Oracle® Financial Services Balance Sheet Planning (OFSBSP)

User Guide

Release 5

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Oracle Financial Services Balance Sheet Planning (OFSBSP) User Guide, Release 5

Part No. E20777-01

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A Predefined Business Rules & Sequences

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Preface

Intended Audience

Welcome to Release 5 of the *Oracle Financial Services Balance Sheet Planning (OFSBSP) User Guide*.

Forward

This user guide documents OFSAA Balance Sheet Planning for all versions of release 5. Some functional improvements have been introduced in various service packs and point releases within release 5.

This section documents the levels at which various functional enhancements to the Balance Sheet Planning application were first introduced.

Balance Sheet Planning release 5.2

- Support for Unpriced Account
- Support for Forecast Rates Data Load
- Support for Inter company Eliminations

Balance Sheet Planning release 5.5

- Support for Transfer Pricing

Balance Sheet Planning release 5.6

- Support for Custom Forms in Configuration UI.
- Support for Custom dimensions - Custom 1 and Custom 2 are introduced.

See Related Information Sources on page xiii for more Oracle product information.

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Structure

Models.

Related Information Sources

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Balance Sheet Planning Overview

About Oracle Financial Services Balance Sheet Planning

The Oracle Financial Services Balance Sheet Planning application is a packaged web-based application built on top of Hyperion Planning and Essbase. It is designed to enable financial institutions to budget or forecast a full balance sheet and associated interest income and interest expense. The provision of balance sheet and net interest margin planning capability, when combined with existing Hyperion Planning functionality for fee and expense planning and process management, results in a complete and comprehensive planning solution for financial institutions. The high level features in this release of Balance Sheet Planning include:

- Calculation of future projected cash flows for balance sheet products, including output of comprehensive balance, interest income/expense and interest rate data elements
- Output of cash flow data for the current book of business separate from future new business volume cash flows, with aggregation to total balance sheet account level
- Provision of broad balance sheet product support
- Creation of budgets or forecasts in denominated and/or functional currencies
- Provision of data entry/driver calculation tools to assist users with driver data generation
- Employment of market interest rate based pricing, where new add volumes and repricing balances are priced at spreads to market interest rate indices.

Many additional capabilities are planned for future releases of the Balance Sheet Planning application. Very significant planned feature additions include (but are not limited to):

- Support for planning off balance sheet products, such as interest rate swaps

- Provision of funds transfer pricing capabilities, integrating with and leveraging the existing Oracle Financial Services Funds Transfer Pricing engine. This functionality includes a full set of cash flow and non-cash flow based Transfer Pricing methodologies, as well as the ability to generate transfer pricing adjustments such as liquidity premiums, pricing incentives and other adjustments

- Provision of two-way integration with the Oracle Financial Services Asset Liability Management application.

Integration with Hyperion Planning

This release of the Balance Sheet Planning application is certified for use with Hyperion Planning release version 11.1.1.3.0, using Classic Administration functionality available in Planning. Existing integration with the Hyperion Planning application and functionality includes:

- Delivery of a predefined, integrated Balance Sheet Planning data model

- Provision of data synchronization with the optional Hyperion Capital Asset and Workforce Planning modules

- Usage of existing Hyperion Planning functionality for centralized administrative functions, including functions such as dimension and hierarchy management, scenario and version management and user administration.

- Incorporation of Hyperion Planning process and data form related features, including:
  - Task lists and workflow notifications
  - Budget status tracking by Planning unit
  - Supporting Detail
  - Cell Text/Annotations
  - Off-line Excel-based planning support (Smart View)

- Usage of the powerful Hyperion Planning reporting capabilities

Data Model Highlights

The Balance Sheet Planning application is delivered with many predefined components that are installed on top of Hyperion Planning and Essbase, and also includes a relational database component that is specific to Balance Sheet Planning.

The application includes the following types of pre-defined metadata objects that are

installed during implementation:

- Dimensions and Dimension Members
- Dimension Member Attributes
- Hyperion Web Forms, with Predefined Menus
- SmartLists
- Business Rules
- Sequences
- Import Rule Files
- Global Variables
- Substitution Variables
- User Defined Functions
- Application Settings
- User Variables
- Custom Java Forms (that interact directly with the BSP relational database)

The Balance Sheet Planning relational database data model includes metadata and data components necessary to run the application's cash flow engine, which operates in the relational database and is used to generate future cash flow data for the current book of business and new business volumes recorded in future time periods.

The custom Java forms mentioned earlier are used to create metadata and business rule based assumptions necessary to generate future cash flow data. Tasks of this nature include items such as definition of market interest rate codes, creation of interest rate scenarios and custom payment, repricing and behavior patterns, and so on. Such information is then loaded into Hyperion Planning and Essbase using functions provided with Balance Sheet Planning, making the information available for usage in standard data forms and for viewing by analysts interacting with the system.

The Balance Sheet Planning relational data model also includes a set of instrument or customer account tables designed to hold contractual information for individual loans, investments, deposits and borrowings on the institution's books at the start of a planning or forecast horizon. The tables are loaded with account records reflecting point in time snapshots of balance, origination, payment, pricing and maturity attributes that are periodically extracted from bank accounting systems, and that support cash flow generation using the Balance Sheet Planning cash flow engine. The individual account tables generally provide for loading data at a product family level,

such as:

- Commercial Loans
- Consumer Loans
- Credit Cards
- Investments
- Borrowings
- Term Deposits
- and so on.

Integration with Oracle Financial Services Analytics Applications

The Oracle Financial Services Balance Sheet Planning application is just one of many analytical applications that are part of the Oracle Financial Services Analytics Applications (OFSAA) family of products providing solutions for financial services institutions. The Balance Sheet Planning application includes current and planned integration with data model and data components underlying the Oracle Financial Services Asset Liability Management, Funds Transfer Pricing and Profitability Management applications.

When a financial services institution purchases other OFSAA applications in addition to Balance Sheet Planning, the customer account table data mentioned earlier is shared across Balance Sheet Planning and the other OFSAA applications, enabling usage of the same source data. A management ledger table where historical general ledger data and certain OFSAA application processing results are stored (such as funds transfer pricing results) is also shared. The historical management ledger data can be loaded into Planning/Essbase, making it available to system users as background information when preparing a budget or forecast. Several types of metadata and business rule definitions are also shared between the applications as well. For example, market interest rate code definitions and historical interest rate data are shared in an integrated installation, such that the information only requires definition and loading once during implementation.

Balance Sheet Planning and Hyperion Planning Data Model Synchronization

Dimensions, dimension members and dimension hierarchies exist and are maintained on a dual basis, with data and metadata stored in the traditional Hyperion Planning tables as well as in the Balance Sheet Planning data model. This supports and leverages usage of standard dimension based functionality available in Hyperion Planning within the Balance Sheet Planning module, as well as the execution of the Balance Sheet

Planning cash flow engine in the Balance Sheet Planning relational database. The Balance Sheet Planning application delivers predefined functionality to create and maintain synchronization of dimension information in both places. Information on metadata synchronization can be found in Chapter -Metadata Synchronization , page 16-1 of this user guide.

Dimensions requiring member definition at implementation, including the Entity, Chart of Account and Strategy dimension members, can be created or imported into Balance Sheet Planning using Hyperion Planning dimension management functionality. When metadata synchronization is performed, the dimension member data is loaded into the Balance Sheet Planning relational database for use by the cash flow engine. If desired, dimension members for these dimensions can be sourced from the applications infrastructure underlying the OFSAA applications in an integrated installation. In that circumstance, the metadata synchronization processes can also be used to load the dimension members and hierarchies into Hyperion Planning from the Balance Sheet Planning database.

The remainder of this chapter summarizes Balance Sheet Planning plan type usage and dimensionality.

Plan Types and Usage

Balance Sheet Planning uses three Hyperion application Plan Types – BSP, Rates and Core. The usage and dimensionality of each plan type is summarized as follows.

Plan Type: BSP

Usage: Collection, processing and storage of balance and net interest margin cash flow projections, and associated non interest income and expense.

Dimensionality: The BSP plan type is dimensioned by the following dimensions:

- Scenario
- Version
- Year
- Period
- Account
- Currency
- Entity
- Strategy
- Attribute Value

- Chart of Accounts
- Custom Dimension Custom 1
- Custom Dimension Custom 2

Plan Type: Rates

Usage: Collection and storage of scenario data used in generating budget and/or forecast results, including:

- Maturity Mix Assumption Scenarios
- Interest Rate Scenarios
- Exchange Rate Scenarios
- Economic Indicator Scenarios

Dimensionality: The Rates plan type is dimensioned by the following dimensions:

- Scenario
- Version
- Year
- Period
- Currency
- Entity
- Chart of Accounts
- Strategy
- Mix Breakout
- Rate Element
- Assumption
- Term Point
- Custom Dimension Custom 1
- Custom Dimension Custom 2

Plan Type: Core

Usage: The Core plan type is used by the Balance Function provided with Balance Sheet Planning.

Dimensionality: The Core plan type is dimensioned by the following dimensions:

- Scenario
- Version
- Year
- Period
- Account
- Currency
- Entity
- Strategy
- Attribute Value
- Chart of Accounts
- Custom Dimension Custom 1
- Custom Dimension Custom 2

Predefined Dimensions

Predefined dimensions utilized by the Balance Sheet Planning application along with a brief description of their usage are outlined in this section. The dimension name, description, plan type usage and additional notes are provided for each dimension, along with indication of whether the dimension is a standard or a custom Hyperion Planning dimension.

Dimension: Account

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Core

Description: Standard Hyperion Account dimension and usage for storage of cash flow engine driver data and calculation results.

Additional Notes:

- BSP Accounts – This node level member has three types of predefined data elements:
  - Financial Elements – Driver data and financial measures produced by the Balance Sheet Planning application
  - Balance Financial Elements – Calculation results produced and stored by the Balance Function
  - Delinquency Elements –
    - Expense Elements – Percentages used to calculate non performing asset balance sheet account related expenses
    - Classification Elements – Future use – non performing asset flow modeling drivers

Dimension: Entity

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Rates, Core

Description: Standard Hyperion Entity dimension and usage. Dimension members represent different organizational units or responsibility centers in the organization

Additional Notes:

- BSP Entities – This predefined dimension member is intended for use as top-level Entity hierarchy node, and is referenced in certain pre defined data forms as seeded dimension member selection. Entity hierarchies to be used in the application can be uploaded underneath this top node-level dimension member, (with controlled analyst user access) and data forms used as delivered.
- Other dimension members are defined during implementation.

Dimension: Scenario

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Rates, Core, Wrkforce, Capex

Description: Standard Hyperion dimension and usage. Distinguishes between Actual, Forecast, Budget data, and so on. The Scenario dimension works in tandem with the Version dimension to uniquely identify a Balance Sheet Planning set of results, such as 1st Pass Forecast or Approved Budget, where **1st Pass** and **Approved** are Version dimension members, and **Forecast** and **Budget** are Scenario dimension members.

Dimension: Version

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Rates, Core, Wrkforce, Capex

Description: Standard Hyperion dimension and usage. Distinguishes between different passes or versions of a plan or forecast scenario. The Version dimension works in combination with the Scenario dimension to uniquely identify a Balance Sheet Planning set of results, such as 1st Pass Forecast or Approved Budget, where **1st Pass** and **Approved** are Version dimension members, and **Forecast** and **Budget** are Scenario dimension members.

Dimension: Year

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Rates, Core, Wrkforce, Capex

Description: Standard Hyperion dimension and usage.

Additional Notes: Members are created during installation.

Dimension: Period

Hyperion Standard/Custom Dimension: Standard

Plan Type Usage: BSP, Rates, Core, Wrkforce, Capex

Description: Standard Hyperion dimension and usage.

Additional Notes: Dimension members include quarterly and monthly periods.

Dimension: Chart of Account

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: BSP, Rates, Core

Description: Dimension members represent the various balance sheet products and non-interest income or non-interest expense planning or forecast line items.

Additional Notes:

- BSP_COA – This predefined dimension member is intended for use as top-level Chart of Accounts hierarchy node, and is referenced in certain pre defined data forms as seeded dimension member selection. Chart of Account hierarchies to be used in the application can be uploaded underneath this top node-level dimension member, (with controlled analyst user access) and data forms used as delivered.
- Other dimension members are defined during implementation.

Dimension: Strategy

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: BSP, Rates, Core

Description: Dimension members represent different internal strategies under consideration for inclusion in a budget or forecast. Financial values can be entered or generated by specific strategy (in combination with other dimension members) such that the impact of specific strategies can be easily quantified and reviewed in reports, after which they can be approved or rejected.

Additional Notes: A simple hierarchy with one lowest level dimension member is delivered with the application, defined under the BSP_Strategies folder.

- BSP_Strategies
  - Strategy Total Rollup
    - Momentum

The predefined BSP_Strategies dimension member is intended for use as top-level Strategy hierarchy node, and is referenced in certain pre defined data forms as seeded dimension member selection. Strategy hierarchies to be used in the application can be uploaded underneath this top node-level dimension member, (with controlled analyst user access) and data forms used as delivered.

Additional Strategy dimension members can be defined during implementation or during preparation for starting a budget or forecast cycle. New lowest level members and additional node level dimension members should be added under the Strategy_Total Rollup dimension member.

Dimension: Currency

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: BSP, Rates, Core

Description: Dimension Members representing standard ISO currency codes are predefined in the application.

Additional Notes: A custom currency dimension is used in Balance Sheet Planning instead of the native Hyperion Planning currency dimension, in order to create cash flow projections for multiple denominated currencies within any entity dimension member.

Dimension: Assumption

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: Rates

Description: Dimension identifies specific interest rate, currency rate, economic indicator and maturity mix scenarios that are associated with a budget scenarios or versions.

Additional Notes: The following dimension member folders are predefined:

- Interest Rate Scenario
- Currency Rate Scenario
- Economic Indicator Scenario
- Maturity Mix Scenario

Interest rate, currency rate and economic indicator scenarios are created in Master Maintenance. Metadata Synchronization for Flat – Custom dimensions creates corresponding dimension members in Hyperion Planning.

Maturity Mix Scenario dimension members are created in Hyperion Planning. Metadata Synchronization for Flat – Custom dimensions adds the dimension members in the Balance Sheet Planning relational database.

Dimension: Attribute Value

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: BSP, Core

Description: The Attribute Value dimension is used to specify attributes of the Scenario, Version and Chart of Account dimensions.

Additional Notes: The following dimension member folders are predefined:

- Scenario Attributes
- Version Attributes
- Chart of Account Attributes

Dimension: Mix Breakout

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: Rates

Description: Predefined Mix Breakout dimension values act to break a future period New Add Volume into smaller pieces for cash flow processing. Each Mix Breakout is treated as a separate new add volume using the maturity mix assumptions defined for each breakout. The lower level cash flows produced by the cash flow engine are aggregated to the total New Add Volume level for the Chart of Account dimension member being processed, prior to output by the cash flow engine and load of the data to Essbase.

Additional Notes: There are ten predefined members of the Mix Breakout dimension included under a the **Mix** node level member. The predefined dimension members are called **Mix 1**, **Mix 2** , **Mix 3**…**Mix 10**.

Dimension: Rate Element

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: Rates

Description: The Rate Element dimension is used to capture and store maturity mix assumptions through the usage of Mix Element dimension members, and forecasted interest rate, currency rate and economic indicator data using the Interest Rate Codes, Economic Indicators and To Currency dimension members.

Additional Notes: Predefined node level dimension members' group assumptions by type:

- Mix Elements
- Interest Rate Codes
- Economic Indicators
- To Currency

Interest rate codes and economic indicators are created in Master Maintenance. Metadata Synchronization for Flat – Custom dimensions creates corresponding dimension members in Hyperion Planning.

Dimension: Term Points

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: Rates

Description: The Term Point dimension identifies yield curve term points defined for each Interest Rate Code created in the application.

Additional Notes: Interest rate codes and their associated term points are defined at implementation in Master Maintenance. Metadata Synchronization for Flat – Custom dimensions creates the corresponding Term Point dimension members in Hyperion Planning.

Dimension: Custom 1 and Custom 2

Hyperion Standard/Custom Dimension: Custom

Plan Type Usage: BSP, Rates and Core

Description: Custom 1 and Custom 2 are custom dimensions added for the user to use them as per his requirement. These are hierarchical dimensions.

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Master Maintenance Overview

Overview

Performing Master Maintenance functions is the starting point for using the Balance Sheet Planning module. The Master Maintenance Data Form is used by the Budget Administrator to access Custom User Interfaces that are used to define parameters and rules utilized by the Balance Sheet Planning cash flow engine, and to synchronize certain data and metadata between cash flow engine tables and Hyperion Planning.

This chapter will review the following application components:

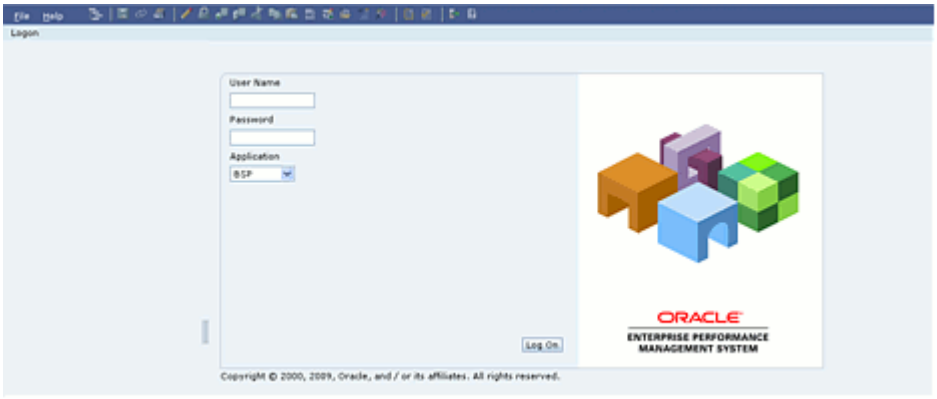
- Logging into the application.
- Accessing the Master Maintenance data form and the following menu items:
  - Assumption Forms
  - Metadata Synchronization
    - Smart List
    - Hierarchical Dimensions
    - Flat-Standard Dimensions
    - Flat-Custom Dimensions
  - Setup Tasks
    - Populate Product-Instrument Table Mapping
    - Generate Security File
    - Reverse Population of Dimensions

Prerequisites

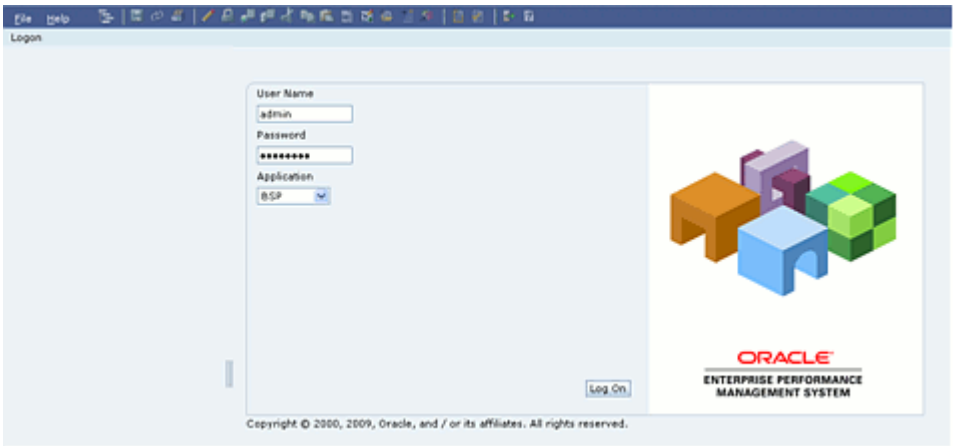
Chart of Account and Entity Dimension Members are created and synchronization between Hyperion Planning and the Balance Sheet Planning Financial Services Data Model has been performed. For information on dimension member synchronization, see Metadata Synchronization, page 16-1.

Logging Into Balance Sheet Planning

1. Go to the login page of the Hyperion Planning application.



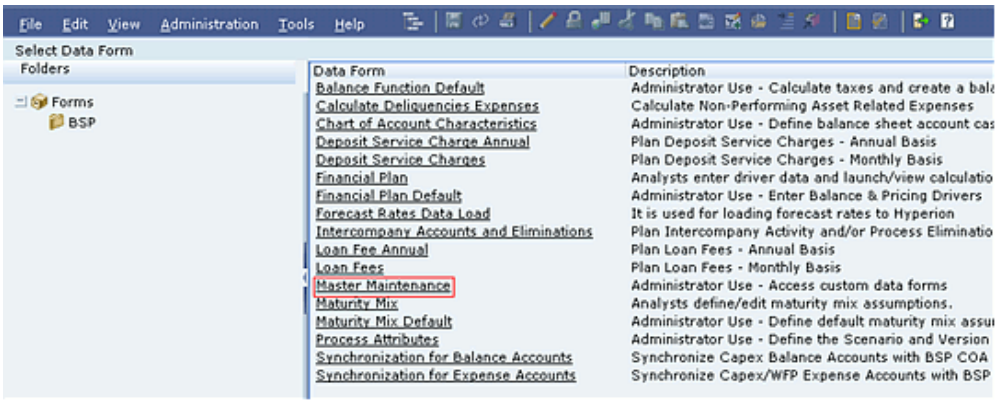
2. Enter the Balance Sheet Planning Administrator's User Name and Password for the Application and click **Log On** button.



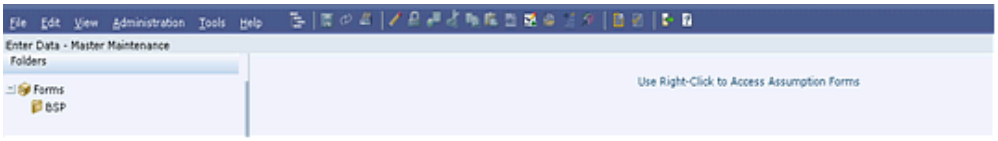
Accessing the Master Maintenance Form and Menu Items

1. Go to **BSP** Folder on the left pane. Click **Master Maintenance** in the list of available

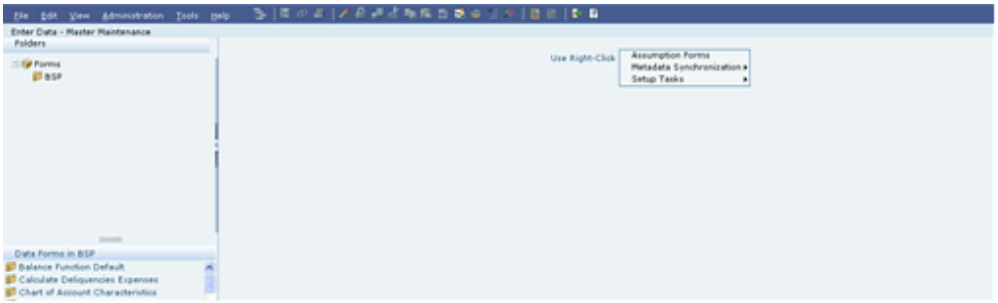
data forms.



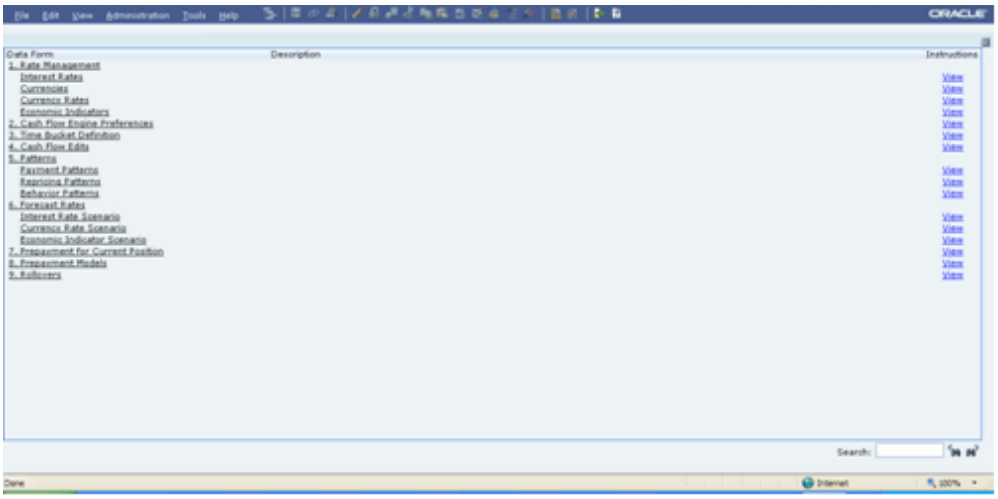
Master Maintenance Data Form



2. Right Click on the data form just preceding the Use "Right-Click to Access Assumptions Forms" message to display the list of available menu items.



3. To access the list of available custom forms, select the **Assumption Forms** menu item. The following screen is displayed.



4. Click the appropriate form name to begin working with the custom form. Each of the custom forms seen earlier is discussed in detail in following chapters of this user guide:

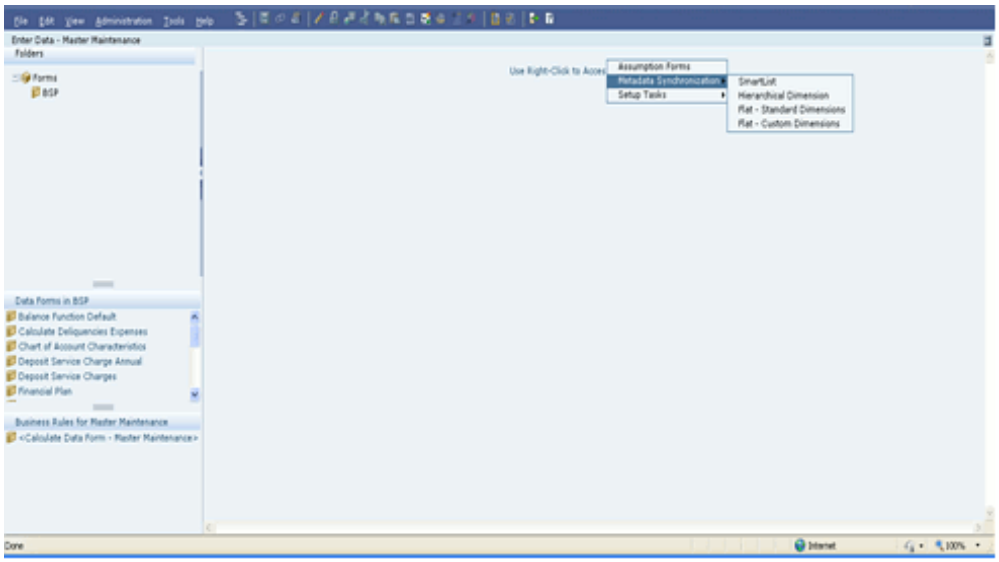
   - Rate Management, including sections on Interest Rates, Currencies, Currency Rates and Economic Indicators, page 4-1
   - Cash Flow Engine Preferences, page 5-1
   - Time Bucket Definitions, page 6-1
   - Cash Flow Edits, page 7-1
   - Patterns:
     - Payment Patterns, page 8-1
     - Repricing Patterns, page 9-1
     - Behavior Patterns, page 10-1
   - Forecast Rates, including sections on Interest Rate Scenarios, Currency Rate Scenarios and Economic Indicator Scenarios, page 11-1
   - Prepayments for Current Position, page 13-1
   - Prepayment Models, page 14-1
   - Funds Transfer Pricing, page 15-1

     Note: Rollovers are not yet functional and are planned for a future

release.

Note: The URL for the Assumption Forms menu item needs to be updated at the time of implementation in the **Properties** section of the **Edit** Menu Items – Assumption Forms interface. If the list of Assumptions Forms does not appear when the menu item is selected, this implementation task may not have been completed. For more information, see the installation manual of *Balance Sheet Planning*.

5. To access Metadata Synchronization functions delivered with Balance Sheet Planning, select the **Metadata Synchronization** menu item.



A business rule is associated with each of the following menu items that will modify Smart List and Dimension XML files created during the Metadata Synchronization process.

- SmartList

  A business rule, BSP_SmartList_Synch, executes a java function that updates SmartList XML files.

- Hierarchical Dimensions

  A business rule, BSP_HierDim_Synch, executes a java function that populates hierarchical dimensions into the Financial Services Data Model.

- Flat- Dimensions

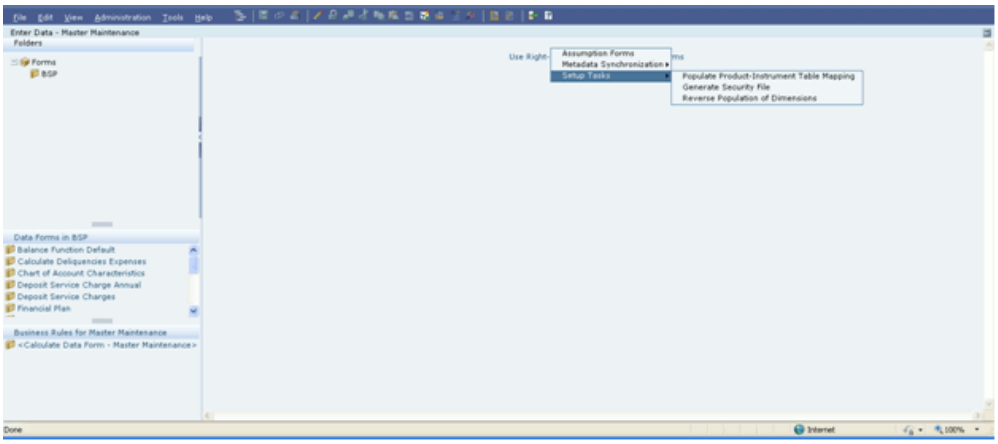
A business rule, BSP_Flat_StdDim_Sync, executes a java function that populates standard dimensions into the Financial Services Data Model.

- Flat Custom Dimensions

  A business rule, BSP_Flat_CustDim_Sync, executes a java function that updates custom dimension XML files.

For more details on the preceding functions and the metadata synchronization process, see Metadata Synchronization, page 16-1.

6. To access additional Setup Tasks delivered with Balance Sheet Planning, select the **Setup Tasks** menu item.



Pre-defined business rules for each of the three Setup Task functions are delivered with Balance Sheet Planning and are run when the menu items are selected.

- Populate Product- Instrument Table Mapping

  A business rule, BSP_Product_Instrument, is associated with this menu item. The purpose of the Product to Instrument Table Mapping procedure is to scan all instrument tables (FSI_D_xxxx) holding current position data and populate a mapping table ("FSI_M_PROD_INST_TABLE_MAP") with a listing of Chart of Account dimension members that exist within each instrument table. When you select Chart of Account dimension members for which you want to generate current position cash flows, the ensuing process refers to this mapping table to identify the instrument tables to include in the process.

  It is recommended that this procedure be executed after every instrument table data load to ensure that mappings are up to date.

- Generate Security File

  A business rule, BSP_CFE_Security_File_Gen, is associated with this menu item. This business rule executes a predefined Java function to generate a Security file required for processing of the Balance Sheet Planning cash flow

engine.

This function only needs to be run once, during preparations for generating cash flow data.

- Reverse Population of Dimensions

  A business rule, BSP_Reverse_Population is associated with this menu item. This business rule executes a database function that populates dimension and dimension hierarchy metadata tables that are used by the Balance Sheet Planning application cash flow engine.

  It is recommended that this procedure be executed any time dimension members and/or hierarchies are created or updated, after processing Metadata Synchronization for dimensions.

Master Maintenance Form Details

The Master Maintenance data form has been created using the Manage Data Forms feature available in Hyperion Planning on the BSP Plan Type. The Row, Column, Page and Point of View Dimensions are hidden on the form.

A message "Use Right-Click to Access Assumption Forms" appears on the Master Maintenance data form instead of the standard grid. The message is entered in the **Other Options** tab against the **Message for data forms with no data** field in the Display Properties during the creation of the data form. The Balance Sheet Planning Administrator can modify this message if wanted using the Manage Data Form feature. The Grid is not displayed by using the **Suppress Missing Data** option for both the Row and Column Dimension Properties, which is checked along with the **Suppress Missing Blocks** option for the Row Dimension Property.

Seeded Dimension Member Selection on the Data Form.

Dimension View	Dimension Name	Description
Column	AttributeValue	No Attribute Value
Row	Chart of Account	No Chart of Account
Point of View	Entity	No Entity
Point of View	Period	BegBalance
Point of View	Account	No Financial Element

Dimension View	Dimension Name	Description
Point of View	Currency	No Currency
Point of View	Scenario	No Scenario
Point of View	Version	No Version
Point of View	Strategy	No Strategy
Point of View	Year	No Year

3

Configuration UI

Instructions for Configuration

The Configuration UI lists all the seeded configuration parameters

The following values are provided against each configuration parameter with respect to Variable Name and Description.

- SERVICEPROVIDER - Value should be IP address /Machine name and port where Application Provider Service is running in the format : For example: 10.184.108.128:13083
- DBSERVERNAME - Value should be IP address /Machine name where the Financial Services Data Model database instance is running in the format For example:. 10.184.108.111
- SID - Value should be Financial Services Data Model Service ID /instance name running on the machine as specified in DBSERVERNAME parameter.
- PORTNO - Value should be Financial Services Data Model Service ID /instance listening port number for the instance as specified SID parameter.
- USERNAME - Value should be the Financial Services Data Model user name.
- PASSWORD - Value should be the Financial Services Data Model password.
- DSNNAME - Value should be the system DSN name configured for ODBC.

  Example
  FSDM
- SERVERNAME - Value should be the IP address / Machine name and port where Essbase server is running in the format : For Example: 10.184.108.128:1425
- ESSUSER - Value should be the Essbase user name for the server as mentioned in

SERVERNAME parameter.

- ESSPWD - Value should be the Essbase password for the server as mentioned in SERVERNAME parameter.
- LCMDirName - Value should be the staging folder name where user has exported the Hyperion metadata through shared services (LCM).
- LCMDirPath - Value should be the staging folder path where user has exported the Hyperion metadata through shared services (LCM).
- FirstYr - Value should be the starting year of active time bucket in system.
- EndYr - Value should be more than 5 years plus year mentioned in FirstYr.
- CurrMonth - Value should be the month till which actual data is available in financial year.
- StartPeriod - Value should be starting month of the financial year.
- EndPeriod - Value should be ending month of the financial year.

4

Rate Management - Managing Currencies and Interest Rates

Overview

Rate Management is a comprehensive utility enabling you to manage currencies, yield curves, and interest rate & currency exchange rate data with a high degree of security and control. Rate Management also allows you to maintain economic forecasts such as GDP growth, inflation rates, or unemployment projections that may provide your users with additional information behind your projections for interest rates, exchange rates, or new business growth.

Historical rate data obtained from Rate Management is utilized within all of the Enterprise Performance Management (EPM) applications (OFSAA Funds Transfer Pricing, OFSAA Profitability Management, OFSAA Asset/Liability Management, and OFSAA Balance Sheet Planning). Details regarding how each application draws upon Rate Management data are provided in the body of this chapter.

Rate Management Subject Areas

There are four primary subject areas or modules within Master Maintenance > Rate Management:

- Interest Rates
- Currencies
- Currency Rates
- Economic Indicators

Interest Rates

The quality and availability of interest rate information varies throughout the world. In

many markets, gathering comprehensive rate information is a challenge because of insufficient security types, inconsistent quoting conventions, and lack of liquidity. The Interest Rates module within Rate Management allows you to define and manage complex yield curve definitions using multiple rate formats and other rate attributes to give you data storage capabilities appropriate to your market. The Interest Rates module also supports the entry and maintenance of historical rate data for each yield curve you define.

Historical interest rate data from Rate Management is utilized within Balance Sheet Planning in the generation of forecasted interest rate scenarios.

Currencies

Financial institutions commonly transact business in more than one currency. Transacting business in multiple currencies demands functional capabilities for multi-currency forecasting and currency rate management.

Rate Management's Currencies module supports the definitions and maintenance of currencies. Currency definitions are fundamental to the definition of both interest rate yield curves and currency exchange rates. A key attribute of every yield curve is the currency with which it is associated. Currency exchange rates can only be established between defined currencies. Rate Management provides a comprehensive list of ISO-defined currencies. You may also define and add your own user-defined currencies.

Currency Rates

Rate Management's Currency Rates module draws upon the currencies you have defined and activated in the Currency module to support the entry and maintenance of historical exchange rates. Currency exchange rates are utilized within Balance Sheet Planning in the generation of cash flow forecasts in denominated currencies and in currency translation.

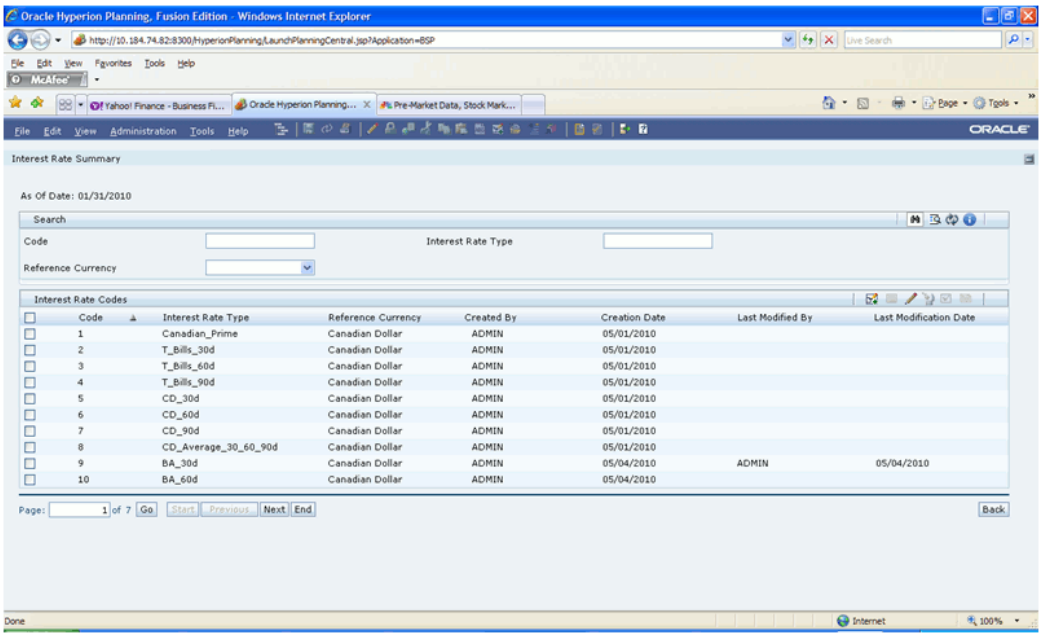
Economic Indicators

An economic indicator is any economic statistic such as the Consumer Price Index (CPI), the growth rate of the Gross Domestic Product (GDP), the unemployment rate, the Purchasing Managers Index, indices of consumer confidence, etc. Such macroeconomic statistics tell us how well the economy has behaved in the past. Some economic indicators are referred to as "lagging" indicators while others are classified as "leading" indicators. Leading indicators may provide insights into the future direction of the economy.

