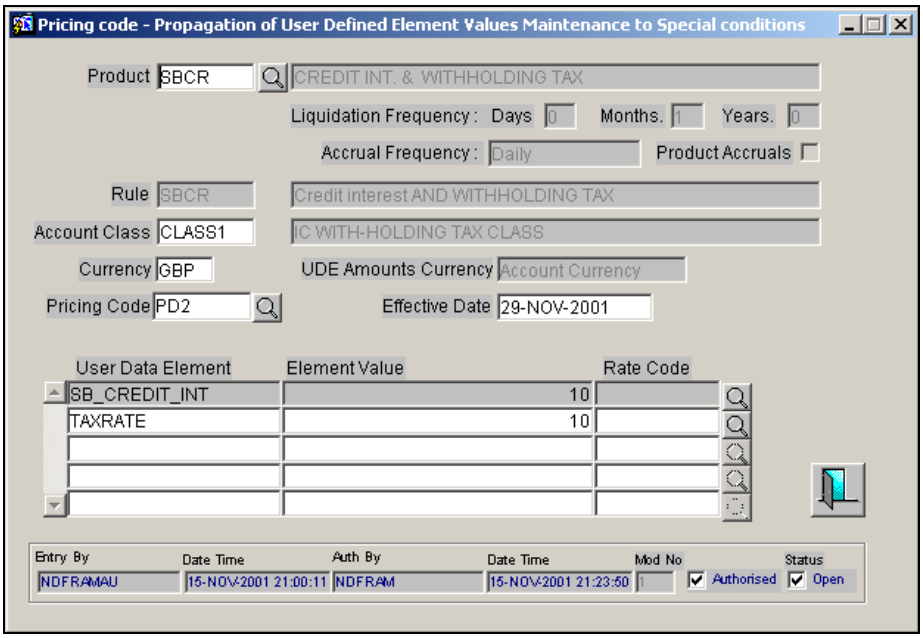
7.3 Applying special UDE values on Accounts and Account Classes

In Oracle FLEXCUBE, you can apply special UDE values on a class of accounts or a specific account. You can achieve this by linking a Price Code to the account class or the account itself.

The first step to applying special UDE values on an account or account class is to maintain price codes in Oracle FLEXCUBE. Invoke the Price Code Description screen from the Application Browser to maintain price codes.

7.3.1 Maintaining UDE values for a product, account class, and price code combination

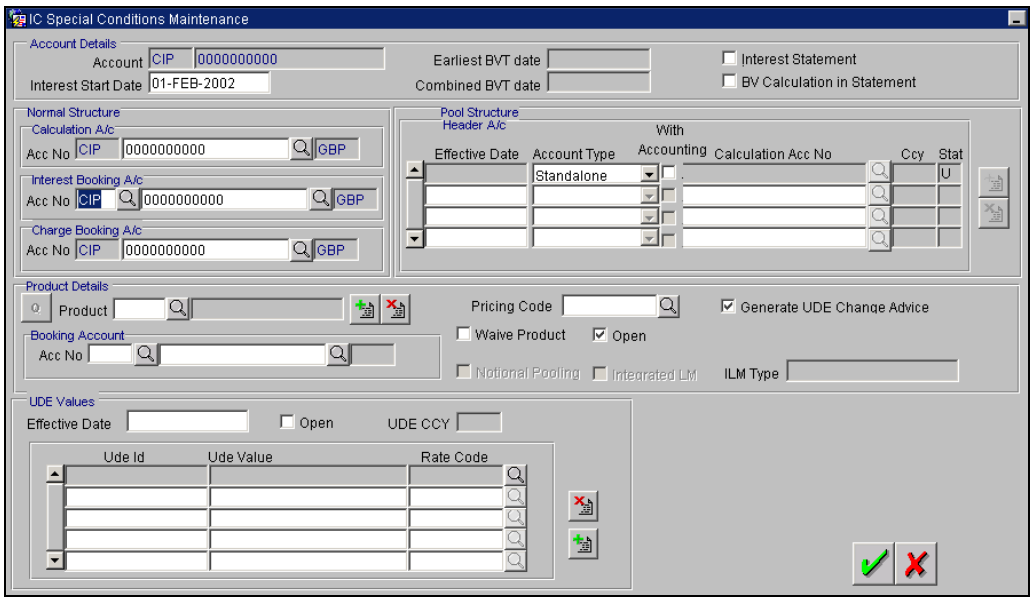
In the Pricing Code – Propagation of UDE Values Maintenance screen, you can specify the values for the UDEs that apply on an IC Product, Account Class, Currency and Price Code combination, and indicate the date on which these values take effect.



For every Price Code you associate with an Account Class, Currency, and Product combination, you can opt to maintain special values for the product UDEs. You can choose to associate the UDEs with a Rate Code or, if the UDE type is other than Rate, you can opt to specify a value. If you associate the UDE with a Rate Code, you can also specify a spread in the Element Value field. If the UDE is not a rate, specify the UDE value in the Element Value field.

7.3.2 Maintaining special UDE values for an account

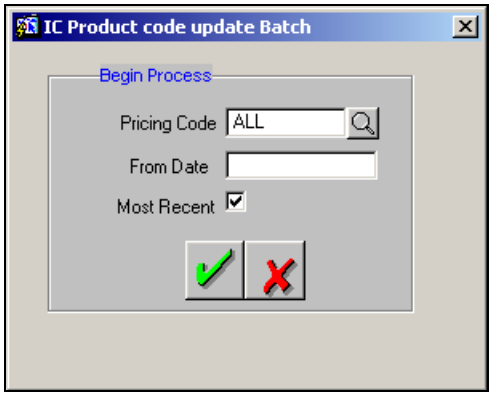
If you would like to apply special UDE values for a specific account, link a valid price code to the account, and maintain the values for the product UDEs. You can link a price code to an account in the IC Special Conditions Maintenance screen. While capturing the details of a customer account, click on the button. The IC Special Conditions Maintenance screen is displayed.



In this screen, you can associate the customer account you are maintaining with an IC Product and a Pricing Code. In the UDE Values section, specify the values for the product UDEs.

7.3.2.1 Updating the Effective Dates for Pricing Codes

To refresh the Pricing Code and Effective Date combination for each account you can execute the Product Code Update Batch operation. Upon execution of the batch process the UDE maintained for the pricing code, product, account class and currency with matching combinations get updated with the UDE values for the effective date.



After identifying the Pricing Code for which you would like to run the batch program you can specify the date from which the system should update the Pricing Code and Effective Date combination records. The UDE values of those accounts linked to the specified Pricing Code will be updated with all the UDE records which have effective dates between the From Date and the System Date.

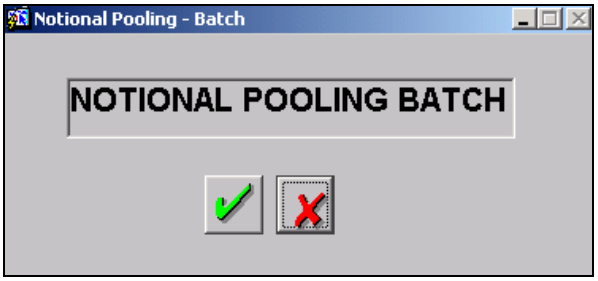
You can also check the box positioned next to the field titled Most Recent to indicate that the system should update the special conditions linked to the UDE values, which have been updated most recently i.e., having the latest effective date.

When you execute this batch process, the system automatically does a search for all accounts associated with the pricing code and appends them with records matching the Pricing Code, Account Class, Currency and IC Product combination.

7.3.3 Executing the Notional Pool Batch Program

You can execute the notional pool batch program during IC EOD to obtain the value dated balances of the system accounts based on the entries posted to the corresponding customer accounts (linked to account classes marked for notional pooling). The batch program will be executed twice, once before the IC batch and then after the IC batch so that the balances are updated by the entries posted during the IC EOD.

The batch program can be executed through the following screen available under the 'EOC Operations' menu in the Application Browser:



The following processing will be done by this batch program:

- For the customer accounts, the system will pick up the corresponding system account for that value date. Subsequent system accounts created as a result of pool hopping, change in the role (from header to source or vice versa) will also be picked up by the system.
- The balances will be updated for all the system accounts as of that day. Balances as a result of future value dated entries will also be included with the relevant value dates. The balances resulting from future dated transactions that are posted to a customer account will be updated to the current system account.
- The system will update the corresponding system account balance with the amount if the customer account type is any one of the following:

- Child account without reallocation,
- Child account with reallocation, or
- Header account
    - The header account currency will be taken as the currency of the pool system account. If the pool system account currency is different from the account currency of the child accounts linked to the pool, the standard mid rate will be used to convert the amount to the pool currency and update the balances accordingly.
    - If a back valued transaction (BVT) is posted to a customer account, the corresponding system account and subsequent system accounts created for that account will be marked for back valuation. In addition, the system will also do a back valuation for all pool structures to which the account belonged subsequent to the value date of the BVT.

7.3.4 Calculating and booking interest for pool structures

Interest for pool structure will be calculated at the system account level unlike the normal products where the customer account balances will be considered. The consolidated pool balance will be used for interest calculation for pool system accounts and independent system account balances will be used for header and child/source accounts.

The interest for accounts marked for back valuation will be recalculated and compared with the original interest posted for that period prior to the BVT. The difference in the interest computed will be considered as an adjustment entry and will eventually get booked to the corresponding booking account of the account.

If the booking account currency is different, the standard mid rate as of the liquidation date will be applied for conversion of the interest to its equivalent in the booking account currency. If the interest amount is more than the small FX limit maintained for the branch, the same will be posted to the suspense account maintained at the branch level (in the IC Branch Parameters screen).

Refer the 'Daily Processing of Interest and Charges' chapter of this User Manual for more details.

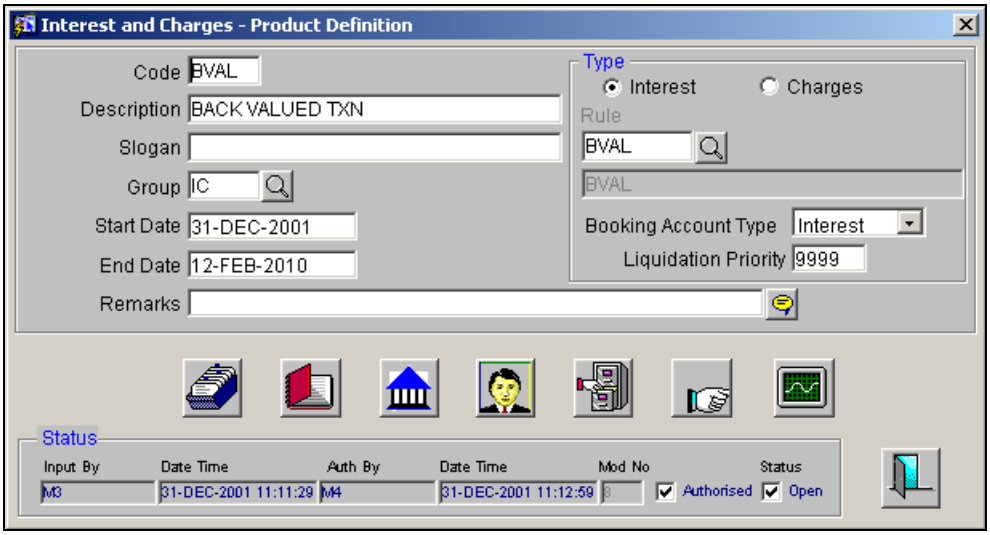
If the booking account of the pool structure is closed, the entry will get posted to the suspense account maintained at the branch level (in the Branch Parameters screen) for foreign currency or local currency, as the case may be.

8. Defining the attributes specific to an Interest or Charge product

8.1 Introduction

In this chapter, we shall discuss the manner in which you can define attributes specific to an Interest or Charges product.

You can create an interest or charges product in the Interest and Charges Product Definition screen, invoked from the Application Browser. In this screen, you can enter basic information relating to an interest or charges product such as the Product Code, the Description, etc.



For any product you create in Oracle FLEXCUBE, you can define generic attributes, such as branch, currency, and customer restrictions, accounting roles and heads, MIS etc., by clicking on the appropriate icon in the horizontal array of icons in this screen. For an interest or charges product, in addition to these generic attributes, you can specifically define other attributes. These attributes are discussed in detail in this chapter.

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

For further information on the generic attributes that you can define for a product, please refer the following Oracle FLEXCUBE *User Manuals:*

- Products
- Settlements

8.1.1 Specifying the Product Type

First of all, you should specify the type of product that you are creating. You can either create:

- An Interest product, or
- A Charge product.

Interest Products

If you are creating an interest product, you must link the product to an Interest Rule that you have *already* maintained. (To recall, an Interest Rule identifies the method in which interest is calculated.) When you apply this interest product on an account (or account class), interest will be calculated for the account according to the method specified for the Interest Rule.

When you link an Interest Rule to the product, the description of the rule will be displayed.

If you are defining an interest product, choose the 'Interest' option under 'Product Type'.

Charge Products

If you are creating a Charge product, you must specify the basis on which you want to apply the charge, which could be one of the following:

NUM-ACCT-STMTS	Number of Regular Account Statements	You can fix the number of free account statements for a liquidation cycle. For every extra account statement that you issue, you can levy a charge.
NUM-CHQ-RET	Number of checks returned	Every check that bounces is recorded in the Checks Returned file. You can charge a penalty on every

NUM-ACCT-STMTS	Number of Regular Account Statements	You can fix the number of free account statements for a liquidation cycle. For every extra account statement that you issue, you can levy a charge.
		bounced check.
NUM-CHQ-ISS	Number of checks issued	You can fix the number of free checks that can be issued for a liquidation cycle. For every extra check leaf issued, you can levy a charge.
NUM-STOP-PAY	Number of Stop Payments	You can levy a charge for every stop payment instruction.
TURNOVER	Turnover	You can charge on the basis of the turnover in an account. You can opt to levy charges on turnovers *exceeding* a certain amount.
ITEM-COUNT	Number of transactions	If the number of transactions during a liquidation cycle exceeds a certain number, you can levy a charge.
ADHOC-STMT	Number of ad hoc Account Statements	Account statements are normally generated at a specific frequency. If you generate a statement out of this frequency, you can levy a charge.

If you are defining a charge product, choose the 'Charge' option under 'Product Type'.

After you have specified the *basis* on which you would like to levy the charge, you have to specify the liquidation related details for the charge product, the account classes on which the product should be applied, the frequency of liquidation, the amount or rate of charge to be applied, amongst other details. You specify these details in the Product Preferences screen.

Identifying the Booking Account Type

You have to identify the Booking Account Type depending on the IC product type you are creating.

If the account type is Interest, the Interest/Charge is liquidated into the Interest account maintained in the IC special condition maintenance. However, if the account type is Charge, the Interest/Charge will be liquidated to the Charge account that you identify in the IC special condition maintenance.

Please note that the "preferences" screen that will be displayed during product definition will be either interest preferences or charge preferences, based on the product type. All the other screens are the same for both Interest and Charge products.

Indicating liquidation priority

For liquidation of interest or a charge involving a product, you can indicate the priority with which the liquidation should be done. You have the option to prioritize liquidation by indicating the values from 1 (Highest) to 9999 (Lowest).

The liquidation priority you specify will be applicable for all interest formulas (Debit or Credit), charges and will be applied during EOD (End of Day) batch process.

However, the liquidation priority specified here is not germane to IC online liquidation.

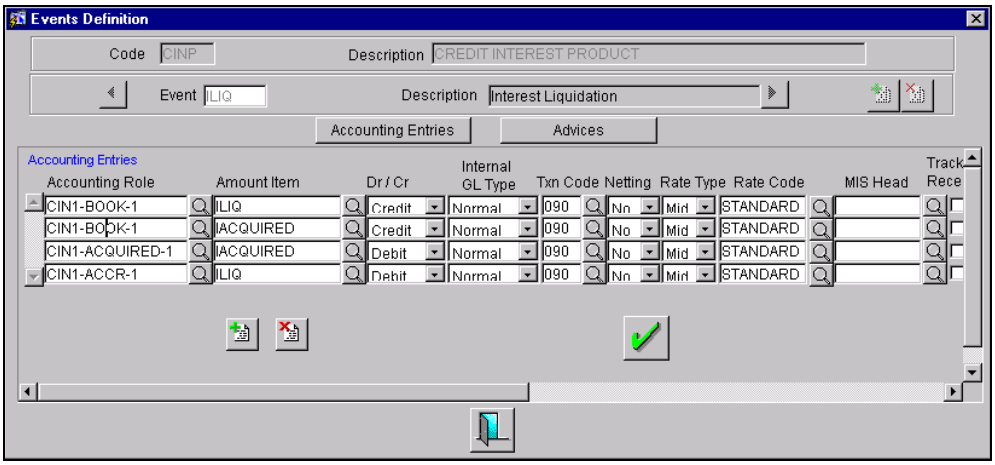
8.1.2 Defining the Currency Conversion preferences for an account

The currency conversion preferences would be used when the calculation account currency is different from the booking account currency.

For example, if an amount of Interest is to be paid for an account maintained in USD (ie the local currency) but the booking account (i.e. the account to be credited) is in GBP then the conversion would be based on the preferences defined in the Event definition screen. Here, you can select the rate code and the rate type that is to be used in the conversion.

Similarly if the Tax is computed in an account currency or the local currency which is different form the booking account currency then the system will use the rate code and rate type in the Event Definition screen.

Click on button in the Product Definition screen to invoke it.



All the rate codes maintained at your bank will be available in the option-list. The appropriate rate code in conjunction with the rate type (i.e. Buy, Sell, and Mid) should be used for currency conversions. You may select these from the appropriate lists.

8.1.3 Defining Preferences for Interest Products

While creating an interest product, you identify *one* rule or interest calculation method that you would like to use to calculate interest for the product. In linking a product to a rule, you identify how the principal, period and rate components are to be picked up from *accounts* on which the product should be applied. You are yet to *identify* the accounts, or account classes, on which you would apply the product.

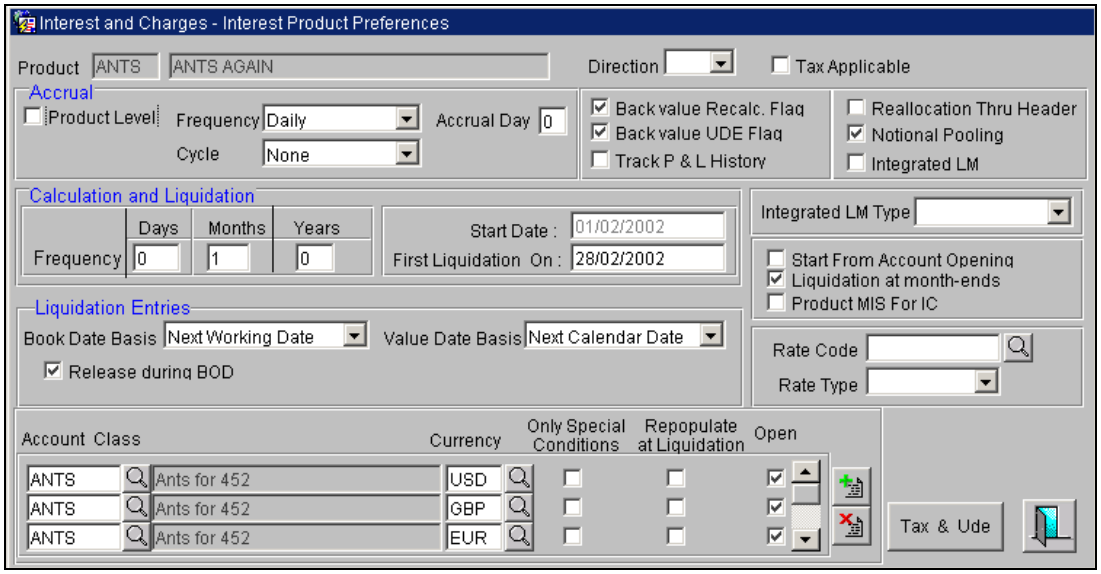
In the Interest Product Preferences screen specify the interest accrual and liquidation details for the product. These specifications are referred to as 'Preferences'. In addition, you also make the product applicable on an account by linking an account class or an account itself, to the product.

For an interest product you can define the following **preferences:**

- The account class and currency combination on which you would like to apply the product.
- The filtering criterion of Frequency, Tax status, and Direction (Dr/Cr) for selecting the IC products for providing Special Conditions.
- **Accrual related details**

- Whether accrual entries for all accounts linked to the product should be passed at the product level. If not, they will be passed for each account separately.
- The frequency at which interest should be automatically accrued.
- Whether automatic accruals should always take place on a month-end.

- **Liquidation related details**
  - The frequency of liquidation.
  - Whether interest should be applied right from the day the account is opened.
  - The date on which the first liquidation should be done for accounts linked to the product.
  - Whether automatic liquidation's should always take place on a month-end.
- The Rate Code and Rate Type for converting Interest liquidation amount from calculation account currency to booking account currency.



You can apply a product to any number of accounts or account classes. When you apply a product to many account classes, interest for *all* the accounts will be calculated according to the rule (or the calculation method) to which the product is linked. That is, the principal, period and type of rate (*not the numeric value*) will be picked up from the accounts in the same manner. Also, the accrual and liquidation details for all the account classes will be the same for all the account classes. You can thus have all the attributes except those of User Data Elements (UDEs) like the rate, tier structure, etc. same for accounts belonging to different account classes.

8.1.4 Indicating the Filtering Criterion for SC definition

You can specify filtering criteria for selecting the IC products for providing special conditions. The following attributes are available to build the filter criteria:

- Frequency
- Tax status and
- Direction (Dr/Cr)

These fields will be only for information purpose and no validations will be done based on this.

Tax Applicable

You can check this option if Tax should be applied to the IC products chosen for special conditions.

Direction (Dr/Cr)

You can specify the direction for choosing the IC products for the special conditions by selecting from the drop-down list.

Choose Debit if you want to debit the account with the interest calculated and choose Credit if you want to credit the account.

8.1.5 Accrual Related Details

While building a formula (for the rule to which you have linked the product), if you indicated that the result of the formula is interest that should be accrued, the interest amount for all the accounts linked to the product will be accrued.

When defining the preferences for this product, you can choose to pass the accrual entries in the following manner:

- Pass an accrual entry for each account, or
- Consolidate the interest to be accrued (for individual accounts) and track it against the product.

If you choose the latter option, the cumulative value of all the accruals (for accounts linked to the product) will be passed as a single accounting entry.

Example

You have defined debit interest 'DRIN' as a product and linked it to the account class 'Current Money 01'. Accrual entries passed for accounts linked to DRIN will be as follows:

- Dr Interest receivable
- Cr Interest Earned

Since accrual accounts for a formula are defined for a product, to be applicable for all accounts linked to the product (either through an Account Class or as a special condition), the accrual accounts will be the same for all the accounts.

If you choose to accrue at the product level rather than at the account level, a consolidated entry will be passed for the formula for all the accounts linked to the product. Thus, there will be a single accrual entry instead of many.

If you choose to accrue interest for each account linked to the product, an accrual entry will be posted for each account individually. The account for which the accrual entry is passed will be shown when you retrieve information about an entry.

If you opt, however, to accrue interest at the 'Product Level', the accrued interest due to a formula for all the accounts linked to the product will be consolidated and a single entry posted for the product. The details of accruals for each account will be available in the Accrual Control Journal, a report generated whenever accruals are performed as part of end-of-cycle processing.

Frequency of accrual

Let us recall the operations relating to accruals that you have performed so far. When you build an interest rule you define if the result of a formula is to be accrued. When defining the product (to which you link the rule), you would:

- Identify the GL/SL to which you post the interest accrued (Product Accounting Role Definition screen), and
- Specify that when the event “accrual” occurs you would post the entry to the GL/SL that you identified (Events Definition screen).

Now, the frequency with which you accrue interest for the account classes has to be defined. In the Product Preferences screen, you can specify the accrual frequency.

The frequency with which you accrue interest can be:

- Daily,
- Monthly,
- Quarterly,
- Semi-annual,
- Annual, or
- On liquidation (accrues only when you liquidate interest).

Periodic accruals for all formulae for which interest has to be accrued will be done during the end-of-day processing, for each account linked to the product. Entries will be passed to the accrual accounts that you have specified while creating the product.

If you have specified that accrual entries have to be passed for a product rather than for individual accounts, a consolidated entry will be passed for the formula, for all the accounts linked to the product. If not, an entry will be passed for each account individually.

Accruals will also be performed whenever there is an interest liquidation. For an account on which a liquidation is done out of turn (an ad-hoc liquidation when a periodic liquidation is not due), accrual entries will be passed till the date of liquidation. The next accruals for the account will be done from the next day onwards.

Indicating the accrual cycle

If the frequency with which you choose to accrue interest is

- Quarterly,
- Semi-annual or

- Annual,

you should specify the accrual cycle vis-à-vis the months. For example, a quarterly cycle may be March, June, September and December, indicating that the accrual should take place in these months. For a half-yearly cycle you would specify June and December.

Indicating the day on which accruals should be done

For a non-daily accrual frequency, the Accrual Day indicates the day of the month on which the accruals have to be carried out. For example, an Accrual Day of 25 indicates an automatic accrual should be done on 25 of the month, as per the frequency.

Accruing only on month-ends

If you have specified that you would like to accrue interest for accounts linked to a product, in cycles of a month or more (that is, every month, quarter, six months or year), you can indicate if the interest is to be accrued on the last working day of the month. If you opt to accrue interest on a month-end, accruals will be carried out every month on the last working day of the month.

Normally, you would want to accrue interest on month ends. To accrue interest on month ends, enter '31' in the Accrual Day field. For months with 31 days, interest will be accrued on the 31st. For months with 30 days, interest will be accrued on the 30th, and for February interest will be accrued on the 28th, or the 29th, as the case may be.

If you enter '30', in the Accrual Day field for example, interest will be accrued on the 30 of the month, till the 30. For February, it will be either 28 or 29, as the case may be. If a month has 31 days, the accruals for the extra day will be done during the next accrual cycle. That is, the 31st of the month will be taken into account when interest is accrued for the next month.

STOP Accruals will always be done till the Next Working Day -1 (that is, upto but not including the next working day).

Tracking profit and loss history

Profit and loss corresponding to previous periods can be tracked separately and liquidated into separate income/expense GLs during the accrual event for back valued entries. You can indicate this by enabling the Track Profit and Loss History box, in the Accruals section of this screen.

As a result, when the adjustment accrual entries for back value transaction are passed during the accrual event, the system recalculates the accruals for the previous calendar year, current year and the current month. In each case, the outstanding accruals are passed into the corresponding GLs'.

However, the system will track the profit and loss history for back valued entries only if this has been set as a preference in the bank level parameters screen. Additionally, you must also identify the previous and current year GLs of the GL to which the entries have to be posted in the Chart of accounts screen.

8.1.6 Facilitating Notional Pooling

Notional Pooling will enable you to maintain a pool structure for interest calculation. In this type of structure, a set of accounts are grouped together to form a pool (notional). A pool consists of a header account and one or more child/source accounts. With a pooling structure, you can consolidate the balances from the source accounts and header accounts to facilitate interest calculation.

Refer the 'Applying an Interest Product on an Account' chapter of this User Manual for details on maintaining a pool structure to enable notional pooling of customer accounts.

You have to select this option to facilitate notional pooling processing for the interest product being defined. For a pooling kind of product, the interest rule should be a combination of 'Standalone' and 'Pool' kind of formula type. The Pool system account level balances will be used for Interest calculation for pooling type of products.

Interest rule with formula type 'Normal' will be used for calculating interest for non-pooling type of products and account level balances will be considered for this purpose.

Refer the 'Maintaining Interest Rules' chapter of this User Manual for more details on defining different formula types.

In addition, for notional pooling products, only those account classes that are identified for notional pooling (in the Account Class Maintenance screen) will be available for linking.

8.1.7 Liquidation Related Details

Just as you defined the accrual related details for account classes linked to a product, you should define liquidation related details as part of preferences for the product.

You can liquidate interest for an account

- Periodically, or
- On an ad hoc basis.

Monthly liquidation of interest on an account is an example of periodic liquidation. When you *do not* liquidate interest on an account at fixed intervals, the liquidation is referred to as 'ad hoc liquidation'.

If you opt to liquidate interest periodically, you can automate the liquidation process. The automatic processes that are generated at the end of day will liquidate interest for those accounts that are marked for liquidation.