Rate Management's Economic Indicators module allows you to define and store such historical indicators. Economic Indicators provide baselines from which Balance Sheet Planning can generate forecasts of future values of economic statistics that can affect new business or other modeling assumptions.

Working With Interest Rate Codes

When you first navigate to Master Maintenance > Rate Management > Interest Rates, an empty Interest Rate Summary screen will be displayed. After you have constructed one or more interest rate curves, navigating to Master Maintenance > Rate Management > Interest Rates will display a summary screen showing each of the interest rate curves that you have previously built.



Search Container

A Search container is provided in which you may search for interest rate curves by Code, by Interest Rate Type or by Reference Currency (by ISO currency code).

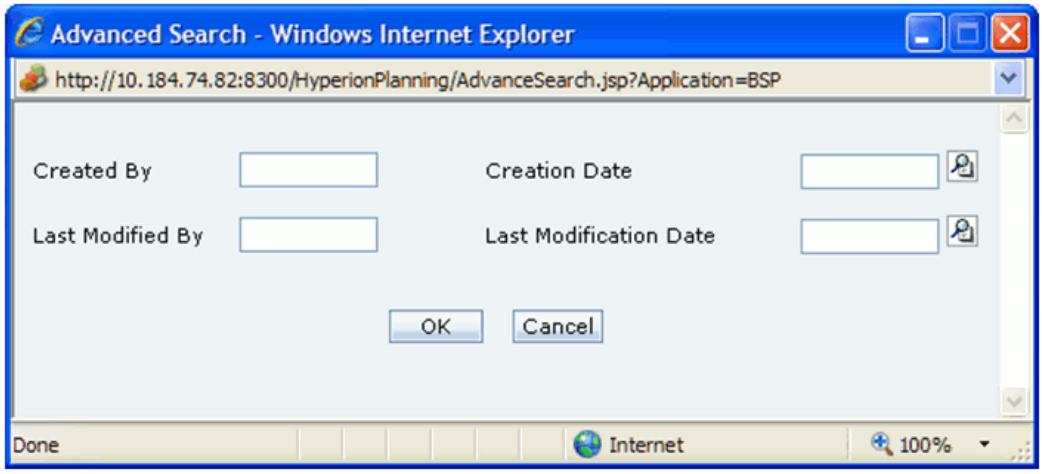
Advanced Search options are also available and include searching by Creation Date, Last Modification Date, Created By or Last Modified By search parameters.

Search Control

Enter your desired search criteria and click the **Search** control.

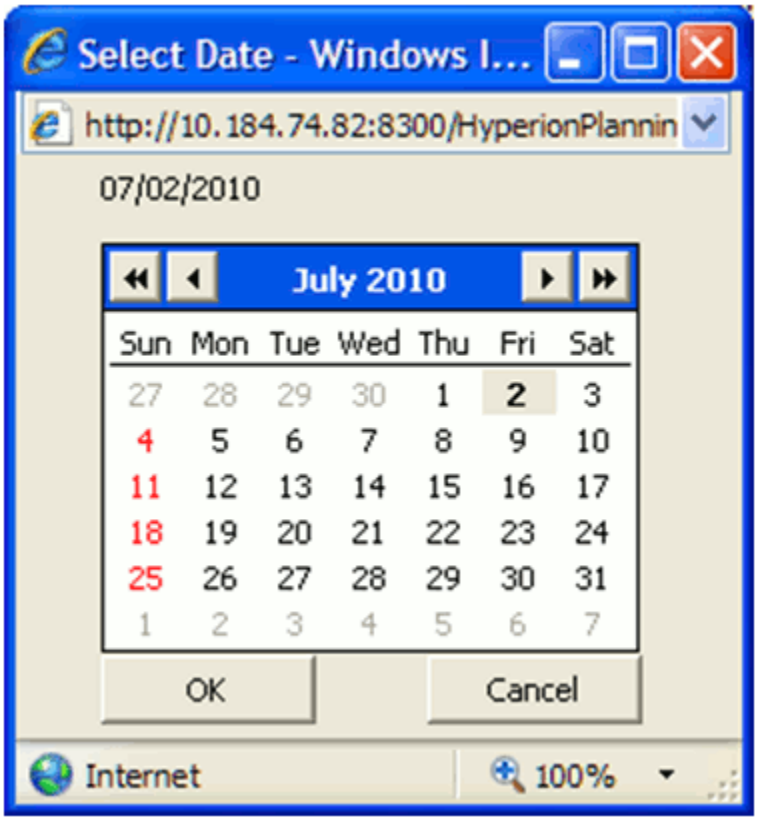
Advanced Search Control

Click the **Advanced Search** control to open the advanced search dialog.



To search by Created By or Last Modified By, enter a user name and click **OK**.

To search by Creation Date or Last Modification Date, click the icon next to the field to open up the Select Date form, highlight the date and click **OK**.



After selecting a date and clicking **OK**, the date is populated in the Advanced Search dialog. Click **OK** to perform the search using the date selected.

Reset Control

Clicking on the **Reset** control removes any Name or Currency constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with interest rate codes.

Page Navigation Controls

If more than 10 interest rate code definitions exist, use the navigation controls below the summary grid to go to other pages.

Interest Rate Codes Container

The Interest Rate Codes container presents a grid containing all of the interest rate curves that meet your search criteria. The Interest Rate Codes grid offers several controls that allow you to perform different functions when an interest rate curve is selected.

To select an interest rate curve, click a check box in the first column of the grid. More than one interest rate curve can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the interest rate curve.

You may select or deselect all of the interest rate curves in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the **New** control begins the process of building a new interest rate curve. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of an interest rate curve on a read-only basis. The View control is only enabled when a single interest rate curve has been selected.

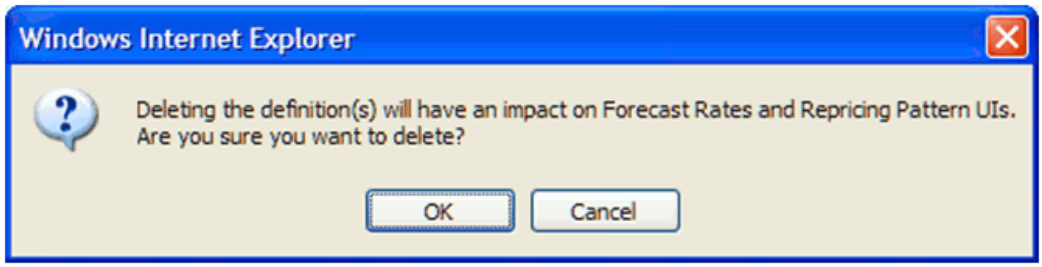
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved interest rate curve. The Edit control is only enabled when a single interest rate curve has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the interest rate curves you have selected.

Deleting an interest rate code may impact existing forecast rates or repricing pattern definitions. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the code. Click **OK** to proceed with the delete, or **Cancel** to prevent the deletion.

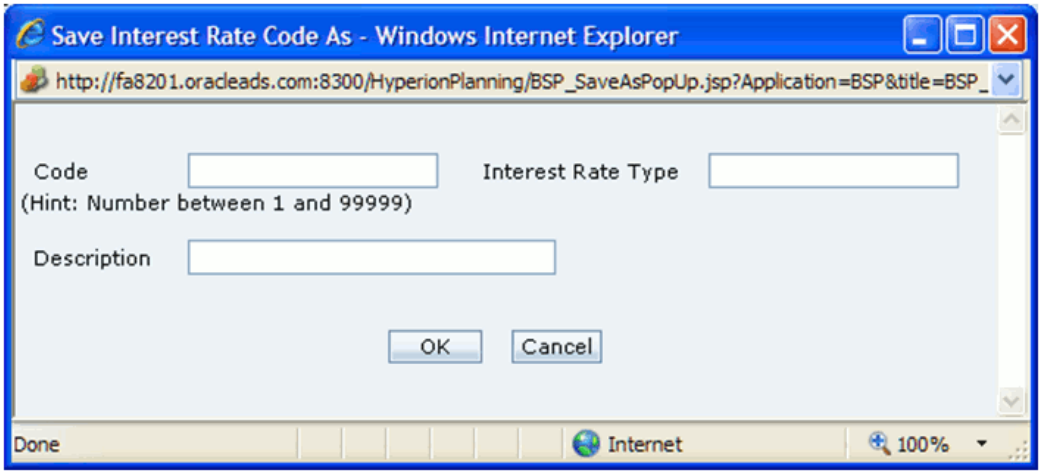


Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new interest rate code. To use the feature, click the checkbox next to an existing definition and click the **Save As** control. The Save Interest Rate Code As dialog will open. Enter a Code, Interest Rate Type and Description for the new interest rate code and click **OK**. A new interest rate code is added to the summary grid. You can then select the code and click the Edit control to refine the definition.



Interest Rate Codes Summary Grid

The following columns categorize each interest rate curve in the summary grid:

- Code
- Interest Rate Type
- Reference Currency
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Code

Displays the code value defined for an interest rate curve.

Interest Rate Type

Displays the interest rate curve's short name.

Reference Currency

Displays the currency (the Reference Currency) to which an interest rate curve is applicable.

Creation Date

Displays the date and time at which an interest rate curve was created.

Created By

Displays the name of the user who created an interest rate curve.

Last Modification Date

Displays the date and time at which an interest rate curve was last modified.

Last Modified By

Displays the name of the user who last modified an interest rate curve.

Interest Rate Details Screen

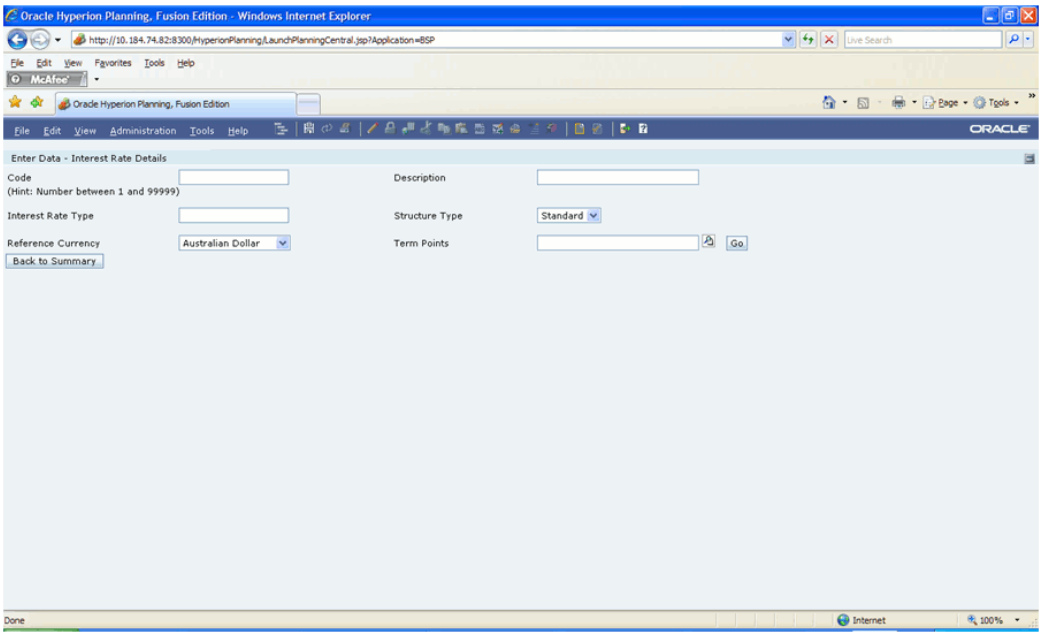
When you Add, Edit, or View an interest rate curve, the Enter Data - Interest Rate Details screen is displayed. The Interest Rate Details screen is comprised of an Interest Rate Details container, an Attributes container and an historical Rate Values container.

Interest Rate Details Container

The fields contained in the Interest Rate Details container are explained in detail below.

Code

When constructing a new yield curve, you must specify an Interest Rate Code between 1 and 99,999. Interest Rate Codes are used internally to uniquely identify yield curves. When working with Rate Management or other OFS Analytical Applications, you generally reference yield curves by Name, not by Interest Rate Codes. Interest Rate Codes, however, are embedded within your instrument data (for example, the INTEREST_RATE_CODE and T_RATE_INT_RATE_CD columns within your instrument data are populated with Interest Rate Codes). Once you have saved a yield curve, you may not renumber its Interest Rate Code.



Interest Rate Type & Reference Currency

You must also provide an Interest Rate Type (a short name for the interest rate code) and Reference Currency for your yield curve. A yield curve's Reference Currency is the currency for which your market rates are valid. For example, the Reference currency for a Prime Rate yield curve would be US Dollars. LIBOR or other internationally quoted rates are always quoted with respect to an underlying reference currency (e.g., US Dollar LIBOR, Euro LIBOR, etc). The drop-down list box for Reference Currencies displays only "Active" currencies. For a discussion of Active and Inactive currencies, see the section below entitledCurrency, page 4-16 .

The Interest Rate Type field will accept alphanumeric inputs only. No special characters are allowed except underscore and space. The Interest Rate Type must start with an alpha character. The Interest Rate Type field will accept up to a maximum of 80 characters.

Description

You may optionally provide a description of your yield curve, and you may modify a yield curve's description at any time. The description field will accept all alphanumeric and special characters, with a maximum of 255 characters allowed.

Structure Type

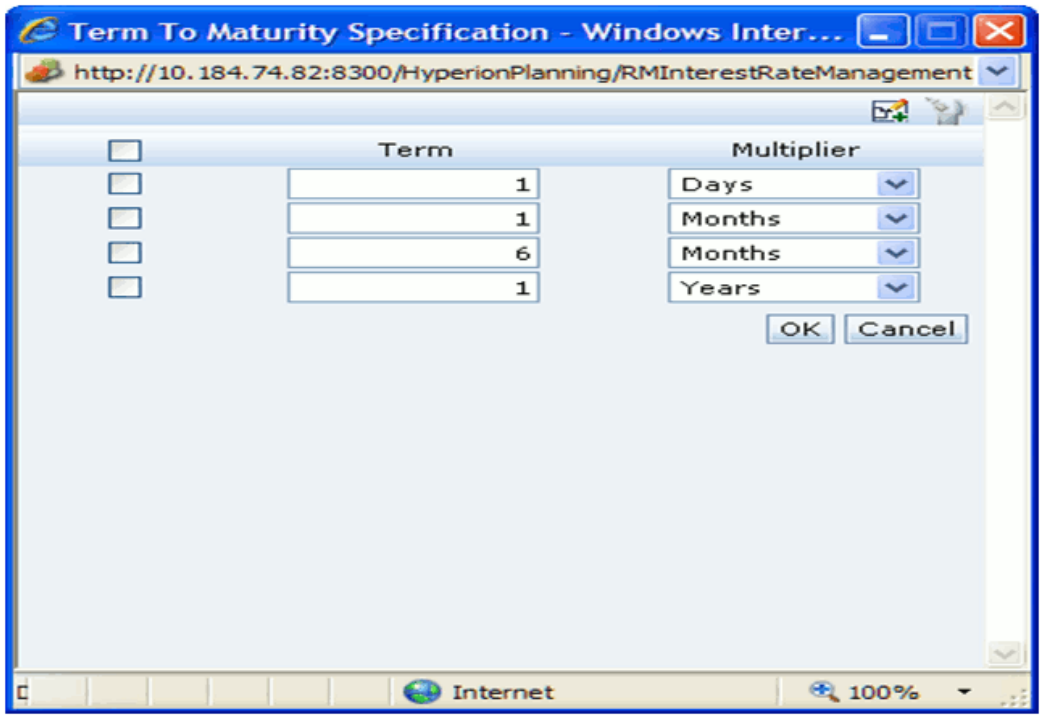
Another required attribute for each yield curve is its Structure Type. Structure Type, however, currently defaults to Standard and should not be modified. In a future release, Structure Type will support both Standard and Hybrid yield curves. Hybrid yield curves are re-expressions of one or two pre-existing Standard yield curves.

Term Points

Use the Term Points field to construct your yield curve's term structure. Click the **lookup** icon next to the field to enter the term points for your yield curve. In the Term to Maturity popup window, you may specify up to 731 term points expressed in days, months or years.

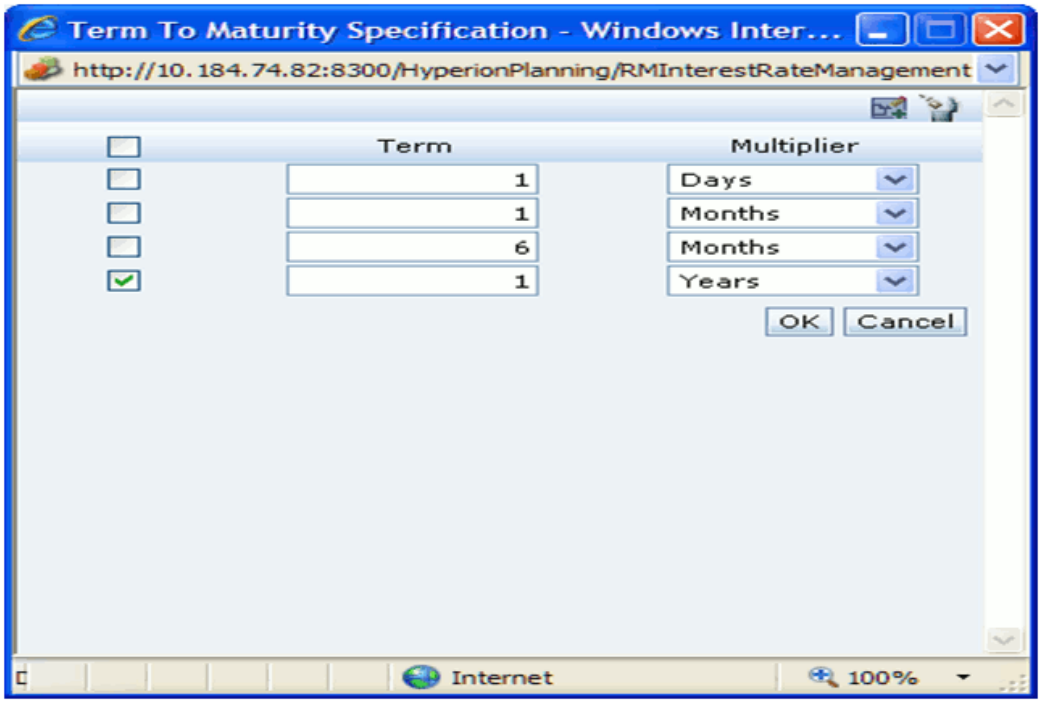
Adding New Term Points

Click the **Add Row** control to add new term points. After clicking on the Add control, select a Term value and a Multiplier (e.g., 7 days, 2 months, 5 years, etc).



Deleting Existing Term Points

If you wish to delete an existing term, select the check box next to the term point (or term points) you wish to delete and click the **Delete Row** control.



After defining the above information, click **Go** for the Attributes container and Rate Values container to appear.

Attributes Container

Yield curve attributes include Rate Format, Compound Basis, and Accrual Basis. Once you have initially saved a yield curve, you typically will not change these attributes, but Rate Management will allow you to do so.

Rate Format

As part of your yield curve definition, you must select either the Zero Coupon Yield or Yield-to-Maturity rate format. Regardless of which format you select, rates entered into Rate Management are always entered in nominal form, e.g., 5.125% or 6.875%, not as discount factors. For details on how the two rate formats affect internal cash flow engine calculations, see the *Oracle Financial Services Cash Flow Engine Reference Guide*.

Compound Basis

You must also select a compounding basis for your yield curve: Annual, Semiannual, Monthly or Simple. The options available for selection are dependent on the Rate Format selected. If the Rate Format selected is Zero Coupon Yield, the available options include:

- Semiannual – this is the default selection

- Annual
- Simple

If the Rate Format selected is Yield to Maturity, the available options include:

- Monthly – this is the default selection
- Semiannual
- Annual
- Simple

For details on Compound Basis and how different compounding bases affect cash flow calculations in OFSAA, see the *Oracle Financial Services Cash Flow Engine Reference Guide*.

Accrual Basis

You must also select an accrual basis for your yield curve. The accrual basis available options are dependent on the Compound Basis selected. If the Compound Basis selected is Monthly, Semiannual or Annual, the available options include:

- Actual/Actual
- 30/365
- Actual/365

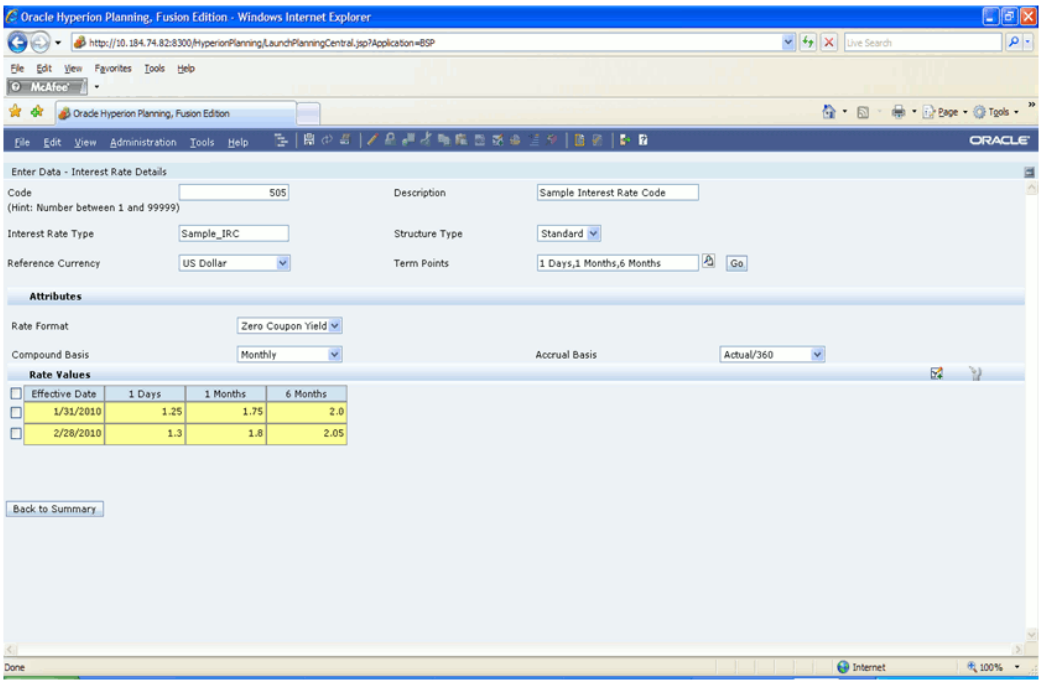
If the Compound Basis selected is Simple, the available options include:

- 30/360
- Actual/360
- Actual/Actual
- 30/365
- 30/Actual
- Actual/365

For details on Accrual Basis and how different accrual bases affect cash flow calculations in OFSAA, the *Oracle Financial Services Cash Flow Engine Reference Guide*.

Rate Values Container

Use the Rate Values grid to enter, modify, or view historical interest rate data. Data should be entered as simple percentages (e.g., 5.125, 4.875, etc).



Click the **Add Row** control to add a row to the Rate Values grid. To delete a row from the Rate Values grid, select the checkbox next to the row and then click the **Delete Row** control.

Rate Values for each defined Term Point are entered in the container along with corresponding Effective Dates. Future dates are not allowed. To enter a date, double click the **Effective Date field** to open the calendar and select the date. Rate Values entered should be between -999.999999 and 999.999999.

After defining Interest Rate Types and/or entering historical rate values, click the **Save** control to save the data. Click the **Back to Summary** control to return to the Interest Rate Summary page and confirm that your new Interest Rate Type appears. You can then click the Back control to return to the Master Maintenance Assumption Forms list.

Rate Lookup Behavior Between Term Points

The OFSAA cash flow engine is common to OFSAA Funds Transfer Pricing, OFSAA Pricing Management (Transfer Pricing Component), OFSAA Asset/Liability Management, and OFSAA Balance Sheet Planning. In looking up rates from OFSAA Rate Management, the cash flow engine will, where necessary, perform an interpolation between yield curve term points. For example, in determining a straight term transfer rate (common for products such as time deposits), the engine may need to determine a three month rate from a yield curve that contains only a one month rate and a six month rate. In such a case, the cash flow engine will perform an interpolation to determine the implied three month rate. While each of the above applications supports simple linear interpolation, OFSAA Funds Transfer Pricing also supports cubic and quartic spline interpolation methods. These more advanced methods will be supported for all OFS

Analytical Applications in a future release.

Rate Lookup Behavior Beyond Term Points

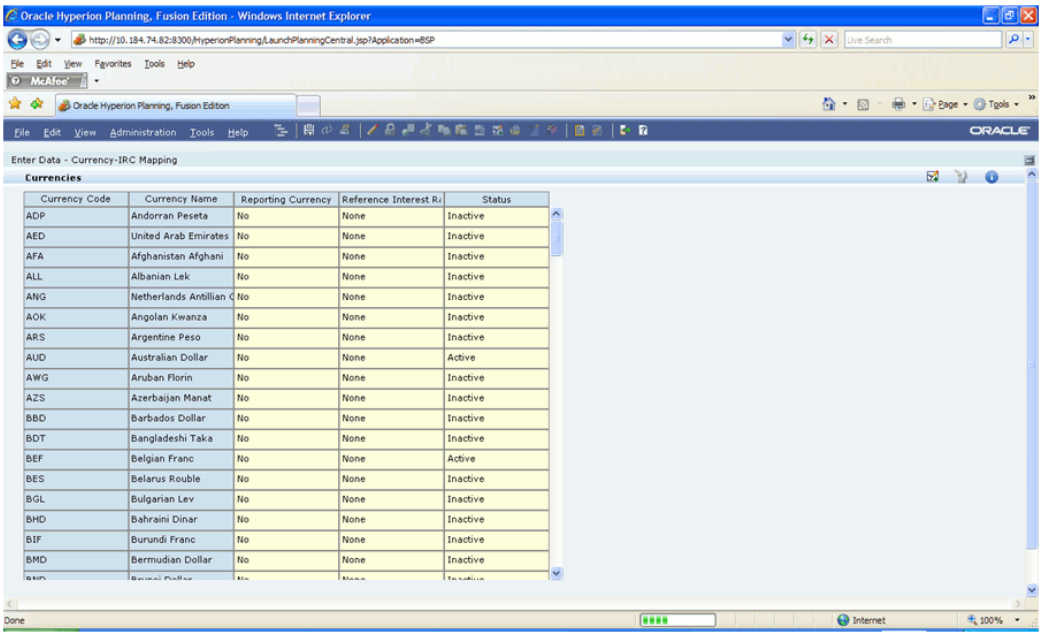
In cases where the cash flow engine needs to determine a rate from a yield curve for a term point smaller than the first term point of the yield curve, the engine will utilize the first term point of the yield curve. For example, if the engine needs to determine an overnight rate from a yield curve whose first term point is one month, the engine will utilize the one month rate. Similarly, in cases where the cash flow engine needs to determine a rate from a yield curve for a term point greater than the longest term point on the yield curve, the engine will utilize the last term point of the yield curve. For example, if the engine needs to determine a 30 year rate from a yield curve whose last term point is 10 years, the engine will utilize the 10 year rate.

Rate Lookup Behavior Between Effective Dates

In looking up rates from OFSAA Rate Management for a business date, the cash flow engine may find that there is no rate data for that specific business date. For example, in generating an original term transfer rate for an instrument with an origination date of June 14, 2010, the cash flow engine may find rate data for May 31, 2010 and for June 30, 2010 but no rate data for any dates between May 31, 2010 and for June 30, 2010. In such cases, the cash flow engine always falls back to the latest available rate data prior to the business date of interest (May 31, 2010 in this case).

Working With Currencies

Upon initially navigating to Master Maintenance > Rate Management > Currencies, the Enter Data – Currency-IRC Mapping screen displays a comprehensive list of more than 170 seeded ISO currency codes. Use this screen to assign properties to each currency, or to add new currency definitions.



Currencies Container

The Currencies container presents a grid containing all of the currencies predefined or added to the system. Predefined currencies may not be deleted from the system. You can add additional currencies or delete currencies previously added.

Add Row Control

Clicking on the **Add Row** control begins the process of adding a new currency.

Delete Row Control

Selecting one or more rows out of the grid enables the Delete Row control. Clicking on the **Delete Row** control deletes the currency or currencies you have selected.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with currencies.

Currencies Summary Grid

The following columns categorize each currency shown in the summary grid:

- Currency Code
- Currency Name

- Reference Interest Rate Type
- Reporting Currency
- Status

Currency Code

For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these may be any pure character string (no numbers) up to a length of 3 characters.

Currency Name

For seeded currencies, these are ISO Currency Code Names. For user-defined currencies, these may be any string up to a length of 40 characters.

Reference Interest Rate Type

Reference Interest Rate Type is the interest rate code with which a currency is associated for forecasting purposes. You may define multiple yield curves each of which has the same Reference Currency. At first this field shows **None**, but as interest rate codes are defined in the Enter Data – Interest Rate Details screen, this field is updated.

Reporting Currency

A reporting currency is an active currency to which balances in other currencies may be consolidated in order to facilitate reporting. Reporting currency is a drop list with **Yes** and **No** options. Select Yes to designate a currency as a reporting currency.

Status

The status of any currency may be either Active or Inactive. You must **activate** a currency before you can:

- Enter exchange rate data for a currency (see the section below entitled Currency Rates, page 4-17).
- Define forecast rates for that currency within Balance Sheet Planning (see Currency Rate Scenario, page 11-1).

Editing Currencies

To edit a currency, select a currency and then click the **Edit** control. You may not make any modifications to the special purpose currencies (000, 001, and 002), and you may not modify any currency Code value. You may, however, modify Currency Name, the Reference Interest Rate Code, the Reporting Currency value (limited to Yes or No), or the currency's Status (limited to Active or Inactive).

You may not inactivate any currency that is:

- Defined as the Reference Currency for any yield curve
- Associated with any exchange rate data
- Utilized within any Forecast Rates rule within Balance Sheet Planning

Once you have completed your edits, Click the **Save** control to save your work.

Adding Currencies

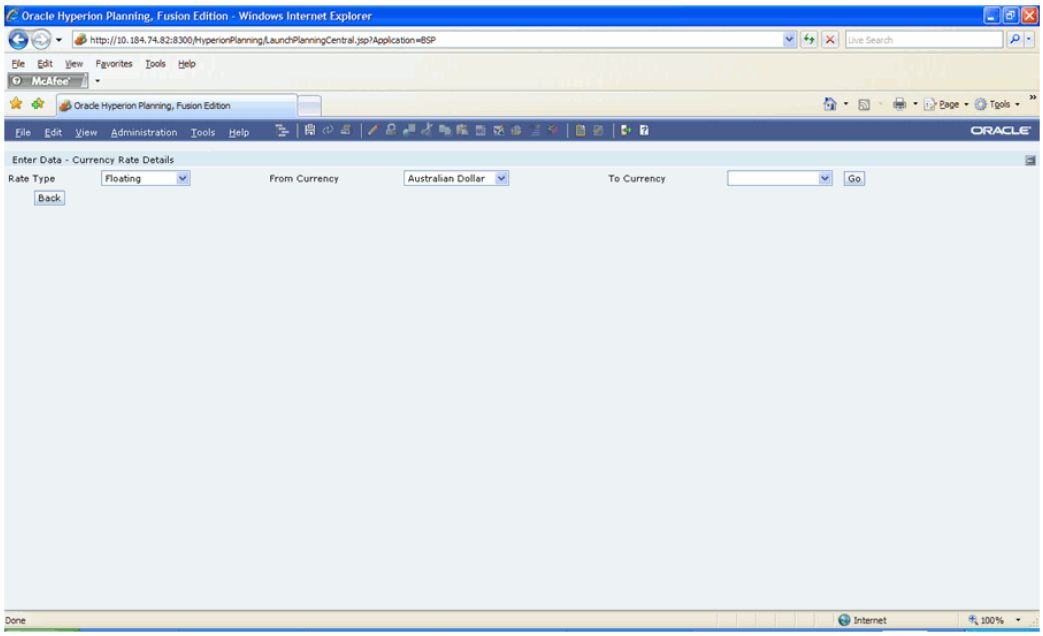
You may generate a new currency by clicking on the **Add Row** control. This will generate another empty row at the bottom of the Currencies container that is ready for you to edit.

Deleting Currencies

Click one or more currencies and then select the **Delete Row** control. You may not delete any currencies that are utilized elsewhere in the system (see exclusions above under Editing Currencies, page 4-16).

Currency Rates

Upon navigating to Master Maintenance > Rate Management > Currency Rates, the Enter Data - Currency Rate Details screen is displayed. Within this screen, you may manage historical exchange rates between currencies.



Initially, this screen will only display a Currency Selection container in which the **From Currency** is defaulted to your first Active currency. You may select another From Currency, but the From Currency list box displays only currencies that are Active.

> **Note:** You can return to the list of Master Maintenance Data Forms by clicking on the **Back control** from any of the Currency Rates screens.

Preparing to Work with Exchange Rate Data

In order to begin the process of viewing, entering, modifying, or deleting exchange rate data, you must supply a **To Currency value**. As with the From Currency, the To Currency list box displays only Active currencies.

You cannot select the same value for From Currency and To Currency. If you select the same value for both fields and on the **Go** control, an error message will be displayed stating that From Currency and To Currency cannot be the same. Click **OK** to close the message and select an appropriate combination of values.

After having selected a To Currency value, select a value for Rate Type: Floating or Fixed (the default selection is Floating).

Floating Rate Type

Floating exchange rates, such as those between the US Dollar (USD), the British Pound (GPB), the Japanese Yen (JPY), and the Euro (EUR), are market driven and may change from day-to-day, hour-to-hour, or minute-to-minute.

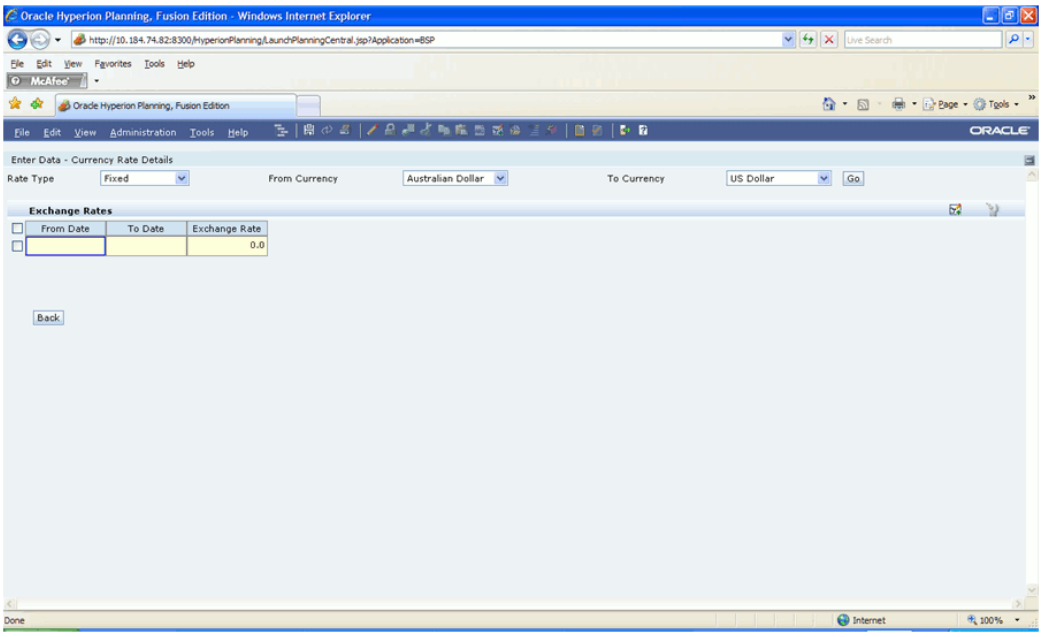
Fixed Rate Type

Some countries, especially smaller countries or countries that have experienced significant inflation in the recent past, may wish to peg their currency to a larger, more stable currency such as the US Dollar, Japanese Yen, or Euro.