You can perform an ad hoc liquidation on accounts anytime - even if the accounts are marked for auto liquidation.

You should necessarily liquidate interest before you

- Close an account,
- Change its account class, or
- Change the calculation account.

Specifying the liquidation frequency

The term 'liquidation frequency' refers to the interval between successive *periodic* liquidation's.

You can specify the liquidation frequency for the Interest product that you are creating. You can specify the liquidation frequency in

- Days,
- Months, or
- Years.

Days	**If you want to liquidate interest every 15 days, enter '15'. If you want to liquidate interest every 9 days enter '09'.**

Days	**If you want to liquidate interest every 15 days, enter '15'. If you want to liquidate interest every 9 days enter '09'.**
Months	If you want to liquidate interest every month enter '01'. If you want to liquidate interest every quarter enter '03'.
Years	If you want to liquidate interest every year enter '01'.

Example

Assume you would like to liquidate interest every quarter, that is, in the months of March, June, September and December. You would like to liquidate interest on the 5th day of the month, that is, on the 5th of March, the 5th of June, and so on. To achieve this result, enter '05' in the Days field, and '03' in the Months field.

Interest for the accounts linked to the product will be liquidated automatically according to your specifications, during the end-of-day processing on the day the liquidation becomes due.

To specify ad hoc liquidation for a product, enter a zero for day, month, and year in the liquidation frequency.

Ad-hoc liquidation can be carried out any time on an account, even if it has been defined for automatic liquidation. An ad-hoc liquidation of interest for an account (defined for auto liquidation) will liquidate interest till the date you specify when you carry out ad-hoc liquidation. The subsequent automatic liquidation will be for the remaining days in the liquidation period.

The following example illustrates this point:

Example

For a product, the liquidation periodicity has been defined as monthly, to be carried out on the last working day of the month.

On 15 April, you do ad-hoc liquidation of interest for a few accounts linked to the product. The interest for 14 days in April (assuming that you specify the date of liquidation as 14 April) will be liquidated during this ad-hoc liquidation.

The next automatic liquidation of interest for all accounts involving the product would be on 30 April. The number of interest days for accounts for which the ad-hoc liquidation was performed would be 16. The values for the SDEs applicable will also be picked up over this period. For the other accounts, the interest days would be 30 and the SDE values picked up would be for the entire 30-day period.

For a product, you specify whether the account closing month has to be included for interest application. Whether interest will be applied for the current month during ad hoc liquidation (on 15 April in our example) depends on this parameter for the product. Interest for the current month will be applied during ad hoc liquidation only if the definition is that account closing month should be included for interest application. If not, the next automatic liquidation will process interest for the entire month.

Specifying the liquidation date

Once the liquidation frequency has been defined, you should specify the First Liquidation Date. The frequency and the date will be used to arrive at the first and subsequent dates of liquidation for the accounts linked to the product.

For example, your quarterly liquidation cycle may be March, June, September and December, and the liquidation is as of the month-end. For such a cycle, you should indicate 31 March as the date of first liquidation during the year. The subsequent dates will be automatically fixed by the system based on the frequency and the first liquidation date.

Similarly,

- If you want to liquidate on a half-yearly basis - that is, June and December (and on month-ends) - you should specify the date of first liquidation as 30 June 1999.
- If you want to liquidate interest every two months, that is February, April, June, August, October and December (at the end-of-month), you should specify the date of first liquidation as 29 February 1999.
- If you want to liquidate interest annually, that is every December (on 31 December), you should specify the first day of liquidation as 31 December, and so on.

The First Liquidation Date thus determines the date on which the first liquidation should be carried out for all accounts linked to a product. Subsequent liquidation dates will be fixed based on this date and the frequency of liquidation.

Start Date

The system displays the Start Date based on the First Liquidation Date and the Liquidation Frequency that you specify. The Start Date that is displayed is the First Liquidation Date - the Liquidation Frequency.

For example, if you specified the First Liquidation Date as 31 January 2000, and the Liquidation Frequency as 1 Month, the system will display the Start Date as 1 January 2000.

Liquidating interest on month-ends

For a liquidation frequency in months or multiples of a month (for example quarterly, half-yearly, every two months, etc.,) you can specify that liquidation has to be carried out *as of* the last working day of the month. In this case, you should specify the Liquidation Start Date as the last date of the month from which you would begin liquidation. For example, for a month-end quarterly liquidation beginning March '98, you should have the Liquidation Start Date as 31 March '98. You should also check the box against "Liquidation at month-ends".

Thus, all the accounts that are linked to a product will have the same liquidation date (fixed using the first liquidation date) and frequency, irrespective of their account opening date. The first ever interest liquidation would, therefore, be for a period that may not reflect the frequency of liquidation for the product. The following example illustrates this point:

Example

The frequency of interest liquidation for a product is quarterly and the First Liquidation Date is 31 March '98. All accounts linked to this product will have an automatic interest liquidation on 31 March '98, irrespective of the date on which they were opened.

Interest for an account opened on or before 01 January '98 will be liquidated on 31 March '98, and so will an account opened, for example, on 30 March.

Thus, accounts that were opened anytime during this quarter will have varying number of interest days, depending on the date they were opened.

Also, the month in which the account was opened will be considered for interest application depending on your definition in the Rule Maintenance screen. During subsequent automatic liquidation's, interest will be applied for a quarter provided there are no ad hoc liquidation's on an account during the quarter.

Having the periodic liquidation coincide with the Account Opening Date

We have seen how periodic liquidation's can be fixed to begin on a particular date (First Liquidation Date) and happen at a definite frequency. Instead of giving a First Liquidation Date and bringing *all the accounts linked to the product* to the same liquidation cycle, you could opt to liquidate interest for accounts, periodically, according to a frequency determined by the Account Opening Date.

For example, the liquidation frequency is defined as quarterly for a product, starting from the Account Opening Date. For each account, the periodic liquidation will fall due a quarter from its Account Opening Date. Thus, there will not be a fixed periodic liquidation date for all accounts linked to the product; it will depend on the Account Opening Date of each account.

Tracking MIS details for the product

You can choose whether or not MIS tracking is required for the IC product. Enabling this feature, helps you capture MIS details for IC products through the MIS details screen. The MIS details you specify at the product level will default to all accounts under the selected IC product. Subsequently, you can modify MIS details for the branch, product and account combination.

8.1.8 Indicating the manner in which Liquidation Entries are to be booked

Liquidation entries for the IC module are posted on the last working day of the liquidation period and Value Dated as the Next Calendar day. However, you have the choice of specifying the Booking Date and Value Date basis for posting Liquidation entries.

To determine the Booking Date of the entries you can specify whether the entries should be booked on the last working date of the liquidation period or whether they should be booked on the next working date.

Similarly, you have to indicate the basis for determining the Value Date of the entries, which could be any one of the following:

- Last Calendar Date.
- Last Working Date.
- Next Working Date.
- Next Calendar Date.

For example, Today's System date is 31st Jan 2003. The Next Working Date is 07th Feb 2003.

The liquidation is being performed on the 31st January 2003. The Liquidation Entry preferences you have specified are as follows:

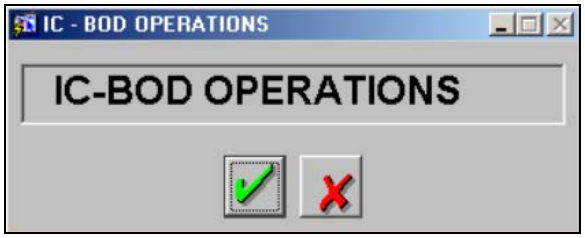
- Booking Date Basis – Last Working Date
- Value Date Basis – Next Working Date.

The Entries will be booked on 31st Jan 2003 and Value Dated 07th Feb 2003.

Suppose the Value Date Basis was any one of the following the corresponding dates would have been as follows:

Value Date Basis	Value Date
Last Working Date	31st Jan 2003
Last Calendar Date	6th Feb 2003
Next Calendar Date	1st Feb 2003

If you indicate that the Booking Date should be as per the Next Calendar Date, you will need to enable the Release During BOD option for booking the liquidation entries. Having enabled this option during the EOD run you have to trigger the IC BOD Operations batch process so that the relevant interest liquidation entries get booked.



8.1.9 Indicating the Rate Code and Rate type for IC Liquidation

You can specify the Rate Type and Rate Code in Interest and Charges that should be used for converting the Interest liquidation amount from calculation account currency to booking account currency.

Rate Code

The bank may define different rate codes for example a 'Central Bank Rate', a 'Standard Rate', a 'Cash Rate', etc. You can select the appropriate rate code from the option list available.

Rate Type

For currency conversion, the rate code is used in conjunction with the rate type. Select the relevant rate type from the drop-down list.

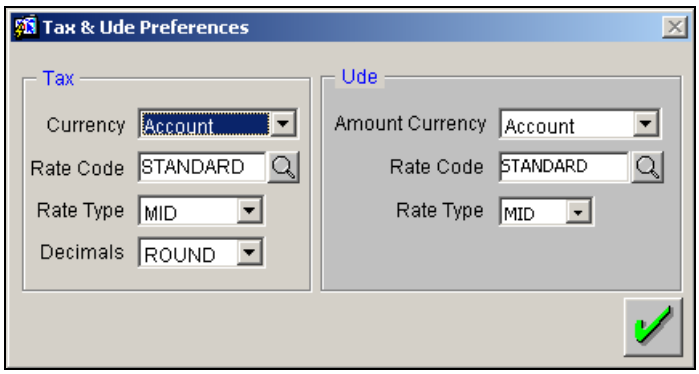
The options available are:

- Buy
- Sell
- Mid

STOP The default value for Rate Code will be STANDARD and for Rate Type will be MID.

8.1.10 Specifying the preferences for UDE and Tax

The Ude and Tax preferences for currency conversion can be defined in the product preferences screen by clicking on the Tax & Ude button.



8.1.10.1 Specifying the preferences for tax

Tax Currency

Oracle FLEXCUBE allows you to define the currency in which the tax amount is to be computed.

The tax could be computed in either of the following currencies:

- Account Currency.
- Local Currency.

If the tax is to be computed in the local currency (say USD) while the account is in a different currency (say GBP) then, all exchange conversion involved in such computations would be based on the rate code and the rate type that have been selected.

Rate Code

The bank may define different rate codes for example a 'Central Bank Rate', a 'Standard Rate', a 'Cash Rate', etc. You can select the appropriate rate code from the option list available.

Rate Type

For currency conversion, the rate code is used in conjunction with the rate type. Select the relevant rate type from the drop-down list. The options available are:

- Buy
- Sell
- Mid

Decimals

While converting the tax amount into the tax currency you have to indicate the manner in which the decimals should be treated. The options available are:

- Truncate – the digits after the decimal points will be eliminated.
- Round – the digits after the decimal points will be rounded off.

The following example illustrated the manner in which the conversion will take place.

8.1.10.2 Specifying the preferences for the UDEs

UDE Amounts Currency

While defining a rule, you may use one or more User Data Elements of 'Amount' type. Such User Data Elements ('Amount type') may be used to define a tier structure, a slab structure or just an amount (example minimum amount) that you would want to use in a formula. The UDE Currency is the currency in which these amounts will be expressed for the product you are defining. The UDE values are captured in the UDE Values Maintenance screen. When interest is calculated for the accounts, the UDE values will be taken to be in the currency that you specify here (which could be either the local currency or the account currency). If you specify the UDE currency to be the local currency, the UDE values will be considered to be in the local currency. If the account currency is different from the local currency, the UDE values will be converted to the account currency before it is used for interest computation. The exchange rate type and rate code maintained here will be used for currency conversion. If the UDE value is defined to be in the account currency, conversion will not be applicable.

The following example illustrates how this concept works:

Example

You want to apply interest on the monthly minimum credit balance in Smart Save (savings) accounts. You want to pay interest according to the following tier structure.

> 5000<= 10000 5%

>10000<= 20000 5.5%

>20000<= 50000 6%

>50000 7.5%

You would define the limits of the tier structure as UDEs. The UDE Currency will determine the currency of the limits when they are applied on the accounts. If the UDE Currency is specified as Account Currency, the upper limits of the tier structure will be taken to be in the currency of the account when it is applied. Thus, for Smart Save accounts in USD, the upper limits will be taken to be in USD while that for accounts in Pound Sterling they will be taken to be in Pound Sterling, etc.

On the other hand, if the UDE currency is specified as local currency, the tier limits will be converted to the account currency for foreign currency accounts before they are applied on an account.

For example, if the local currency is AUD, and the account is in USD, the value in AUD will be converted to its equivalent in USD using the rate code and the rate type as defined in the preferences.

STOP The values of the UDEs have to be specified in the UDE Values screen for the Account Class (or account itself) and currency combination to which you link the product. The linking of accounts to a product and the specification of UDE values are discussed in subsequent chapters.

8.1.11 Interest Products for FLEXICUENTA accounts

Your bank may offer customers the facility of sweeping the available balance from a current account to a linked savings account at the end of each business day, and then sweeping the balance that is over and above the minimum balance in the linked savings account, back into the current account at the beginning of each business day. This facility is known as the FLEXICUENTA facility.

For the FLEXICUENTA facility, you need to define a credit interest product that you would associate with the linked savings account. This product will enable the computation of interest on the credit balance in the linked savings account.

You must also define a debit interest product that you would associate with the current primary account. This product will enable the system to compute interest on any combined debit balances in the linked savings and the current primary account.

For information on how you can create products, refer the Products manual. For information about FLEXICUENTA accounts, refer the CASA user manual.

8.1.12 Tracking Receivables for applying Dormancy Charges

For charging dormant accounts the account balances are tracked using the receivable tracking feature. You can enable this feature by checking the box positioned next to this field. The other details you need to specify are as follows:

- The Transaction code for liquidating the dormancy charges receivable.
- The Receivable GL in which the funds need to be parked.
- The Maximum number of retries to liquidate the dormancy charges receivable.

STOP Dormant accounts are charged on the following basis:

- On the number of days the account was dormant in the current liquidation period.
- If the account became dormant in the current liquidation period.