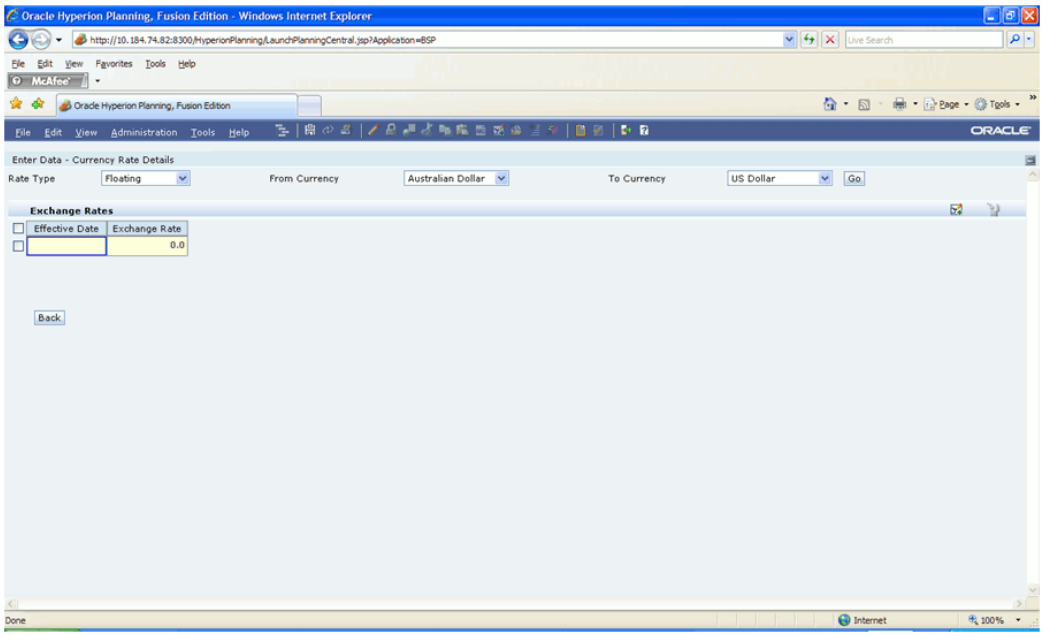
Adding Exchange Rate Data

Once you have specified a value for To Currency and Rate Type, click the **Go** control to display the Exchange Rates container.

If Fixed is selected as the Rate Type, you will need to specify a date range by entering or selecting a From Date and a To Date, and a value for the Exchange Rate for that date range in the Exchange Rates container. Double click the **From Date** and **To Date** fields to select dates from the calendar. Future dates are not allowed, and the From Date should always be earlier than the To Date. Exchange rate values should be between 0 and 99999999.999999.



If Floating is selected as the Rate Type, you will need to specify an Effective Date and the Exchange Rate for that Effective Date in the Exchange Rates container. Future dates are not allowed. Exchange rate values should be between 0 and 99999999.999999.



Both Currency Rates containers initially display a single blank row. When historical exchange rates have been entered into the system, the historical rates are displayed on the screen.

> **Note:** If a pair of currencies is defined under the Fixed Rate Type, they cannot also be defined under the Floating Rate Type, and vice versa.

Effective Date

Double click the **effective date** field to open the calendar control and choose an effective date for your new exchange rate data point.

Rate Management stores historical exchange rate data. You may not select exchange rate data for dates greater than the current date. If you have gaps in your historical exchange rate data, any OFS Analytical Application that needs to perform a rate translation function will fall back to the most recent date for which exchange rate data exists. For example, if an OFS Analytical Application needs to translate a rate from USD to EUR for February 22, 2010 and the latest available USD to EUR rate data in the Rate Management database is February 11, 2010, the application will utilize the exchange rate for February 11, 2010.

Currency Exchange Rate

For both Floating Rates and Fixed Rates, units of the From Currency are converted to one unit of the To Currency. For example:

From Currency	To Currency	Approximate Rate
USD – US Dollar	GPB—British Pounds	1.50
USD – US Dollar	EUR – Euro	1.36
USD – US Dollar	JPY – Japanese Yen	0.01105

Adding Multiple Exchange Rates

Click the **Add Row** control to add additional blank rows into which you may enter additional Effective Dates and Exchange Rates. When you have finished adding multiple new exchange rates, click the **Save** control.

Editing Exchange Rate Data

If you wish to edit data displayed in the Exchange Rates container, click the cell you wish to change and modify the value. Be sure to click the **Save** control to save your changes.

Viewing Exchange Rate Data

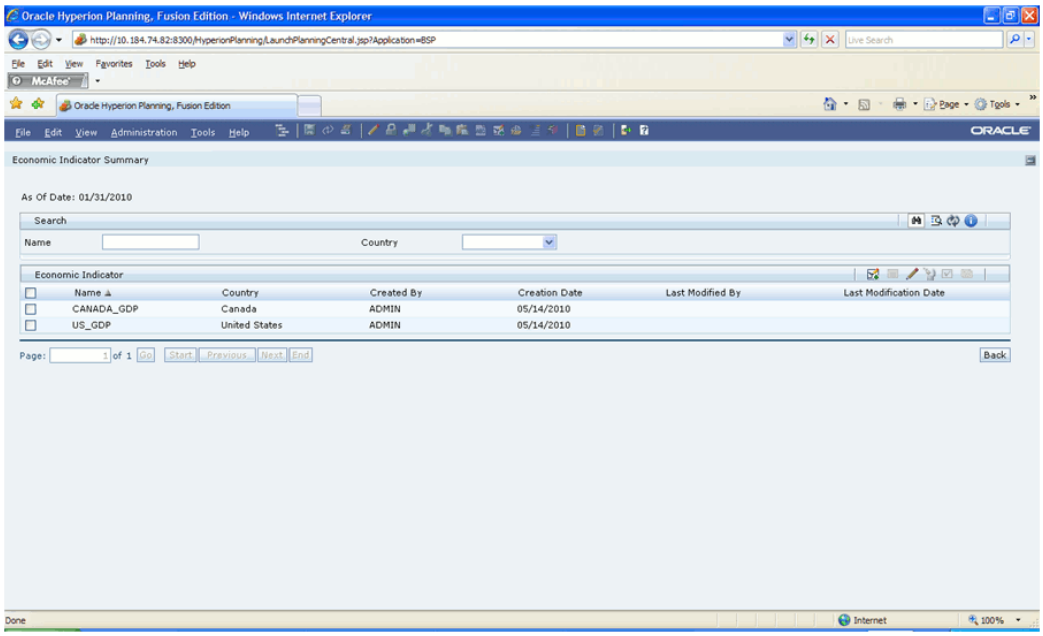
By default, both the Floating Exchange Rates container and the Fixed Exchange Rates container display the historical exchange rate data that has been entered into the system.

Deleting Exchange Rate Data

Selecting one or more check boxes on the left hand side of any row of data enables the Delete Row control. After clicking on the **Delete Row** control, you will be asked to confirm that you wish to delete the rows you have selected.

Working With Economic Indicators

When you first navigate to Master Maintenance > Rate Management > Economic Indicators, an empty Economic Indicator Summary screen will be displayed. After you have constructed one or more Economic Indicators, navigating to Master Maintenance > Rate Management > Economic Indicators will display a summary screen showing each of the Economic Indicators that you have previously built.



Search Container

A Search container is provided in which you may search for Economic Indicators by Name or by Country. Each Economic Indicator is specific to one country.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Economic Indicators by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Name or Country constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with economic indicators.

Page Navigation Controls

If more than 10 Economic Indicator definitions exist, use the navigation controls below

the summary grid to go to other pages.

Economic Indicator Summary

The Economic Indicator Summary presents a grid containing all of the Economic Indicators that meet your search criteria. The Economic Indicator Summary grid offers several controls that allow you to perform different functions when an Economic Indicator is selected.

To select an Economic Indicator, select a check box in the first column of the grid. More than one Economic Indicator can be selected at a time but this will cause some of the controls to become disabled. Selecting the checkbox for second time clears the row.

You may select or deselect all of the Economic Indicators in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

You may reverse the order of Economic Indicator display by clicking on the triangle next to the Name column header.

New

Clicking on the **New** control begins the process of building a new Economic Indicator. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of an Economic Indicator on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the **Edit** control. Clicking on the Edit control allows you to modify a previously saved Economic Indicator. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Economic Indicators you have selected.

Check Dependency

The **Check Dependency** control is not functional in this release.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the **Save As** control create a copy of the existing definition, and will open a dialog in which you

specify a Name and Description for the new Economic Indicator. Once the existing definition is copied to a new Economic Indicator, select the checkbox next to its Name and click the **Edit** control to edit the definition.

Economic Indicators Summary Grid

The following columns categorize each Economic Indicator in the summary grid:

- Name
- Country
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Name

Displays the Economic Indicator's short name.

Country

Displays the Country to which an Economic Indicator applies.

Creation Date

Displays the date when an Economic Indicator was created.

Created By

Displays the name of the user who created the Economic Indicator.

Last Modification Date

Displays the date when an Economic Indicator was last modified.

Last Modified By

Displays the name of the user who last modified the Economic Indicator.

Economic Indicators Detail Screen

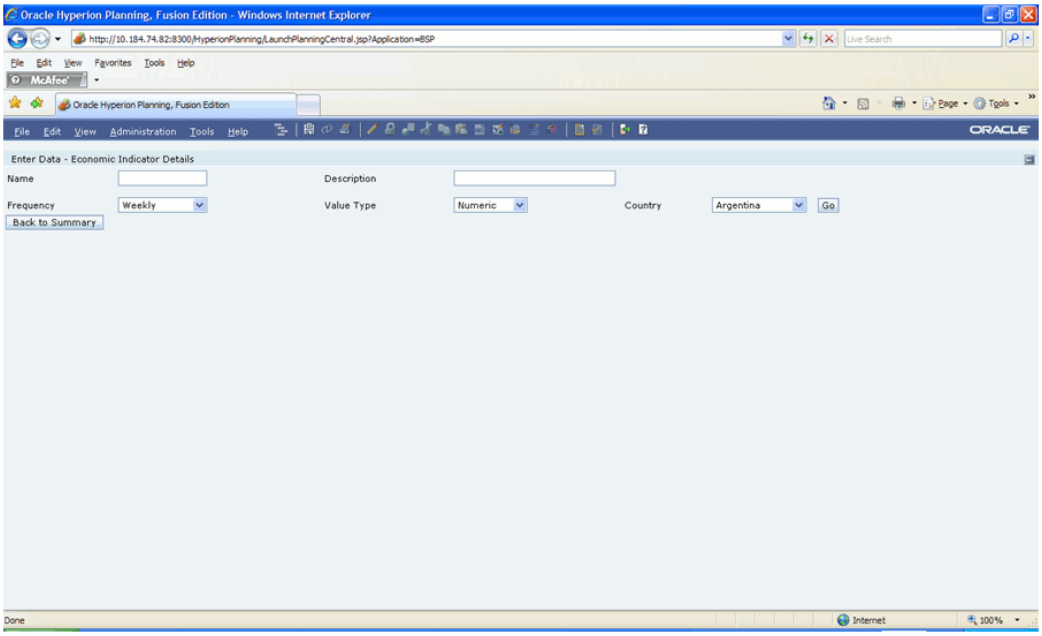
When you Add, Edit, or View an Economic Indicator, the Enter Data - Economic Indicator Details screen is displayed. The Enter Data - Economic Indicator Details

screen is comprised of an Economic Indicator Details container and an Historical Data container.

Click the **Back To Summary** control to return to the Economic Indicator Summary screen from the Enter Data - Economic Indicator Details screen.

Economic Indicator Details Container

When creating a new Economic Indicator, you must supply a Name, a Frequency, a Value Type, and a Country. You may optionally provide a Description.



Name

The name you give to your Economic Indicator is the means by which you will subsequently refer to the indicator elsewhere within Balance Sheet Planning. You may not rename existing Economic Indicators.

The Name field will accept alphanumeric inputs up to a maximum of 80 characters. No Special characters are allowed except underscore and space. The Name must start with an alpha character only.

Description

Enter a description up to a maximum of 255 characters for your Economic Indicator in this field. All alphanumeric and special characters can be used.

Frequency

The frequency of your Economic Indicator should match the frequency with which the

indicator's data is made public. Unemployment statistics, for example, are generally released on a monthly frequency. Select a **frequency** from the Frequency list box. Available frequencies are Weekly, Monthly, Quarterly, Semi-Annually, and Annually.

Value Type

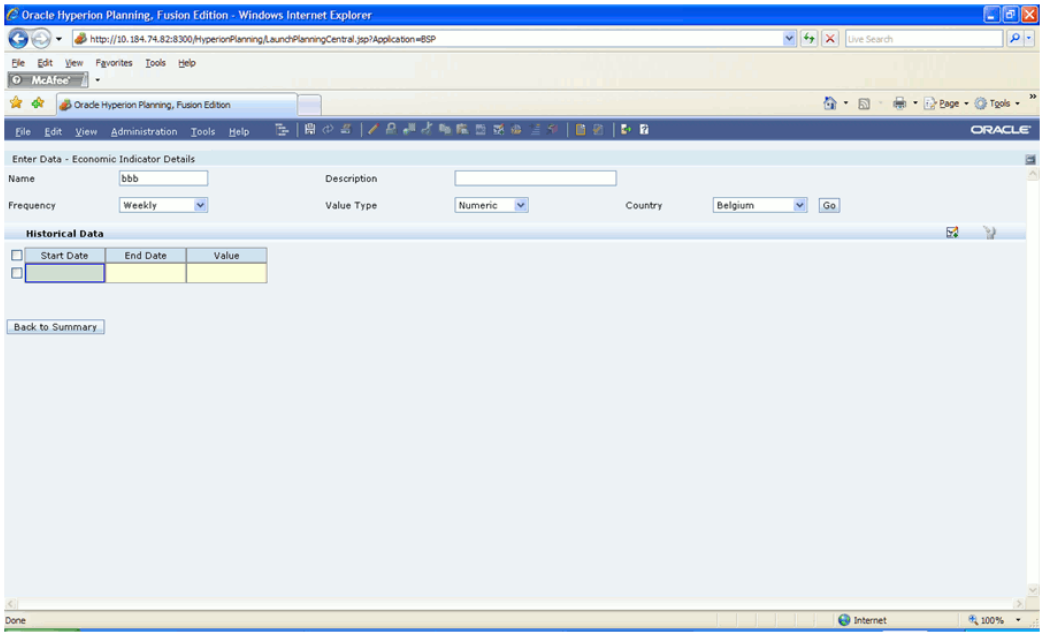
Select a **Value Type** from the Value Type list box. Available Value Types are Numeric, Percentage, and Amount.

Country

Select a **country** to which your Economic Indicator applies from the Country drop-down list box. The value set of Countries is drawn from the seeded Country dimension. OFSAA is seeded with over 70 country values.

Economic Indicators – Historical Data Container

Once you have made your selections in the Enter Data - Economic Indicator Details container, click the **Go** control to build out your historical data.



The Historical Data container initially displays a single blank row. If historical data has been entered into the system, this data is listed on the screen.

Start Date & End Date

Double click the **End Date** cell for your Economic Indicator data point and select the end date from the calendar that appears. Selection of future dates is not allowed. The application will automatically populate the Start Date based on your Economic Indicator's frequency. For example, if your Economic Indicator is an unemployment

statistic that has a monthly frequency, select an end date that is the last day of the month that the unemployment rate describes. In this example, the application will automatically populate the Start Date with the first day of the month you have chosen.

Value

Enter the value for your Economic Indicator (e.g., the unemployment rate). The Value cell will accept numeric entries only. When the Value Type selected is numeric, enter a value between 0 and 99999999.999999. When the Value Type selected is Percent or Amount, enter a value between 0 and 99.9999.

Adding Multiple Data Points

Click the **Add Row** control to add additional blank rows into which you may enter additional Economic Indicator data.

When you have finished adding data, click the **Save** control.

Editing Economic Indicators – Historical Data

Selecting a single check box on the left hand side of any row of data enables the Edit control. After clicking on the **Edit** control, the row you have selected becomes active. You may edit this row and subsequently save your changes.

Viewing Economic Indicators – Historical Data

By default, the Historical Data container displays the historical data entered into the system.

Deleting Economic Indicators – Historical Data

Selecting one or more check boxes on the left hand side of any row of data enables the **Delete** control. After clicking on the Delete control, you will be asked to confirm that you wish to delete the rows you have selected.

Once your data is saved, you can click the **Back To Summary** control to return to the Economic Indicator Summary page.

5

Defining Cash Flow Engine Preferences

Overview of Cash Flow Engine Preferences

This chapter discusses the procedure for defining and maintaining your Balance Sheet Planning Cash Flow Engine Preferences. Cash Flow Engine Preferences are used to establish default values and other cash flow engine processing parameters.

The Cash Flow Engine Preferences screen is used for setting preferences that are read by the Balance Sheet Planning cash flow engine during generation of cash flow data. The preferences are centrally defined by the Budget Administrator. Budget Analysts do not have access to this interface. Preferences must be defined before running any cash flow engine processes.

Updating BSP Application Preferences

Updating Balance Sheet Planning Cash Flow Engine Preferences is a one-step process. Navigate to the Cash Flow Engine Preferences screen and define the preferences.

Selected Terminology

Term	Description
Default Application Language	The Values field is a drop down list of the Languages. The default selection is American English.

Term	Description
Year Type	The Values field is a drop down list with the following options: • Financial Year – Select this option if your organization uses a Fiscal Year. When Financial Year is selected, you must define the Start Month of the Financial Year using the Start Month Preference below. • Calendar Year – Select this option if your organization uses a Calendar Year (January – December). When Calendar Year is selected, the Start Month Preference automatically defaults to January.
Start Month	The Values field is a drop down list of all the months of a year from January to December. When the Year Type Preference selected is Calendar Year, this field gets disabled, showing January as the default selection. When the Year Type Preference selected is Financial Year, you must specify which month of the year is the first month of your Financial Year.
As-Of-Date	The Values field is a text box showing the As-Of-Date of the active time bucket defined in Time Bucket Definition UI. This field is displayed read only, and gets updated automatically when the active time bucket definition is changed.
Functional Currency	The Values field is a drop down list of currencies that have been set to 'Active' in Rate Management. Select the functional currency for your organization. The default selection is USD.

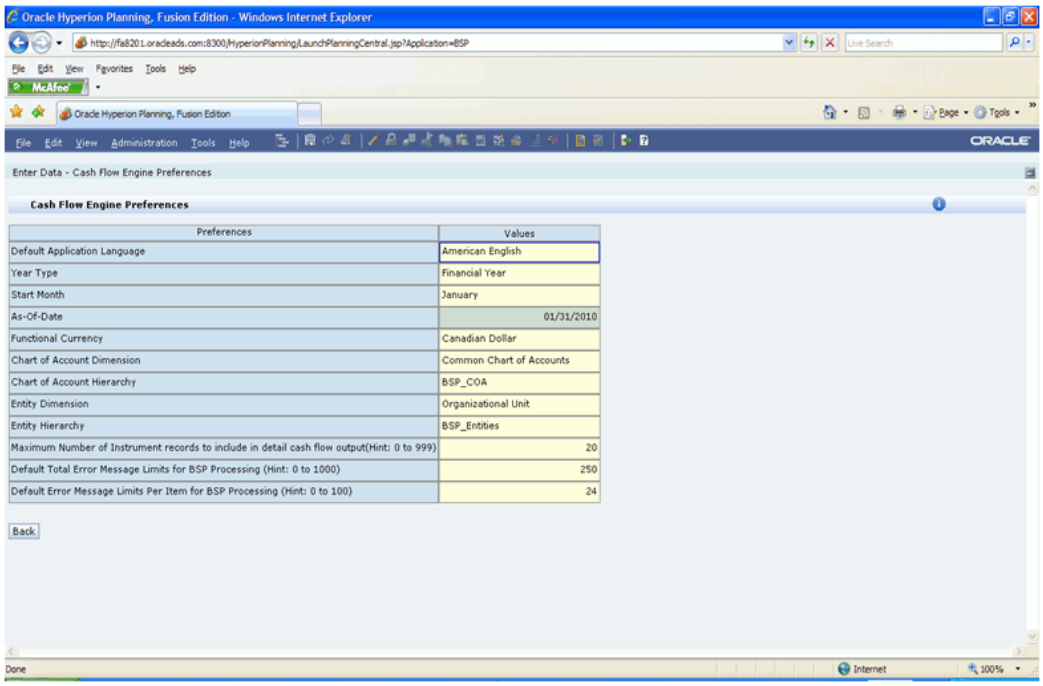
Term	Description
Chart of Account Dimension	The Values field is a drop down list of dimensions available for use in Balance Sheet Planning as the Chart of Account Dimension. Available dimensions are those that are tagged as CCOA, GL and Product and whose Key Dimension Flag is set as Y in the dimension table.
Chart of Account Hierarchy	The Values field is a drop down list of available hierarchy names. The hierarchies appearing in the list are dependent upon the selection of the dimension to be used as the Chart of Account Dimension.
Entity Dimension	The Values field is a drop down list of dimensions available for use in Balance Sheet Planning as the Entity Dimension. Available dimensions are those which are tagged as ORGN and whose Key Dimension Flag is set as Y in the dimension table.
Entity Hierarchy	The Values field is a drop down list of available hierarchy names. The hierarchies appearing in the list are dependent upon the selection of the dimension to be used as the Entity Dimension.
Maximum Number of Instrument records to include in detail cash flow output	The Values field is a text box accepting only a positive integer between 0 and 999. When a value is specified for this preference item, the detailed instrument cash flows are written to the '_____' table in the Balance Sheet Planning database.
Default Total Error Message Limits for BSP Processing	The Values field is a textbox that accepts only a positive integer between 0 and 1000. The value specified for this preference item defines the total number of error messages that can be logged when running the cash flow engine. Error messages are written to the FSI_PROCESS_ERRORS table in the Balance Sheet Planning data model.

Term	Description
Default Error Message Limits Per Item	The Values field is a textbox that accepts only a positive integer between 0 and 100. The value specified for this preference item defines the total number of error messages per item that can be logged when running the cash flow engine.

To define preferences, navigate to Master Maintenance > Assumption Forms and select Cash Flow Engine Preferences from the list of forms displayed. Enter or select a value for each preference item in the Enter Data – Cash Flow Engine Preferences screen.

Instructions Control

Click the Instructions control to open a window containing instructions for working with cash flow engine preferences.



Once the Cash Flow Engine Preferences have been defined, click the **Save** control to save the data. You can then click the **Back** button to return to the list of Assumptions forms.

6

Time Bucket Definitions

This chapter describes the procedures for working with and managing Time Bucket Definitions.

This chapter covers the following topics:

- Overview of Time Bucket Definitions
- Working With Time Bucket Definitions
- Creating Time Bucket Definition

Overview of Time Bucket Definitions

Time Bucket Definitions allow Budget Administrators to create various time bucket definitions used for the computation and output of aggregated cash flows by the cash flow engine. Time Bucket Definitions determine the granularity of cash flow output and can be set to any frequency through a combination of monthly, quarterly and yearly buckets.

For example, a Budget Administrator may desire to use Balance Sheet Planning to create a five year plan, and wish to collect assumptions and generate future cash flow data on a monthly basis for the current year, and then on an annual basis for the next four years. Alternatively, when preparing the system for use in the organization's annual budgeting process, the Administrator may want to setup Balance Sheet Planning to collect assumptions and generate output on a monthly basis through the budget year.

The Balance Sheet Planning application's cash flow engine supports the definition and usage of future time buckets according to the desired use by the organization. If you want to use different configurations of future simulation buckets, such as all monthly or all quarterly configurations, you must create separate Time Bucket Definitions for each, and use an appropriate naming convention to identify these characteristics.

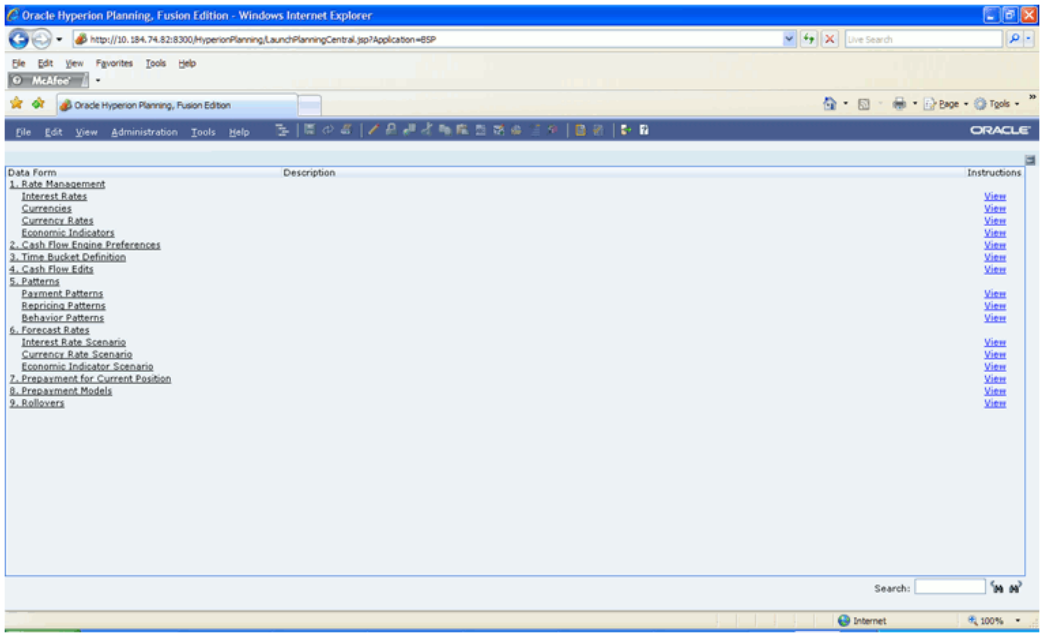
> **Note:** To vary Time Bucket Definitions in Balance Sheet Planning, it is necessary to define the future time bucket structures for the cash flow

engine processing using this Time Bucket Definitions functionality. In addition, maintenance of standard Hyperion Data Form Year and Period dimension member selections is also required to structure the data forms in the same way the future cash flow engine output is structured. This chapter covers the usage of Time Bucket Definitions for detailing cash flow engine output.

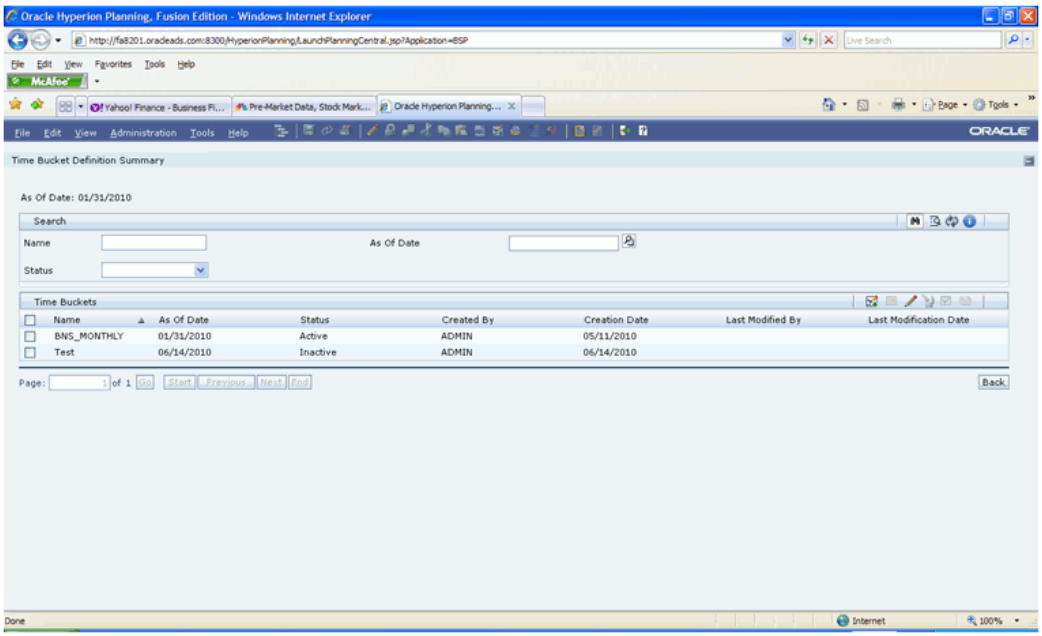
Working With Time Bucket Definitions

You create Time Bucket Definitions to specify the future time periods used for storing and reporting on Balance Sheet Planning results.

Navigate to the Master Maintenance > Assumption Forms and select **Time Bucket Definition** from the list of forms displayed.



When you first navigate to the Time Bucket Definition form, an empty screen will be displayed. After you have constructed one or more Time Bucket Definitions, navigation to the form will display a summary screen showing each of the Time Bucket Definitions that you have previously built.



The Time Bucket Definition Summary page lists all the existing time bucket definitions created within Balance Sheet Planning.

Search Container

A Search container is provided in which you may search for Time Bucket Definitions by Name, by Status or by As Of Date.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Time Bucket Definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Name, Status or As Of Date constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with Time Bucket Definitions.

Page Navigation Controls

If more than 10 Time Bucket Definitions exist, use the navigation controls below the summary grid to go to other pages.

Time Bucket Definition Summary

The Time Bucket Definition Summary presents a grid containing all of the Time Bucket Definitions that meet your search criteria. The Time Bucket Definition Summary grid offers several controls that allow you to perform different functions when a Time Bucket Definition is selected.

To select a Time Bucket Definition, select a check box in the first column of the grid. More than one Time Bucket Definition can be selected at a time but this will cause some of the controls to become disabled. Selecting the checkbox for a second time clears the row.

You may select or deselect all of the Time Bucket Definitions in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

You may reverse the order of Time Bucket Definitions displayed by clicking on the triangle next to the Name column header.

New

Clicking on the **New** control begins the process of building a new Time Bucket Definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Time Bucket Definition on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Time Bucket Definition. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Time Bucket Definition you have selected.

Check Dependency

The **Check Dependency** control is not functional in this release.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the **Save As** control create a copy of the existing definition, and will open a dialog in which you specify a Name and Description for the new Time Bucket Definition. Once the existing definition is copied to a new Time Bucket Definition, select the checkbox next to its Name and click the **Edit** control to edit the definition.

Time Bucket Definition Summary Grid

The following columns categorize each Time Bucket Definition in the summary grid:

- Name
- As Of Date
- Status
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Name

Displays the Time Bucket Definition's short name.

As Of Date

Displays the as of date defined for the Time Bucket Definition.

Status

Indicates whether the Time Bucket Definition is currently Active or Inactive.

Creation Date

Displays the date when a Time Bucket Definition was created.

Created By

Displays the name of the user who created a Time Bucket Definition.

Last Modification Date

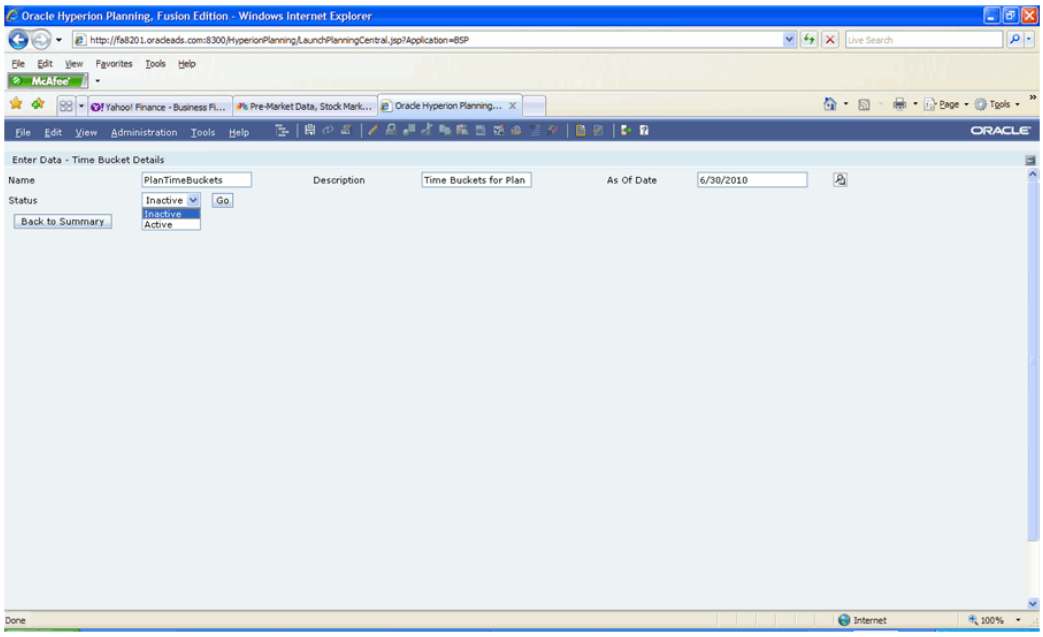
Displays the date when a Time Bucket Definition was last modified.

Last Modified By

Displays the name of the user who last modified a Time Bucket Definition.

Creating Time Bucket Definition

The Enter Data – Time Bucket Details page captures all the information required for a particular definition. When creating a new Time Bucket Definition, you must supply a Name, an As-Of-Date and a Status. You may optionally provide a Description.



Name

The name you give to your Time Bucket Definition is the means by which you will subsequently refer to the definition elsewhere within Balance Sheet Planning. You may not rename existing Time Bucket Definitions.

The Name field will accept all alphanumeric and special characters up to a maximum of 80 characters.

Description

Enter a description up to a maximum of 255 characters for your Time Bucket Definition in this field. All alphanumeric and special characters can be used.

As Of Date

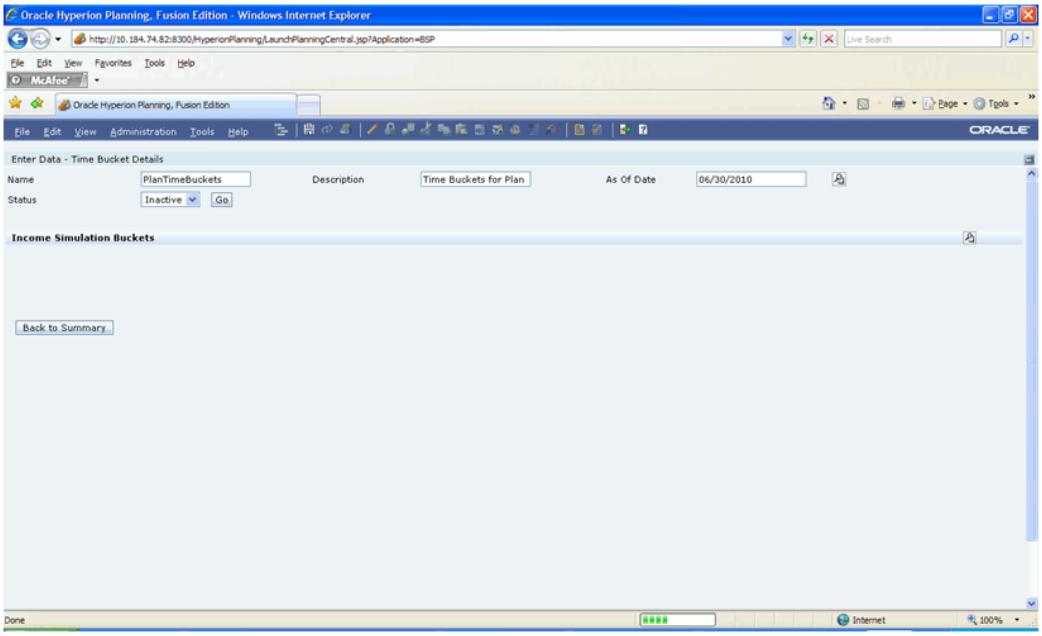
Click the **lookup** control next to the as-of-date box to open the calendar and select the

as-of-date for the definition. The as-of-date refers to the last historical date from which processing will occur.

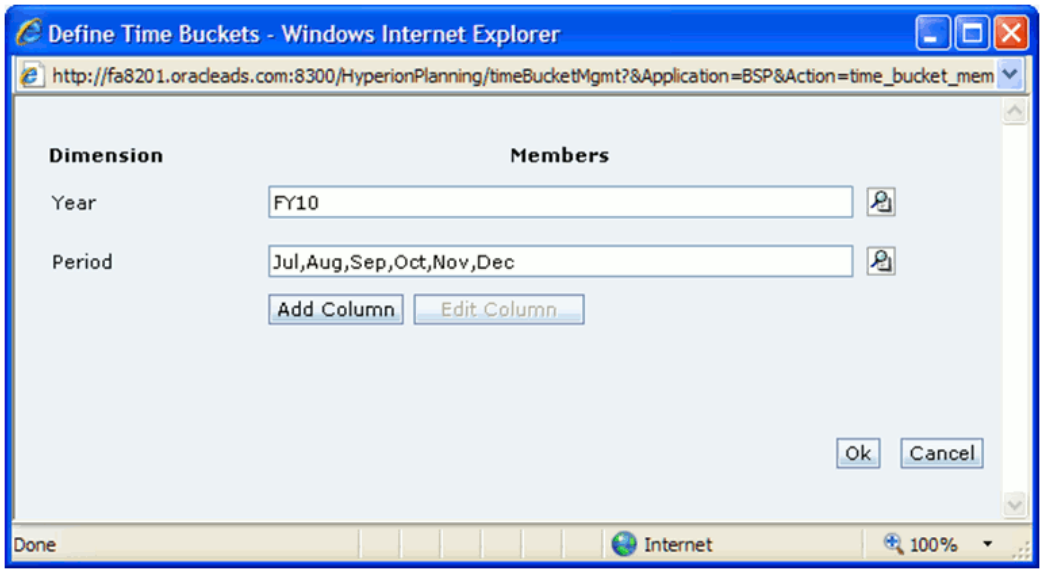
Status

Click the drop list and select Active or Inactive. Only one Time Bucket Definition can be active at a time. When the Budget Administrator activates a Time Bucket Definition, the time buckets specified in the definition will be used throughout the application in generating future cash flow results.

Once you have made your selections in the Enter Data – Time Bucket Details container, click the **Go** control to display the Income Simulation Buckets container on the form.



Click the **look up** control at the top right of the Income Simulation Details container to define the time buckets.