Therefore you will need to associate the following SDEs with IC products meant to cater to this requirement. The SDEs are:

- Ac-Dormancy-days;
- Ac-Dormant

8.2 Specifying Preferences for a Charges Product

The following types of charges can be processed on an account:

NUM-ACCT-STMTS	Number of Account Statements	You can fix the number of regular periodic (free) account statements for a liquidation cycle. For every extra account statement that you issue, you can levy a charge.
NUM-CHQ-RET	Number of checks returned	Every check that bounces is recorded in the Checks Returned file. You can charge a penalty on every bounced check.
NUM-CHQ-ISS	Number of checks issued	You can fix the number of free checks that can be issued for a liquidation cycle. For every extra check leaf issued, you can levy a charge.
NUM-STOP-PAY	Number of Stop Payments	You can levy a charge for every stop payment instruction.
TURNOVER	Turnover	You can charge on the basis of the turnover in an account. You can opt to levy charges on turnovers *exceeding* a certain amount. An SDE based on turnovers will be applied on an account only if the transaction code of the transaction is defined with "Include for Account Turnover."
ITEM-COUNT	Number of transactions	If the number of transactions during a liquidation cycle exceeds a certain number, you can levy a

NUM-ACCT-STMTS	Number of Account Statements	You can fix the number of regular periodic (free) account statements for a liquidation cycle. For every extra account statement that you issue, you can levy a charge.
		charge. An SDE based on turnovers will be applied on an account only if the transaction code of the transaction is defined with "Include for Account Turnover."
ADHOC-STMT	Number of adhoc Account Statements	Account statements are normally generated at a specific frequency. If you generate a statement out of this frequency, you can levy a charge.

To recall, when creating a product in the IC module, you must first specify whether it is an Interest or a Charge product. This is called the product type.

If the product type is Charges, you have to specify the *basis* on which you would like to levy the charge. In the Product Preferences screen, you have to specify the liquidation related details for the charge product, the account classes on which the product should be applied, the frequency of liquidation, the amount or rate of charge to be applied, amongst other details.

For applying charges on an account, you can define a General Condition or a Special Condition. Charges thus applied will figure in the Account Statement for the account.

Please note that the 'preferences' screen, displayed during product definition, will be either interest preferences or charge preferences, based on the product type. All the other screens are the same for both Interest and Charge products.

While creating a Charge product, you will recall, you identify the *basis* on which you would levy the charge. You are *yet to identify* the account classes on which you would apply the product, and the following details:

- The currency in which you would like to levy the charge
- The periodicity with which you would levy the charge (and for a non-monthly cycle, the month from which you would like to begin liquidation)
- Whether you would levy the charge on tier or slab structures

- The account class-currency combination on which you would apply the Charge product
- The minimum and the maximum charge for the product, and
- The *numeric values* of the slab/tier, the charge amount, and the charge rate
- The number of free transactions

You can apply a product to any number of account classes. When you apply a product to many account classes, charges for *all* the accounts belonging to the classes will be calculated in a similar fashion.

You can also apply several products on an account.

8.2.1 Specifying the Charge Currency

Normally, you would calculate charges in the local currency. However, when indicating your preferences for a Charge product, you can opt to levy a charge either in

- The local currency, or
- The account currency.

All charges due to a product will be applied in this currency. In addition, any amount involved in the application of charges, like the turnover amount, the slab and tier amounts, a flat charge, etc. will always be in the currency specified here.

If the charge currency is defined as the local currency, and the product is applied on an account class in a foreign currency, all the charge values (such as the slab/tier amounts, charge amounts, etc.) will be converted to the account currency, from the local currency, before the charge is applied. This currency conversion will be done at the mid rate for the two currencies.

8.2.2 Specifying Liquidation Related Details

You should define liquidation related details as part of preferences for the Charge product that you are creating.

You can liquidate charges for an account:

- Periodically, or on
- An ad hoc basis.

8.2.3 Liquidating Charges Periodically

Monthly liquidation of charges levied on an account is an example of periodic liquidation.

If you opt to liquidate charges periodically, you will automate the liquidation process. The automatic processes that are generated at the end of day will liquidate charges for those accounts that are marked for liquidation.

Liquidation Periodicity

If you opt to liquidate charges periodically, you must specify the 'liquidation frequency'. The term 'liquidation frequency' refers to the standard interval between successive periodic liquidations.

For the Charge product that you are creating, you can specify the liquidation frequency (in other words, the cycle) as

- Monthly,
- Quarterly,
- Half Yearly, or
- Yearly.

Charges for all the accounts linked to the product will be liquidated, automatically, according to your specifications, during the end of day processing on the day the liquidation is due.

If you opt to liquidate charges on a quarterly, half-yearly, or yearly basis, you must also specify the first month on which you would like to liquidate charges (that is, the month from which the cycle would commence).

8.2.4 Liquidating Charges on an Ad Hoc Basis

When you *do not* liquidate charges at fixed intervals, the liquidation is referred to as 'ad hoc liquidation'.

If you propose to liquidate charges on an ad hoc basis (for accounts on which you apply the product), choose the 'Ad Hoc' option when specifying the Liquidation Frequency.

An ad hoc liquidation can be carried out any time on an account, even if it has been defined for periodic liquidation. When you carry out an ad hoc liquidation for accounts (defined for periodic liquidation) charges will liquidated till the date you specify. The subsequent periodic liquidation will be for the remaining days in the liquidation period. The following example illustrates this point:

Example

For a product, CHG01, the liquidation periodicity has been defined as monthly, to be carried out on the last working day of the month. You apply this product on the account of Ms. Yvonne Cousteau.

On 15 April 1998, you liquidate the charges for the extra account statements that you have provided the account holder. The charges for the account statements generated for 14 days in April (assuming that you specify the date of liquidation as 14 April 1998) will be liquidated during this ad hoc liquidation.

The next periodic liquidation of charges for Ms. Yvonne Cousteau's account would be on 30 April 1998. The charges would be liquidated for the remaining days (16 days) in the liquidation period.

STOP You should necessarily liquidate all charges before you close an account or change its account class. Typically, you would use the Ad Hoc liquidation function to do this.

8.3 Applying a Charge Product on an Account

You can apply a charge product on an account in two ways:

- By linking an account class to a charge product, thereby making the product applicable to all the accounts of the class. This method of linking accounts is called the definition of a *General Condition*; or
- By linking *an account itself* to the product. This method of linking accounts is called the definition of a *Special Condition*.

Often, you may calculate charges for several account classes using the same *Charge Basis*. In such a case, you can apply the same charge product on all the account classes. In the Charge Product Preferences screen you can link a product to an account class/es.

However, since the actual charge values that you wish to apply on each account class may be different, you can specify different *values* for each of the account class.

8.4 Defining a General Condition

When you apply a product on an account class-currency combination (in the Charge Product Preferences screen), you define a *General Condition*. The attributes that you have defined for the product will apply on *all accounts belonging to this account class-currency* combination.

In the Charge Product Preferences screen, you can also specify different charge values for *each* account class and currency combination (on which you apply the product). Thus, though you apply the same product on several account classes, you can charge at different scales for different accounts.

The following example illustrates this:

Example

Requirement:

You have two classes of savings bank accounts: 'Save Money' and 'Smart Save Money'. You apply a Charge product 'CHG8' on both these account classes. This product calculates charges using 'NUM-ACCT-STMTS' (number of account statements) as the *Charge Basis*. You provide *an* account statement, *every* month, to both account holders. You would like to levy a charge for every additional account statement, on both classes.

However, you want to levy different charges, for the respective account classes, for the additional account statements that you provide, as follows:

- For Save Money accounts USD 3
- For Smart Save Money accounts USD 2

When defining the charge values for the product CHG8, you can enter different values for each account class, as follows:

- For Save Money accounts USD 3
- For Smart Save Money accounts USD 2

8.4.1 Specifying the Number of Free Items or Amount

You can specify the number of items on which you would *not* like to levy charges as 'Free Items'. If the items *exceed* the value that you specify here, a charge would apply.

You would specify an *amount* as a 'Free amount' if you identified the 'Charge Basis' for the product, as 'Turnover'.

Example

Case 1

You provide an account holder with one account statement every month. You would like to levy a charge on *every extra* account statement that you provide. In the 'Free Items' field you would, therefore, specify the value as '1'. Every extra account statement would attract a charge.

Case 2

You would like to charge a customer for debit turnovers that exceed USD 5000. You would specify this value as the 'Free Amount' that you would like to allow. Therefore, debit turnovers exceeding USD 5000 would attract a charge.

8.4.2 Specifying the Charge Applicable

You should define the following details about the charges that will be applicable for an account class and currency combination:

- The amount or rate of charge free transactions
- The slab or tier structure, as the case may be, and the applicable amounts and rates and
- The minimum and maximum charge to be collected in the case of the charge being a rate.

8.4.3 Charging on the Basis of Slab and Tier Structures

To recall, you can apply a charge based on the turnover in an account. You can apply this charge based on a tier or slab structure. The following example illustrates the concept of tiers and slabs.

Example

You have defined the *charge basis* for Charge product 'CHG1' as TURNOVER (that is, the total turnover). Let us study how the charges will be calculated, differently, for tier and slab amounts when this product is applied on the account of Cavillieri and Barrett Finance Corporation.

The debit turnover in the account of Cavillieri and Barrett Finance Corporation between 1 March 1998 and 31 March 1998 is USD 50,000.

If you choose to apply charges on the basis of the following slab structure:

Slab 1:	**0 – 10,000**	**5%**
Slab 2:	10,000 – 25,000	7.5%
Slab 3:	>25,000	10%

RESULT:

The charge levied on Cavillieri and Barrett Finance Corporation would be 10%, since the debit turnover in the account falls in the third slab (that is, greater than 25,000).

If you choose to apply charges on the basis of the following tier structure:

Tier 1:	**0 – 10,000**	**5%**
Tier 2:	10,000 – 25,000	7.5%
Tier 3:	> 25,000	10%

RESULT:

The charge levied on Cavillieri and Barrett Finance Corporation would be as follows:

For the (turnover) amount between 0 and 10,000, the charge would be: 5% * 10,000 **+**

For the (turnover) amount between 10,000 and 25,000 that is 15,000 the charge would be: 7.5% * 15,000 **+**

For the (turnover) amount greater than 25,000, the charge would be: 10% * (xxx - 25,000).

8.4.4 Defining the Minimum and Maximum Charge

If the charge is a percentage of the transaction amount (in the case of charge on turnovers, for example), you can indicate the minimum and the maximum charge that you would like to levy. When charges are calculated for an account on which you apply the product, the values that you enter here will determine the actual charge that is applied on the account. The following example illustrates this:

Example

You create a product 'CHG1'. The Charge Basis of this product is 'Turnover'. You would like to levy charges (*in rates*) according to the following *slab* structure:

Slab 1	**0 - 10,000**	**2.5%**
Slab 2	10,001 - 25,000	5%
Slab 3	> 25,000	7.5%

However, you specify the Maximum Charge Limit as USD 3500 for 'CHG1'.

Assume you apply 'CHG1' on the account of Cavillieri and Barrett Finance Corporation. The debit turnover in this account is USD 50,000. When charges are calculated, only USD 3500 will be charged on the debit turnover of USD 50,000, *even though*, the actual amount that should be levied on the debit turnover should be USD 3750 (USD 50,000 falls into the third slab, for which you have specified that charge should be calculated at 7.5%).

8.4.5 Specifying the Charge Values

Finally, you must specify the values of the charge that you want to apply on an account class.

If you have opted to levy charges on the basis of a tier or slab, you must first build the tier/slab structure. Corresponding to each slab/tier, enter the charge amount or rate.

Specifying an Amount

You would specify the value of a charge as an amount when you levy charges on the *basis* of:

NUM-ACCT-STMTS	**Number of account statements**

NUM-ACCT-STMTS	Number of account statements
NUM-CHQ-RET	Number of checks returned
NUM-CHQ-ISS	Number of checks issued
NUM-STOP-PAY	Number of stop payments
ITEM-COUNT	Number of transactions
ADHOC-STMT	Number of ad-hoc Account Statements

In the charge amount field of the first row, enter the charge amount applicable for per item. For example, enter the charge applicable for each extra statement, for each extra check book, and so on. This amount will be applied on items beyond the number of free items.

Specifying a Rate

You *could* specify the charge value as a rate when the *basis* is:

TURNOVER	Total turnover

Enter the rate (according to the tier or slab structure, if any is applicable). This rate will be applied, for an amount beyond the Free Amount, if you have specified one.

If there is no slab or tier structure, specify a big amount in the Slab/Tier field in the Amount window and specify the rate. For such a situation, it is immaterial whether you select slab or tier as the amount basis.

8.4.6 Closing a Condition

More than one product may be applicable on an account class at the same time. You can temporarily stop applying a product on an account class by "closing" it. You can achieve this by removing the tick for the field "open". The product will cease to be applied on the account class. You can make the product applicable again by ticking the "open" box.

8.4.7 Waiving a General Condition for a Specific Account

Many General Conditions can be defined for an account class. For example, you could define a condition by linking two different charge products (one for extra account statements generated, and another on the basis of turnovers) to an account class. Both products will be applied on all the accounts belonging to the account class.

You can, however, waive a product from being applied on an account. This would mean that of all the General Conditions defined for an account class, you do not want to apply one or more products to a *specific* account.

Continuing with the example, for a specific account, you could waive the application of charges on turnovers.

The Procedure

In the Customer Accounts table, click on the Charges button to view the Account Level Charges screen. You can choose the product that you do not want to apply on the account and choose the 'Waive Charges' option. The General Condition will cease to apply on the account.

8.4.8 Closing a General Condition

More than one product may apply on an account class at the same time. You can *temporarily stop* applying a product on an account class by 'closing' it. You can achieve this by removing the tick for the field 'open'. The product that you have chosen will cease to be applied on the account class. You can make the product applicable again by ticking the 'open' box.

This feature is useful when you have to temporarily (or permanently) stop the application of charges due to a condition.

8.5 Defining a Special Condition

When you define charge attributes for an *account itself*, rather than for the account class to which it belongs, it is referred to as a *Special Condition*. Typically, you would want to maintain a special charge condition for a special customer.

Example

For 'Smart Current Money' accounts in your bank, you have specified that you would levy 3% of the turnover, as charge. Cavillieri and Barrett Finance Corporation, has three accounts under this class. Of these, you want to charge only 2.5% of the turnover as charge, for one account.

To achieve this, you would define a 'special condition' for the account on which you charge 2.5%, while the other two would *continue to fall* under the 'general condition' defined for Smart Current Money accounts.

Note that an account can get linked only if its account class and currency has been linked earlier

When maintaining an account in the Customer Account Maintenance screen, you can opt to define 'special conditions' for it. If you opt to define special conditions for an account, the 'general conditions' defined for the Account Class, to which the account belongs, will NOT apply to this account.

To define special conditions invoke the IC Account Level Charges Conditions screen from the Customer Account Maintenance screen by clicking on the Charges icon.

In this screen, you can view the account number (and the branch to which the account belongs) for which you are defining special conditions.

8.5.1 Applying a Product on an Account

To calculate charges for an account, you must apply a charge product on the account. To recall, every charge product that you create is built on a 'Charge Basis'. When you apply a product on an account, charges for the account will be calculated according to the basis that you specify.

For the account for which you are defining special conditions choose the product(s) that you wish to apply.

You may want to apply more than one charge product on an account. For example, you may want to levy a charge for additional account statements and for debit turnovers in the account. In order to achieve this, you would have to apply two products (one built on the basis of 'Number of Account Statements' and another built on the basis of 'Turnover'). In this screen, you can choose the products that you want to apply on the account.

The charge currency, defined for the product (in the Charge Product Preferences screen) that you apply on the account, is displayed. Note that the charge values that you specify for the account subsequently will be taken to be in this currency.

8.5.2 Defining the Minimum and Maximum Charge

In this screen, you can indicate the minimum and the maximum charge that you would like to levy on the account. When charges are calculated for the account, the values that you enter here will determine the actual charge that is applied on the account.

The following example illustrates this:

Example

You create a product 'CHG1'. The Charge Basis of this product is 'Turnover'. You would like to levy charges according to the following *slab* structure:

Slab 1	**0 - 10,000**	**2.5%**
Slab 2	10,001 - 25,000	5%
Slab 3	> 25,000	7.5%

However, you specify the Maximum Charge Limit, for the account of Cavillieri and Barrett Finance Corporation, as USD 3500.

The debit turnover in Cavillieri and Barrett Finance Corporation's account is USD 50,000. When charges are calculated, only USD 3500 will be charged on the debit turnover of USD 50,000, *even though*, the actual amount that should be levied on the debit turnover should be USD 3750 (USD 50,000 falls into the third slab, for which you have specified that charge should be calculated at 7.5%).

8.5.3 Specifying the Charge Value

Finally, in this screen, you must specify the values of the charge that you want to apply on the account for which you are defining 'special conditions'.

If you have opted to levy charges on the basis of a tier or slab, you must first build the tier/slab structure. Corresponding to each slab/tier, you must enter the charge amount or rate.

Specifying an Amount

You would specify the value of a charge as an amount when you levy charges on the *basis* of:

NUM-ACCT-STMTS	**Number of Account Statements**
NUM-CHQ-RET	Number of checks returned
NUM-CHQ-ISS	Number of checks issued
NUM-STOP-PAY	Number of Stop Payments
ITEM-COUNT	Number of transactions
ADHOC-STMT	Number of adhoc Account Statements

Specifying a Rate

You *could* specify the charge value as a rate when the *basis* is:

TURNOVER	**:**	**Total turnover**

Enter the rate (according to the tier or slab structure, if any is applicable). This rate will be applied, for an amount beyond the Free Amount, if you have specified one.

If there is no slab or tier structure, specify a big amount in the Slab/Tier field in the Amount window and specify the rate. For such a situation, it is immaterial whether you select slab or tier as the amount basis.

8.5.4 Closing a Special Condition

More than one product may be applicable on an account at the same time. You can temporarily stop applying a product on an account by ‘closing’ it. You can achieve this by removing the tick for the field ‘open’. The product will cease to be applied on the account. You can make the product applicable again by ticking the ‘open’ box.

This feature is useful when you have to *temporarily stop* the application of a charge due to a condition.

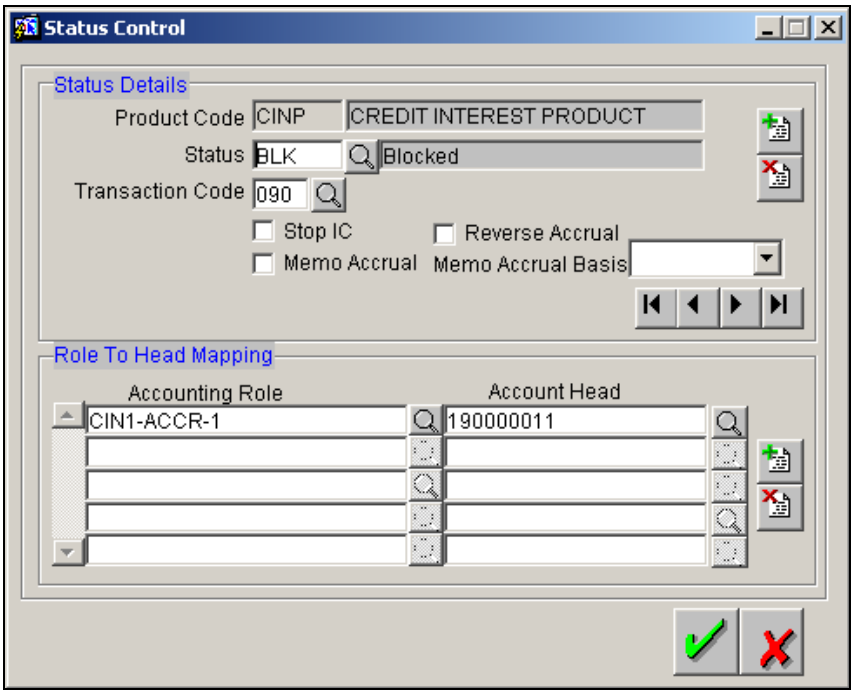
8.6 Specifying interest and charges details for account statuses

When you define an interest and charges product, you can define the parameters that would govern the application and computation of interest and charges for each status that a customer account can be marked with, which uses the product. These details include:

- The transaction code that is used to post accounting entries that arise from a status movement
- Whether or not IC processing must be ceased for the status
- Whether currently accrued amounts must be reversed for the status
- Whether current accruals must be transferred from one accounting head to another

You define these parameters for an interest and charges product, so that they would apply to all interest paid and received from, as well as charges levied on customer accounts, to which the product is applied.

In the Interest and Charges Product Maintenance screen, click on  button. The Status Control screen is displayed.



In this screen, you can define the interest and charge processing details for each status.

Specifying the transaction code

You must specify the transaction code that would be used to post interest and charges accounting entries arising from a status movement to the selected status.

Stopping IC processing

In certain statuses, you may wish to stop processing of interest and charges, in the account. Select the Stop IC box to indicate so, if required, for the selected status.

Reversing accruals

For certain statuses, a movement into the status would necessitate reversal of interest or charge accruals that have been posted. Select the Reverse Accruals box to indicate so, if required, for the selected status.

Transferring accruals on status movement

For certain statuses, a movement into the status would necessitate transferal of interest or charge accruals that have been posted, from one accounting head to another. If so required, for the selected status, specify the accounting role and head to which the entries must be transferred.

Manual Status Change

You can opt for manual status change when the liquidation of the Overdraft/Overline becomes suspect. To enable the transfer of accrued interest on status change to a memo GL, you will have to enable the Memo Accrual Required option in the Status Change sub-screen of the IC Product Definition screen.

Additionally, you will have to indicate the basis for memo accruals. The options available are:

- Full - the 'real' accrued interest is reversed by passing the contra to a designated 'expense' GL. The 'real' accrual amount is added to the 'memo' accrual and the entire accrual continues in the designated memo GL.
- Future - the 'real' accrual is frozen and future accruals will be done on a memo basis.

The accrual accounting entries that will be maintained subsequent to status change are:

Accounting Role	Amount Tag	Dr./Cr. Indicator
MACCR	MIACR	Debit
MACCROFS	MIACR	Credit

The accounting entries passed for Liquidation are:

Accounting Role	Amount Tag	Dr./Cr. Indicator
MACCR	MIACR	Credit
MACCROFS	MIACR	Debit
MBOOK	MILIQ	Debit
MPNL	MILIQ	Credit

If the balance in the account has to be written off you will have to trigger the status change manually. The principal is written off to a designated expense GL. The provisioning for accrued interest is reversed, with the memo interest account being reversed to the contra memo GL, named Creditor for Suspense.

8.6.1 A note on the maintenance required while defining Account Statuses for accounts

While defining an account status ensure that a Role to Head mapping is maintained for every accounting role available irrespective of whether or not a new GL exists for the new status. In a scenario where GL transfers are not required for the 'new' status vis-à-vis the 'old' status, the same GLs as applicable for the old status can be maintained.

Maintenance specific to Memo Accruals

While defining the accounting entries for the Interest Liquidation (ILIQ) event, you must enable the Track Receivable option for the role MBOOK. You will also need to specify the MACCR, the accounting role meant for memo accrual (MACCR) in the Receivable Accrole field. As a result, while liquidating interest for an account which is in the 'memo' status the memo accruals are rebooked into the memo GLs i.e., the interest accruals will continue to remain in the memo GLs.

Also, while passing the liquidation entry, the system picks up the GL associated with the accounting role for memo accrual (MACCR). Since the accounting role used for the debit leg happens to be MACCR, for the credit leg of the entry the GL associated with the memo accrual offset GL (MACCROFS) is picked up automatically.

The entries posted will be as follows:

Accounting Role	Amount Tag	Dr./Cr. Indicator
MACCR	MILIQ	Credit
MACCROFS	MILIQ	Debit
MACCR	MILIQ	Debit
MACCROFS	MILIQ	Credit

For any status that you define ensure that the transfer GL linked to the memo P and L accounting role (MPNL) is always of type Real. Thus if the receivable is not mapped and liquidation is performed the offset leg to the memo P and L role is the memo booking role (MBOOK) which is a customer account.

8.7 Tracking Interest and Charges as Receivables

On current accounts, your bank may offer customers the facility of tracking any due interest or charges as receivables, so that recovery of these will not create an overdraft in the current account.

You provide this facility to be applicable for customers by specifying it for an Interest and Charges product that you would apply on customer accounts.

When you define an Interest and Charges product, you can specify:

- That interest and charges must be tracked as receivables for any customer account on which the IC product is applied.
- The code of the GL to which the interest and charge amounts would be debited to be tracked as receivables, if their recovery is liable to create an overdraft in the current account.
- The transaction code that would be used to pass the accounting entries for liquidation of such interest or charge amounts.

You specify these details in the Interest and Charges Interest Product Preferences screen.

In some cases, you may need to calculate penalty interest on receivable amount. You need to specify the details of liquidation preference and the liquidate products on credit to account linked to the account class.

Only if you select ‘Allow Receivable Track’ in this screen, will you be able to specify interest and charges liquidation on overdrawn accounts in the Account Class Maintenance screen and Customer Accounts Maintenance screen.

For more details on IC Liquidation Preferences, refer to the Core Entities user manual.

Accounts attached to overdraft lines

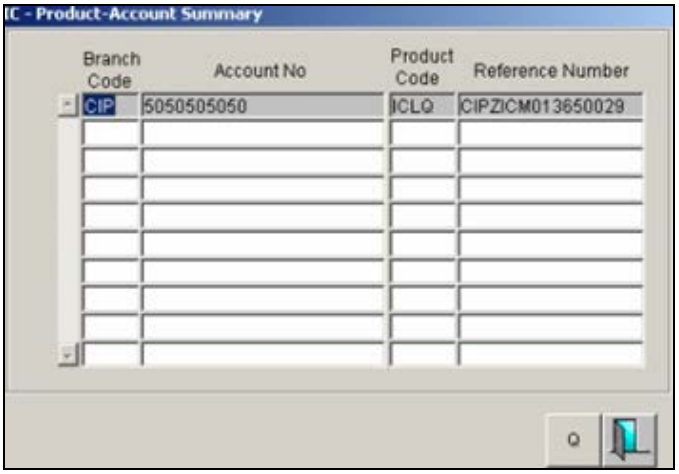
Accounts that have overdraft lines attached to them, and for which you have specified tracking of interest and charges as receivables, can go into overdraft to the extent of the line amount available to them. Debits on account of interest or charge liquidation, which are likely to create an overdraft in the account over and above the line amount linked to it are moved to a separate GL and tracked thereon.

8.8 Modifying MIS details for a Branch, Product and Account combination

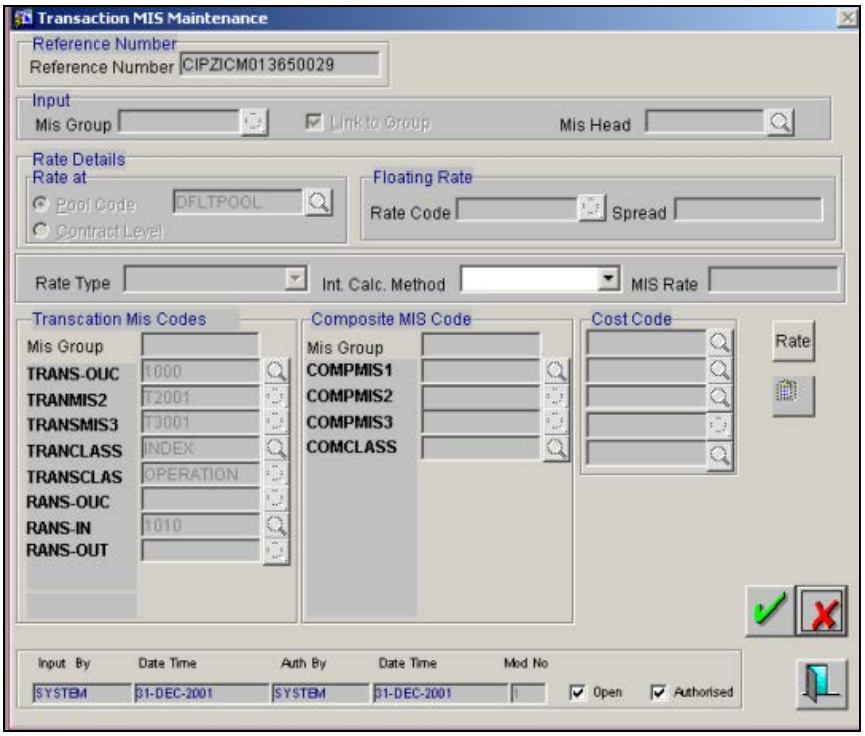
You can modify MIS details for a branch, product and account combination through the MIS Summary screen, provided, you have enabled the MIS tracking for IC option at the Branch and Product level.