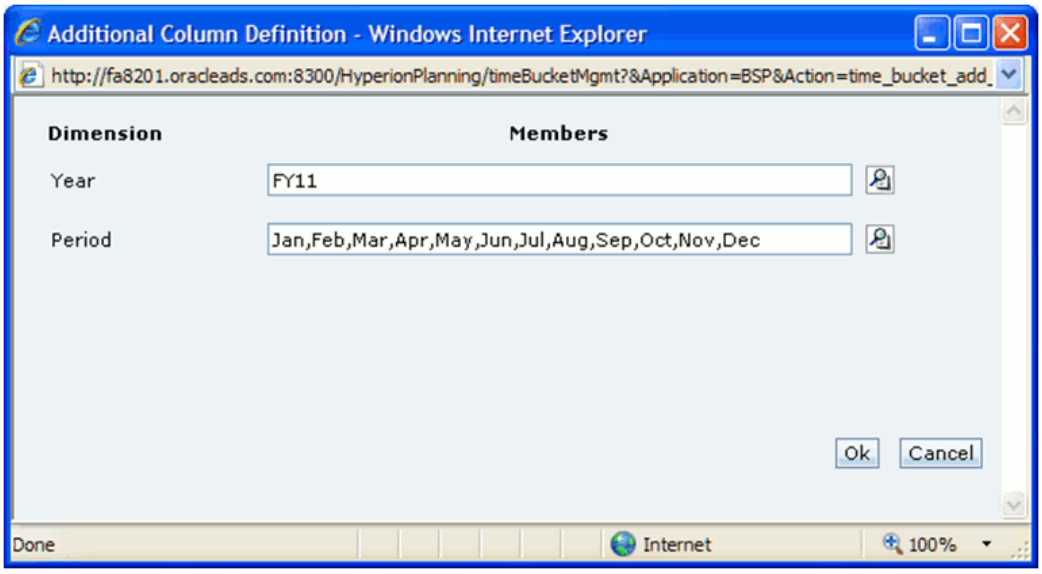
In the Define Time Buckets pop-up, click the **lookup** controls next to the Year and Period fields to select the Year and Periods for the first year of your Time Bucket Definition.

The Year selected should be in sequence with the As-of-date specified for the Time Bucket Definition. For example, if the As-of-date is specified as 31st Dec 2009, the Year to be selected is FY10. If As-of-date is 30th Nov 2009, then Year to be selected is 2009 as one more month remains in 2009. Multiple year selection is not allowed. The Year selected should not be less than As-of-Date year specified in the Time Bucket Definition.

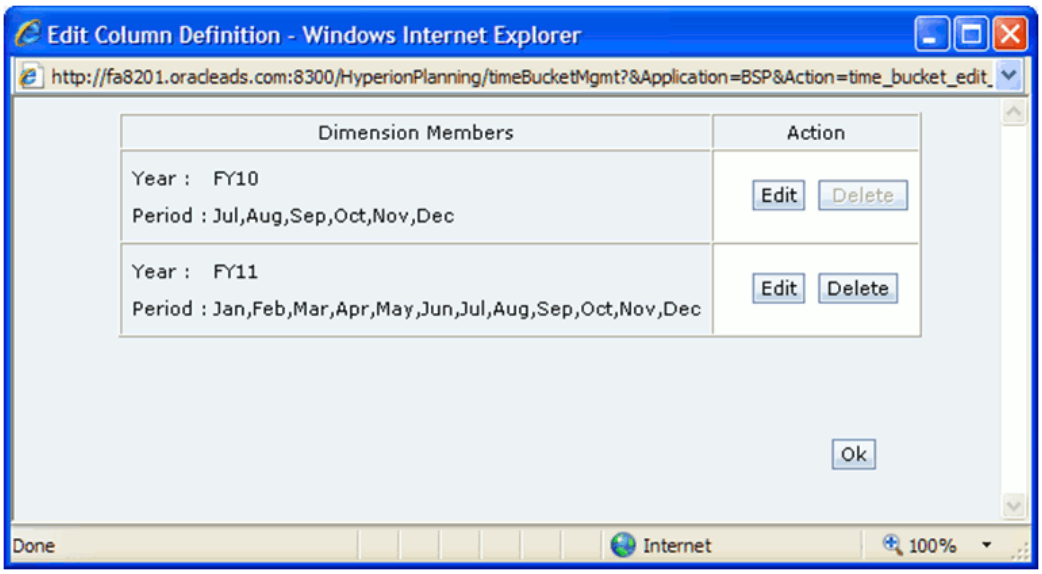
The Periods selected should also be in sequence with the As-of-date. For Example if the As-of-date is 31st Dec 2009. The Periods to be selected will start from January. If As-of-date is 30th Nov 2009, the Period to be selected is December as one month remains in 2009. There should be no gaps between the first period selected and the next period. For example, do not select January and then March, as the Periods must be in sequence.

If your time bucket definition is to be comprised of a mix of months and quarters in any given year, do not select a quarter and a month from the same quarter. For example, do not select January and also Q1 or January, Feb, March and Q1.

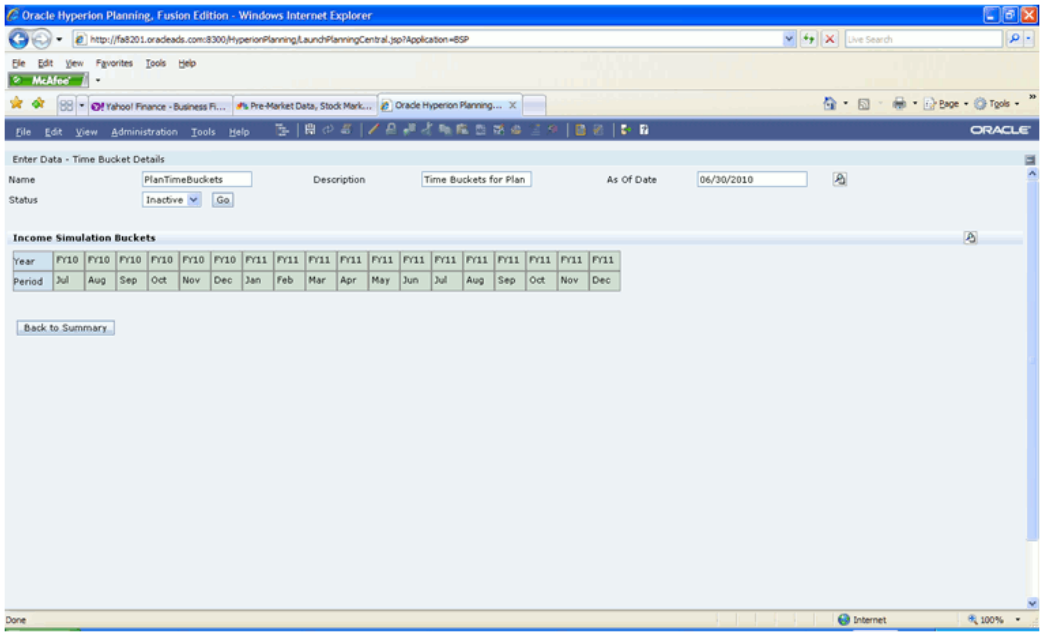
Once you have defined the time buckets for the first year, click **Add Column** to define the next year's time buckets. When you click Add Column, the Additional Column Definition pop-up opens, and should be used select another year and periods for that year. Use this Additional Column Definition pop-up to define the time buckets for the second year. When finished, click **OK** to go back to the Define Time Buckets pop-up. Repeat this process until you have defined Income Simulation Buckets for the entire forecast or plan time horizon.



You can also edit the Year and Period selections by clicking on the **Edit Column** control in the Define Time Buckets pop-up. Clicking on Edit Column will open the Edit Column Definition pop-up from which changes can be made. Click the **Edit** control in the Action column to make changes to your selections. Click the **Delete** control in the Action column to delete a year if desired.



Once you have finished defining and/or editing the column definitions, click **OK** to return to the Define Time Buckets interface. Then click **OK** in the Define Time Buckets interface. On doing so the pop-up closes and the buckets selected get displayed in the Income Simulation Buckets container.



Be sure to click the **Save** control when finished with the Time Bucket Definition in order to save your work.

Once the definition is saved, click **Back to Summary** to go back to the Time Bucket Definition Summary page.

> **Important:** Only one Time Bucket Definition can be Active at a time. If you want to activate another time bucket definition, the currently active Time Bucket Definition must have the Status set to Inactive.

7

Running Cash Flow Edits

This chapter discusses the procedure for validating and cleansing your instrument table data before you process it to generate cash flow based results.

This chapter covers the following topics:

- Overview of Cash Flow Edits
- Working With Cash Flow Edits Processes
- Creating and Executing Cash Flow Edit Processes

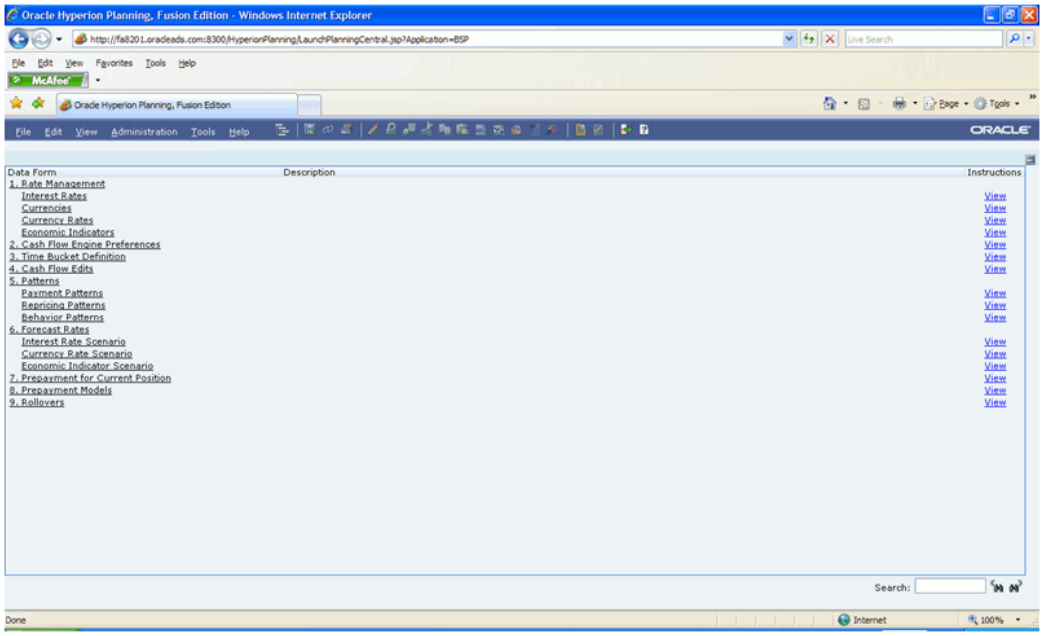
Overview of Cash Flow Edits

Cash Flow Edits processes allow you to verify the accuracy and check the completeness of your instrument table data. Ideally, you should create and run Cash Flow Edit processes on your instrument table data before launching current position cash flow calculations.

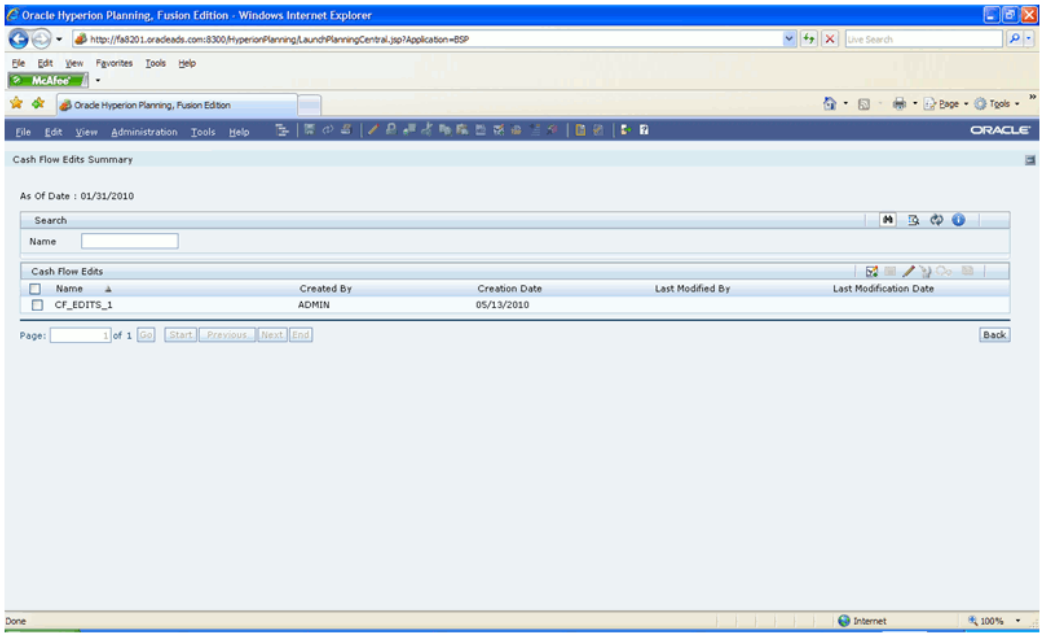
Working With Cash Flow Edits Processes

You create Cash Flow Edits process definitions and then execute those definitions to cleanse your data.

Navigate to the Master Maintenance > Assumption Forms and select **Cash Flow Edits** from the list of forms displayed.



When you first navigate to the Cash Flow Edits form, an empty screen will be displayed. After you have constructed one or more Cash Flow Edits definitions, navigation to the form will display a summary screen showing each of the Cash Flow Edits definitions you have previously built.



The Cash Flow Edits Summary page lists all existing cash flow edit definitions created within Balance Sheet Planning.

Search Container

A Search container is provided in which you may search for Cash Flow Edits definitions by Name.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Cash Flow Edits definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Name constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with Cash Flow Edits.

Page Navigation Controls

If more than 10 Cash Flow Edits definitions exist, use the navigation controls below the summary grid to go to other pages.

Cash Flow Edits Summary

The Cash Flow Edits Summary presents a grid containing all of the Cash Flow Edits definitions that meet your search criteria. The Cash Flow Edits Summary grid offers several controls that allow you to perform different functions when a Cash Flow Edits definition is selected.

To select a Cash Flow Edits definition, click on a check box in the first column of the grid. More than one Cash Flow Edits definition can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the row.

You may select or deselect all of the Cash Flow Edits definitions in the summary grid by clicking on the check box in the upper left hand corner of the summary grid directly to the left of the Name column header.

You may reverse the order of Cash Flow Edits definitions displayed by clicking on the triangle next to the Name column header.

New

Clicking on the **New** control begins the process of building a new Cash Flow Edits definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Cash Flow Edits definition on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Cash Flow Edits definition. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Cash Flow Edits definition you have selected.

Run

Selecting one row out of the grid enables the Run control. Clicking on the **Run** control will execute the Cash Flow Edits definition you have selected.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the **Save As** control create a copy of the existing definition, and will open a dialog in which you specify a Name and Description for the new Cash Flow Edits definition. Once the existing definition is copied to a new Cash Flow Edits definition, select the checkbox next to its Name and click the **Edit** control to edit the definition.

Cash Flow Edits Summary Grid

The following columns categorize each Cash Flow Edits definition in the summary grid:

- Name
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Name

Displays the Cash Flow Edits definition's short name.

Creation Date

Displays the date when a Cash Flow Edits definition was created.

Created By

Displays the name of the user who created a Cash Flow Edits definition.

Last Modification Date

Displays the date when a Cash Flow Edits definition was last modified.

Last Modified By

Displays the name of the user who last modified a Cash Flow Edits definition.

Creating and Executing Cash Flow Edit Processes

The Enter Data – Cash Flow Edits Details page captures all the information required for a particular definition. When creating a new Cash Flow Edits definition, you must supply a Name for the definition. You may optionally provide a Description. You must also select the Chart of Account dimension members for which you want to run the edits, and enable processing the cash flow edits in Preview Mode if desired.

Name

The name you give to your Cash Flow Edits definition is the means by which you will subsequently select the definition for processing within Balance Sheet Planning. You may not rename existing Cash Flow Edits definitions.

The Name field will accept all alphanumeric and special characters up to a maximum of 80 characters.

Description

Enter a description up to a maximum of 255 characters for your Time Bucket Definition in this field. All alphanumeric and special characters can be used.

Chart of Account

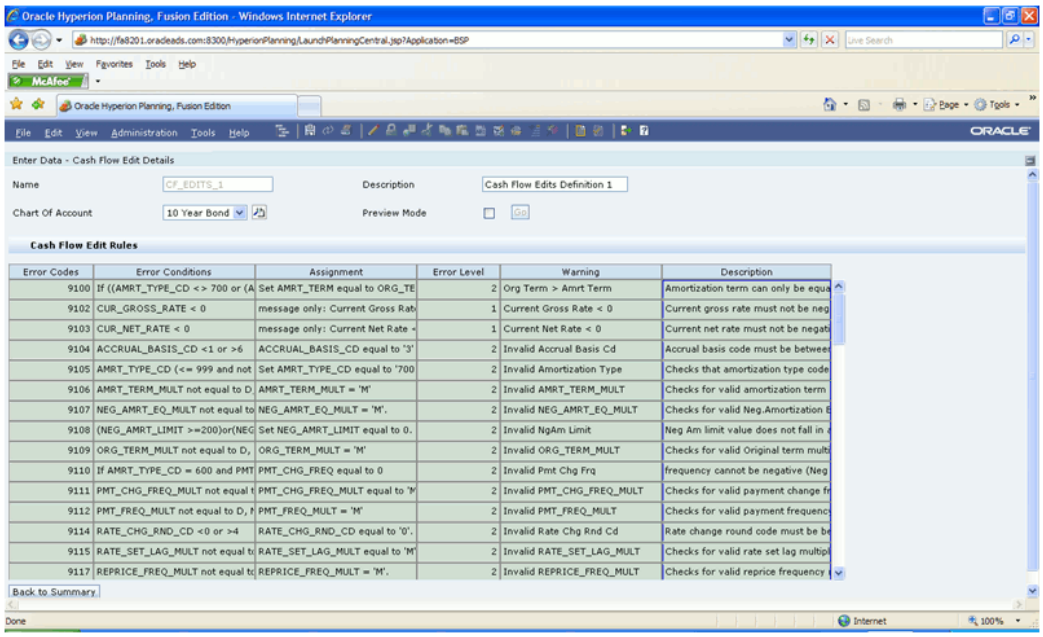
You must select the dimension members from the Chart of Account dimension that you wish to process. To make the selection, click the **Select Members** control to open the Hierarchy Browser and make your selections. After making your selections, click **OK** to

return to the Cash Flow Edits Details screen. Your selections will then show up in the Chart of Account drop-list.

Preview Mode

You can process a Cash Flow Edits definition in Preview Mode. When run in this mode, you can view the results of running a Cash Flow Edits process before the system updates the underlying records in the Instrument tables. Click the Preview Mode check box to run the Cash Flow Edits definition in this mode. After reviewing the results, uncheck the Preview Mode checkbox and run the definition again to make the indicated changes.

Once you have defined the information required, you can click the **Go** to view a list of the cash flow edit rules that will be run when the definition is processed.



The data displayed includes detailed information related to each of the cash flow edits, including Error Codes, Error Conditions, Assignment, Error Level, Warning and Description information.

8

Defining Custom Payment Patterns

This chapter describes the procedure for defining custom payment patterns for use in generating projected cash flows.

This chapter covers the following topics:

- Overview of Payment Patterns
- Working With Payment Patterns
- Creating a New Payment Pattern

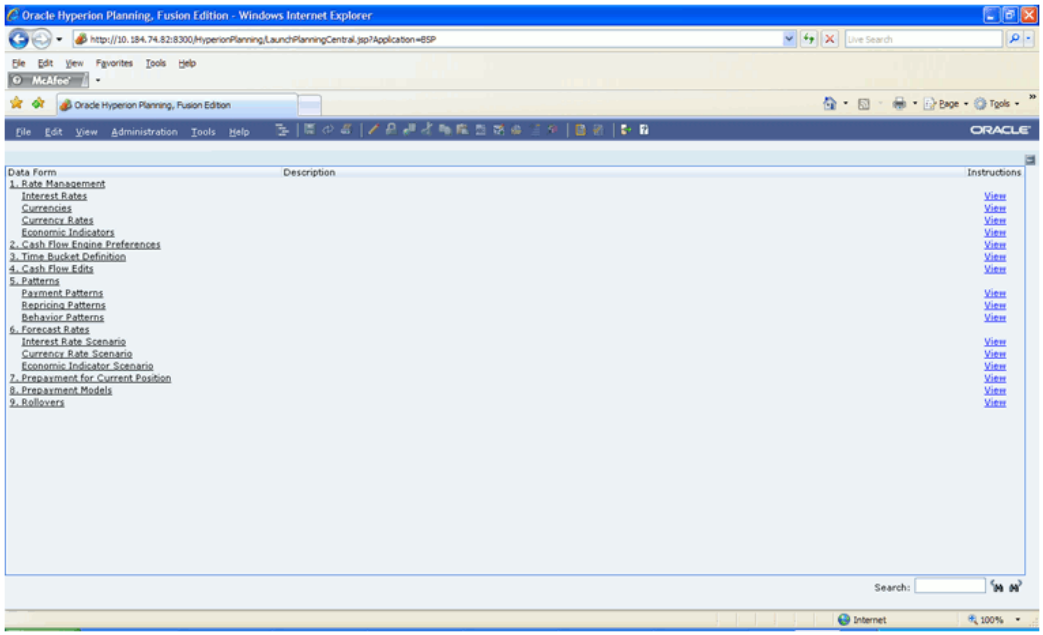
Overview of Payment Patterns

Payment Patterns provide a method to customize amortization of specific accounts and instruments. In a payment pattern, you can assign a unique amortization code to a set of payment phases, which may include some of the following customized features like changes in payment frequency, seasonal payment dates, and non-standard or variable payment amounts. You create payment patterns to capture the repayment behavior of instruments that are too complex to be accommodated through use of the standard account table fields.

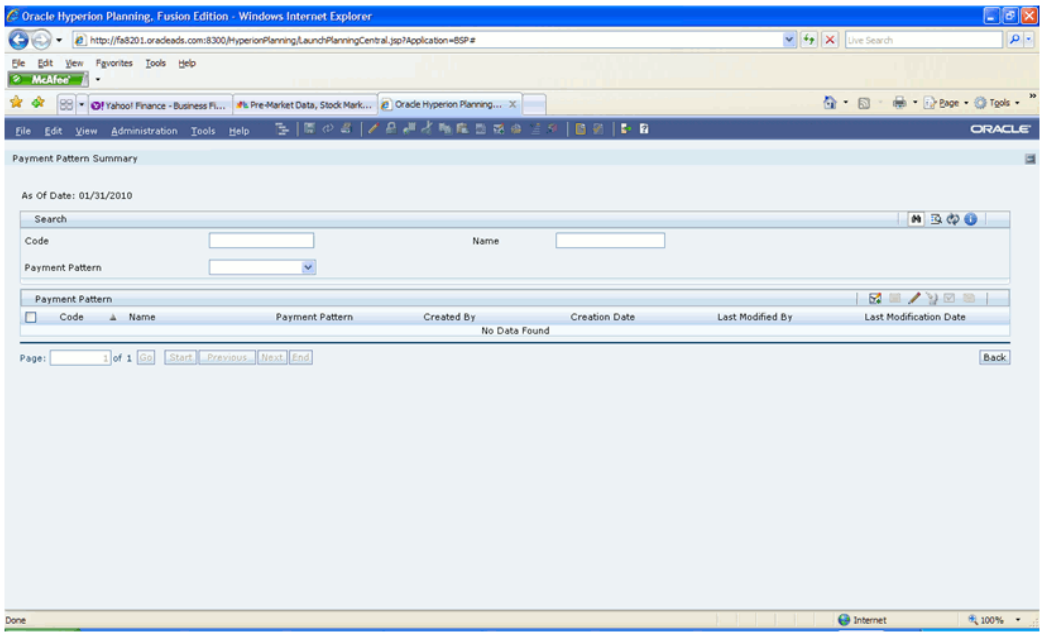
Working With Payment Patterns

You create user defined Payment Patterns to capture and apply the repayment behavior of complex instruments.

Navigate to the Master Maintenance > Assumption Forms and select **Payment Patterns** from the list of forms displayed.



When you first navigate to the Payment Patterns Summary screen, an empty screen will be displayed. After you have constructed one or more Payment Pattern definitions, navigation to the form will display a summary screen showing each of the Payment Patterns that you have previously built.



Search Container

A Search container is provided in which you may search for Payment Pattern

definitions by Code, Name or Payment Pattern Type.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Payment Pattern definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Code, Name or Payment Pattern Type constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with Payment Patterns.

Page Navigation Controls

If more than 10 Payment Pattern definitions exist, use the navigation controls below the summary grid to go to other pages.

Payment Pattern Container

The Payment Pattern Container presents a grid containing all of the Payment Patterns that meet your search criteria. The Payment Pattern grid offers several controls that allow you to perform different functions when a Payment Pattern is selected.

To select a Payment Pattern, select the check box in the first column of the grid. More than one payment pattern can be selected at a time but this will cause some of the controls to become disabled. Selecting the checkbox for a second time clears the payment pattern.

You may select or de-select all of the payment patterns in the grid by clicking on the checkbox in the upper left hand corner of the grid directly to the left of the Code column header.

New

Clicking on the **New** control begins the process of building a new Payment Pattern definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Payment Pattern definition on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Payment Pattern definition. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Payment Pattern definition you have selected.

Check Dependency

The **Check Dependency** control is not functional in this release.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the **Save As** control create a copy of the existing definition, and will open a dialog in which you specify a Name and Description for the new Payment Pattern definition. Once the existing definition is copied to a new Payment Pattern definition, select the checkbox next to its Name and click the **Edit** control to edit the definition.

Payment Pattern Summary Grid

The following columns categorize each payment pattern in the summary grid:

- Code
- Name
- Payment Pattern
- Created By
- Creation Date
- Last Modification Date
- Last Modified By

Code

Displays the code value defined for a payment pattern.

Name

Displays the name of the payment pattern.

Payment Pattern

Indicates whether the payment pattern type is Absolute, Relative or Split.

Created By

Displays the name of the user who created the payment pattern.

Creation Date

Displays the date and time at which a payment pattern was created.

Last Modification Date

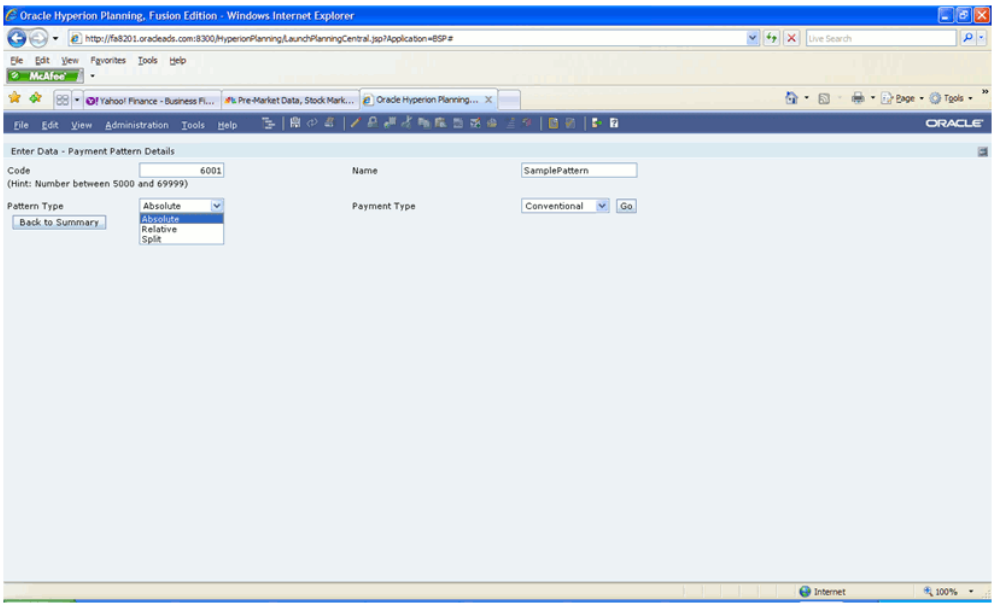
Displays the date and time at which the payment pattern was last modified.

Last Modified By

Displays the name of the user who last modified the payment pattern.

Creating a New Payment Pattern

1. Click the **New** icon to create a new payment pattern. The Payment Pattern Details page captures all the information required for a payment pattern definition.



2. Enter a code value for the new payment pattern. Code is a mandatory input and should be within 5000 and 69999.

   Important: The code, also known as an amortization type code, is a numeric internal identifier for the payment pattern. The code value you assign to the new pattern must be unique. In addition, the code must be mapped to the appropriate instrument table records (AMRT_TYPE_CODE field) to connect the instrument to the appropriate pattern for generation of current position cash flows.

3. Enter a Name for the Payment Pattern. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore. Name must not start with a number. It must start with an alpha character or underscore. Maximum 80 characters accepted.

4. Select the Pattern Type to be defined. The Pattern Type determines what payment characteristics are available when defining the payment phases, such as month and day or frequency and value. It is a list with options Absolute, Relative and Split:

   - Absolute payment patterns allow definitions of payments that occur on specific dates. Absolute payment patterns are commonly used for instruments that are on a seasonal schedule, such as agricultural or construction loans that require special payment handling based on months or seasons.

     When working with absolute payment patterns, it is sufficient to define payments for one calendar year. Once the term exceeds a year, the payment schedule will loop until the instrument matures.

- Relative payment patterns are commonly used for modeling instruments that have irregular scheduled payments or for instruments where the payment type changes over time.

  For example, a four year loan may require interest only payments for the first 12 months. The next 35 payments are scheduled for 50% of the currently scheduled payment, and the last payment is a balloon payment for the balance of the loan.

- Split payment patterns contain multiple sets of payment phases under a single amortization code. You can use a split pattern for financial instruments that make principal payments along two concurrent amortization schedules. Each separate amortization schedule is termed a timeline and assigned a percentage of the balance. A Split Pattern can constitute both absolute and/or relative payment patterns within itself.

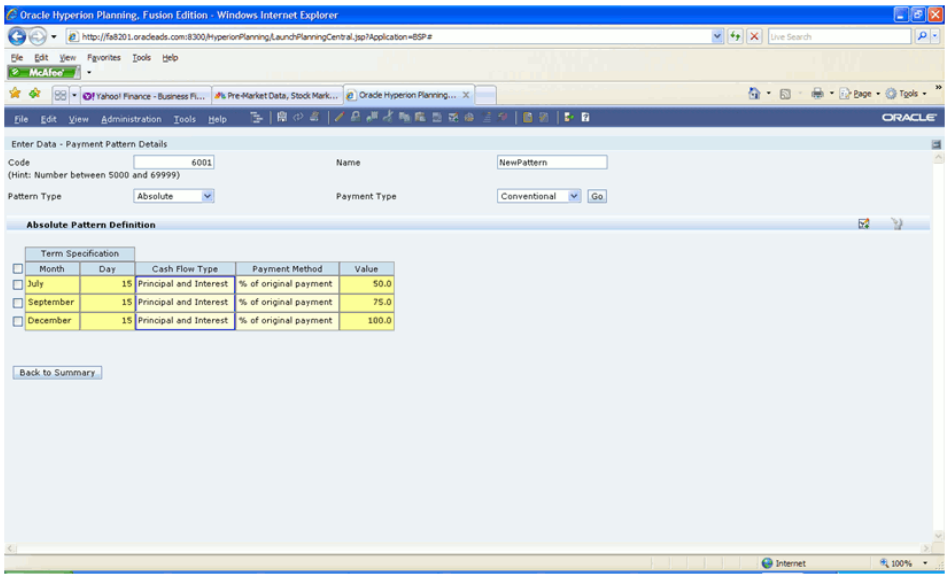
5. Select the Payment Type. The Payment Type determines the available characteristics for defining the payment amount. The payment types are:

   - Conventional
   - Level Principal
   - Non-Amortizing

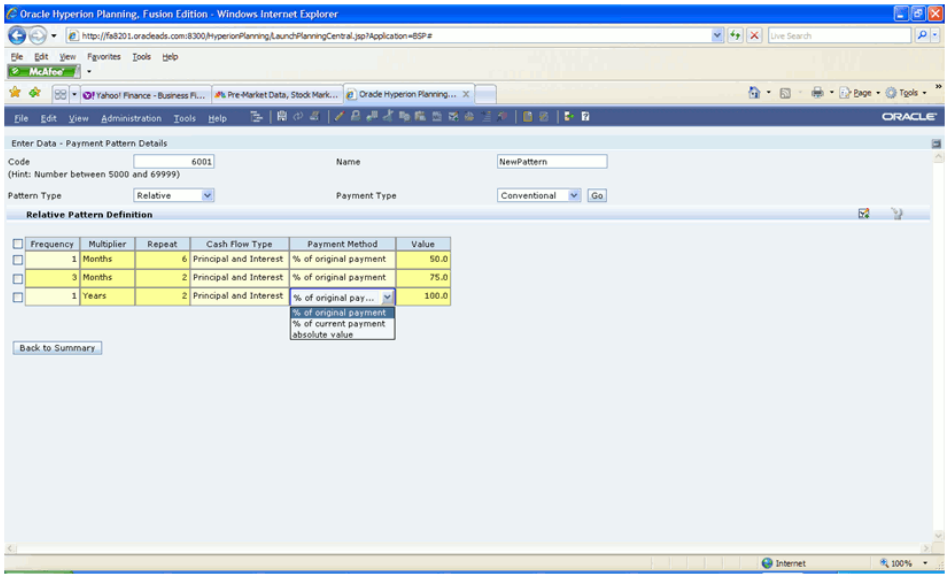
6. Click the **Go** button. On clicking Go, the payment pattern details appear depending on the selection of Pattern Type and Payment Type and shows 1 row. More rows can be added by clicking on **Add Row**. Rows can also be deleted by clicking **Delete Row**. All fields are mandatory.

7. Define one or more payment phases to complete a payment pattern. A payment phase is a set of payment characteristics that defines the timeline of the payment phase. Though the characteristics change based on whether you are defining an absolute or relative pattern, two characteristics appear for both patterns: Payment Method and Value.

   - When the Pattern Type is Absolute, you must specify the Month, Day, Cash Flow Type, Payment Method and Value. Month is a drop down listing all months from Jan to Dec. Day is a text box accepting numeric inputs between 1 and 31. The value accepted depends on the month selected.



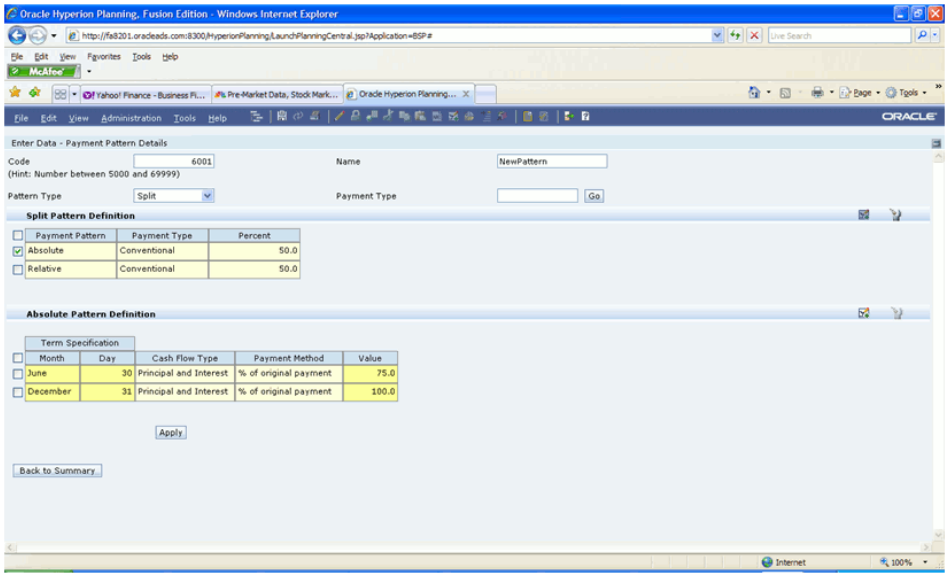
- When the Pattern Type is **Relative**, you must specify the Frequency, Multiplier, Repeat, Cash Flow Type, Payment Method and Value. Enter the Frequency and select the Multiplier for each payment phase. Enter the number of times each payment phase should be repeated in the Repeat column.



Frequency and Repeat are text boxes accepting numeric input between 1 and 9999. Multiplier is a drop down with options Days, Months and Years.

- When the Pattern Type is Split, you must define what percentage will have Absolute Pattern Type and what percentage will have Relative Pattern Type. You can then proceed to define the definition like you would for Absolute and

Relative pattern types.



- Cash Flow Type is a drop down with options Principal and Interest, Interest Only. When Interest only is selected, Payment Method and Value fields get disabled.

- The Payment Method determines the behavior of the value (or payment amount) of the payment phase. The values appear depending on the Payment Type selected in Block 1. The following table describes the different Payment Methods.

Payment Methods

Method	Description
% of Original Balance	This method calculates the payment as the original balance multiplied by the input percent. This method is useful for apportioning the starting balance on a level principal instrument over several payments. This method is available only for payment patterns that you define with a Payment Type of Level Principal.

Method	Description
% of Current Balance	This method calculates the payment as the current balance prior to payment multiplied by the input percent. This method is available only for payment patterns that you define with a Payment Type of Level Principal.
% of Original Payment	This method calculates the payment as the original payment column from the detail instrument data multiplied by the input percent. For new business, it uses the original payment amount calculated at the origination of the instrument. **Note:** Do not use the % of Original Payment method for an instrument that initially pays interest only for new business. In this case, the original payment amount is zero, and all payments described as a % of the Original Payment would therefore also be zero.
% of Current Payment	This method calculates the payment as the previous payment multiplied by the input percent. This payment is calculated on the payment date, according to the characteristics of the instrument at the time of the payment, including the current rate, current balance, and current payment frequency. The input percent is applied to the calculated payment amount.

Method	Description
Absolute Payment	This is an input payment amount. This amount represents both principal and interest for a conventional Payment Type. For a Payment Type of level principal, it represents principal only. For both types of patterns, you enter absolute value payment amounts as gross of participations. **Note:** Do not use this method for new business. If you assign a pattern that includes absolute value to new business, processing ignores the pattern.

- Value reflects the percentage or payment amount based on the method chosen for the payment phase. Value is not available for phases using the payment method Interest Only. Payment amounts for conventional pattern phases must reflect both principal and interest payments. Payment amounts for level principal pattern phases reflect only the principal portion of the payment. For level principal pattern phases, the total cash flow on a payment date is the principal amount stored as the payment plus the calculated interest.

  When payment method is % of Original Balance, % of Current Balance, % of Original Payment or % of Current Payment, the values entered should be between 0 and 100. If payment method is Absolute Value, then there is no limit to the amount entered.