This is because, MIS details you define at the product level default to all accounts under that product.

If you wish to modify MIS details for a new Branch, Product and Account combination, you can do so from the IC Product Account Summary screen. The screen appears as shown below.



Double clicking on a reference number displays the MIS details for the associated account. The screen appears as shown below. Through this screen, you can modify the MIS details for Product-Account.



For more information on Products and MIS, please refer the Products and MIS user manuals in Modularity.

9. Checking for Consistency in Data

The information required to calculate interest and charges is maintained using different maintenance functions. The information that you maintain should be authorized and complete in all respects. For example, you cannot calculate interest or charges for an account, or an account class, that is yet authorized. You would be using incomplete information to calculate interest for an account if you have built a formula into an interest rule *after* you have linked the rule to a product.

Before you liquidate interest for an account or account class, you must ensure that inconsistencies in data do not exist. The 'IC Consistency Check' function checks and reports inconsistencies in the data that you maintain.

9.1 Running the Maintenance Consistency Check

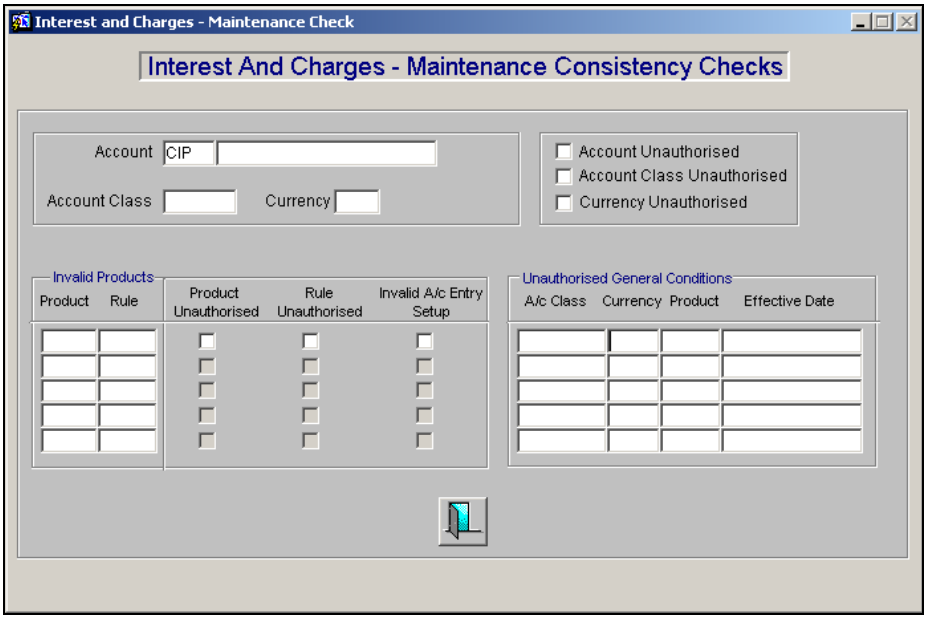
The IC Maintenance Consistency Check is run automatically when the end of transaction input is marked.

When you liquidate interest on an ad-hoc basis, the IC Consistency Check function automatically checks for inconsistent data. You can also generate the maintenance consistency check report, anytime.

The IC Maintenance Consistency Check reports the following inconsistencies in data:

- Unauthorized accounts
- Unauthorized account classes
- Unauthorized currencies
- Unauthorized products
- Unauthorized rules
- Invalid account entry setup
- Unauthorized General Conditions

Before you liquidate interest for an account *manually*, you must generate the Maintenance Consistency Check Report from the Application Browser.



9.1.1 Unauthorized Accounts

You cannot liquidate interest for an account that is unauthorized. When you run the auto liquidation process at the end of day, the IC Consistency Check reports all *unauthorized* accounts that fall due for interest liquidation for the day. Before you can go ahead with the automatic liquidation process, you must authorize all accounts that were reported by the consistency check.

Please note that you cannot liquidate interest for an account class if an account belonging to the account class is unauthorized.

Example

Ms. Elizabeth Bennett opens a Savings Bank account on 31 March 1998. You assign the code BNKCUF-AU1003-011 to this account. On this account you apply a product, 'SAUS' that is linked to an Interest Rule 'CRIN01'.

While defining the 'preferences' for SAUS, you specify that interest should be liquidated on month-ends for accounts linked to it.

The account is not authorized when the auto liquidation process is executed on 31 March 1998. On 31 March 1998, when mark the end of transaction input, the IC Consistency Check will report that the account of Ms. Elizabeth Bennett, BNKCUF-AU1003-011, has not been authorized.

You can liquidate interest for the day only after you authorize the account of Ms. Elizabeth Bennett.

9.1.2 Unauthorized Account Classes

You cannot liquidate interest (using the auto liquidation function) when a class of accounts is unauthorized. When you run the auto liquidation process for the day, the IC Maintenance Consistency Check reports all *unauthorized* account classes that fall due for interest liquidation. Before you run the auto liquidation function, you must authorize all unauthorized account classes.

Similarly, you cannot liquidate interest for an unauthorized account class using the ad hoc liquidation function.

9.1.3 Unauthorized Currency Details

You cannot liquidate interest, using the auto liquidation function, if a currency that you have maintained is *unauthorized*. Typically, such a situation would arise when you modify the financial details relating to a currency, in the Currency Maintenance table, and do not authorize it before you run the automatic interest liquidation function.

Authorize the reported currency before you run the automatic liquidation function again.

Example

You have applied an interest product, 'SUS1', to USD accounts in the Smart Save Money class of accounts. On 31 March 1998 you modify certain details relating to USD in the currency table. You do not authorize the modifications to USD in the currency table.

You *cannot* liquidate interest for 31 March 1998, until the changes in the currency table are authorized. The IC Maintenance Consistency Check will report USD as an unauthorized currency.

9.1.4 Details of Invalid Products or Rules

You cannot liquidate interest for accounts that are linked to unauthorized products or interest rules. Inconsistencies in data, maintained for all product - rule combinations, will be reported by the IC Consistency Check function. Inconsistent data for each combination will be reported under three heads:

- Unauthorized product
- Unauthorized rule
- Invalid Accounting Entry setup

Unauthorized product

The IC Maintenance Consistency Check function reports all products that you have linked to an unauthorized interest or charge product.

You have to authorize any modification of a rule before you attempt to liquidate interest for the accounts on which you have applied the rule.

Unauthorized rule

An unauthorized interest or charge rule will be reported by the IC Maintenance Consistency Check.

Invalid accounting entry setup

If you have defined a product with an imperfect account entry setup, the IC Maintenance Consistency Check will report it. Typically, the IC Maintenance Consistency Check reports an *invalid* accounting entry setup when you modify an interest rule and do not make the required changes to the products (on which you have applied the rule).

It is vital that when you create or make changes to an interest rule you change the corresponding details, for products linked to the rule.

If you have allowed accruals for an Interest rule, but have not maintained the Accounting Roles and Heads for the accrual entries (while defining the product on which you apply the rule), the Maintenance Consistency check will report this as an inconsistency. Similarly, if you have disallowed accruals for an Interest Rule, but have specified accounting roles and heads for the product, the maintenance consistency will report this as an inconsistency.

For example, if you modify or create a new formula for a rule, the accounting entries setup for the products to which you have linked the rule would change. If you do not make the required changes for the product, the maintenance check will report the inconsistency as an “invalid account entry setup”.

The other inconsistencies reported as “invalid account entry setup” could be caused when

Original Formula Type	Changed Formula Type	Product setup to be changed
Non Booking	Booking	Accounting Role and Head, and the accounting entries to be posted for the event not defined
Non Booking	Tax	Accounting Role and Head, and the accounting entries to be posted for the event not defined
Booking	Tax	Accounting Role and Head, and the accounting entries to be posted for the event not defined

When an invalid accounting entry setup is reported for a product - rule combination, rectify it in the product screens.

Example

You define an interest rule ‘CRIN’ and link it to a product ‘PR01’. You apply this product on an account class, ‘Save Money US’.

On 31 March 1998 you learn that a previously non-existent tax has been levied on USD accounts. You, therefore, build a tax formula for the rule CRIN. Now, you do not authorize this modification *yet* when you initiate the processing of interest liquidation for 31 March 1998. Also, you do not specify the Accounting Role and Account Head to which the result of the formula should be posted (for the product).

The IC Maintenance Consistency Check will report that the following are unauthorized:

- PR01 and
- CRIN.

The accounting entry setup for PR01 and CRIN will also be reported as invalid because you have not specified the accounting role and head for the tax entry that would now be generated.

Solution:

Authorize the changes to the interest rule: CRIN

In the Product Accounting Role Definition screen, add the following accounting role: Tax (depends on the name you give your tax scheme).

Identify the accounting heads as:

- the customer account (since he would bear the tax) and
- the tax payable GL.

In the Product Events Definition screen, indicate that for the event interest “liquidation” you would debit the tax amount from the customer’s account and credit the tax payable GL of the bank.

Importantly, authorize the product (PR01) after you modify the product details.

9.1.5 Unauthorized General Conditions

All unauthorized changes to any General Condition, that you have defined, will be reported by the IC Consistency Check. (You will recall that when you define preferences for a product, you can indicate if you wish to apply the product to a specific account or to an account class or classes. When a product is applied on an account class rather than a specific account, it is referred to as a ‘General Condition’).

The account class, the currency of the account class, the product to which the account class is linked and the unauthorized UDE values will be reported.

10. Daily Processing of Interest and Charges

The interest and charges batch function processes liquidation's and accruals for the day. This process should be executed after the end of transaction input has been marked for the day, for your branch.

For those accounts marked for *auto* liquidation and accrual, the End of Day process

- Passes liquidation entries,
- Passes accrual entries, and
- Reverses accrual entries (if there have been changes to the data relating to interest or charges).

10.1 Maintenance Consistency Checks

When you mark the end of transaction input for the day, the IC Maintenance Consistency Check reports any inconsistencies in the data that you have maintained. The IC Maintenance Consistency Check reports the following inconsistencies in data:

- Unauthorized accounts
- Unauthorized account classes
- Unauthorized currencies
- Unauthorized products
- Unauthorized rules
- Invalid account entry setup
- Unauthorized General Conditions

10.2 Liquidating Interest Automatically

You will recall that you can liquidate interest for accounts either:

- Automatically, or on
- An ad hoc basis.

If you opt to liquidate interest *automatically*, you must specify the liquidation date and frequency for the product (in the Product Preferences screen) which you apply on the account(s). On the scheduled liquidation date, interest will automatically be liquidated by the IC End of Day process for the accounts.

If the interest liquidation day falls on a holiday, interest for those accounts that are to be liquidated on the holiday will be liquidated by the End of Day process that is run on the last working day before the holiday. However, processing for a holiday will be done on the next working day will be done on the subsequent working day if the holiday falls in the next financial cycle.

Ad-hoc liquidation can be carried out any time on an account, even if it has been defined for automatic liquidation. An ad-hoc liquidation of interest on an account (defined for auto liquidation) will liquidate interest till the date that you have specified. The subsequent automatic liquidation of the account will be for the remaining days in the liquidation period.

10.2.1 Generating the Interest Statement

Interest Statements will be generated for applicable accounts. That an interest statement should be generated is specified for the interest liquidation event (ILIQ).

Including stamp duty and withholding tax in interest statement

For details on including stamp duty on debit interest and/or withholding tax on credit interest in the interest statement, refer to the chapter on 'Maintaining Interest Rules' of this User Manual.

Show interest rates with Decimals maintained

The Interest statements generated will show the UDE values linked to a specific Rate Code with decimals maintained i.e., the interest rate will be shown to the number of decimals as maintained in the Rate Code maintenance.

10.2.2 Generating the Rate Change Advice

The Rate Change Advice will be generated when you mark the end of financial input for the day. This advice will be generated for all those accounts that had a UDE change event in any of the UDE rate values in the products linked to them.

10.3 Automatic Accruals

While building a formula for the rule to which you have linked the product, if you indicated that the result of the formula is interest that should be accrued, the interest amount for all the accounts linked to the product will be accrued.When defining the preferences for the product, if you specified the accrual frequency, interest will be accrued, by the End of Day process, according to the frequency you have specified.

Accruals will also be performed whenever there is interest liquidation. For an account on which a liquidation is done out of turn (an ad-hoc liquidation when a periodic liquidation is not due), accrual entries will be passed till the date of liquidation.

Entries will be passed to the accrual accounts that you specified while creating the product (that you have applied on the account). If you specified that accrual entries have to be passed for a product rather than for individual accounts, a consolidated entry will be passed for the product. If not, an entry will be passed for each account on which you have applied the product.

Note that an ad-hoc liquidation of interest on an account (defined for auto liquidation) will liquidate interest till the date that you have specified. The subsequent accrual of interest will be from the date of the ad hoc liquidation.

The details of accruals for each account will be available in the Accrual Control Journal, a report generated whenever accruals are performed as part of end of day processing.

10.4 Reversing Accrual Entries

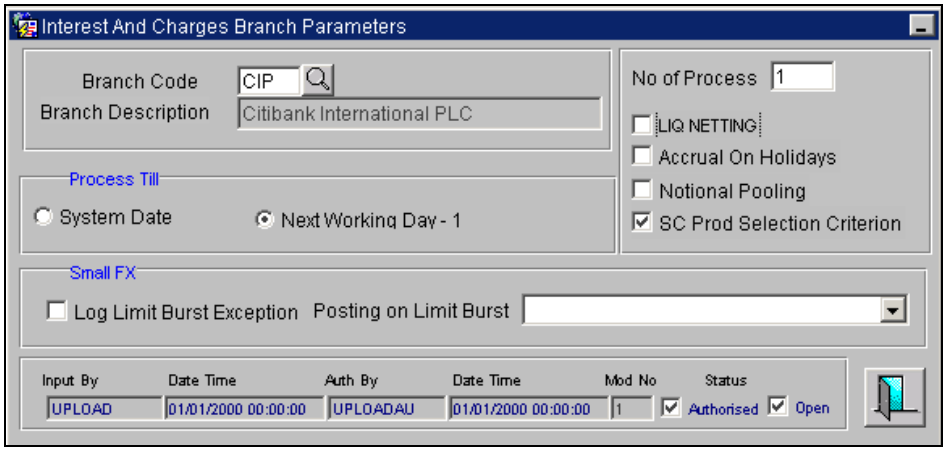
Some changes in IC maintenance may necessitate the reversal of accrual entries already passed. These reversal entries are passed by the IC Daily functions. Some of the situations that require a reversal of accruals are:

- A change in the account class of an account

- The closure of a product to which an account is linked
- The de-linking of an account from a product

10.5 Specifying Branch parameters

A set of rules that govern the IC processing are defined through the IC Branch Parameters screen available in the Application Browser. These details can be maintained as part of a one-time setup for a branch.



You may maintain the following processing details in this screen:

Branch Code

You have to select the code of the branch for which you wish to maintain the IC processing parameters. The names of all the branches of your bank will be available in the option-list. You may select the appropriate branch code from this list.

Accrual On Holidays

You can specify the manner in which you would like the system to pass accrual entries falling due on holidays.

You may select this option if you wish to pass accrual entries individually for each day regardless of the day being a holiday. For instance, if Saturday and Sunday are holidays for your branch and you have decided to accrue interest on holidays, the system will pass accrual entries individually for the current day as well as for Saturday and Sunday.

If you do not select this option, the system will pass accrual entries during EOD processing on each working day and a single consolidated entry for the holidays.

Notional Pooling

This option will enable you to maintain a pool structure for interest calculation. In this type of structure, a set of accounts are grouped together to form a pool. A pool consists of a header account and one or more child/source accounts.

With a pooling structure, you can consolidate the balances from the source accounts and header accounts to facilitate interest calculation. Consolidation and interest calculation happens in the header account.

However, actual cash movement does not occur, only a notional movement of balances from the individual source accounts to the header account.

STOP You can maintain a pool structure for interest calculation only if you opt for notional pooling at the branch level and the account class level (refer the Core Entities User Manual). After authorization, you will not be allowed to change your preference.

Refer the 'Applying an Interest Product on an Account' chapter of this User Manual for details on maintaining a pool structure to enable notional pooling of customer accounts.

Process Till

Automatic processing of accruals, liquidation, charges etc., falling due on a holiday will be processed either on the last working day before the holiday, or on the first working day after it.

You may select one of the following options for automatic processing:

System Date: If you specify that processing of automatic events should be done upto the System Date, automatic events scheduled *till* (inclusive of) the current system date will be processed.

Example

Assume that today is 11th April 2003, and 12th April and 13th April 2003 are holidays. If you select this option, during the Automatic Batch Update function run, only the events scheduled for 11th April 2003 will be processed.

The events scheduled for the holidays, i.e., 12th April and 13th April 2003 will be processed during the Automatic Contract Update function run during beginning of day operations on 14th April 2003.

Next Working Day – 1: This specification means that events scheduled for a holiday should be processed on the last working day just before the holiday.

If you indicate this, all the events that fall on a day between the current system date and the next working day will be processed on the current day.

Example

Consider the same example discussed above. If you select this option, during the Automatic Batch Update function run at EOD on 11th April 2003, all the events that are scheduled for 12th April and 13th April 2003 will also be processed.

No of Process

When running the EOD for your branch, you may opt to do a parallel processing for groups of similar accounts. To do this, you have to specify the number of processes that you would like to run in parallel during EOD processing.

Depending on the number of processes you maintain, the system will group the accounts by allotting them to each process before executing the EOD for the branch.

Small FX

You would be required to do a conversion if the currency of the Interest Booking Account is different from that of the Calculation Account. Typically, the system will use the Standard Mid Rate as maintained in the exchange rate table to do the conversion from the calculation account currency to its equivalent in the booking account currency. Subsequently, the entries will be posted to the Interest Booking Account.

If you apply the ‘Small FX’ feature, the system will check the converted amount (in the booking account currency) against the limit maintained for the currency in the ‘Small FX Limit Maintenance’ screen. If the converted amount is less than the limit maintained for the currency, the system will use the standard mid rate as explained above.

If the converted amount exceeds the limit or the small FX limit is burst, then you can choose to post the transaction details either to the deferred account whose details are maintained at the branch level or to a booking account. To facilitate posting of all cross currency interest liquidation postings to a book account in the event a small FX limit is burst, Oracle FLEXCUBE supports validating the FX limit at the product entry level rather than as a formula.

You will need to maintain the following fields at branch level to achieve this:

- Log Limit Burst Exception
- Posting on Limit Burst

Small FX suspense GL and small FX suspense transaction code maintained at branch level will be used for the processing. Oracle FLEXCUBE also provides reports for these transactions.

Please refer the chapter Information Retrieval on Interest and Charges in the Reports module for details on these reports.

If you have not maintained the small FX limit for the currency, the system will use the limits maintained at the branch level for this purpose.

10.5.1 Interest and Charges Processing

Oracle FLEXCUBE executes the following activities as a part of the Interest and Charges Processing:

- Verifies that the Decimals in UDE value (SC) or element value (GC) are the same as maintained in the Rate Code linked to the UDE.
- Allows changing of interest rates only after the Update Frequency and Update Frequency are completed.
- Validates the Direction maintained at the IC product level and that maintained at the Rate Code (Rate type) level.
- Performs the following on the Interest and charges liquidation batch.

- Total liquidation amount will be collected for each branch, account, product combination.
- Small FX verification will be done as normal.
- If deferred posting is not set exceptions will be logged and batch will be processed.
- If deferred posting is set all the debit entries will be posted to differed GL maintained at branch level.

Oracle FLEXCUBE captures the following details when there is a small FX limit burst:

- Customer ID
- Customer Name
- Calculation Account No.
- Calculation Account Description
- Calculation Account Currency
- Calculation Account Balance
- Calculation Account Interest Calculated
- Value Date
- IC Product Code
- IC Product Description
- Booking Account Number
- Booking Account Description
- Booking Account Currency
- Booking Account Interest Posted
- Exchange Rate used
- Small Limit Amount for the Branch / Account
- Small Limit Currency

A report called Small FX Burst Report can be generated in which the above listed details will be displayed.

11. Liquidating Interest Online

You can liquidate interest for an account

- Periodically, or on
- An ad hoc basis.

Monthly, quarterly, semi annual and annual liquidation of interest are examples of periodic liquidation.

You can liquidate interest for an account according to the frequency or the 'liquidation cycle' defined for the Product-Rule combination (to which the account is linked). For example, if you specified a quarterly liquidation cycle, interest would be liquidated once in three months; if you specified a monthly cycle, interest would be liquidated every month, and so on.

If you opt to liquidate interest *periodically*, you can automate the liquidation process. The IC Batch function will liquidate interest automatically on the day it falls due for such accounts.

For certain accounts, however, you may want to liquidate the interest and charges as and when the need arises. When you *do not* liquidate interest at fixed intervals, the liquidation is referred to as 'ad hoc liquidation'. You can liquidate interest on an ad-hoc basis by invoking the IC On-line Liquidation function.

STOP The On-line Liquidation function can be invoked anytime to liquidate interest on accounts – even if the accounts are marked for auto liquidation.

Example

You apply PR01 on Ms. Elizabeth Bennet's account. When you defined the preferences for PROD01 you specified the frequency of liquidation for Ms. Bennet's account as 'Monthly' (on month-ends.) Interest for Ms. Bennet's account will, therefore, be liquidated automatically every month (on month-ends).

On 15 April 1998, Ms. Bennet closes her account in your bank. You have to liquidate interest for her account for 14 days (between 31 March 1998 and 15 April 1998) before you can close the account. This is an example of ad-hoc liquidation. When you liquidate interest for an account on a day other than that marked for liquidation, it is referred to a 'Ad hoc' liquidation.

STOP You should necessarily liquidate interest before you close an account.

11.1 Processing Online Liquidation

You can invoke the On line liquidation function, anytime during the day, to liquidate interest according to the following selection criteria:

- All accounts
- Selected accounts

- Selected account classes
- All products or
- Selected products.

These options allow you to liquidate interest for:

- All accounts linked to all products (that is, for the branch), or
- All accounts linked to selected products, or
- Selected accounts linked to all products
- Selected accounts linked to selected products, or
- Selected account classes linked to all or specific products

You can only liquidate interest for those products and accounts that are *authorized*. You cannot liquidate interest for account classes and accounts with inconsistent data.

You can liquidate interest for the specified accounts for a date

- Not earlier than the last liquidation date and
- Not later than a day before the next working day (in case of a holiday between today's date and the next working day).

In other words, the 'Date of Liquidation' for an account can be between:

- The last liquidation date +1
- Today's date or
- The day before the next working day.

Interest for the accounts will be liquidated for the period between the last liquidation date and the date that you specify as the liquidation date.

The system defaults to yesterday's date.

Example

You have maintained the following account classes in your bank:

- Save Money USD
- Save Money INR
- Save Money GBP
- Save Money AUD
- Smart Save Money USD
- Smart Save Money INR

You have maintained the following products:

- PR01
- PR02

You apply PR01 to the Save Money accounts in all the currencies. You apply PR02 to the Smart Save Money accounts.

When defining the Product Preferences, you specified the liquidation periodicity as semi annual. The current liquidation cycle began on 01 January 1998. The last interest liquidation date, for all the accounts, is 31 December 1997.

Requirement:

On 01 April 1998, the current system date, you want to liquidate interest for all the accounts in your bank, even though the interest liquidation cycle falls due on 30 June 1998.

Solution:

In the On-line Liquidation screen, choose “All Accounts”. Interest for all the accounts in your bank would be liquidated for the period between 01 January 1998 and 31 April 1998.

Similarly, if you want to liquidate interest for accounts linked to PR01, choose “Selected Products”. Interest for all the Save Money accounts will be liquidated for the period between 01 January 1998 and 01 April 1998.

If you want to liquidate interest for *specific* Save Money accounts, linked to PR01, choose “Selected Accounts” and “Selected Products”. Choose the Save Money accounts for which you want to liquidate interest.

Interest will not be applied for the current month when you run the ad hoc liquidation function if you specified that interest should *not* be applied for the ‘Account Closure Month’, when defining the rule. If you have specified that interest should be applied on ‘Account Opening Month’, interest will be computed for the first day of the month on which the account was opened.

Remember that when you run the ad hoc liquidation function, inconsistencies in maintenance data, if there are any, will be reported by the IC Consistency Check. Rectify the inconsistencies before you run the ad hoc liquidation function.

Choosing specific accounts to liquidate interest

If you have chosen to liquidate interest for specific accounts or products, choose the account or product from the Available list and move it to the 'Selected' list. This can be done by highlighting the account or product, and clicking the button.

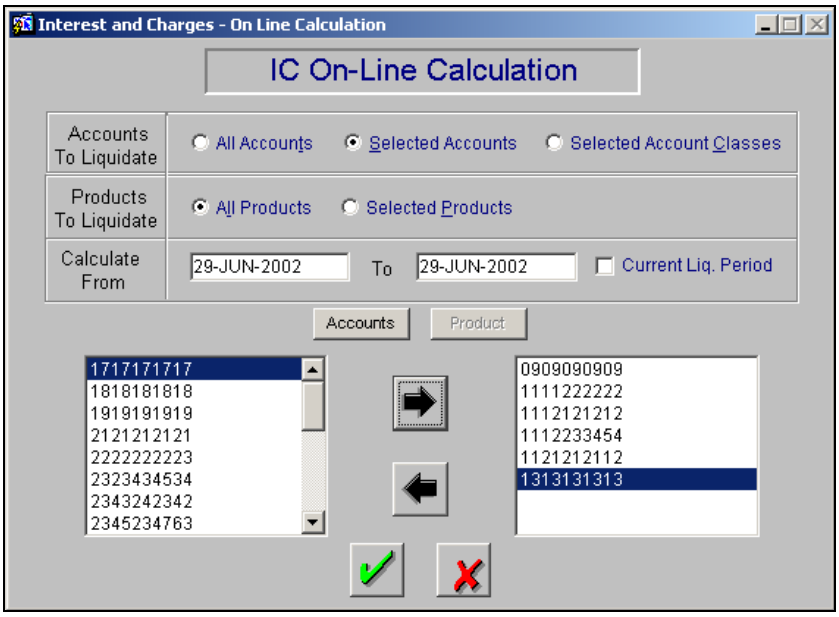
To move an account or product from the 'Selected' list back to the Available list, highlight it and click the button.

Calculating interest applicable for an account

At any time during the day, you can calculate the interest for an account or accounts. That is, you can *calculate* the interest or charges for accounts, for a specific period, without actually liquidating them. You can calculate interest for an account or accounts using the IC On-line Calculation screen.

Using the Interest Calculation function, you can calculate interest for either

- A specific account,
- Selected accounts,
- Selected account classes,
- Accounts linked to selected products, or
- Accounts linked to all products (that is, all accounts).



You can calculate interest for the selected accounts for the current liquidation period. You can also calculate interest for a *specific period*. You can calculate interest for the specified accounts for a date:

- *Not earlier* than the last accrual date and

- *Not later* than the next accrual date. (If you choose to calculate interest for an account, for a future date, the values of the SDEs as of today will be taken as that for all the intervening days between the current system date and the date for which you are calculating interest. However, any future dated accounting entry whose value date falls in the intervening period will be taken into account).

Example

You want to calculate interest for Save Money accounts in USD. You want to calculate interest for the period between 01 January 1998 and 23 March 1998 (assuming that the last accrual date for the accounts was 31 December 1997 and the next accrual date is 31 March 1998.

In the Interest Calculation screen you would:

1. Choose the account class for which you want to calculate interest (you would specify that you want to calculate interest for Save Money USD accounts).

2. Next you would enter the period for which you want to calculate interest (you would enter the Start Date as 01 January 1998 and the End Date as 23 March 1998.

The values of the interest applicable for an account will be displayed on the screen.