  Note: The Payment Method and Value columns are not available for patterns defined with a Non-Amortizing payment type. The application assumes all payments are interest only for this type of pattern.

8. Click **Save** when you are finished to save the Payment Pattern. Once the definition is saved, user should click **Back to Summary** button to go back to the Summary Page.

9

Defining Custom Repricing Patterns

This chapter describes the procedure for defining custom repricing patterns for use in generating projected cash flows.

This chapter covers the following topics:

- Overview of Repricing Patterns
- Working with Repricing Patterns
- Creating a New Repricing Pattern

Overview of Repricing Patterns

Repricing Patterns provide a mechanism to control the repricing structure of instruments whose rates change according to complex schedules. The Repricing Pattern feature enables you to define multiple changes to various elements affecting repricing including:

- Rates
- Margins
- Repricing Frequency

A Repricing Pattern has two major components: Repricing Pattern Definition and Repricing Event Definition. For every repricing pattern you create, you must define at least one repricing event.

Repricing Pattern Definition

The Repricing Pattern enables you to define a series of repricing events that describe interest rate adjustment characteristics over the life of a cash flow instrument. One Repricing Pattern can be assigned to many cash flow instruments.

There are two types of repricing patterns that you can define:

- Absolute Repricing Pattern - An absolute repricing pattern is a collection of repricing events that occur on specific dates. You may have up to one year of defined events that repeat for the life of the instrument. For example, you could define one event for each day of the year; the maximum number of events that you can define is 365. You can only define one event for any given date.

- Relative Repricing Pattern - A relative repricing pattern is a series of repricing events defined for periods of time. The relative repricing pattern is a series of repricing events that are driven by user defined time lines. It is used for instruments where the repricing is determined by elapsed time since origination. You specify the duration of each repricing period (frequency) and the number of times that event should occur (repeat) before calculating the next event in the pattern.

  For example, an event can be defined with a frequency of 1, a multiplier of Months, and a repeater of 3. This translates into an event that reprices every month for a duration of 3 consecutive months.

  You may have a graduated rate mortgage that requires three rate changes over the life of the instrument. You will have three events following the initial event. If you want the instrument to retain the behavior defined for the last event, the repeater should be set to 999. This prevents *wrapping*, or the repetition of all the defined events until the life of the instrument runs out.

Repricing Event Definition

The Repricing Pattern Events define all the changes to the interest rates of the instrument during its life. Every pattern begins with an initial event, which describes the characteristics that are set at origination.

The second event describes the change in the repricing characteristics after the initial period is over. A third event describes the next change in the repricing characteristics, and so on. In relative repricing patterns, you can also define the number of times an event will be repeated before the next event is triggered.

Event Detail

You define each repricing event with a repricing type of either flat rate or indexed rate. The repricing types determine the event detail characteristics that are available.

Flat Rate

Select the Flat rate repricing type allows you to set the rate of the instrument to a fixed value. For example, 6%.

The following table describes the event detail characteristics that are available when the flat rate repricing type is selected:

Event Detail Characteristics: Flat Rate

Characteristic	Description
Net Rate	The new net rate value
Gross Rate	The new gross rate value
Transfer Rate	The new transfer rate

Flat rate always overrides any caps and floors defined on current position instrument records.

Indexed Rate

Selecting the Indexed Rate Repricing Type allows you to set the rate of the instrument to an adjustable value, defined as the index rate plus a margin. The following table describes the event detail characteristics that are available when the indexed rate repricing type is selected:

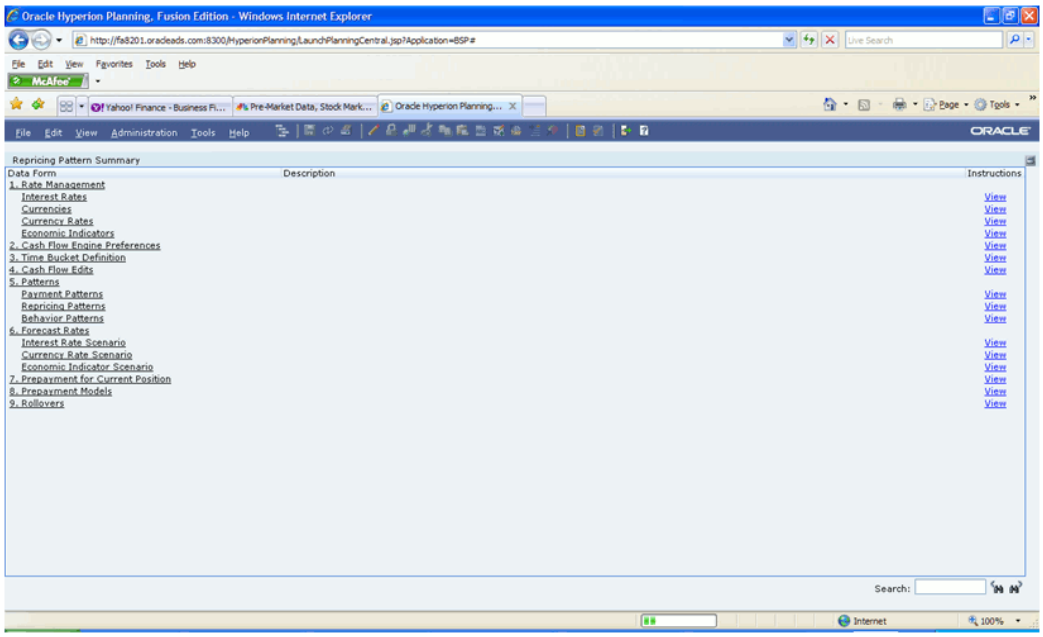
Event Detail Characteristics: Indexed Rate

Characteristic	Description
Interest Rate Code	Reference interest rate used as the index rate to set gross and net rates. This list of values is pulled from the current Historical Rates database.
Transfer Interest Rate Code	Interest rate used to calculate transfer rate. The field is a list of value type.
Net Margin	Added to index rate to get net rate.
Gross Margin	Added to index rate to get gross rate.
Transfer Margin	Added to index rate to get transfer rate.
Rate Cap Life	The upper limit for gross rate set by a particular event.

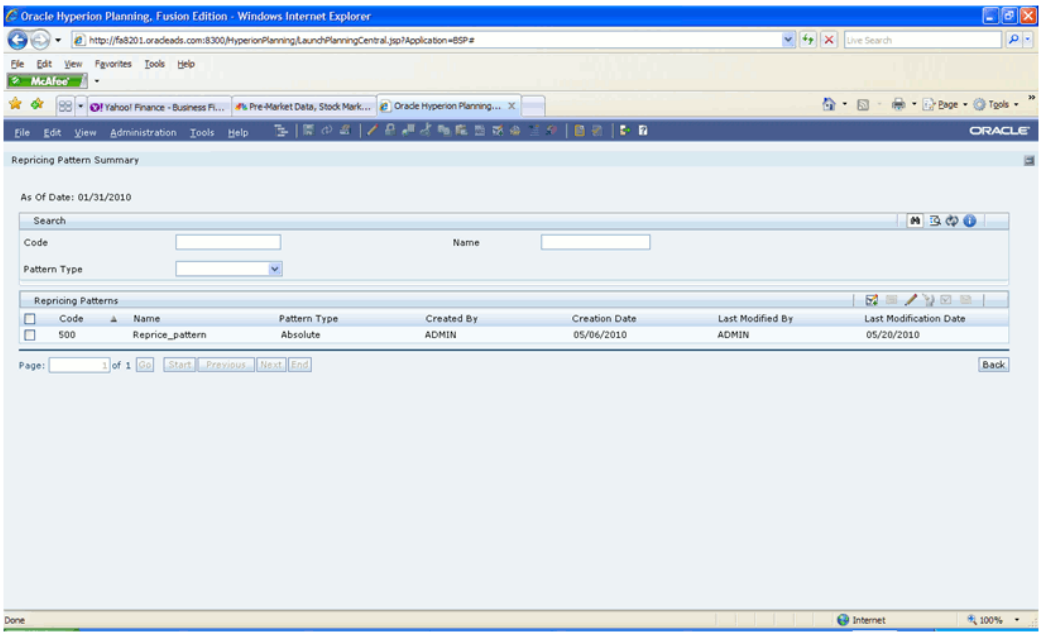
Characteristic	Description
Rate Floor Life	The lower limit for gross rate set by a particular event.
Rate Set Lag	Period by which the date of the interest rate used for calculation precedes the event date; set with a value and a multiplier.
Yield Curve Term	Term used in interest rate code lookups; if left blank, defaults to the term until the next repricing; set with a value and multiplier.

Working with Repricing Patterns

To work with Repricing Patterns, navigate to the Repricing Pattern Summary page by clicking on Master Maintenance, and then using right click, select Assumption Forms to access the list of custom forms. Click **Repricing Patterns** to open the Repricing Pattern Summary Page.



When you first navigate to the Repricing Patterns Summary screen, an empty screen will be displayed. After you have constructed one or more Repricing Pattern definitions, navigation to the form will display a summary screen showing each of the Repricing Patterns that you have previously built.



Search Container

A Search container is provided in which you may search for Repricing Pattern definitions by Code, Name or Pattern Type.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Repricing Pattern definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Code, Name or Pattern Type constraint you may have specified and refreshes the screen.

Instructions Control

Click on the **Instructions** control to open a window containing instructions for working with Repricing Patterns.

Page Navigation Controls

If more than 10 Repricing Pattern definitions exist, use the navigation controls below

the summary grid to go to other pages.

Repricing Pattern Container

The Repricing Pattern Container presents a grid containing all of the Repricing Patterns that meet your search criteria. The Repricing Pattern grid offers several controls that allow you to perform different functions when a Repricing Pattern is selected.

To select a **Repricing Pattern**, select the checkbox from the first column of the grid. More than one Repricing Pattern can be selected at a time but this will cause some of the controls to become disabled. Selecting the checkbox for second time clears the repricing pattern.

You may select or de-select all of the repricing patterns in the grid by clicking on the checkbox in the upper left hand corner of the grid directly to the left of the Code column header.

New

Clicking on the **New** control begins the process of building a new Repricing Pattern definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Repricing Pattern definition on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Repricing Pattern definition. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Repricing Pattern definition you have selected.

Check Dependency

The **Check Dependency** control is not functional in this release.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the **Save As** control create a copy of the existing definition, and will open a dialog in which you specify a Name and Description for the new Repricing Pattern definition. Once the existing definition is copied to a new Repricing Pattern definition, select the checkbox

next to its Name and click the **Edit** control to edit the definition.

Repricing Pattern Summary Grid

The following columns categorize each repricing pattern in the summary grid:

- Code
- Name
- Pattern Type
- Created By
- Creation Date
- Last Modification Date
- Last Modified By

Code

Displays the code value defined for a repricing pattern.

Name

Displays the name of the repricing pattern.

Pattern Type

Indicates whether the Pattern Type is Absolute or Relative.

Created By

Displays the name of the user who created the repricing pattern.

Creation Date

Displays the date and time at which a repricing pattern was created.

Last Modification Date

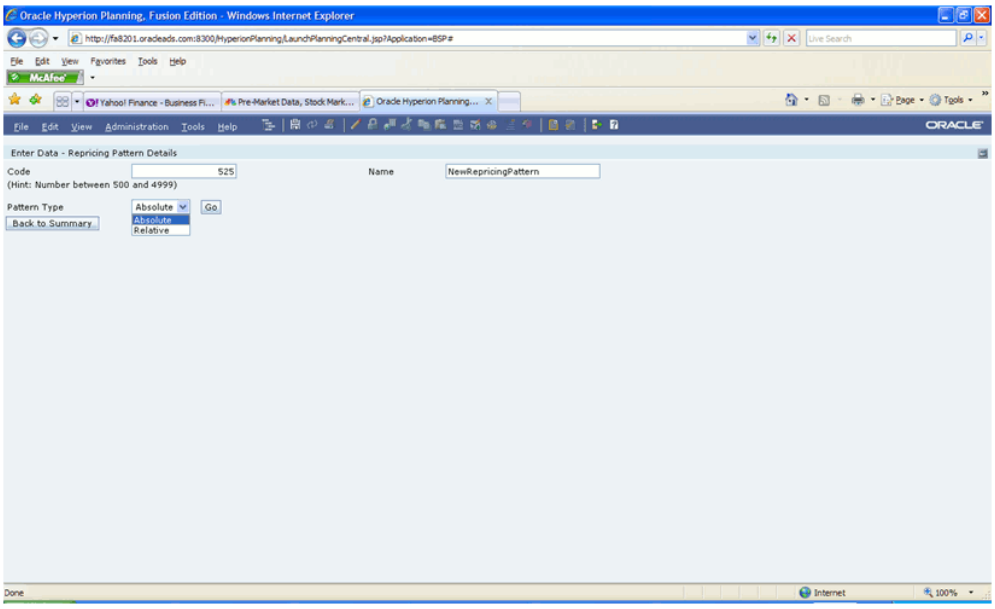
Displays the date and time at which the repricing pattern was last modified.

Last Modified By

Displays the name of the user who last modified the repricing pattern.

Creating a New Repricing Pattern

1. Click the **New** control to create a new repricing pattern. The Enter Data - Repricing Pattern Details page captures all the information required for a particular definition.



2. Enter a Code value for the new Repricing Pattern. Code is a mandatory input and should be within 500 and 4999.

   Important: The code is a numeric internal identifier for the repricing pattern. The code value must be a number between 500 and 4999 and the code value you assign to the new pattern must be unique. In addition, the code must be mapped to the appropriate instrument records (ADJUSTABLE_TYPE_CD field) to connect the instrument to the appropriate pattern.

3. Enter a Name for the Repricing Pattern. The Name field will accept alphanumeric inputs. No special characters allowed except underscore. Name must not start with a number. It must start with an alpha character or underscore. Maximum 80 characters accepted.

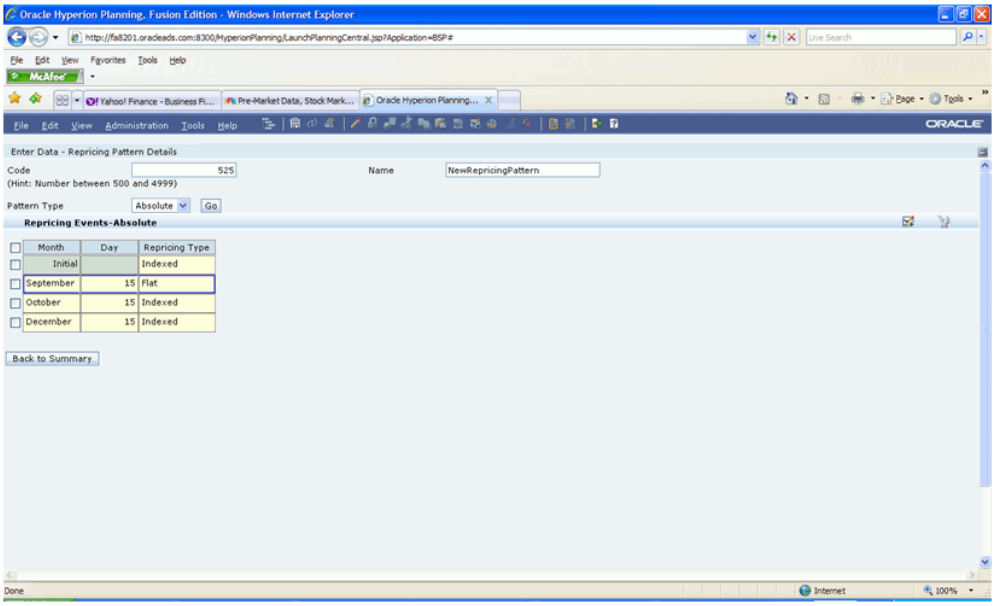
4. Select the Pattern Type to be defined. Pattern Type is a list with options Absolute and Relative.

5. Click on the **Go** button. On clicking **Go**, the grid to define the Repricing Events will appear depending on the selection of Pattern Type, and shows 1 row. More rows

can be added by clicking on **Add Row** icon. Add rows for the number of repricing events you want to define. Rows can also be deleted by clicking on the **Delete Row** icon. All fields are mandatory.

6. **Defining Absolute Repricing Patterns**

If **Absolute** is selected as the Pattern Type, you must specify the Month, Day and Repricing Type for each repricing event.



Descriptions for each of these terms are described in the table below:

Selected Terminology

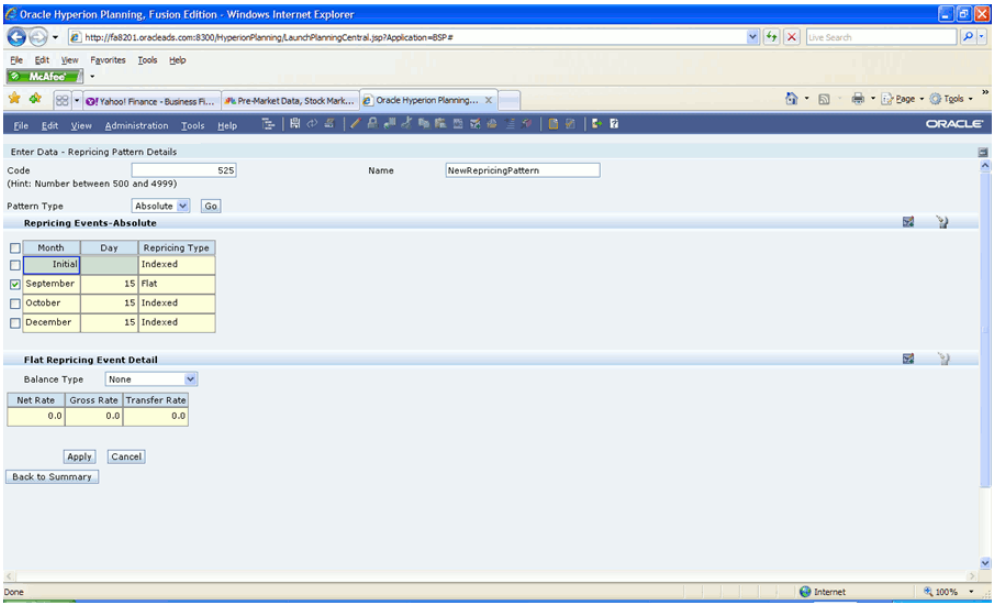
Term	Description
Month	In conjunction with the Day field, this drop-down menu, allows to you to specify a unique month-day combination for a repricing event.
Day	In conjunction with the Month drop-down menu, this field allows you to specify a unique month-day combination for a repricing event.

Term	Description
Repricing Type	A drop list, it displays the repricing type, Flat rate or Indexed rate, associated with a particular event.

Based on the selection of Repricing Type, the event detail block will appear.

Repricing Type = Flat rate

If Flat is selected as the Repricing Type, select the checkbox next to the first repricing event to open the Flat Repricing Event Detail container.



- Select Balance Type option:
  - None – If None is selected, then Balance Tiered pricing is not applied. The rates specified are applied to the entire balance.

    Enter the Net Rate, Gross Rate and Transfer Rate values. You must enter a valid value for at least one of the rate fields. Values entered should be between 0 and 100.

    Click **Apply**.

    Deselect the box next to the repricing event you just defined, and check the box for the next repricing event you want to define.

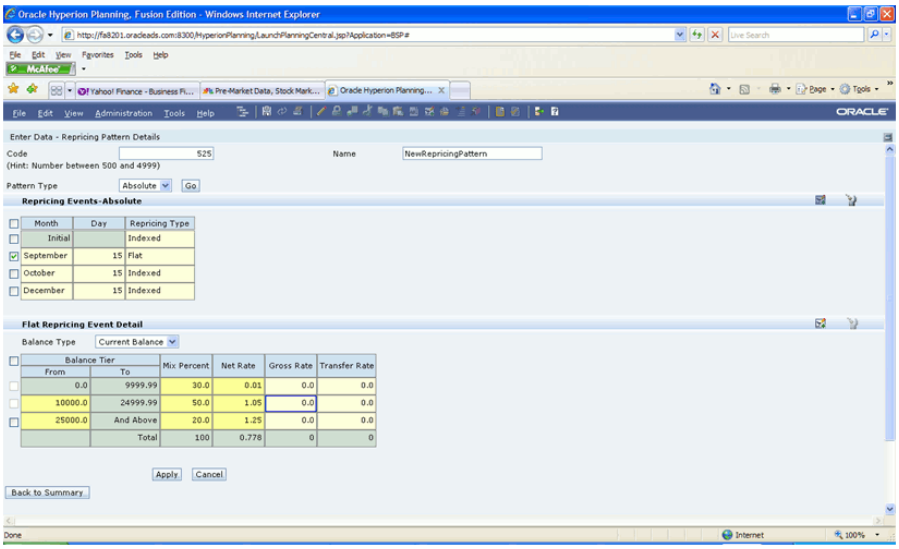
    Repeat the preceding process until all repricing events are defined, remembering to click **Apply** for each one before moving to the next event.

- Current Balance – If Current Balance is selected, then you can define balance tiers and associate different rates with the corresponding balance tier levels.

  Click the **Add Row** icon to add the desired number of rows to the Balance Tier definition

  Enter the tier low balances in the 'From' column for each tier. The 'To' balances will be automatically calculated and displayed.

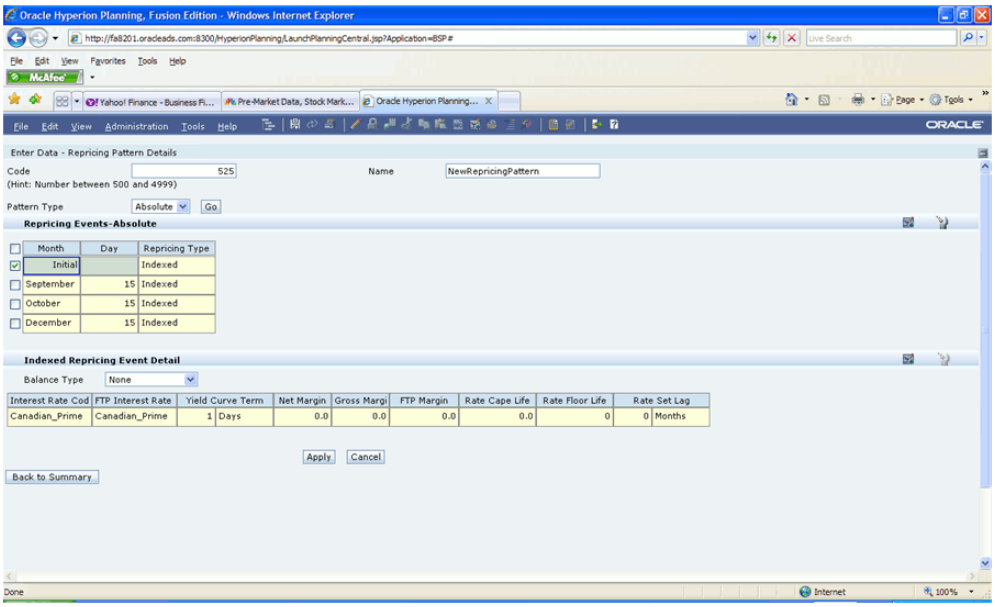
  Enter the Mix Percent, Net Rate, Gross Rate and Transfer Rate values for each balance tier as appropriate. You must enter a valid value for at least one of the rate fields.



  User also has to enter the mix percent applicable to each tier.

Repricing Type = Indexed rates

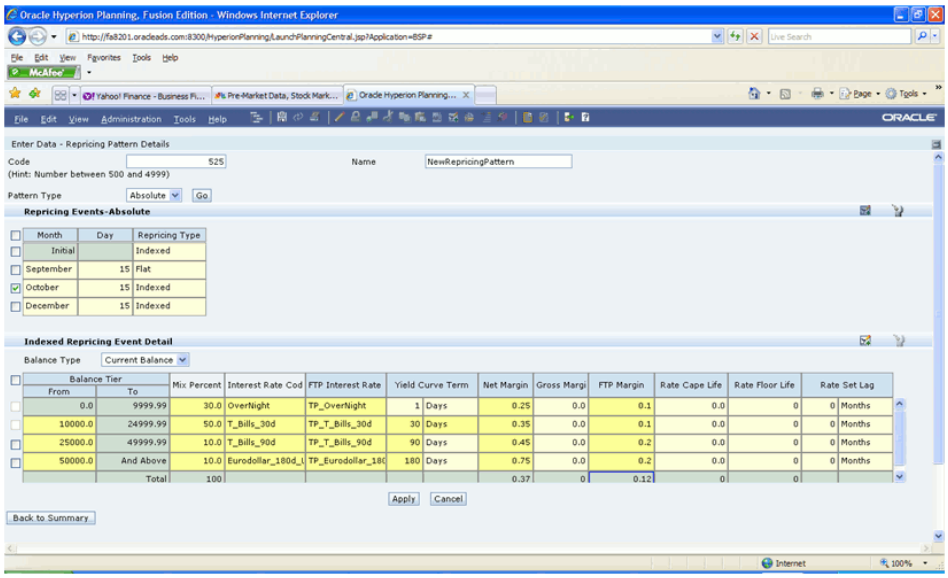
If indexed is selected as the Repricing Type, select the checkbox next to the first repricing event to open the Indexed Repricing Event Details container.



Select or enter values for the following items:

- Interest Rate Code – Select the interest rate code to be used as the index for setting the net rate of the instrument.
- FTP Interest Rate Code – Select the interest rate code to be used as the index for setting the transfer rate of the instrument.
- Yield Curve Term – Enter or select the yield curve term point and multiplier to be used for the pricing event. Multiplier values available are Days, Months or Years.
- Net Margin – Specify the spread to be applied to the index rate for setting the net rate of the instrument. Enter a value between -9999.999999 and 9999.999999.
- Gross Margin – Specify the spread to be applied to the index rate for setting the Gross Rate of the instrument. This is applicable only for participation loans. Enter a value between -9999.999999 and 9999.999999.
- FTP Margin – Specify the spread to be applied to transfer rate index rate for setting the transfer rate of the instrument. Enter a value between -9999.999999 and 9999.999999.
- Rate Cap Life – Specify the maximum rate value that can be set for the net rate of the instrument. Enter a value between 0 and 9999.999999.
- Rate Floor Life – Specify the minimum rate value that can be set for the net rate of the instrument. Enter a value between 0 and 9999.999999.

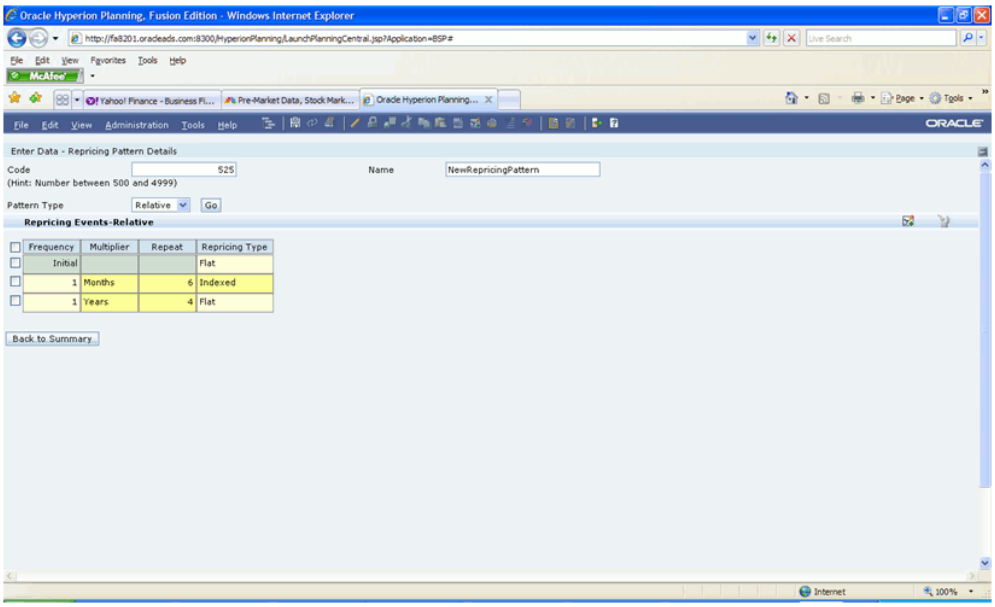
- Rate Set Lag – Enter or select any time lag value and multiplier to be used when setting the rate for the instrument. Multiplier values available are Days, Months or Years.



When the event detail for a repricing event is defined, click **apply** to save the event definition before defining the details for the next repricing event.

7. Defining Relative Repricing Patterns

If **Relative** is selected as the Pattern Type, you must specify the Frequency, Multiplier, Repeat and Repricing Type for each repricing event.



Descriptions for each of these terms are described in the table below:

Selected Terminology

Term	Description
Frequency	In conjunction with the Multiplier drop-down menu, this field allows you to specify how often repricing occurs. Enter a value between 1 and 9999.
Multiplier	The unit of time applied to the frequency. The choices are: • Days • Months • Years
Repeat	Allows you to specify the number of times a repricing event should be repeated. Enter a value between 1 and 9999.

Term	Description
Repricing Type	A drop list, it displays the repricing type, Flat rate or Indexed rate, associated with a particular event.

You define each repricing event for relative repricing patterns with a repricing type of either flat rate or indexed Rate. Follow the same instructions above under defining absolute repricing patterns to specify the details for Flat rate and/or Indexed Rate repricing types.

Remember to click **Apply** as each Repricing Event Detail is defined before moving on to defining the next Repricing Event Details.

8. Once the Repricing Pattern is completely defined, click the **Save** icon to save the complete repricing pattern definition.

Once the definition is saved, user should click **Back to Summary** button to go back to the Summary Page.

10

Defining Behavior Patterns

This chapter describes the procedure for defining payment or principal amortization flows through Behavior Patterns, for instruments that do not have contractual amortization schedules.

This chapter covers the following topics:

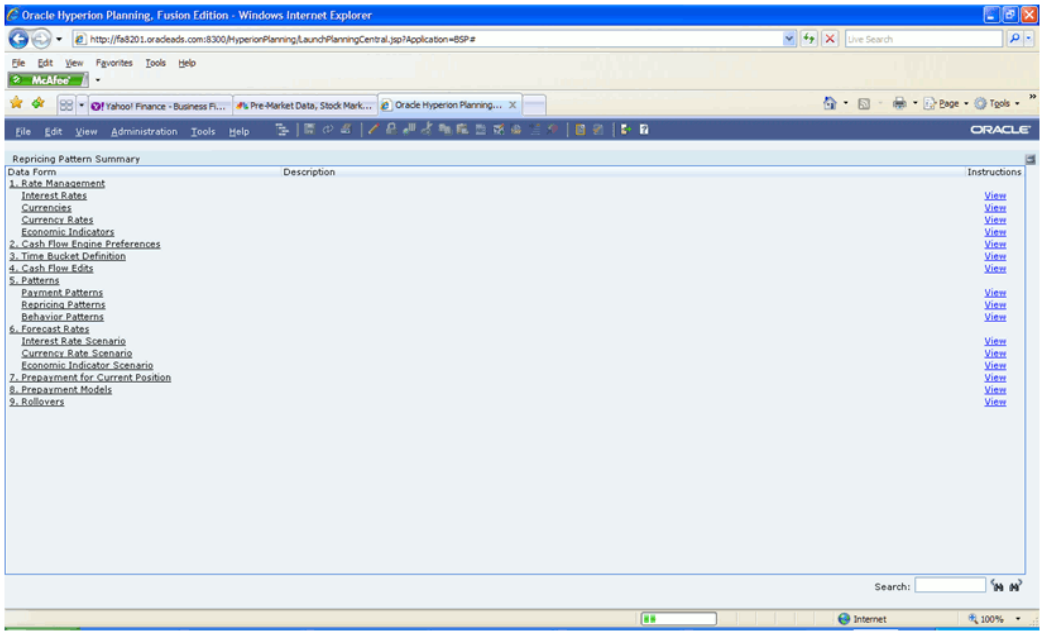
- Overview of User Defined Behavior Patterns
- Working With Behavior Patterns
- Creating a New Behavior Pattern

Overview of User Defined Behavior Patterns

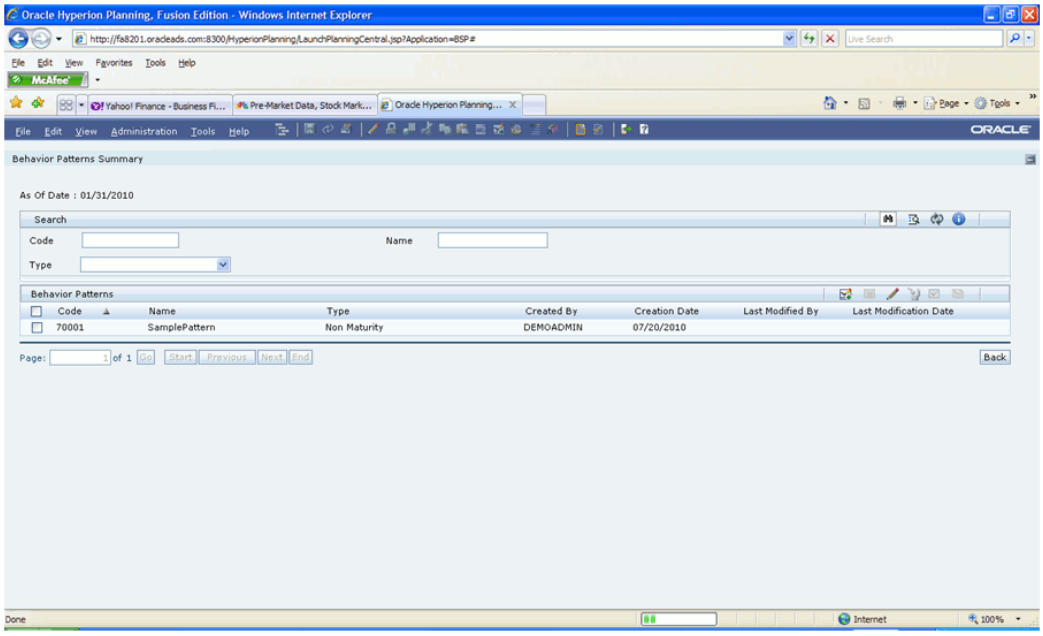
User defined behavior patterns allow you to define principal amortization patterns for non-maturity products in your portfolio. You can include a behavior pattern while generating cash flows by entering the behavior pattern code as the amortization type code for the instrument(s). The Behavior Pattern code can range from 70000 to 99999.
See: Creating a New Behavior Pattern, page 10-5

Working With Behavior Patterns

Navigate to the Master Maintenance > Assumption Forms and select Behavior Patterns from the list of forms displayed.



When you first navigate to the Behavior Patterns Summary screen, an empty screen will be displayed. After you have constructed one or more Behavior Pattern definitions, navigation to the form will display a summary screen showing each of the Behavior Patterns that you have previously built.



Search Container

A Search container is provided in which you may search for Behavior Pattern

definitions by Code, Name, or Type.

Search Control

Enter your desired search criteria and click the **Search** control.

Advanced Search Control

You can also search for Behavior Pattern definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any Code, Name or Type constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions control** to open a window containing instructions for working with Behavior Patterns.

Page Navigation Controls

If more than 10 Behavior Pattern definitions exist, use the navigation controls below the summary grid to go to other pages.

Behavior Pattern Container

The Behavior Pattern Container presents a grid containing all of the Behavior Patterns that meet your search criteria. The Behavior Pattern grid offers several controls that allow you to perform different functions when a Behavior Pattern is selected.

To select a Behavior Pattern, click on a checkbox in the first column of the grid. More than one Behavior Pattern can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the behavior pattern.

You may select or de-select all of the behavior patterns in the grid by clicking on the checkbox in the upper left hand corner of the grid directly to the left of the Code column header.

New

Clicking on the **New** control begins the process of building a new Behavior Pattern definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Behavior Pattern definition on a read-only basis. The View control is only enabled when a row has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Behavior Pattern definition. The Edit control is only enabled when a single row has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Behavior Pattern definition you have selected.

Check Dependency

The Check Dependency control is not functional in this release.

Save As

Selecting a single row out of the grid enables the Save As control. Clicking on the Save As control create a copy of the existing definition, and will open a dialog in which you specify a Name and Description for the new Behavior Pattern definition. Once the existing definition is copied to a new Behavior Pattern definition, select the checkbox next to its Name and click on the Edit control to edit the definition.

Behavior Pattern Summary Grid

The following columns categorize each repricing pattern in the summary grid:

- Code
- Name
- Type
- Created By
- Creation Date
- Last Modified By
- Last Modification Date

Code

Displays the code value defined for a behavior pattern.

Name

Displays the name of the behavior pattern.

Type

Indicates whether the Type is Non Maturity, Non Performing or Devolvement and Recovery.

Created By

Displays the name of the user who created the behavior pattern.

Creation Date

Displays the date and time at which a behavior pattern was created.

Last Modified By

Displays the name of the user who last modified the behavior pattern.

Last Modification Date

Displays the date and time at which the behavior pattern was last modified.

Creating a New Behavior Pattern

Following steps will help you to create a new behavior pattern:

1. Click on the New icon to create a new Behavior Pattern.
2. The Enter Data - Behavior Pattern Details page is displayed.
3. Enter a code value for the new behavior pattern.

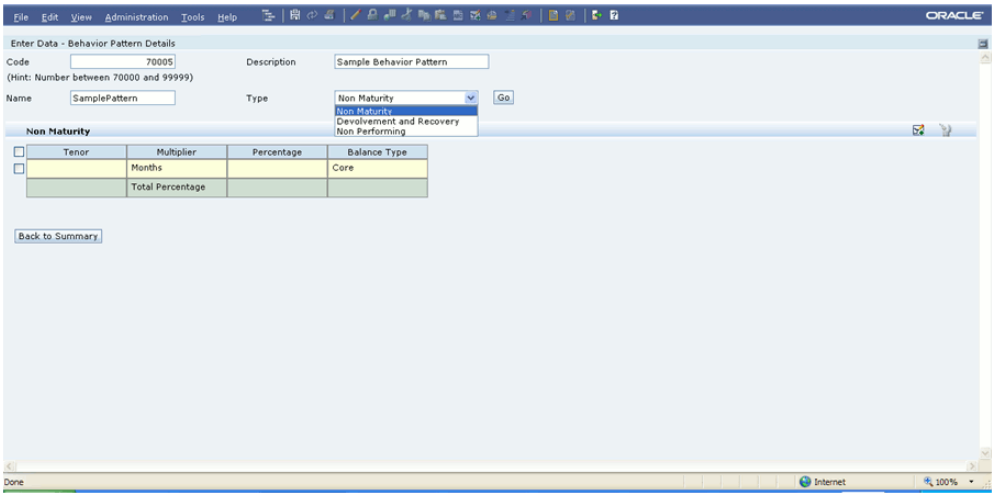
   Note: The code, also known as an amortization type code, is a numeric identifier for the payment pattern. The code value must be a number between 70000 and 99999. The code value you assign to the new pattern must be unique. In addition, the code must be mapped to the appropriate instrument records, (AMRT_TYPE_CD field) to connect the instrument to the appropriate pattern.

4. Enter the Name and a brief Description for the pattern. The Name field will accept

alphanumeric inputs. No special characters are allowed except underscore, and the name must not start with a number. It must start with an alpha character or underscore. Maximum 80 characters accepted. The Description field will accept all alphanumeric and special characters. Maximum 255 characters accepted.

5. Select the behavior pattern Type: Non Maturity, Non Performing, or Devolvement and Recovery.

6. Click on the Go button to display the grid used to define the behavior pattern.



7. Define the Behavior Pattern Term Specifications for maturity tranches.

8. The selection of the Behavior Pattern type made in the previous step determines the information you must provide to successfully define that pattern type.

   See:

   - Defining Non Maturity Behavior Patterns, page 10-7
   - Defining Non Performing Behavior Patterns, page 10-9
   - Defining Devolvement and Recovery Behavior Patterns, page 10-11

   Note: The Behavior Pattern details page above, displays the specifications associated with the Non Maturity Pattern Type. Should you change this value for one of the other two alternatives, Non Performing or Devolvement and Recovery, the system will refresh the payment specifications section corresponding to the new Pattern Type. Although you can change your selection of the Pattern Type at any point in this procedure, sometimes this might result in loss of data related to any prior selection.

Defining Non Maturity Behavior Patterns

Non Maturity behavior patterns are commonly used for deposit products like checking, savings and money market accounts as well as for credit card accounts. These account types are similar in that they do not have contractual cash flows because customers have the option to deposit or withdraw any amount at any time (up to any established limits).

When working with non maturity behavior patterns, your percentage weights assigned to maturity terms must add up to 100%.

Procedure

This table describes key terms used for this procedure.

Selected Terminology

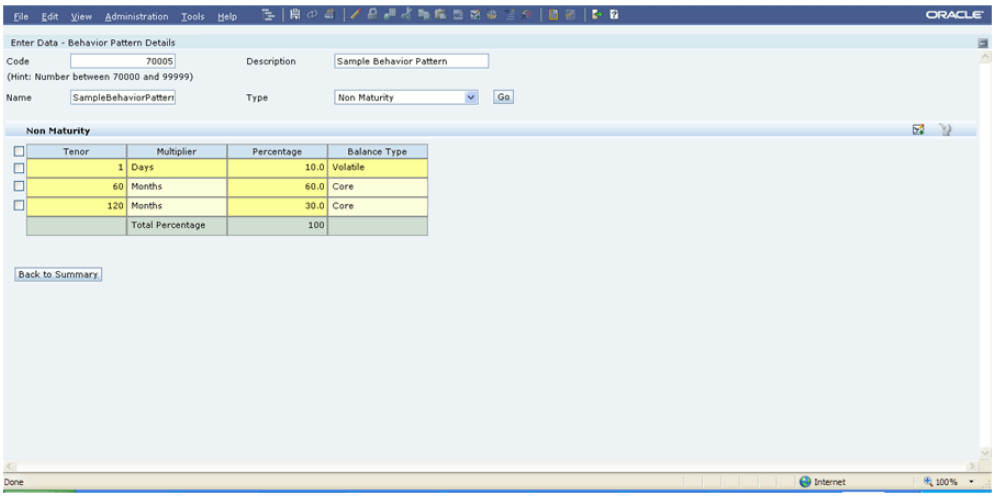
Term	Description
Tenor	Used to specify the maturity term for the particular row. E.g. if "1 Day" is defined, then the applicable percentage of the balance will runoff (mature) on the As of Date + 1 Day. Tenor should be a value between 1 and 999.
Multiplier	The unit of time applied to the Tenor. The choices are: • Days • Months • Years
Percentage	The relative amount of the principal balance that will mature on the date specified by the Tenor + Multiplier. Enter values between 0 and 100. The percentage amounts must add to 100.
Balance Type	Allows you to classify the runoff based on the appropriate type

Term	Description
Add Row	Use to add one or more rows
Delete Row	Use to delete one or more rows

1. Define the maturity tenor and multiplier for the first maturity strip. The first strip usually represents non-core or "volatile" funds and typically has a very short maturity, such as "1 Day".
2. Select the Percentage to apply to the outstanding balance indicating how much of the outstanding balance will mature on the specified term.
3. Select the Balance Type as Core or Volatile

   Note: There is no difference in behavior from a cash flow perspective, but the runoff amount will be written to a principal runoff financial element corresponding to the selected Balance Type.

4. Click the Add Row icon to add additional payment strips to the Pattern. After defining the initial strip as Volatile, subsequent strips are typically classified as Core with varying maturity terms assigned.
5. To delete a row, select the check box corresponding to the row you want to remove and click the Delete icon
6. Click on the Save icon to save the pattern definition.



7. Click on the Back to Summary button to return to the Behavior Pattern summary page.

Defining Non Performing Behavior Patterns

Non Performing behavior patterns are commonly used for balances that are classified as non-earning assets. These balances are typically sourced from the management ledger as aggregate balances. Users are able assign expected maturity profiles to these balances classifying them into appropriate categories of Sub Standard, Doubtful or Loss.

Procedure

This table describes key terms used for this procedure.

Selected Terminology

Term	Description
Tenor	Used to specify the maturity term for the particular row. E.g. if "1 Day" is defined, then the applicable percentage of the balance will runoff (mature) on the As of Date + 1 Day. Tenor should be a value between 1 and 999.

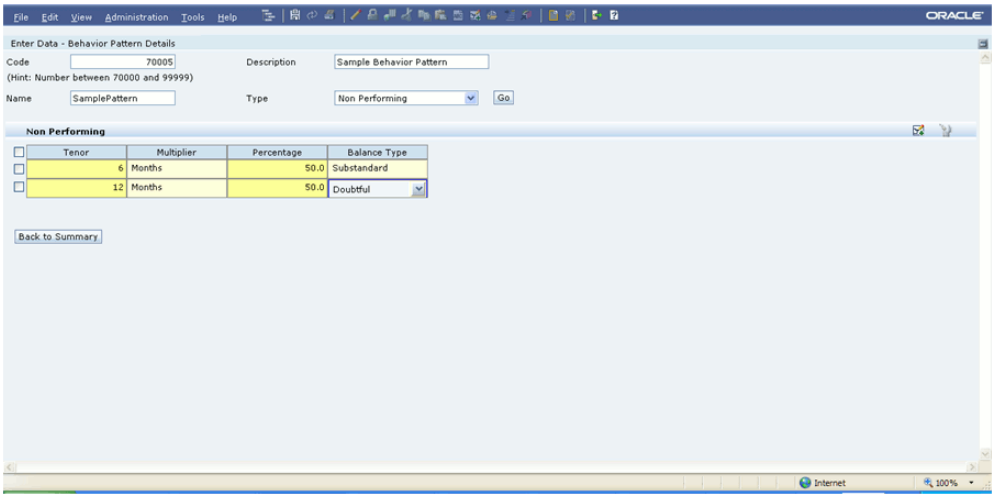
Term	Description
Multiplier	The unit of time applied to the Tenor. The choices are: • Days • Months • Years
Percentage	The relative amount of the principal balance that will mature on the date specified by the Tenor + Multiplier. Enter values between 0 and 100. The percentage amounts can exceed 100% for non performing patterns.
Balance Type	Allows you to classify the runoff based on the appropriate type
Add Row	Use to add one or more rows
Delete Row	Use to delete one or more rows

1. Define the maturity tenor and multiplier for the first maturity strip. The first strip can be any of the three categories including Substandard, Doubtful or Loss.
2. Select the Percentage to apply to the outstanding balance indicating how much of the outstanding balance will mature on the specified term.
3. Select the Balance Type as Substandard, Doubtful or Loss

   Note: There is no difference in behavior from a cash flow perspective, but the runoff amount will be written to a principal runoff financial element corresponding to the selected Balance Type.

4. Click the Add Row icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.
5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the Delete Row icon

6. Click on the Save icon to save the pattern definition



7. Click on Back to Summary to return to the Behavior Pattern summary page.

Defining Devolvement and Recovery Behavior Patterns

Devolvement and Recovery behavior patterns are commonly used for estimating cash flows associated with Letters of Credit and Guarantees. These product types are typically categorized as off balance sheet amounts. Users are able assign expected maturity profiles to the related balances classifying them into appropriate categories of Sight Devolvement and Sight Recovery or Usance Devolvement and Usance Recovery. Sight Devolvement and Recovery are the most common types.

Procedure

This table describes key terms used for this procedure.

Selected Terminology

Term	Description
Tenor	Used to specify the maturity term for the particular row. E.g. if "1 Day" is defined, then the applicable percentage of the balance will runoff (mature) on the As of Date + 1 Day. Tenor should be a value between 1 and 999.

Term	Description
Multiplier	The unit of time applied to the Tenor. The choices are: • Days • Months • Years
Percentage	The relative amount of the principal balance that will mature on the date specified by the Tenor + Multiplier. Enter values between 0 and 100. The percentage amounts can exceed 100% for devolvement and recovery patterns.
Balance Type	Allows you to classify the runoff based on the appropriate type. **Sight:** indicates the Beneficiary is paid as soon as the Paying Bank has determined that all necessary documents are in order. This is preferred approach. **Usance:** is a period of time which can be between 30 and 180 days after the bill of lading date.
Add Row	Use to add one or more rows
Delete Row	Use to delete one or more rows

1. Define the maturity tenor and multiplier for the first maturity strip. The first strip can be any of the three categories including Substandard, Doubtful or Loss.
2. Select the Percentage to apply to the outstanding balance indicating how much of the outstanding balance will mature on the specified term.
3. Select the Balance Type as Sight Devolvement, Sight Recovery, Usance Devolvement and Usance Recovery.

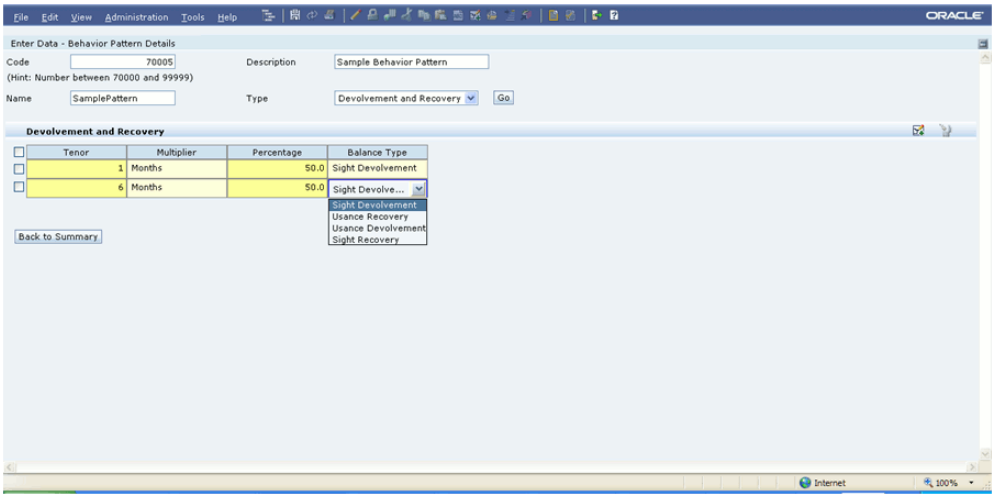
Note: There is no difference in behavior from a cash flow

perspective, but the runoff amount will be written to a principal runoff financial element corresponding to the selected Balance Type.

4. Click the Add Row icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.

5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the Delete Row icon

6. Click on the Save icon to save the pattern definition



7. Click on Back to Summary to return to the Behavior Pattern summary page.

11

Forecast Rates - Creating Interest Rate, Exchange Rate and Economic Indicator Scenarios and Loading into Essbase

Overview

Forecast Rates is a comprehensive utility enabling you to generate and manage interest rate scenarios, currency exchange rate scenarios and economic indicator scenarios for use in Balance Sheet Planning.

Interest Rate Scenarios

An interest rate scenario is a collection of forecasted values for the various market interest rates that are used in pricing and re-pricing balance sheet products in future time periods. Future interest rate values and levels directly influence financial services customer's loan and deposit product preferences and selections, and are actively used to determine contractual interest rates for customer accounts. As such, the interest rate scenario is fundamental to the creation of balance sheet instrument cash flow projections during the creation of a plan or a forecast.

Currency Rate Scenarios

A currency rate scenario is a collection of forecasted currency exchange rate values for currencies in which your organization conducts business. Currency exchange rates are used to convert cash flows generated for instruments denominated in various currencies to the organization's functional or reporting currency for review and approval purposes.

Economic Indicator Scenarios

An economic indicator scenario is a collection of forecasted values for economic

indicators such as GDP growth, inflation rates, or unemployment projections that may provide your users with additional information behind your projections for interest rates, exchange rates, or new business growth.

Linkage with Rate Management

Currency, interest rate code and economic indicator administration activities performed within the Rate Management module determine the currencies, codes and indicators for which scenarios can be defined for use in Balance Sheet Planning. In order to create a forecast for a market interest rate, an interest rate code must be defined in Rate Management. In order to create a forecast for a currency exchange rate, the currency must be activated for use in Rate Management. In order to create a forecast for an individual economic indicator, that indicator must first be defined in Rate Management.

Additionally, historical interest rate, exchange rate and economic indicator values are maintained in Rate Management. The most recent historical values, relative to an as-of-date, are actively used as a starting point for generating future values when creating scenarios as outlined in this chapter.

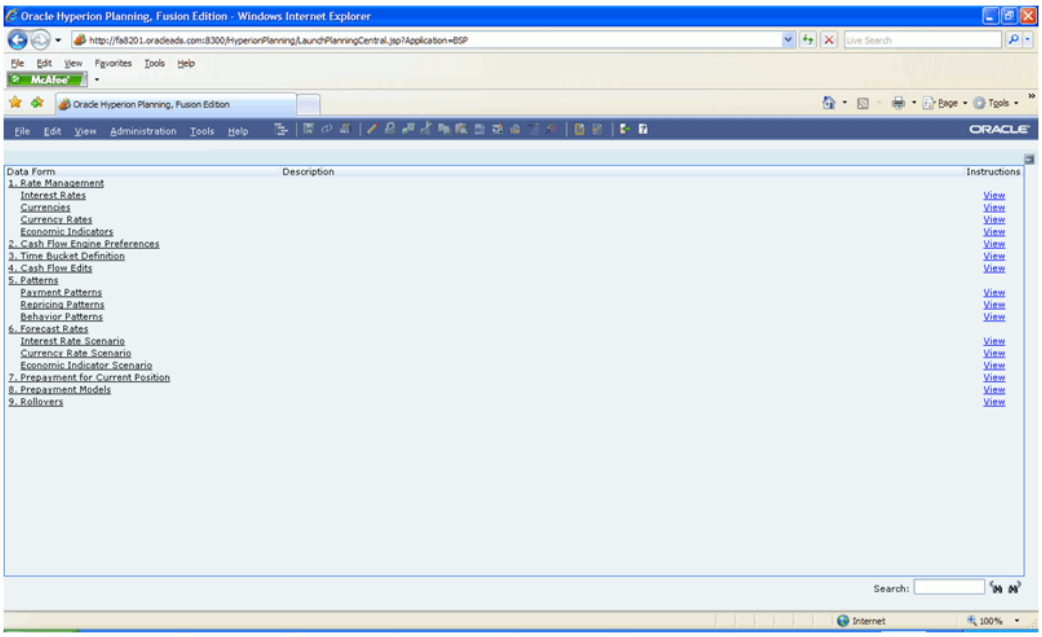
As noted, this chapter covers the usage of Forecast Rates functionality in creating interest rate scenarios, currency exchange rate scenarios and economic indicator scenarios for use in Balance Sheet Planning. After creation of scenarios as described in this chapter, Balance Sheet Planning Metadata Synchronization must be performed to create implied dimension members and Smart List members within Hyperion Planning and Essbase.

Once completed, these scenarios are associated with or attached to the Balance Sheet Planning Scenario dimension member in the Process Attributes data form, and the forecasted rate and indicator data can be loaded into Essbase for viewing by analysts using the system and for analytical purposes. This process is performed by the Budget Administrator using the Forecast Rates Data Load data form.

Forecast Rates Subject Areas

There are three primary subject areas or modules within Master Maintenance > Forecast Rates:

- Interest Rate Scenario
- Currency Rate Scenario
- Economic Indicator Scenario

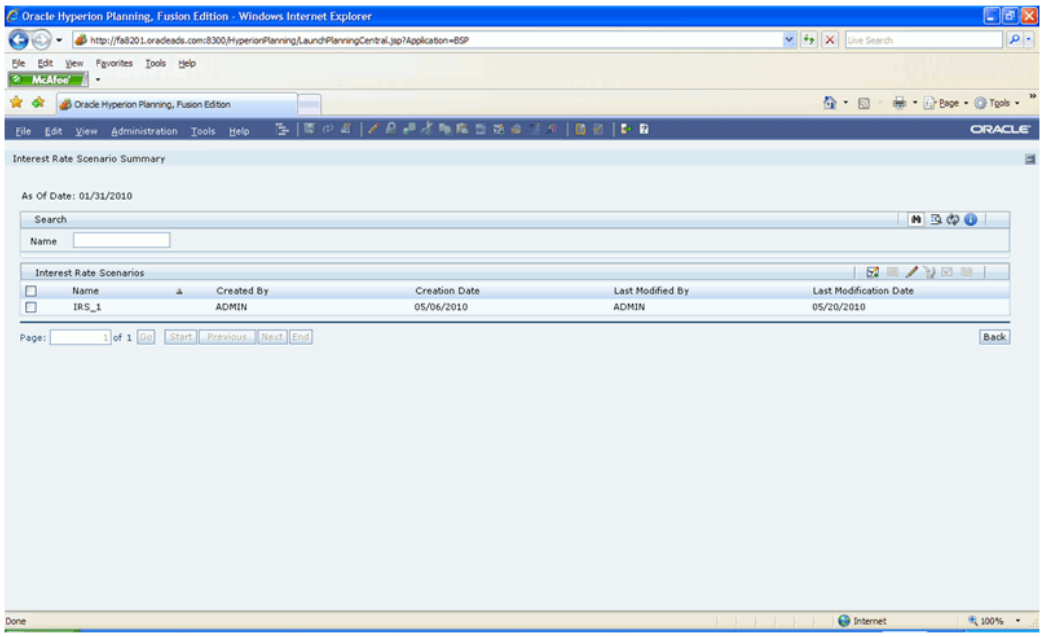


Interest Rate Scenario

This section describes the process of creating and working with interest rate scenarios.

Interest Rate Scenario Summary

When you first navigate to Master Maintenance > Forecast Rates > Interest Rate Scenario, an empty screen will be displayed. After you have constructed one or more interest rate scenarios, navigating to Master Maintenance > Forecast Rates > Interest Rate Scenario will display a summary screen showing each of the interest rate scenarios that you have previously built.



Search Container

A Search container is provided in which you may search for interest rate scenarios by Name.

Advanced Search options are also available and include searching by Creation Date, Last Modification Date, Created By or Last Modified By search parameters.

Search Control

Enter your desired search criteria and click on the Search control.

Alternatively, click on the Advanced Search control to open the advanced search dialog. To search by Created By or Last Modified By, enter a user name and click OK. To search by Creation Date or Last Modification Date, click on the icon next to the field to open up the Select Date form, highlight the date and click OK. After selecting a date and clicking OK, the date is populated in the Advanced Search dialog. Click OK to perform the search using the date selected.

Reset Control

Clicking on the Reset control removes any filtering constraint you may have specified and refreshes the screen.

Instructions Control

Click on the Instructions control to open a window containing instructions for working with interest rate scenarios.

Page Navigation Controls

If more than 10 interest rate scenario definitions exist, use the navigation controls below the summary grid to go to other pages.

Interest Rate Scenarios Container

The Interest Rate Scenarios container presents a grid containing all of the interest rate scenarios that meet your search criteria. The Interest Rate Scenarios grid offers several controls that allow you to perform different functions when an interest rate scenario is selected.

To select an interest rate scenario, click on a check box in the first column of the grid. More than one interest rate scenario can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the interest rate scenario.

You may select or deselect all of the interest rate scenarios in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the New control begins the process of building a new interest rate scenario. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of an interest rate scenario on a read-only basis. The View control is only enabled when a single interest rate scenario has been selected.

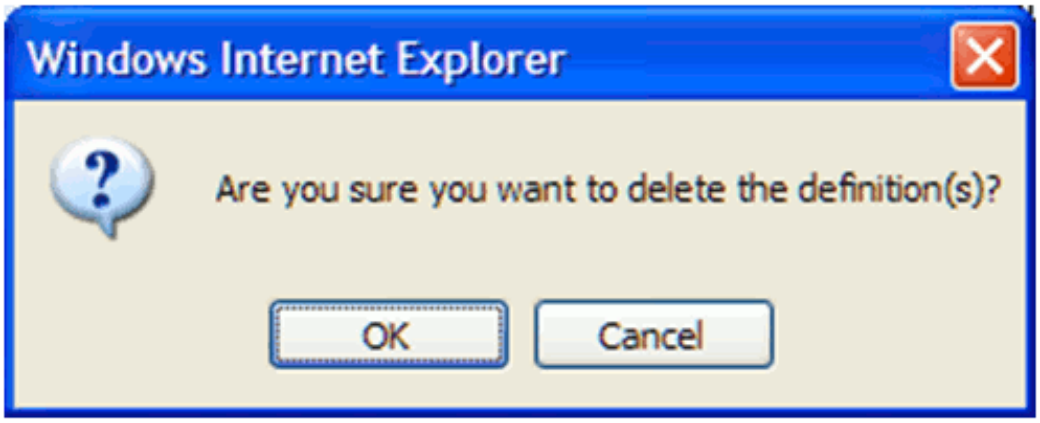
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved interest rate scenario. The Edit control is only enabled when a single interest rate scenario has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the interest rate scenarios you have selected.

Deleting an interest rate scenario that has been used to generate cash flow data should only be performed when there is no longer a need to retain the forecasted interest rates. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the scenario definition. Click on OK to proceed with the delete, or Cancel to prevent the deletion.

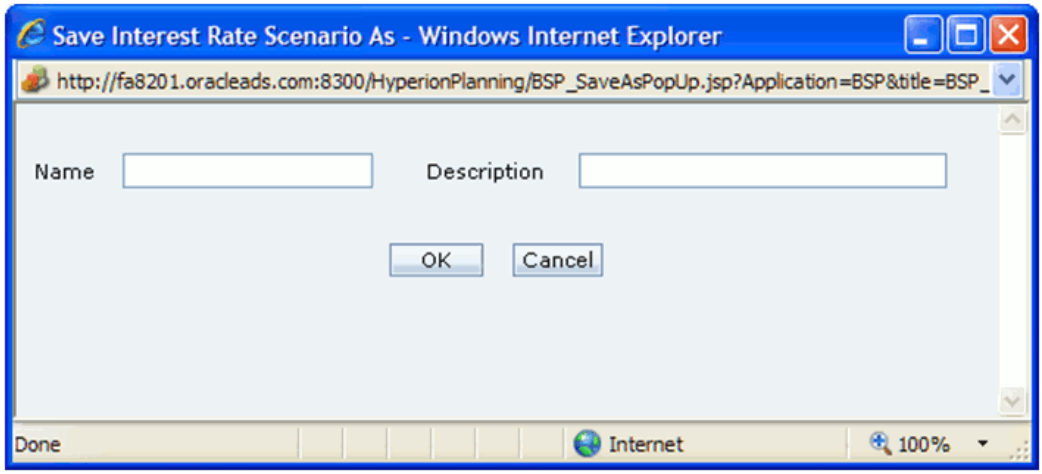


Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new interest rate scenario. To use the feature, click the check box next to an existing definition and click on the Save As control. The Save Interest Rate Scenario As dialog will open. Enter a Name and Description for the new interest rate scenario and click OK. A new interest rate scenario is added to the summary grid. You can then select the interest rate scenario and click on the Edit control to refine the definition.



The following columns categorize each interest rate scenario in the Interest Rate Scenario container summary grid:

- Name
- Creation Date

- Created By
- Last Modification Date
- Last Modified By

Interest Rate Scenarios Summary Grid

The following columns categorize each interest rate scenario in the Interest Rate Scenario container summary grid:

Name

Displays the name for an interest rate scenario.

Creation Date

Displays the date and time at which an interest rate scenario was created.

Created By

Displays the name of the user who created an interest rate scenario.

Last Modification Date

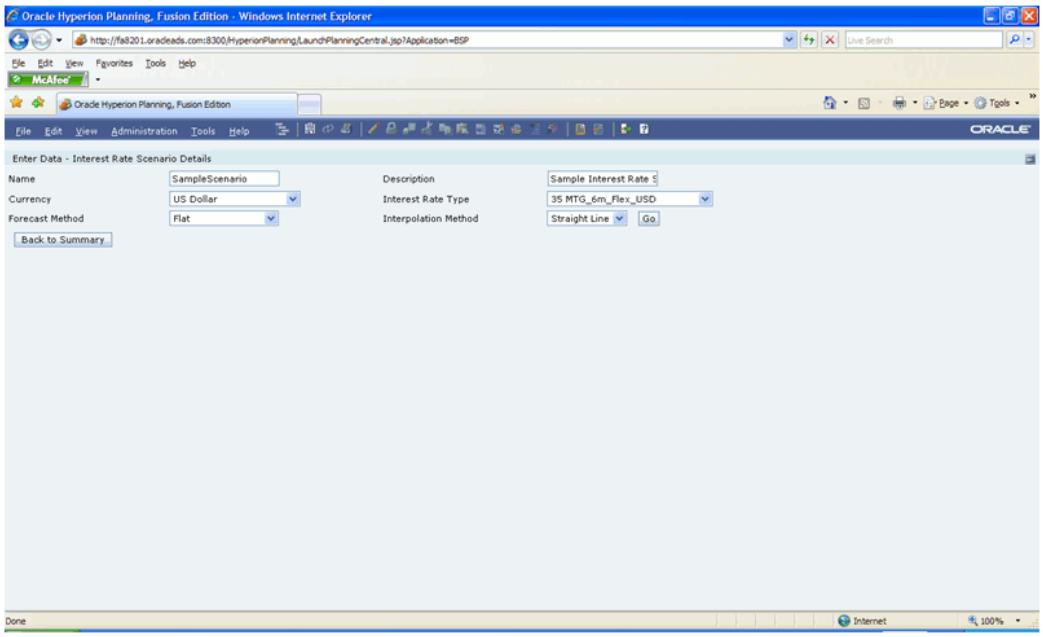
Displays the date and time at which an interest rate scenario was last modified.

Last Modified By

Displays the name of the user who last modified an interest rate scenario.

Enter Data - Interest Rate Scenario Details

When you Add, Edit, or View an interest rate scenario, the Enter Data - Interest Rate Scenario Details screen is displayed. The Interest Rate Scenario Details screen is comprised of an Interest Rate Scenario Details container and an interest rates values container.



Interest Rate Scenario Details Container

The fields contained in the Enter Data - Interest Rate Scenario Details container are explained in detail below

Name

The Name of the Interest Rate Scenario. The name must start with an alpha character and can be up to 80 characters long. The field will accept alphanumeric characters. The only special characters allowed are underscore and space.

Description

The Description of the Interest Rate Scenario. The description field will accept all alphanumeric and special characters, with a maximum length of 255 characters.

Currency

The Currency field is a drop list of all currencies that have been designated as 'Active' in Rate Management. The selection of a currency from this drop list determines the list of values displayed in the Interest Rate Type field.

Interest Rate Type

The Interest Rate Type field is a drop list of interest rate codes that have been defined in Rate Management. The values displayed in the drop list are those interest rate codes that have been defined with a reference currency equal to the currency selected in the Currency field above.

Forecast Method

The Forecast Method field is a drop list of methods available for use in creating an interest rate scenario.

The available methods include:

- Flat – Select this method to forecast no change in the interest rate for all dates beginning with the as-of-date.
- Direct Input – Select this method to type interest rates directly, for any modeling period or interest rate term.
- Structured Change – Select this method to forecast rate changes for any modeling period or interest rate term, such as +100 basis points in the first modeling period.

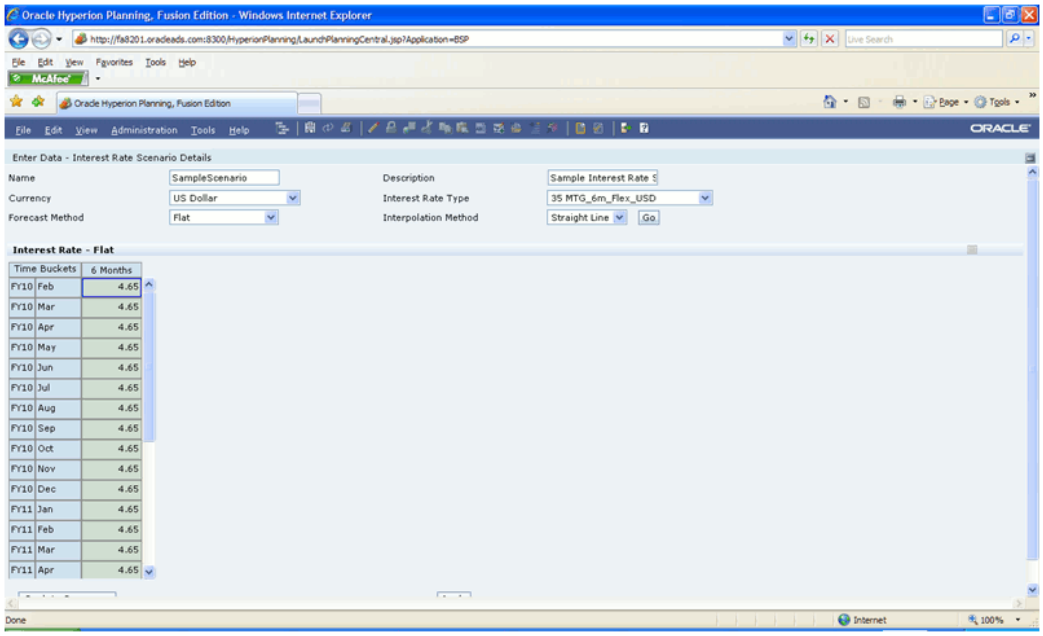
Interpolation Method

The Interpolation Method is a drop list with a single available option called Straight Line.

Once you have made your entries and selections for the above details, click on the Go control and the forecasted Interest Rate grid will appear. The grid that appears is based on the selection of the Interest Rate Type and the Forecast Method.

Using the Flat Forecast Method

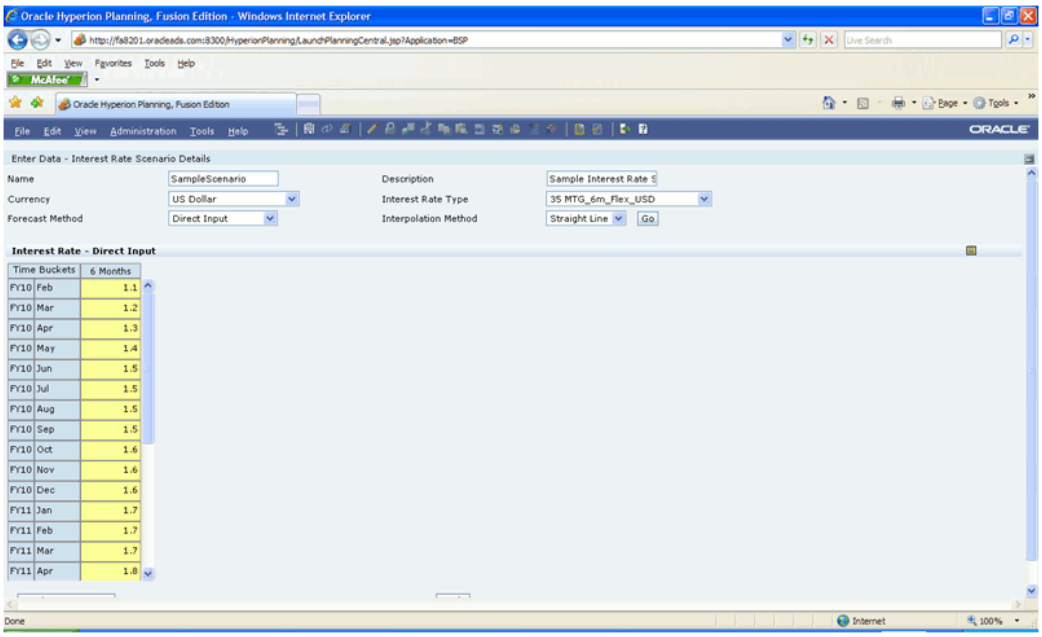
When Flat is selected as the Forecast Method and you click on the Go control, the Interest Rate – Flat grid is displayed in read only mode. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Term Points defined for the selected Interest Rate Type are displayed as columns. When using this method, the historical rates equal to or closest to the as-of-date are picked up from Rate Management and applied to all future time buckets.



Using the Direct Input Forecast Method

When Direct Input is selected as the Forecast Method and you click on the Go control, the Interest Rate – Direct Input grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Term Points defined for the selected Interest Rate Type are displayed as columns. When using this method, you can directly enter your forecasted interest rate data for the time bucket and term point combinations displayed on the grid. The forecast rate values entered should be between -99.999999 and 999.999999.

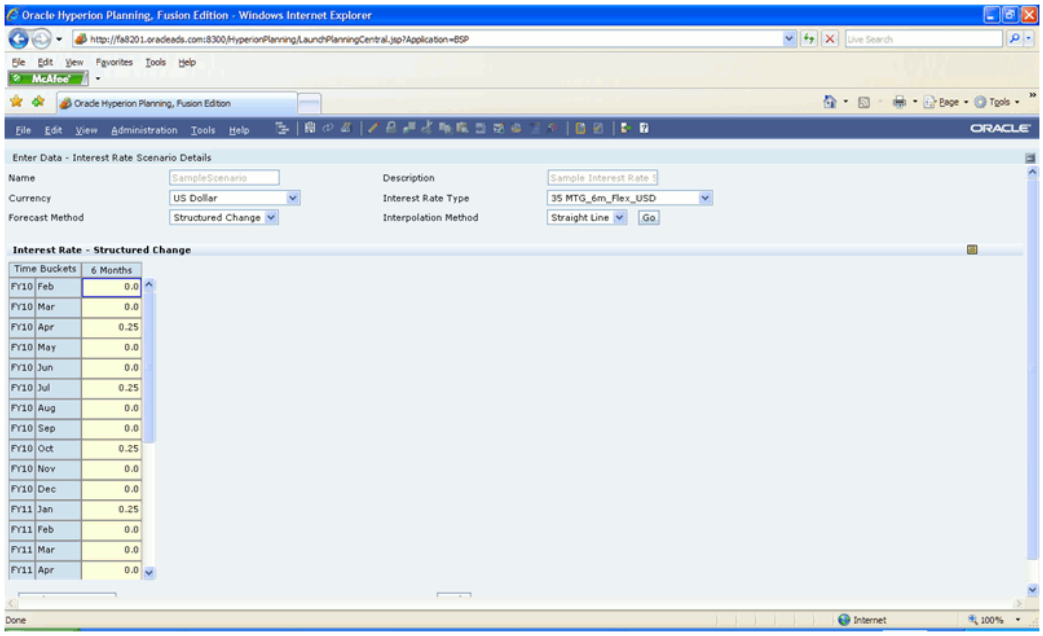
> **Note:** Rate values can be copied and pasted from a spreadsheet into the Interest Rate – Direct Input grid.