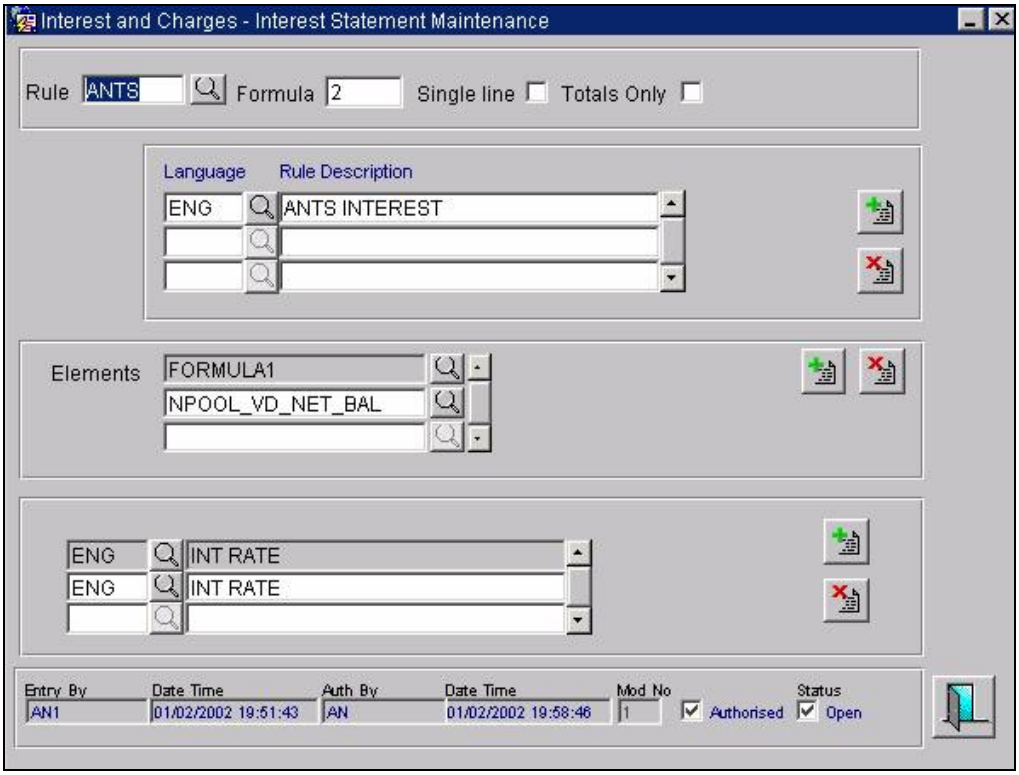
12. Maintaining Interest Statement details

When defining interest rules in the Rule Maintenance screen, you identify the components that should be used in the calculation of interest -- that is, the principal, the number of interest days, the tier structure, the rate, etc. Interest for an account will be calculated according to the formulae defined for the rule that you have applied on the account. The result of a formula is the interest for the account.

When you liquidate interest for an account, you can generate an “interest statement” for the benefit of the account holder. An Interest Statement would, typically, provide the account holder information about the interest that was applied on the account.

In Oracle FLEXCUBE, you can build interest statements to suit the requirements of your bank. You can define the details that you would like to include in interest statements in the Interest Statement Maintenance screen.

Please note that an interest statement will be printed for an account only if the statement details are maintained for it.



12.1.1 Maintaining Details for an Interest Statement

In the Interest Statement that you provide your customer, you can choose to include the details of the Interest rules that were applied on the customer account.

In this field, you must choose the rule for which you are defining details that would be printed on the Interest Statement.

The option list will display the 'Rule ID' and 'Formula No.' combination only if you have opted to include formulae in Interest Statements (in the 'IC Rule Maintenance' screen). The formula number will also be displayed when you select the rule. The rule/formula details will be printed on the Statement upon liquidation of the interest. If formulae are not included in the statements, the option list will display only the Rule Ids.

You can also opt to print the details of the Interest Statement in a single line. *For more details on Interest Rules, refer the 'Maintaining Interest Rules' chapter of this User Manual.*

Interest is calculated for an account using the formulae that you have defined for the interest rule (applied on the account). To recapitulate, depending on your definition, the result of formulae may be an amount that is to be:

- Booked,
- Not booked, or
- A tax amount.

A tax amount or an amount that is to be 'booked' would, usually, be posted to the customer account. The result of formulae that are posted to customer accounts will be reflected in the interest statement you provide your customer.

The codes that you have used while defining interest and charge rules, SDEs, and UDEs, will be printed *per se* in an interest statement, if you choose to maintain the details for an interest statement.

The purpose of maintaining an interest statement is to explain to an account holder each accounting entry with reference to the interest rule that was applied.

Example

Interest Rule: DRIN

Description: Debit Interest on the monthly maximum balance in your account

SDE: Max_Dr_Bal

UDE: Rate 1

When an Interest Statement is generated for an account that is linked to DRIN

- the Maximum Debit Balance on which the interest was applied and
- the rate of interest that you defined in the UDE Maintenance screen for the rule
- will be picked up during liquidation.

If you specified, while defining the interest statement, that the SDE and the UDE of the interest rule DRIN should be printed in the interest statement, they will be printed along with their values.

12.1.2 Identifying Values to be printed

An interest rule consists of SDEs and UDEs. Using the SDEs and UDEs that you identified for a rule, you can build formulae. The result of a formula is an amount that is posted, as interest or charge, to an account.

When interest is liquidated for an account, the SDE is picked up from the account and the UDE value is picked up from the UDE Maintenance screen. You can choose to print the details of the UDE and the SDE that was used to compute interest or charge for an account in the interest statement.

Example

Rule ID: CRIN

SDE: Monthly Minimum Credit Balance

UDE: Rate

Now, assume that the value of the monthly minimum balance in an account is 10,000 and the value of 'Rate' is 5%.

If you specified that the SDE and the UDE of the interest rule CRIN should be reported in the interest statement, they will be printed along with their values.

You can choose to print the details of the

- Rule
- The SDEs and
- The UDEs

that were used to calculate interest or charge for an account (in the interest statement) in a language of your choice.

In the Elements field, you can invoke a list of the SDEs that you identified for the rule (specified in the Rule field). Choose an SDE by double clicking on it. Now, for the SDE that you have chosen, you can enter a description in the Header field. You can describe the SDE in a language of your choice.

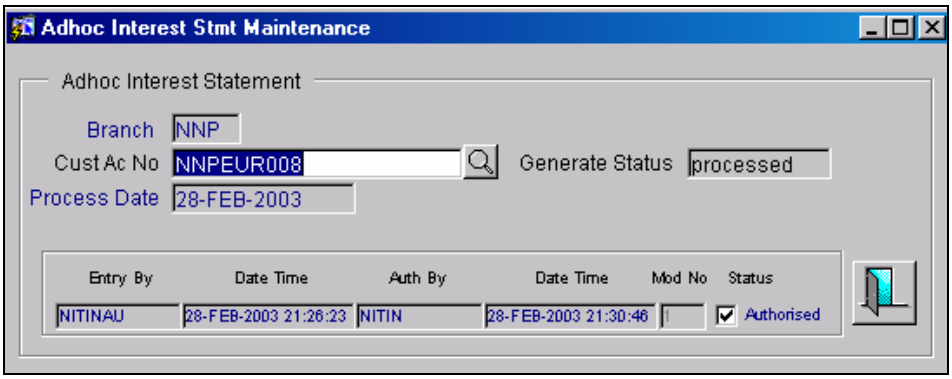
Similarly, enter a description for each of the UDEs that you have specified for the rule.

12.1.3 Generating the Interest Statement

The interest statement will be generated whenever interest is liquidated for an account. This liquidation could either be the periodic automatic liquidation, or an ad hoc one.

12.1.4 Maintaining details for Adhoc Statement Generation

In Oracle FLEXCUBE, you can generate adhoc interest statements for customer accounts as and when required. This is achieved through the 'Adhoc Interest Statement Maintenance' screen available under the 'Interest and Charges' menu in the Application Browser.



The following details will be displayed in the screen:

- The code of the current branch
- The 'Process Date', which will, by default be the current system date. You cannot change this date.
- The 'Generate Status' will be 'Unprocessed'.

The customer accounts maintained in the branch at which you have logged in, will be available in the option-list provided. You may select the account for which an adhoc statement should be generated from this list.

During the IC End of Day processing, the system will pick up the customer accounts that require adhoc statement generation for the day. For an account, depending on the type of product and the account type, different sets of interest statements will be generated.

These may be summarised as follows:

- Statement showing the calculation details of the system account to which the account belonged during the current period until the previous working day.
- For pool products, separate statements will be generated to show what interest each participant account in the pool (source and header) would have earned if it were a standalone account. These are also known as the Adhoc 'what if' statements.
- Interest statements showing the actual interest earned for each system account.
- Interest statements to show the period adjustments that occur when accounts hop from one pool to the other.
- Interest statements for the non-pool products.

The following message types are used to differentiate between the different types of interest statements:

- INST - Interest Statement on liquidation
- INTST_ADHOC - Adhoc Interest Statement
- INTST_INF - 'What if' interest statement on liquidation
- INTST_INF_ADHOC - Ad-hoc 'what if' statements

The actual interest statements will be generated for standalone/child/header type of accounts with reallocation/accounting and 'What-if' statements will be generated for standalone/child/header accounts without reallocation/accounting.

You can maintain different formats for these message types in the 'Advice Format Maintenance' screen, if required.

Refer the 'Maintaining Advice Formats' chapter of the Messaging System User Manual for more details.

For more information on pool products, refer the following chapters of this User Manual:

The section titled 'Specifying Branch Parameters' of the 'Daily Processing of Interest and Charges' chapter.

The section titled 'Maintaining a Pool Structure' of the 'Applying an Interest Product on an Account' chapter.

The section tilted 'Specifying the Formula Type' of the 'Maintaining Interest Rules' chapter.

13. Appendix A - Accounting Entries and Advices

13.1 Accounting Entries for Interest and Charges

This section contains details of the suggested accounting entries that can be set up, for the Interest and Charges module of Oracle FLEXCUBE. The details of the suggested accounting entries are listed event-wise.

13.2 IC Events

The following is an exhaustive list of events that can take place during Interest or Charge calculation. In the subsequent paragraphs we shall examine the accounting entries and advices for each of the events listed below.

Sl No.	Event Code	Event Description
	CLIQ	Charges Liquidation
	IACR	Interest Accrual
	ILIQ	Interest Liquidation
	UDCH	UDE Values Change

13.3 Amount Tags

The amount tags listed below are hard-coded in Oracle FLEXCUBE.

Sl No	Amount Tag	Description
	CHARGE	Charges
	IACQUIRED	Acquired Interest Amount
	IACR	Interest Accrual
	IACR_ADJ	Interest Accrual Adjustments
	ILIQ	Interest Liquidation
	TAX	Tax
	TAX_ADJ	Tax Adjustments
	TAX_PADJ	Back valued tax adding to the normal tax
	TAX_NADJ	Back valued tax reducing the normal tax

Sl No	Amount Tag	Description
12	MIACR	Memo Interest Accrual
13	MILIQ	Memo Interest Liquidation
14	UDEFCHGBASIS	Charge Basis for UDEF Charges

The following amount tags are available for positive/negative interest & tax adjustments only for NEWIC; else IACQUIRED should be used.

Sl No	Amount Tag	Description
15	PIACQUIRED	Positive Interest Adjustment
16	NIACQUIRED	Negative Interest Adjustment
17	TAX_PADJ	Positive Tax Adjustment
18	TAX_NADJ	Negative Tax Adjustment

In addition to these you can define amount tags as per your requirements.

13.4 Accounting Roles

The following list contains the accounting roles that are applicable to IC.

Sl No.	Accounting Role	Description
	ACCR	Accrual account
	ACQUIRED	Acquired Interest
	ACR_ADJ	Adjusted accrual
	BOOK	Booking account
	MACCR	Memo Accrual
	MACCROFS	Memo accrual offset
	MBOOK	Memo Booking
	MPNL	Memo Income/Expense
	PNL	Income/Expense
	PNL_ADJ	Adjusted Income/Expense
	REC	Booking account

Sl No.	Accounting Role	Description
	CHG_INCOME	Charges Income
	CHG_BOOK	Charge Booking account
	CHG_REC	Charge Booking account

For NEWIC, the accounting role for acquired interest will be 'ACQD'.

13.5 Event-wise Accounting Entries and Advices

In this section we will discuss the suggested accounting entries and advices that should be generated for each event in process of Interest or Charge calculation.

Also note that some of the Amount Tags linked to the Accounting Roles are user defined.

13.5.1 Accounting Entries and Advices for Charges

13.5.1.1 Charge Basis: ADHOC-STMT

13.5.1.2 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.1.3 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	UDE Values Change

13.5.1.4 Charge Basis: NUM-CHQ-ISS

13.5.1.5 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.1.6 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	

13.5.1.7 Charge Basis: NUM-CHQ-RET

13.5.1.8 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.1.9 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description

Advice type	Description
UDECA	-

13.5.1.10 Charge Basis: NUM-STOP-PAY

13.5.1.11 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.1.12 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	

13.5.2 Charge Basis: NUM-ACCT-STMTS

13.5.2.1 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.2.2 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	

13.5.2.3 Charge Basis: ITEM-COUNT

13.5.2.4 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.2.5 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	-

13.5.2.6 Charge Basis: TURNOVER

13.5.2.7 CLIQ: Charges Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
CHG_BOOK	CHARGE	Debit
CHG_INCOME	CHARGE	Credit

Advices

No advices allowed for this event.

13.5.2.8 UDCH: UDE Values Change

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	-

13.5.3 Accounting Entries and Advices for Interest Accrual

13.5.3.1 IACR: Interest Accrual

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
ACCR	IACR	Debit
PNL	IACR	Credit
MAACR	MIACR	Debit
PNL_ADJ	IACR_ADJ	Credit
ACR_ADJ	IACR_ADJ	Debit
MACCROFS	MIACR	Credit

Advices

No advices allowed for this event.

13.5.3.2 ILIQ: Interest Liquidation

Accounting Entries

Accounting Role	Amount Tag	Dr./Cr. Indicator
ACCR	ILIQ	Credit
MACCR	MLIQ	Credit
MACCROFS	MLIQ	Debit
MPNL	MLIQ	Credit
BOOK	ILIQ	Debit
MBOOK	MLIQ	Debit
BOOK	IACQUIRED	Debit
ACQUIRED	IACQUIRED	Credit

Advices

No advices allowed for this event.

13.5.3.3 UDCH: UDE Values Change

Accounting Entries

No accounting entries allowed for this event.

Advices

Advice type	Description
UDECA	-

Advices

No advices allowed for this event.

13.6 Purging Interest and Charges

IC entries will be purged only if the following criteria are met.

- Records prior to the IC purge date will be soft purged from IC entries tables and internal UDE value tables.
- The purge date should be less than the back value days maintained at the branch parameters.
- If purge date is greater than the start of the current liquidation cycle for certain accounts then the previous liquidation date will be taken as the purge date for that account.