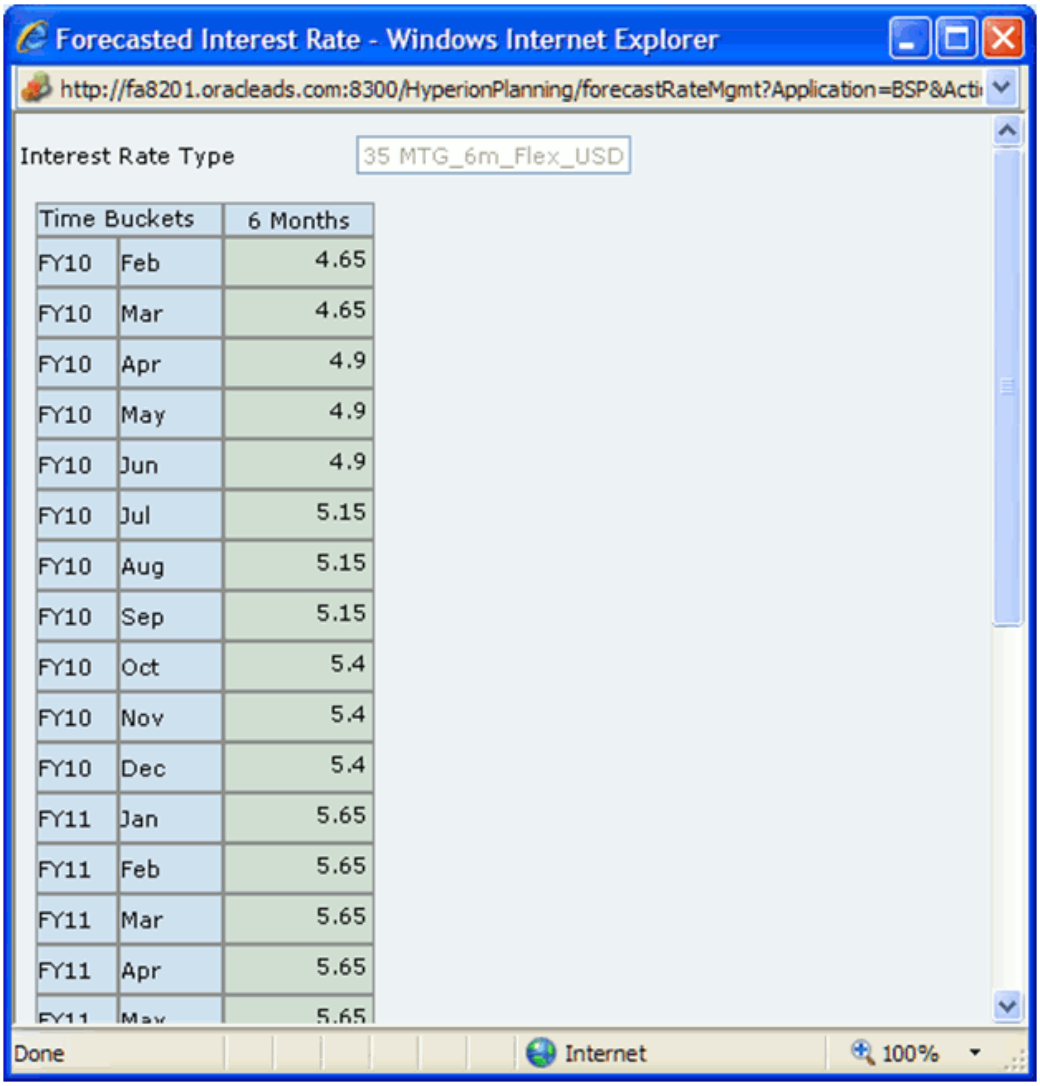
Using the Structured Change Forecast Method

When Structured Change is selected as the Forecast Method and you click on the Go control, the Interest Rate – Structured Change grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Term Points defined for the selected Interest Rate Type are displayed as columns. When using this method, enter the change in the forecasted rates value in the desired time buckets. You can enter positive or negative values, and the values should be between -99.999999 and 999.999999.

For example, assume that you want to create a rate forecast for an interest rate type where the value is unchanged (from the value equal to or closest to the as-of-date in rate management) for the first two months of the forecast, then increases by 0.25% on a quarterly basis for the next four quarters. As reflected in the screenshot below, enter .25 April, July, October and January as the structured change amount.



After entering the structured change amounts, click on the Apply control at the bottom of the screen. Then click on the View Forecasted Rate control at the top right of the Interest Rate – Structured Change container. The Forecasted Interest Rate popup screen will appear with the resulting forecasted interest rates displayed.



After viewing and confirming that the forecast rates are what you want, close the popup screen by clicking the OK control at the bottom of the popup screen.

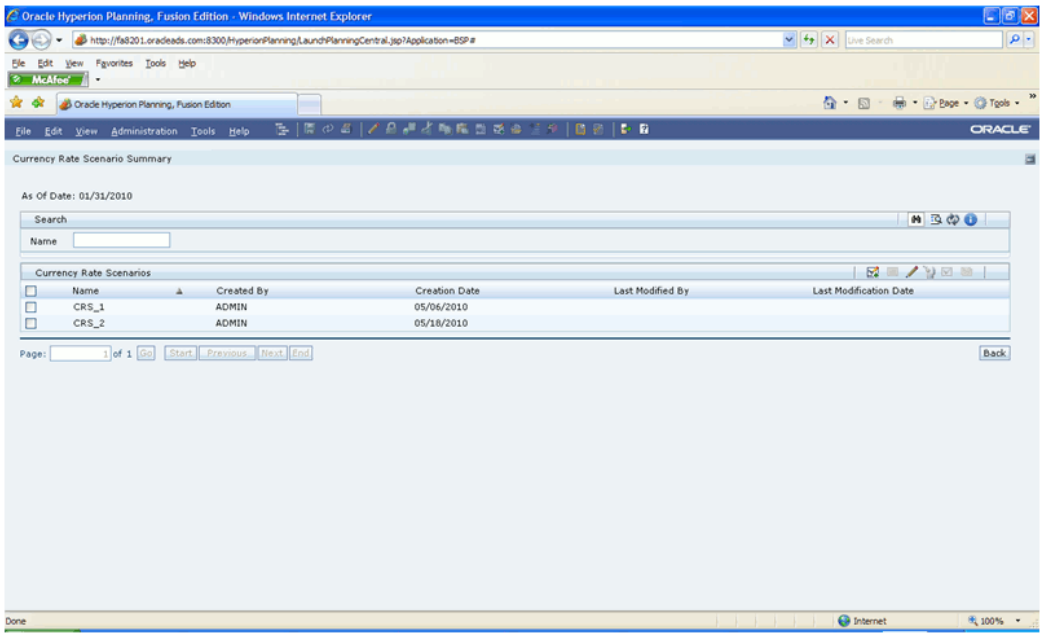
After creating your forecast rates for an individual interest rate type, click on the Save control to save the data.

Repeat the process for each interest rate type until you have finished creating a rate forecast for all needed interest rate types, remembering to Save in between each one and after the last one.

Click on the Back to Summary control to return to the summary grid, where your new interest rate scenario will be listed.

Working With Currency Rate Scenarios

This section describes the process of creating and working with currency rate scenarios. When you first navigate to Master Maintenance > Forecast Rates > Currency Rate Scenario, an empty Currency Rate Scenario Summary screen will be displayed. After you have constructed one or more currency rate scenarios, navigating to Master Maintenance > Forecast Rates > Currency Rate Scenario will display a summary screen showing each of the currency rate scenarios that you have previously built.



Search Container

A Search container is provided in which you may search for interest rate scenarios by Name.

Advanced Search options are also available and include searching by Creation Date, Last Modification Date, Created By or Last Modified By search parameters.

Search Control

Enter your desired search criteria and click on the Search control.

Alternatively, click on the Advanced Search control to open the advanced search dialog. To search by Created By or Last Modified By, enter a user name and click OK. To search by Creation Date or Last Modification Date, click on the icon next to the field to open up the Select Date form, highlight the date and click OK. After selecting a date and clicking OK, the date is populated in the Advanced Search dialog. Click OK to perform the search using the date selected.

Reset Control

Clicking on the Reset control removes any filtering constraint you may have specified and refreshes the screen.

Instructions Control

Click on the Instructions control to open a window containing instructions for working with currency rate scenarios.

Page Navigation Controls

If more than 10 currency rate scenario definitions exist, use the navigation controls below the summary grid to go to other pages.

Currency Rate Scenarios Container

The Currency Rate Scenarios container presents a grid containing all of the currency rate scenarios that meet your search criteria. The Currency Rate Scenarios grid offers several controls that allow you to perform different functions when a currency rate scenario is selected.

To select a currency rate scenario, click on a check box in the first column of the grid. More than one currency rate scenario can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the currency rate scenario.

You may select or deselect all of the currency rate scenarios in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the New control begins the process of building a new currency rate scenario. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of a currency rate scenario on a read-only basis. The View control is only enabled when a single currency rate scenario has been selected.

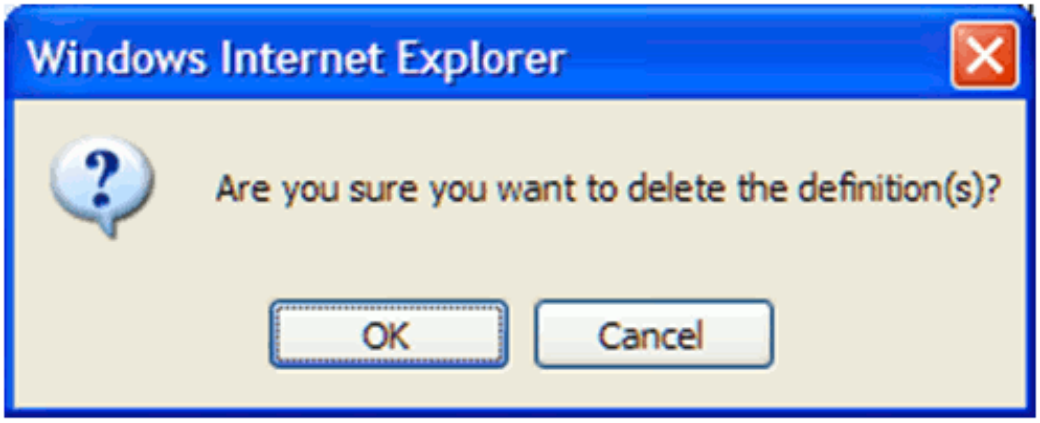
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved currency rate scenario. The Edit control is only enabled when a single currency rate scenario has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the currency rate scenarios you have selected.

Deleting a currency rate scenario that has been used to generate cash flow data and perform currency conversions should only be performed when there is no longer a need to retain the forecasted currency rates. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the scenario definition. Click on OK to proceed with the delete, or Cancel to prevent the deletion.

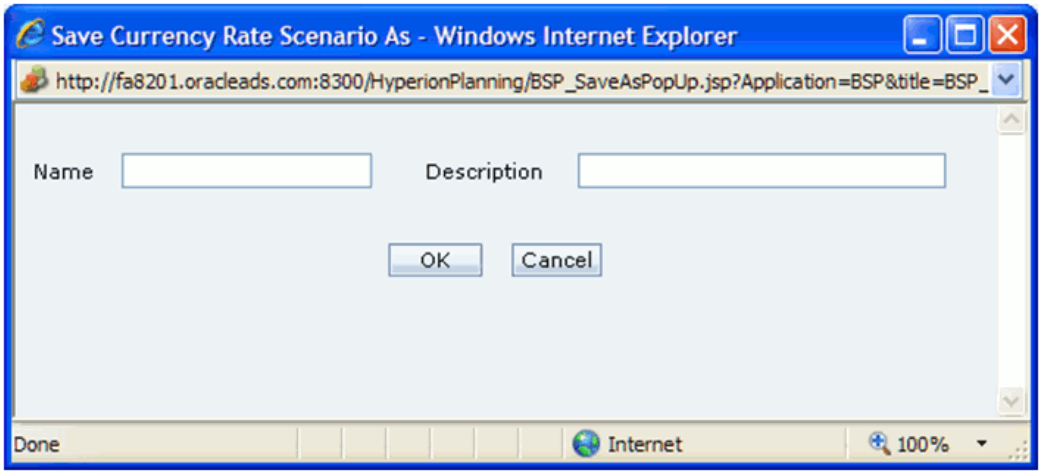


Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new currency rate scenario. To use the feature, click the checkbox next to an existing definition and click on the Save As control. The Save Currency Rate Scenario As dialog will open. Enter a Name and Description for the new currency rate scenario and click OK. A new currency rate scenario is added to the summary grid. You can then select the currency rate scenario and click on the Edit control to refine the definition.



The following columns categorize each currency rate scenario in the Currency Rate Scenarios container summary grid:

- Name
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Currency Rate Scenarios Summary Grid

The following columns categorize each interest rate scenario in the Currency Rate Scenario container summary grid:

Name

Displays the name for a currency rate scenario.

Creation Date

Displays the date and time at which a currency rate scenario was created.

Created By

Displays the name of the user who created an currency rate scenario.

Last Modification Date

Displays the date and time at which a currency rate scenario was last modified.

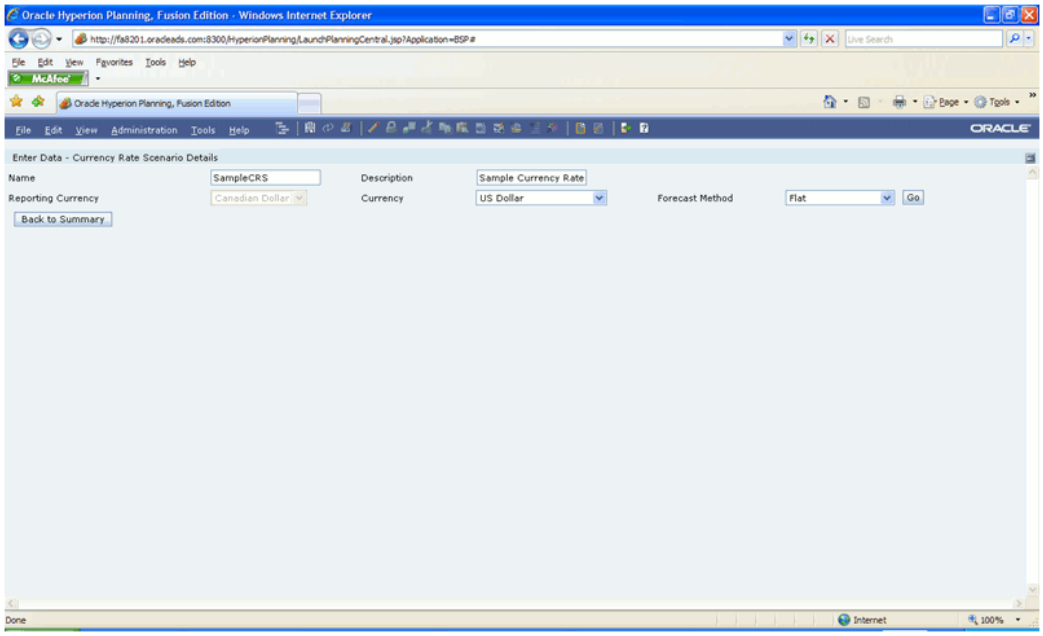
Last Modified By

Displays the name of the user who last modified a currency rate scenario.

Enter Data - Currency Rate Scenario Details

When you Add, Edit, or View an interest rate curve, the Enter Data - Currency Rate Scenario Details screen is displayed.

The Enter Data - Currency Rate Scenario Details screen is comprised of a Currency Rate Scenario Details container and a currency rates values container.



Currency Rate Scenario Details Container

The fields contained in the Enter Data - Currency Rate Scenario Details container are explained in detail below.

Name

The Name of the Currency Rate Scenario. The name must start with an alpha character and can be up to 80 characters long. The field will accept alphanumeric characters. The only special characters allowed are underscore and space.

Description

The Description of the Currency Rate Scenario. The description field will accept all alphanumeric and special characters, with a maximum length of 255 characters.

Reporting Currency

The Reporting Currency field is a text box displayed in read only mode. The currency displayed is the currency defined as the functional currency in Cash Flow Engine Preferences.

Currency

The Currency field is a drop list of all currencies that have been defined as Active in Rate Management.

Forecast Method

The Forecast Method field is a drop list of methods available for use in creating a currency rate scenario.

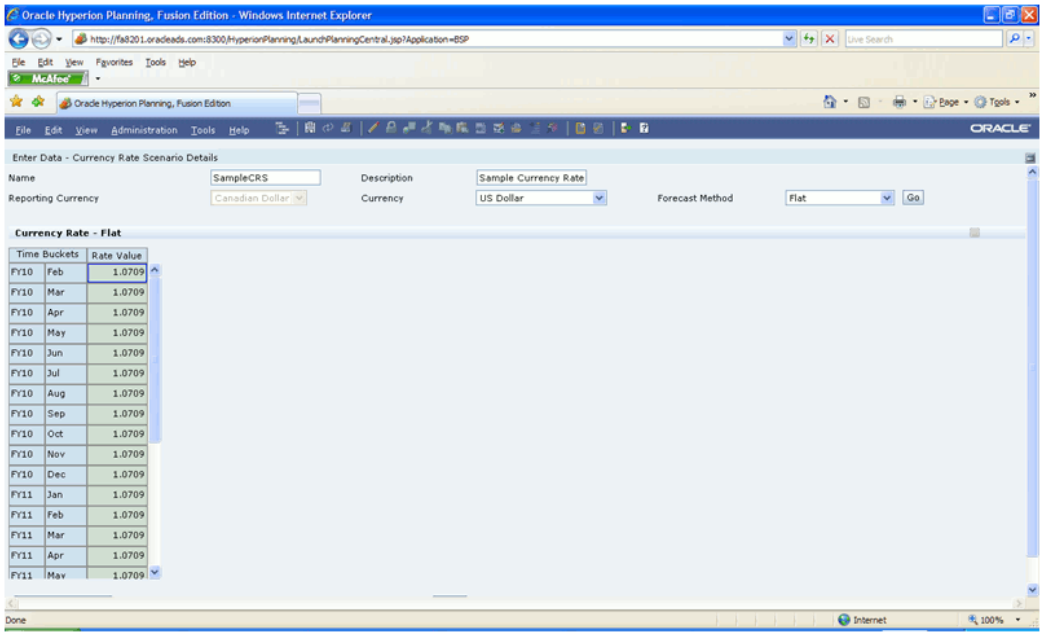
The available methods include:

- Flat – Select this method to forecast no change in the exchange rate for all dates beginning with the as-of-date.
- Direct Input – Select this method to type exchange rates directly for any modeling period.
- Structured Change – Select this method to forecast exchange rates as an incremental change from the previous period

  Once you have made your entries and selections for the above details, click on the Go control and the forecasted Currency Rate grid will appear. The grid that appears is based on the selection of the Forecast Method.

Using the Flat Forecast Method

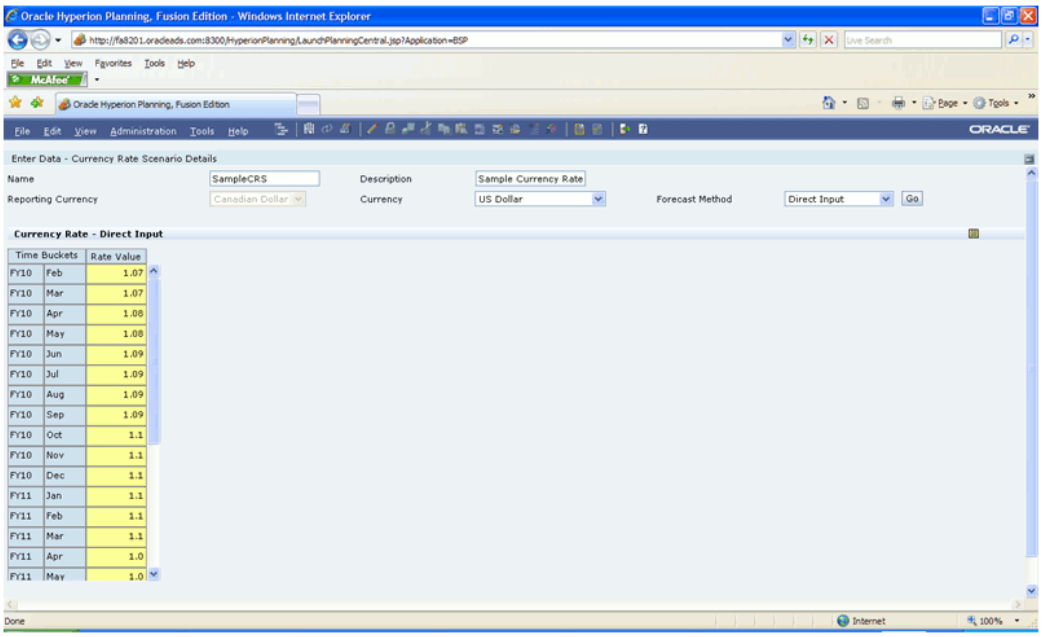
When Flat is selected as the Forecast Method and you click on the Go control, the Currency Rate – Flat grid is displayed in read only mode. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Rate Value is displayed as the column. When using this method, the historical currency rates equal to or closest to the as-of-date are picked up from Rate Management and applied to all future time buckets.



Using the Direct Input Forecast Method

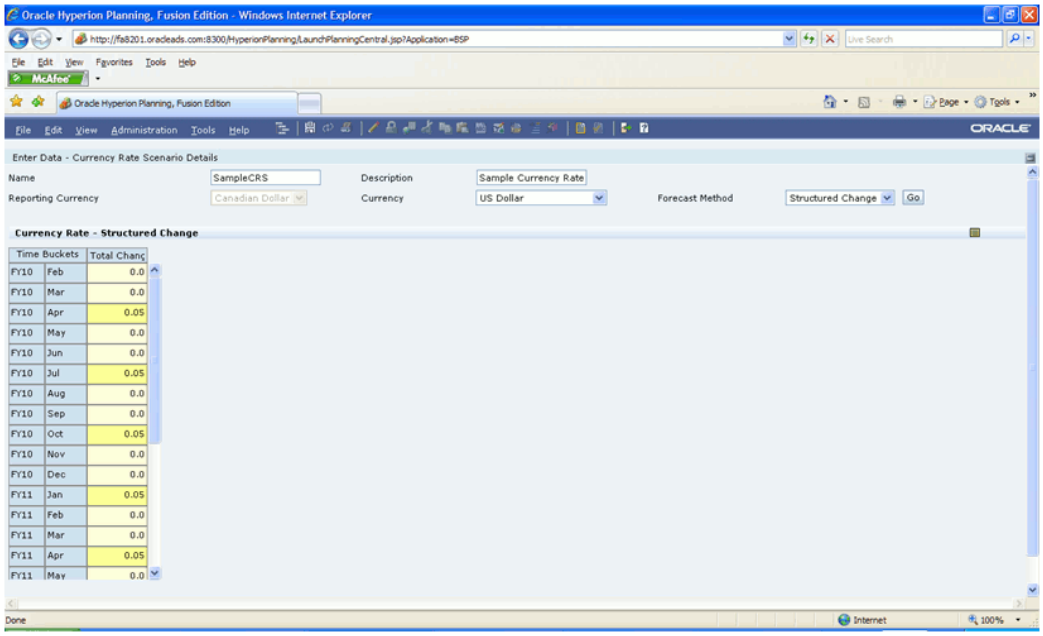
When Direct Input is selected as the Forecast Method and you click on the Go control, the Currency Rate – Direct Input grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Rate Value is displayed as the column. When using this method, you can directly enter your forecasted currency rate data for the time buckets displayed on the grid. The forecast rate values entered should be between 0 and 999999.999999.

> **Note:** Rate values can be copied and pasted from a spreadsheet into the Currency Rate – Direct Input grid.

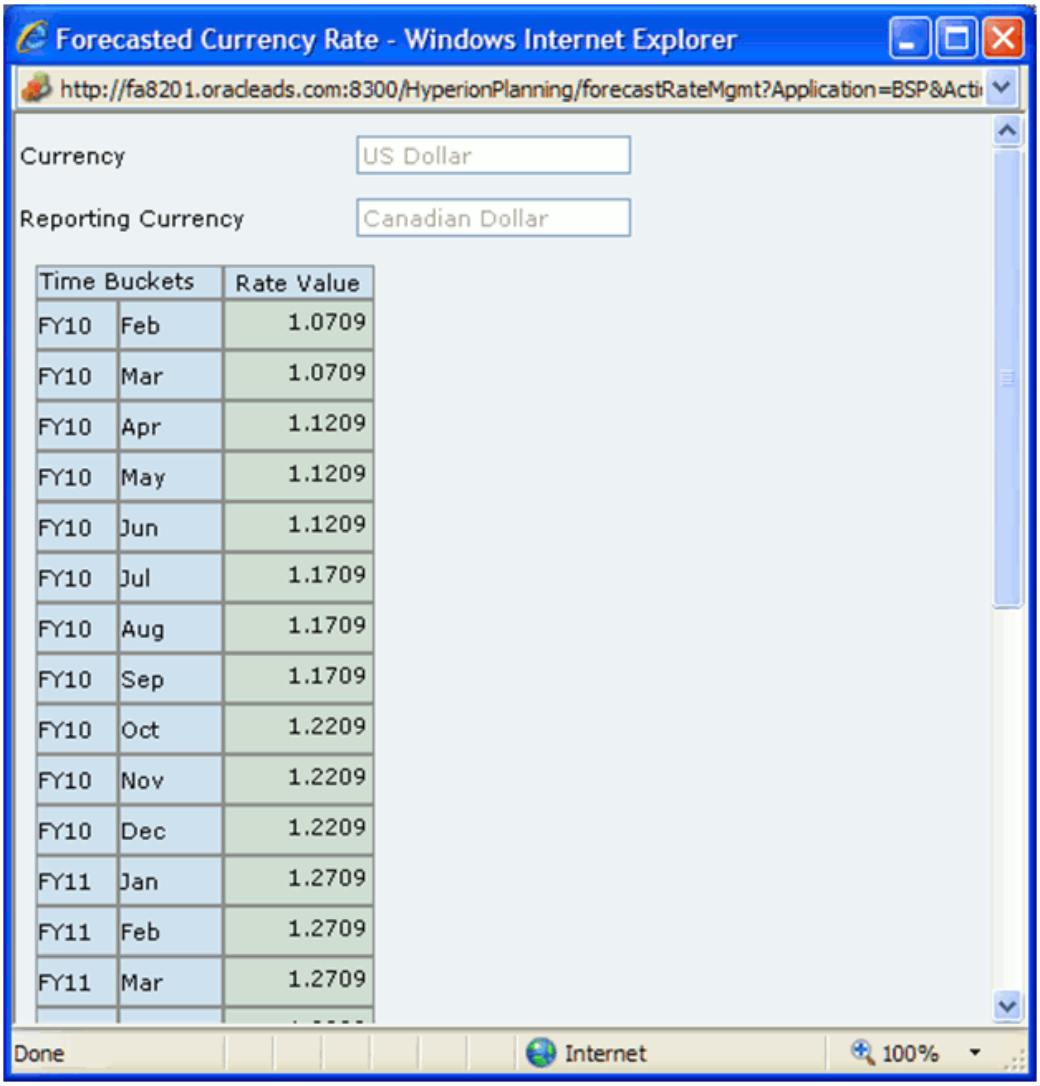


Using the Structured Change Forecast Method

When Structured Change is selected as the Forecast Method and you click on the Go control, the Currency Rate – Structured Change grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Rate Value is displayed as the column. When using this method, enter the change in the forecasted rates value in the desired time buckets. You can enter positive or negative values, and the values should be between -999999.999999 and 999999.999999.



After entering the structured change amounts, click on the Apply control at the bottom of the screen. Then click on the View Forecasted Rate control at the top right of the Currency Rate – Structured Change container. The Forecasted Currency Rate popup screen will appear with the resulting forecasted currency rates displayed.



After viewing and confirming that the forecast rates are what you want, close the popup screen by clicking the OK control at the bottom of the popup screen.

After creating your forecast rates for an individual currency, click on the Save control to save the data.

Repeat the process for each currency until you have finished creating a rate forecast for all needed currencies, remembering to Save in between each one and after the last one.

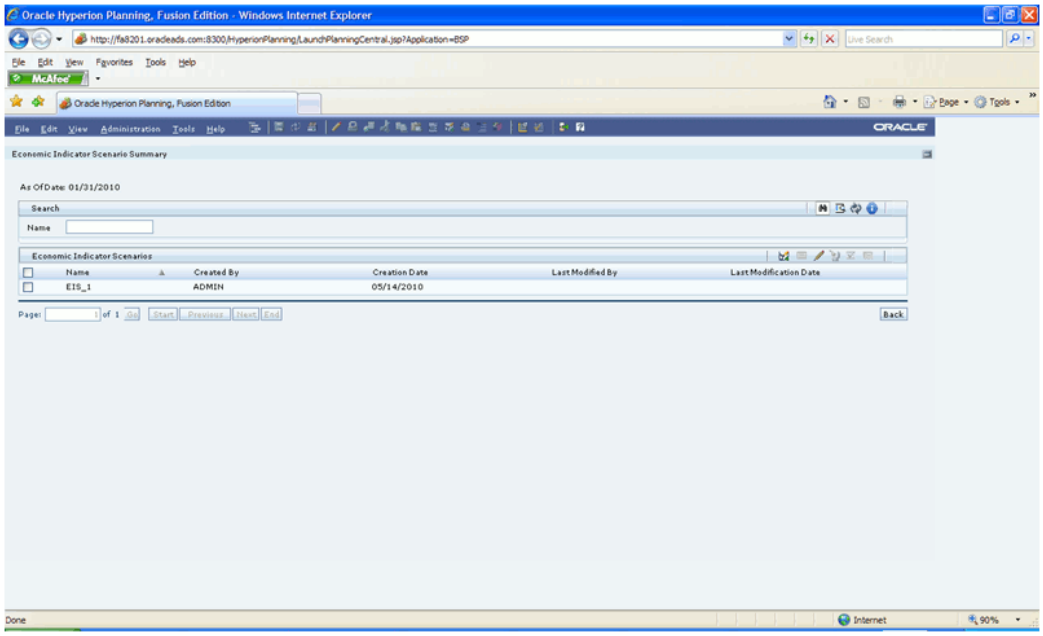
Click on the Back to Summary control to return to the summary grid, where your new currency rate scenario will be listed.

Working With Economic Indicator Scenarios

This section describes the process of creating and working with economic indicator

scenarios.

When you first navigate to Master Maintenance > Forecast Rates > Economic Indicator Scenario, an empty Economic Indicator Scenario Summary screen will be displayed. After you have constructed one or more economic indicator scenarios, navigating to Master Maintenance > Forecast Rates > Economic Indicator Scenario will display a summary screen showing each of the economic indicator scenarios that you have previously built.



Search Container

A Search container is provided in which you may search for interest rate scenarios by Name.

Advanced Search options are also available and include searching by Creation Date, Last Modification Date, Created By or Last Modified By search parameters.

Search Control

Enter your desired search criteria and click on the Search control.

Alternatively, click on the Advanced Search control to open the advanced search dialog. To search by Created By or Last Modified By, enter a user name and click OK. To search by Creation Date or Last Modification Date, click on the icon next to the field to open up the Select Date form, highlight the date and click OK. After selecting a date and clicking OK, the date is populated in the Advanced Search dialog. Click OK to perform the search using the date selected.

Reset Control

Clicking on the Reset control removes any filtering constraint you may have specified and refreshes the screen.

Instructions Control

Click on the Instructions control to open a window containing instructions for working with economic indicator scenarios.

Page Navigation Controls

If more than 10 economic indicator scenario definitions exist, use the navigation controls below the summary grid to go to other pages.

Economic Indicator Scenarios Container

The Economic Indicator Scenarios container presents a grid containing all of the economic indicator scenarios that meet your search criteria. The Economic Indicator Scenarios grid offers several controls that allow you to perform different functions when a economic indicator scenario is selected.

To select an economic indicator scenario, click on a check box in the first column of the grid. More than one economic indicator scenario can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the economic indicator scenario.

You may select or deselect all of the economic indicator scenarios in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the New control begins the process of building a new economic indicator scenario. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of an economic indicator scenario on a read-only basis. The View control is only enabled when a single economic indicator scenario has been selected.

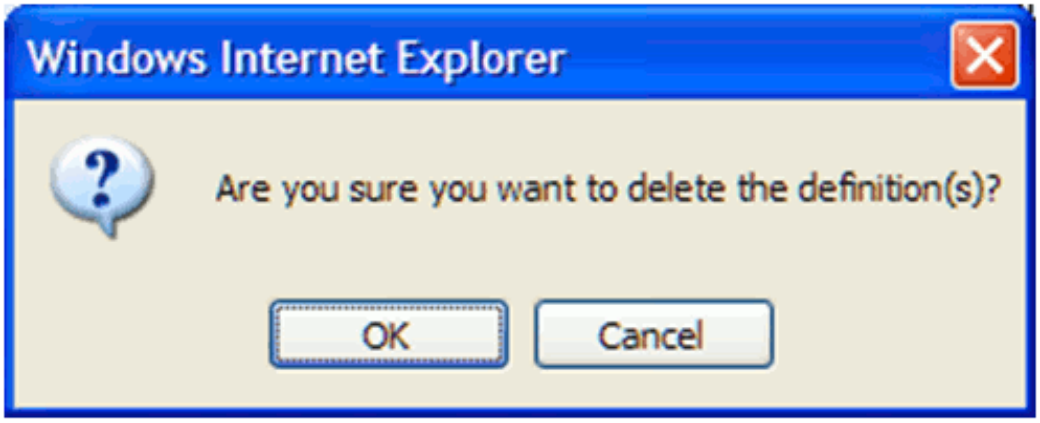
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved economic indicator scenario. The Edit control is only enabled when a single economic indicator scenario has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the economic indicator scenarios you have selected.

Deleting an economic indicator scenario that has been used to provide information on economic conditions supporting creation of a plan or forecast should only be performed when there is no longer a need to retain the forecasted economic indicator data. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the scenario definition. Click on OK to proceed with the delete, or Cancel to prevent the deletion.

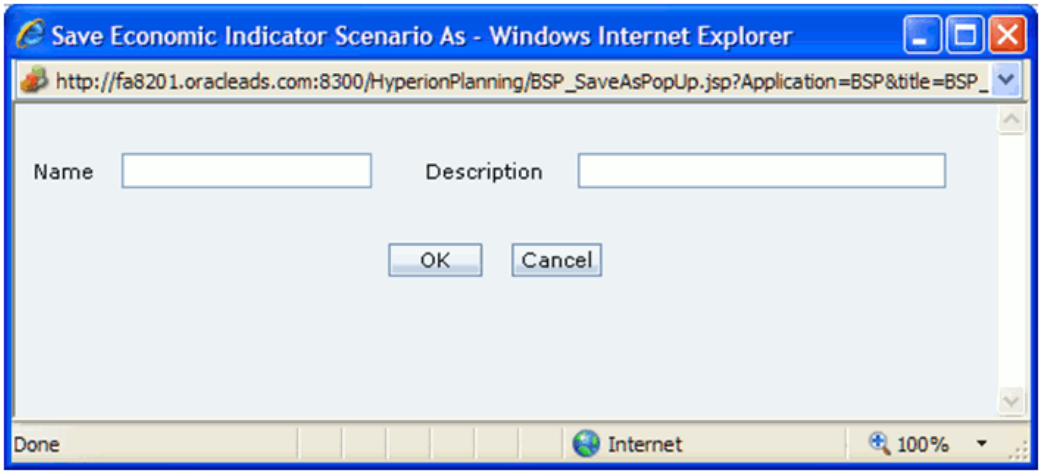


Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new economic indicator scenario. To use the feature, click the checkbox next to an existing definition and click on the Save As control. The Save Economic Indicator Scenario As dialog will open. Enter a Name and Description for the new economic indicator scenario and click OK. A new economic indicator scenario is added to the summary grid. You can then select the economic indicator scenario and click on the Edit control to refine the definition.



The following columns categorize each economic indicator scenario in the Economic Indicator Scenarios Container summary grid:

- Name
- Creation Date
- Created By
- Last Modification Date
- Last Modified By

Economic Indicator Scenarios Summary Grid

The following columns categorize each economic indicator scenario in the Economic Indicator Scenarios container summary grid:

Name

Displays the name for an economic indicator scenario.

Creation Date

Displays the date and time at which an economic indicator scenario was created.

Created By

Displays the name of the user who created an economic indicator scenario.

Last Modification Date

Displays the date and time at which an economic indicator scenario was last modified.

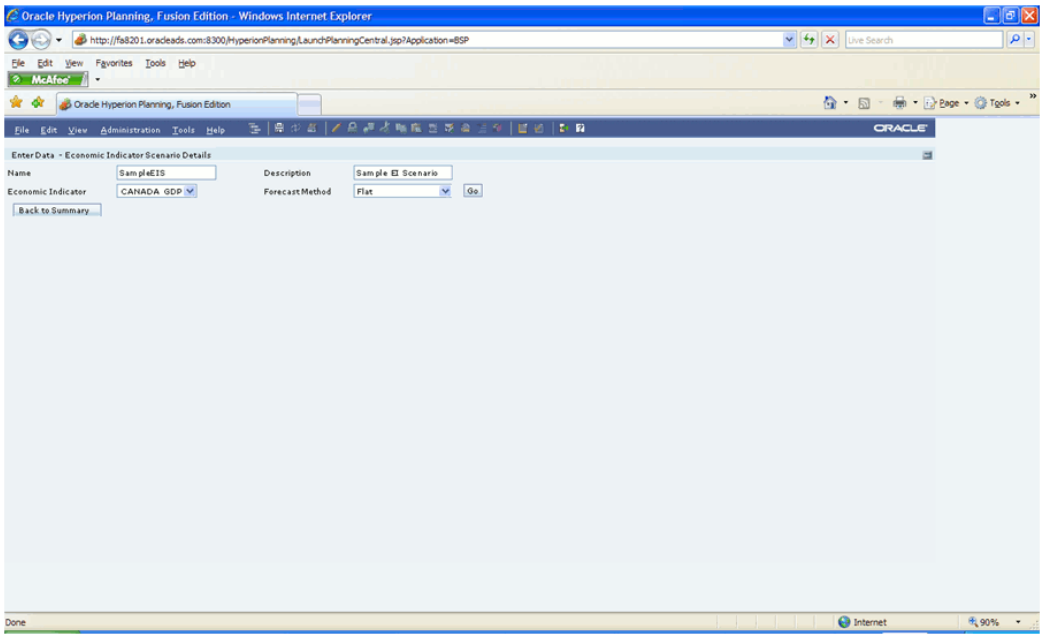
Last Modified By

Displays the name of the user who last modified an economic indicator scenario.

Enter Data - Economic Indicator Scenario Details

When you Add, Edit, or View an economic indicator scenario, the Enter Data - Economic Indicator Scenario Details screen is displayed.

The Enter Data - Economic Indicator Scenario Details screen is comprised of an Economic Indicator Scenario Details container and a economic indicator values container.



Economic Indicator Details Container

The fields contained in the Enter Data - Economic Indicator Scenario Details container are explained in detail below.

Name

The Name of the Economic Indicator Scenario. The name must start with an alpha character and can be up to 80 characters long. The field will accept alphanumeric characters. The only special characters allowed are underscore and space.

Description

The Description of the Economic Indicator Scenario. The description field will accept all alphanumeric and special characters, with a maximum length of 255 characters.

Economic Indicator

The Economic Indicator field is a drop list that displays all economic indicators that have been defined in Rate Management.

Forecast Method

The Forecast Method field is a drop list of methods available for use in creating an economic indicator scenario.

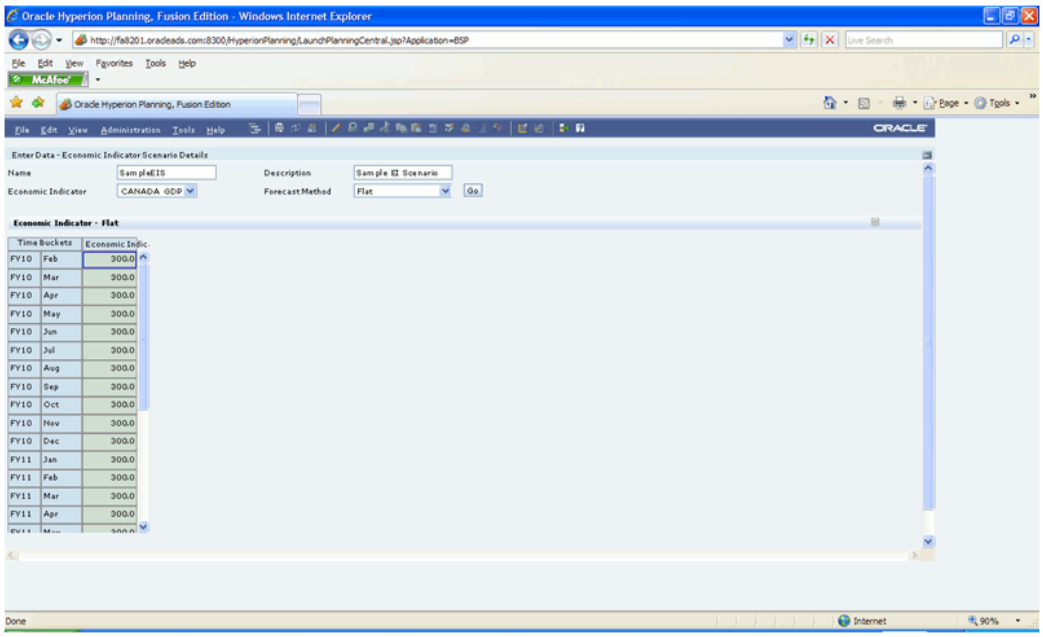
The available methods include:

- Flat – Select this method to forecast no change in the economic indicator value for all dates beginning with the as-of-date.
- Direct Input – Select this method to type economic indicator values directly for any modeling period.
- Structured Change – Select this method to forecast economic indicator values as an incremental change from the previous period.

  Once you have made your entries and selections for the above details, click on the Go control and the forecasted economic indicator grid will appear. The grid that appears is based on the selection of the Forecast Method.

Using the Flat Forecast Method

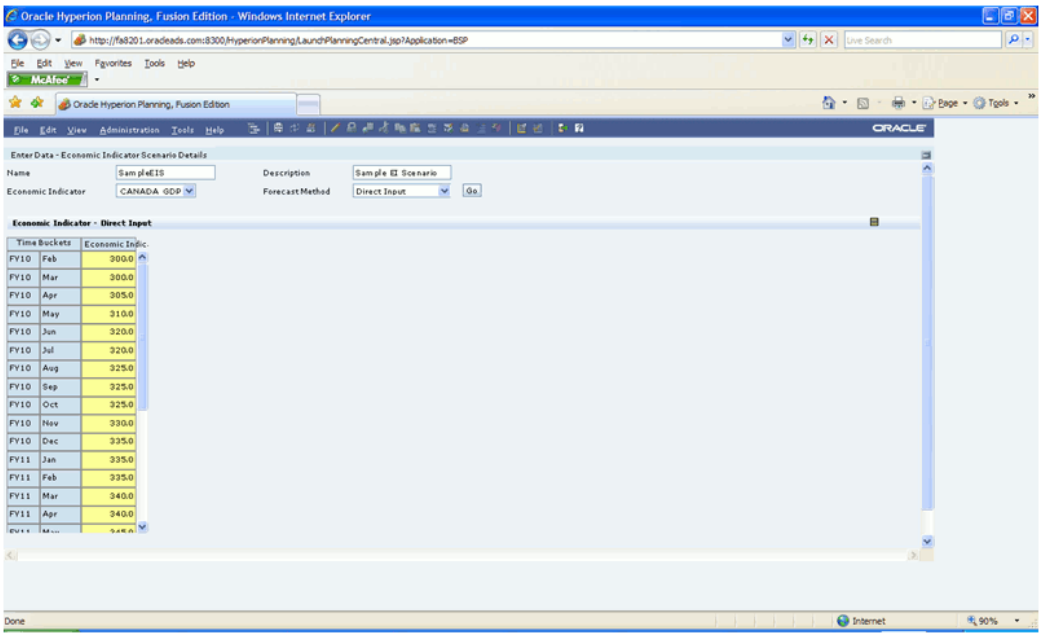
When Flat is selected as the Forecast Method and you click on the Go control, the Economic Indicator – Flat grid is displayed in read only mode. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Economic Indicator Value is displayed as the column. When using this method, the historical economic indicator value equal to or closest to the as-of-date are picked up from Rate Management and applied to all future time buckets.



Using the Direct Input Forecast Method

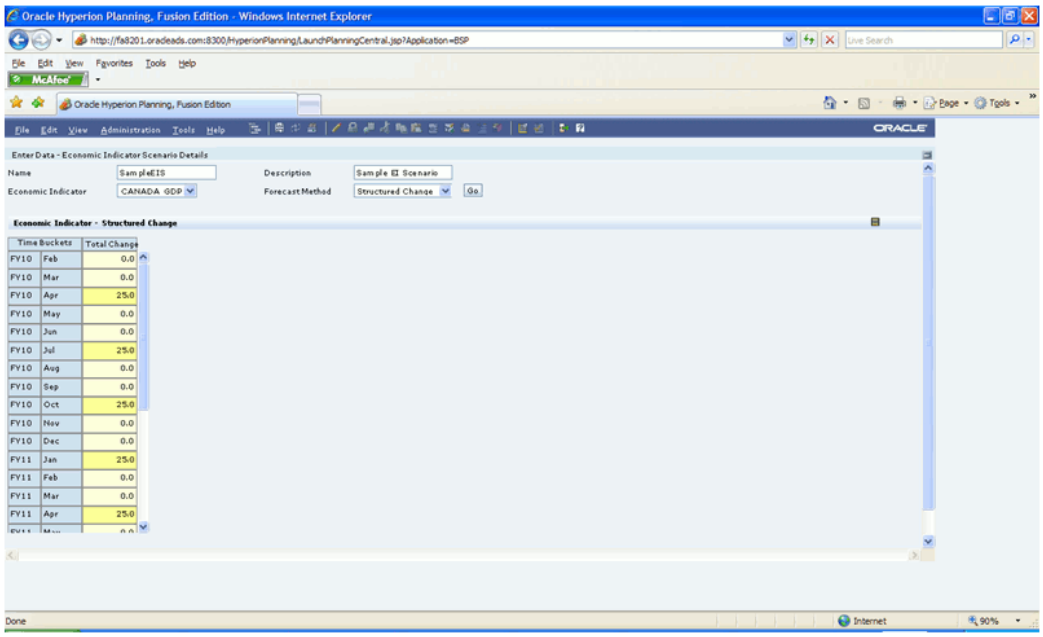
When Direct Input is selected as the Forecast Method and you click on the Go control, the Economic Indicator – Direct Input grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Economic Indicator Value is displayed as the column. When using this method, you can directly enter your forecasted economic indicator data for the time buckets displayed on the grid. The forecast values entered should be between -99.999999 and 999.999999.

> **Note:** Economic indicator values can be copied and pasted from a spreadsheet into the Economic Indicator – Direct Input grid.

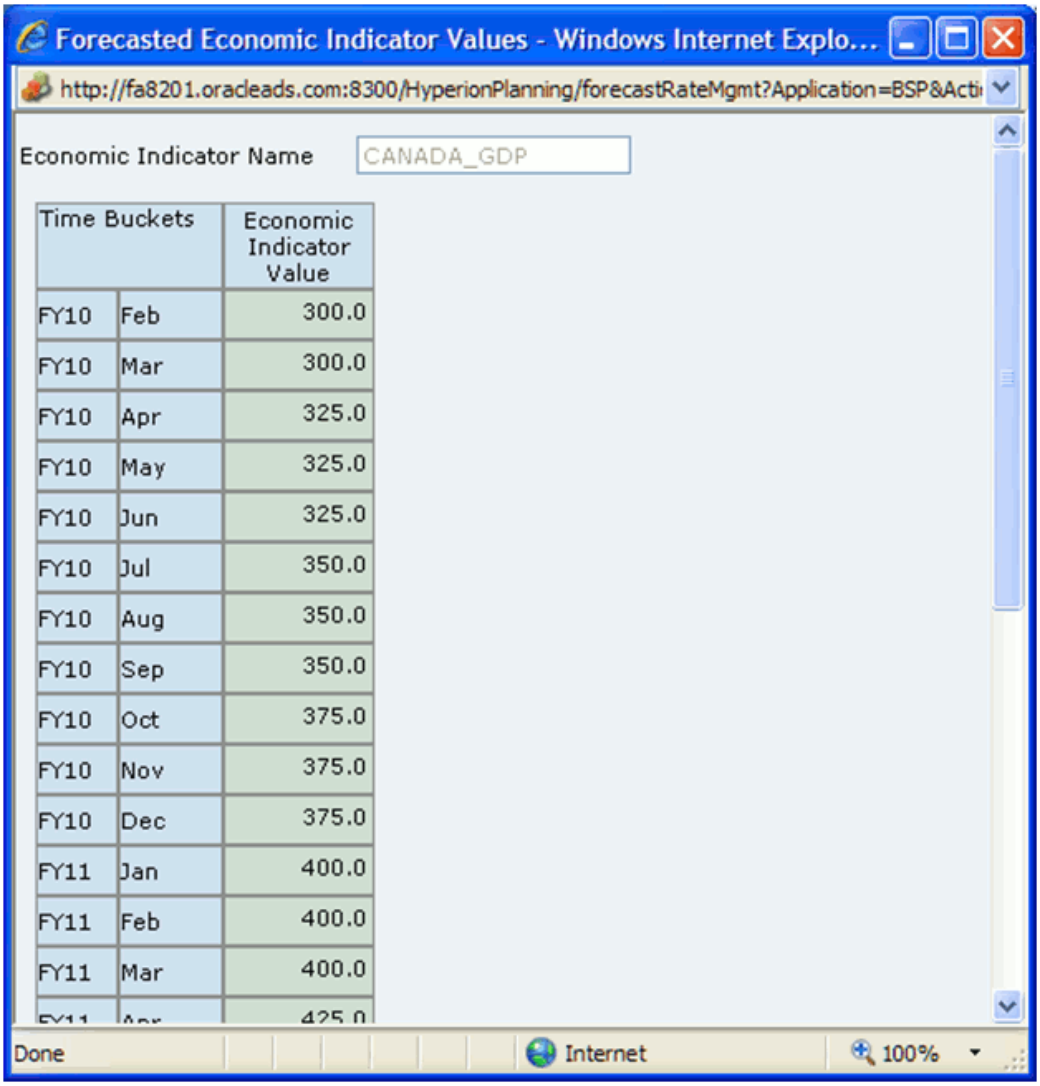


Using the Structured Change Forecast Method

When Structured Change is selected as the Forecast Method and you click on the Go control, the Economic Indicator – Structured Change grid is displayed on an editable basis. The active Time Bucket Definition buckets are displayed as rows on the grid, and the Economic Indicator Value is displayed as the column. When using this method, enter the change in the forecasted economic indicator value in the desired time buckets. You can enter positive or negative values, and the values should be between -99.999999 and 999.999999.



After entering the structured change amounts, click on the Apply control at the bottom of the screen. Then click on the View Forecasted Rate control at the top right of the Economic Indicator – Structured Change container. The Forecasted Economic Indicator Values popup screen will appear with the resulting forecasted economic indicators displayed.



After viewing and confirming that the forecast economic indicators are what you want, close the popup screen by clicking the OK control at the bottom of the popup screen.

After creating your forecast values for an individual economic indicator, click on the Save control to save the data.

Repeat the process for each indicator until you have finished creating a value forecast for all needed economic indicators, remembering to Save in between each one and after the last one.

Click on the Back to Summary control to return to the summary grid, where your new economic indicator scenario will be listed.

Loading Forecast Rates Data to Essbase

After creation of interest rate, currency rate and/or economic indicator scenarios in Master Maintenance, the Budget Administrator should load the resulting forecast rate data from the Balance Sheet Planning data model to Essbase. Once the data load is completed the information is available for viewing by analysts.

Prerequisites

- Interest Rate, Currency Rate and Economic Indicator Scenarios have been created in the Balance Sheet Planning data model using the Custom User Interface **Forecast Rates** accessed from **Master Maintenance** Data Form.

- Interest Rate, Currency Rate and Economic Indicator Scenarios existing in Relational Data Base Management System (RDBMS) have been created as dimension members of the Assumption Dimension under Interest Rate Scenario, Currency Rate Scenario and Economic Indicator Scenario respectively by running Metadata Synchronization.

IRCs, Currencies, and Economic Indicators have been created as members of Rate Element Dimension under Interest Rate Codes>To Currency, and Economic Indicators.

IRC term points should also be created as members of Term Point dimension.

To load the forecast rates data into Essbase, navigate to Master Maintenance > Assumption Forms >Forecast Rates. Select Interest Rate / Currency Rate / Economic Indicator Scenario, according to your need. The respective Summary Page appears. In the Summary Page, select the definition(s) and click Import icon. On successful import, a message appears.

To View the imported data, navigate to Analyst Activities > Financial Plan. Right click in the Financial Plan and select Navigate to other form and then select Maturity Mix. Right click in Maturity Mix and select View Assumptions. Then select Interest Rate Scenario / Currency Rate Scenario / Economic Indicator Scenario as required.

12

Defining Prepayments

Overview of Prepayments

One of the major business risks faced by financial institutions engaged in the business of lending is prepayment risk. Prepayment risk is the possibility that borrowers might choose to repay part or all of their loan obligations before the scheduled due dates. Prepayments can be made by either accelerating principal payments or refinancing.

Prepayments cause the actual cash flows from a loan to a financial institution to be different from the cash flow schedule drawn at the time of loan origination. Prepayment activity can significantly impact both the accuracy of generated cash flow projections as well as the profitability of the underlying instruments, and should generally be factored into the creation of budgets and forecasts where appropriate.

Oracle Balance Sheet Planning allows you to define and incorporate prepayment assumptions into your plans and forecasts using any of several available prepayment methodologies. Separate assumptions can be used for generating cash flows for the current book of business versus for processing of new business assumptions.

Create Prepayments for Current Position definition to define prepayment assumptions for the current book of business. See Prepayments for Current Position, page 13-1 for more information.

Prepayment assumptions for new business are specified when defining Maturity Mix assumptions.

See Maturity Mix Assumptions, page 19-1 for more information.

The various prepayment methodologies available for use within Balance Sheet Planning are discussed in the remainder of this chapter.

Prepayment Methodologies

You can use any of the following four methods in Balance Sheet Planning to model the prepayment behavior of instruments:

- Constant Prepayment method
- Prepayment Model method
- PSA method
- Arctangent method

Constant Prepayment Method

The Constant Prepayment method calculates the prepayment amount as a flat percentage of the current balance.

When defining prepayment assumptions for the current book of business in a Prepayments for Current Position definition, you can create your own origination date ranges and assign a particular prepayment rate to all the instruments with origination dates within a particular origination date range. Prepayment assumptions for new business are defined in Maturity Mix Assumptions for each future time period.

Note: All prepayment rates should be input as annual amounts.

Prepayment Model method

The Prepayment Model method allows you to define more complex prepayment assumptions compared to the other prepayment methods. Under this method, prepayment assumptions are assigned using a custom Prepayment Model.

You can build a Prepayment Model using a combination of up to three prepayment drivers and define prepayment rates for various values of these drivers. Each driver maps to an attribute of the underlying transaction (age/term or rate) so that the cash flow engine can apply a different prepayment rate based on the specific characteristics of the record.

Note: All prepayment rates should be input as annual amounts.

Prepayment Model definitions are centrally defined in Balance Sheet Planning, and can be attached to Prepayment for Current Position definitions or assigned to a chart of account dimension member in Maturity Mix Assumptions for use in generating new business cash flows.

Note: Any references to 'instrument' in the remainder of this chapter applies to both account level instruments represented in the current book of business as well as to new business volumes entered or generated in future time periods.

Prepayment Model Structure

A typical Prepayment Model structure includes the following:

- **Prepayment Drivers:** You can build a Prepayment table using one to three prepayment drivers. A driver influences the prepayment behavior of an instrument and is either an instrument characteristic or a measure of interest rates.

- **The Prepayment Driver Nodes:** You can specify one or more node values for each of the prepayment drivers that you select.

- **Interpolation or Range method:** Interpolation or Range methods are used to calculate prepayment rates for the prepayment driver values that do not fall on the defined prepayment driver nodes.

Types of Prepayment Drivers

The prepayment drivers are designed to allow the calculation of prepayment rates at run time depending on the specific characteristics of the instruments for which cash flows are being generated. Although nine prepayment drivers are available, a particular prepayment table can contain only up to three prepayment drivers.

The prepayment drivers can be divided into the following two categories:

- **Age/Term Drivers:** The Age/Term drivers define term and repricing parameters in a Prepayment Model. All such prepayment drivers are input in units of months. These drivers include:

    - **Original Term:** You can vary your prepayment assumptions based on the contractual term of the instrument. For example, you could model faster prepayment speeds for longer term loans, such as a 10-year loan, than for short term loans, such as a 5-year loan. You would then select the Original Term prepayment driver and specify two node values: 60 months and 120 months.

    - **Repricing Frequency:** You can vary your prepayment assumptions based on the repricing nature of the instrument being processed. Again, you could specify different prepayment speeds for different repricing frequencies and the system would decide which one to apply at run time for each instrument.

    - **Remaining Term**: You can specify prepayment speeds based on the remaining term to maturity. For example, loans with few months to go until maturity tend to experience faster prepayments than loans with longer remaining terms.

    - **Expired Term:** This is similar to the previous driver but instead of looking at the term to maturity, you base your assumptions on the elapsed time. Prepayments show some aging effect such as the loans originated recently experiencing more prepayments than older ones.

- **Term to Repricing:** You can also define prepayment speeds based on the number of months until the next repricing of the instrument.

- **Interest Rate Drivers**: The Interest Rate drivers allow the forecasted interest rates to drive prepayment behavior to establish the rate-sensitive prepayment runoff. Interest Rate Drivers include:
  - **Coupon Rate:** You can base your prepayment assumptions on the current net rate on the instrument.
  - **Market Rate:** This driver allows you to specify prepayment speeds based on the market rate prevalent at the time the cash flows occur. This way, you can incorporate your future expectations on the levels of interest rates in the prepayment rate estimation. For example, you can increase prepayment speeds during periods of decreasing rates and decrease prepayments when the rates go up.
  - **Rate Difference:** You can base your prepayments on the spread between the current net rate and the market rate.
  - **Rate Ratio:** You can also base your prepayments on the ratio of current net rate to market rate.

PSA Prepayment Method

The PSA Prepayment method (Public Securities Association Standard Prepayment Model) is a standardized prepayment model that is built on a single dimension, remaining term. The PSA curve is a schedule of prepayments which assumes that prepayments will occur at a rate of 0.2 percent CPR in the first month and will increase an additional 0.2 percent CPR each month until the 30th month and will prepay at a rate of 6 percent CPR thereafter ("100 percent PSA"). PSA prepayment speeds are expressed as a multiple of this base scenario. For example, 200 percent PSA assumes annual prepayment rates will be twice as fast in each of these periods -- 0.4 percent in the first month, 0.8 percent in the second month, reaching 12 percent in month 30 and remaining at 12 percent after that. A zero percent PSA assumes no prepayments.

When defining prepayment assumptions for the current book of business in a Prepayments for Current Position definition, you can create your own origination date ranges and assign a particular PSA speed to all the instruments with origination dates within a particular origination date range. Prepayment assumptions for new business using PSA speeds are defined in Maturity Mix Assumptions for each future time period.

Note: PSA speed inputs can be between 0 and 1667.

Arctangent Calculation Method

The Arctangent Calculation method uses the Arctangent mathematical function to describe the relationship between prepayment rates and spreads (coupon rate less market rate).

Note: All prepayment rates should be input as annual amounts.

User defined coefficients adjust this function to generate differently shaped curves.

Specifically:

CPRt = k1 - (k2 * ATAN(k3 * (-Ct/Mt + k4)))

where CPRt = annual prepayment rate in period t

Ct = coupon in period t

Mt = market rate in period t

k1 - k4 = user defined coefficients

A graphical example of the Arctangent prepayment function is shown below, using the following coefficients:

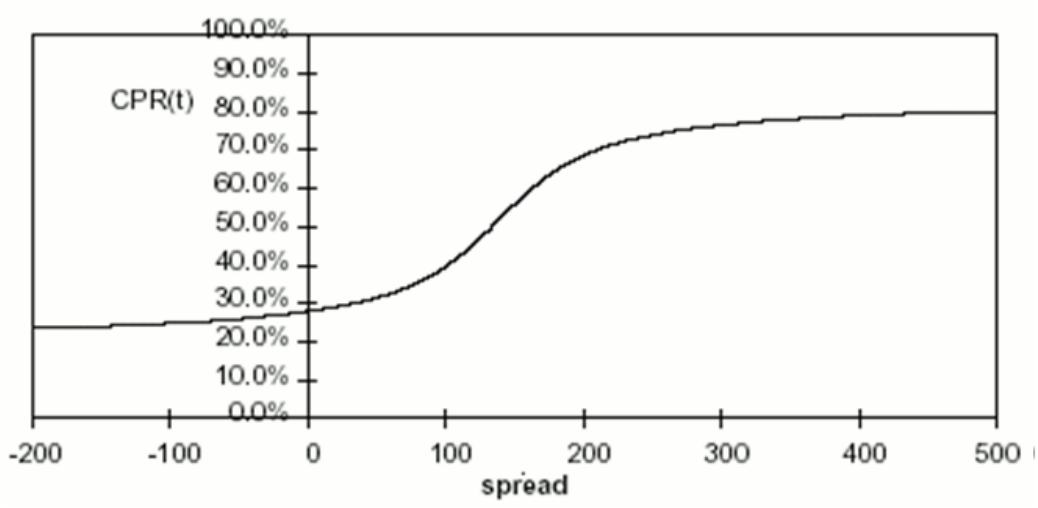
k1 = 0.3

k2 = 0.2

k3 = 10.0

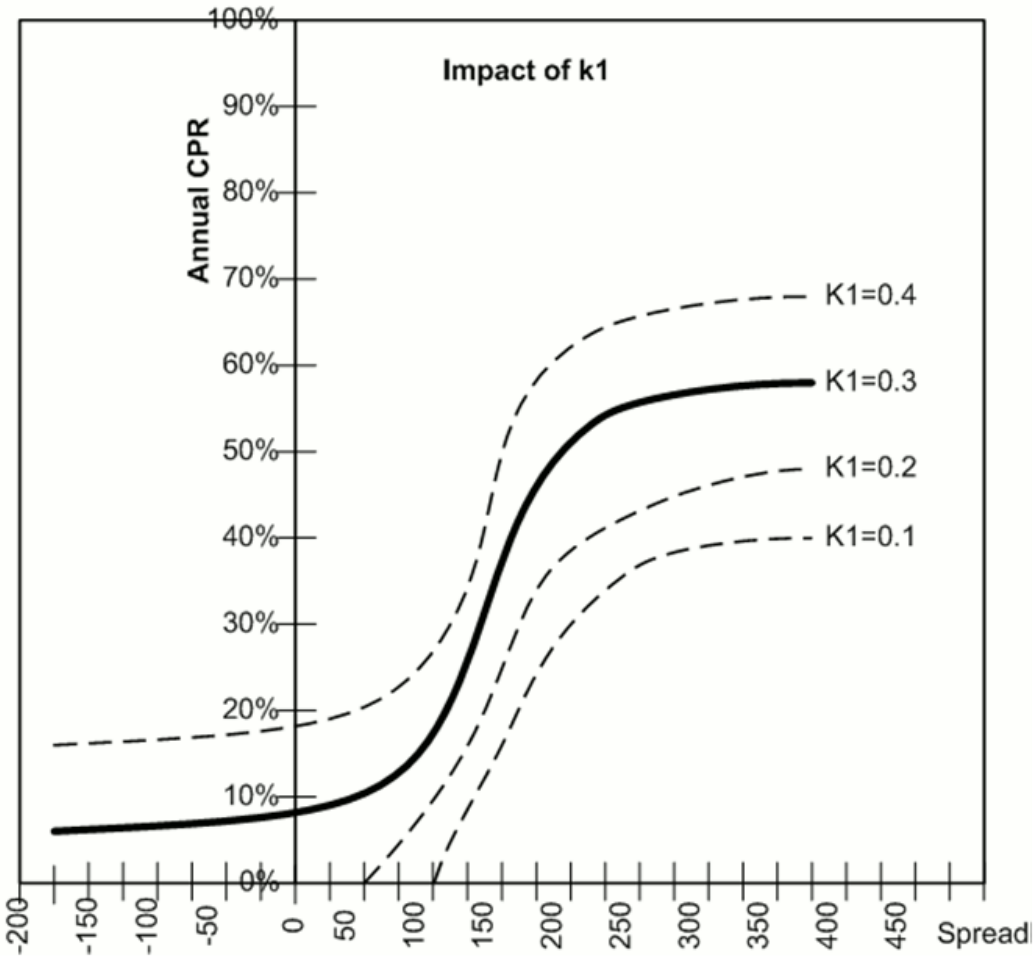
k4 = 1.2

Each coefficient affects the prepayment curve in a different manner.

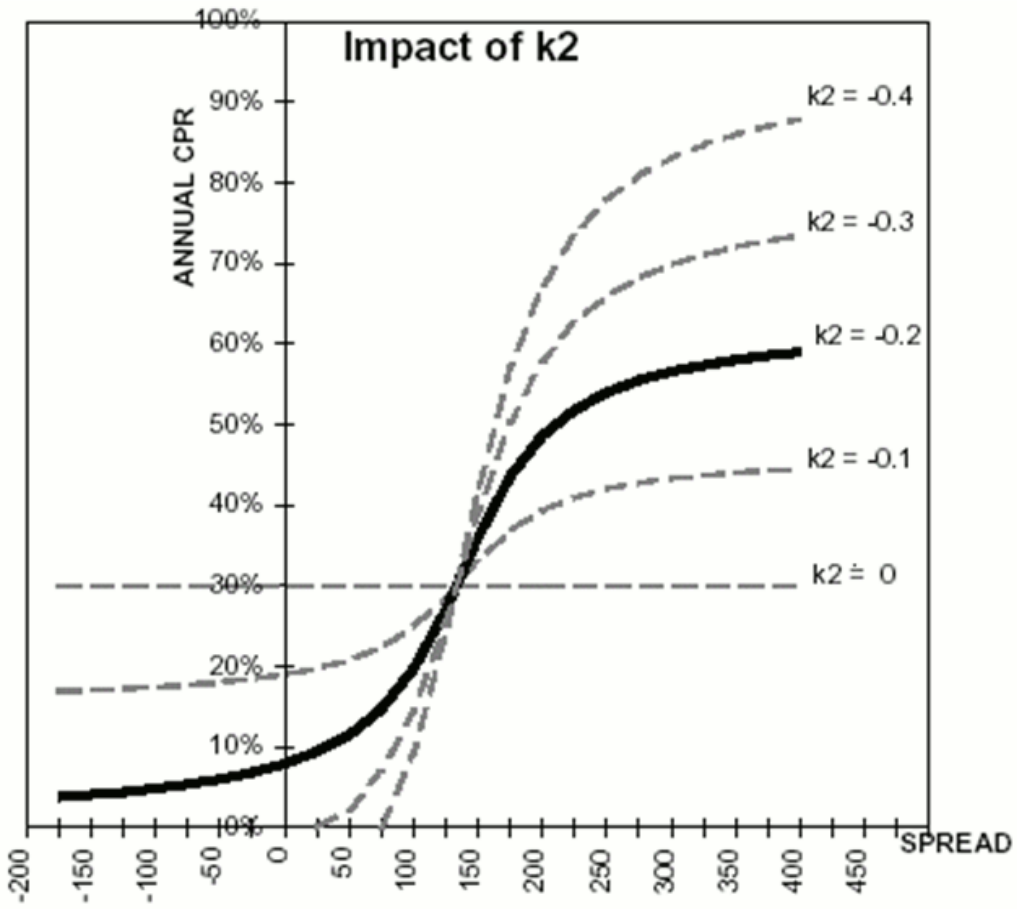


The following diagram shows the impact of K1 on the prepayment curve. K1 defines the midpoint of the prepayment curve, affecting the absolute level of prepayments.

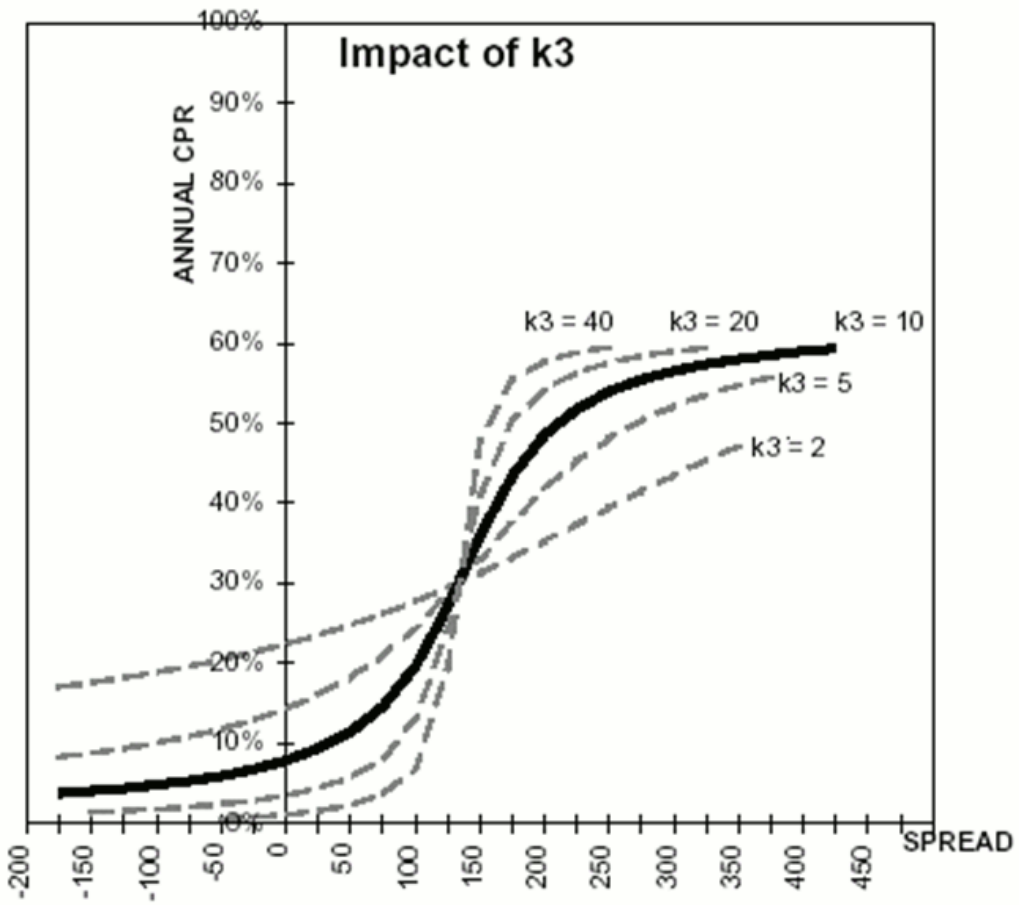
Adjusting the value creates a parallel shift of the curve up or down.



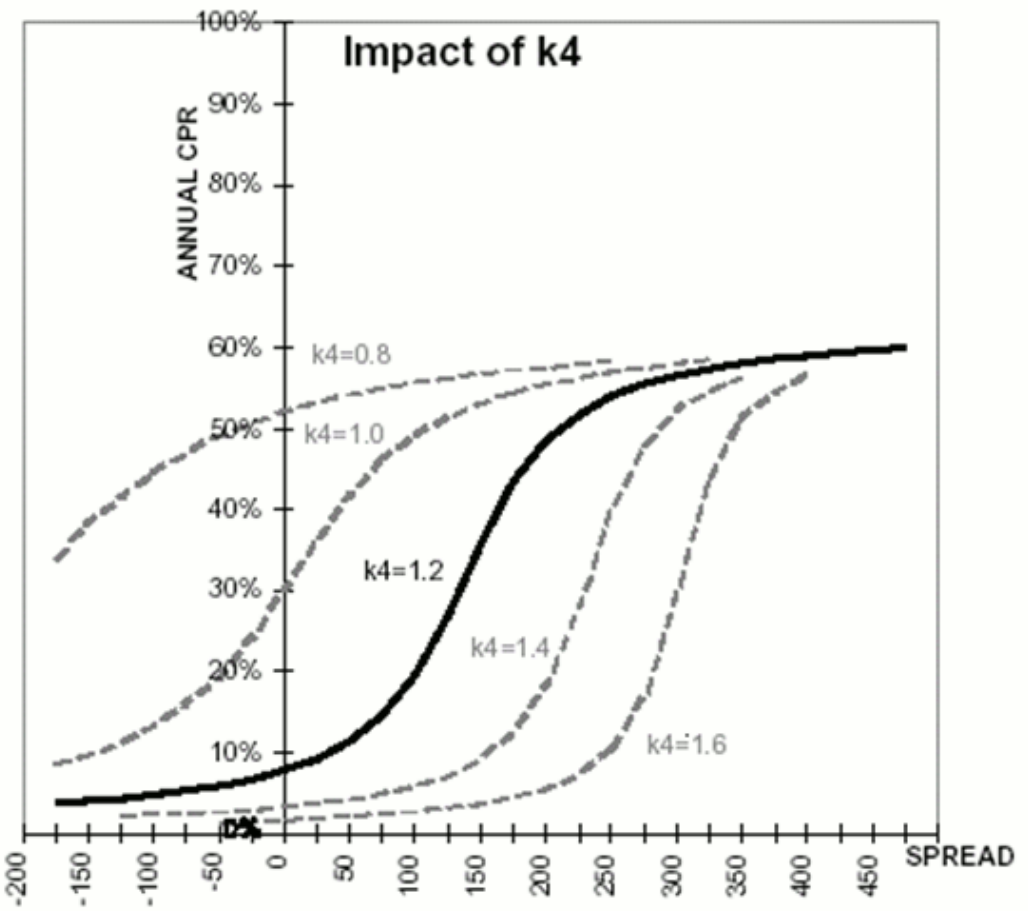
The following diagram shows the impact of K2 on the prepayment curve. K2 impacts the slope of the curve, defining the change in prepayments given a change in market rates. A larger value implies greater overall customer reaction to changes in market rates.



The following diagram shows the impact of K3 on the prepayment curve. K3 impacts the amount of torque in the prepayment curve. A larger K3 increases the amount of acceleration, implying that customers react more sharply when spreads reach the hurdle rate.



The following diagram shows the impact of K4 on the prepayment curve. K4 defines the hurdle spread: the spread at which prepayments start to accelerate. When the spread ratio = k4, prepayments = k1.


Impact of k4
ANNUAL CPR
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
k4=0.8
k4=1.0
k4=1.2
k4=1.4
k4=1.6
-200
-150
-100
-50
0
50
100
150
200
250
300
350
400
450
SPREAD

13

Prepayments for Current Position

This chapter describes the procedure for working with and managing Prepayments for Current Position rules.

This chapter covers the following topics:

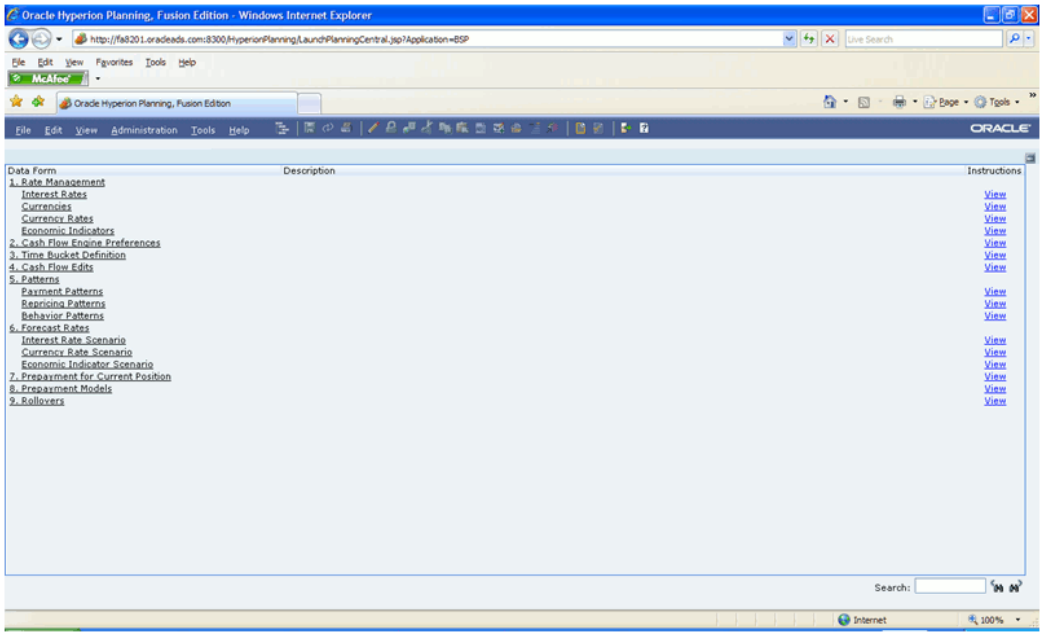
- Overview of Prepayments for Current Position
- Working With Prepayments for Current Position
- Creating a New Prepayment for Current Position Definition

Overview of Prepayments for Current Position

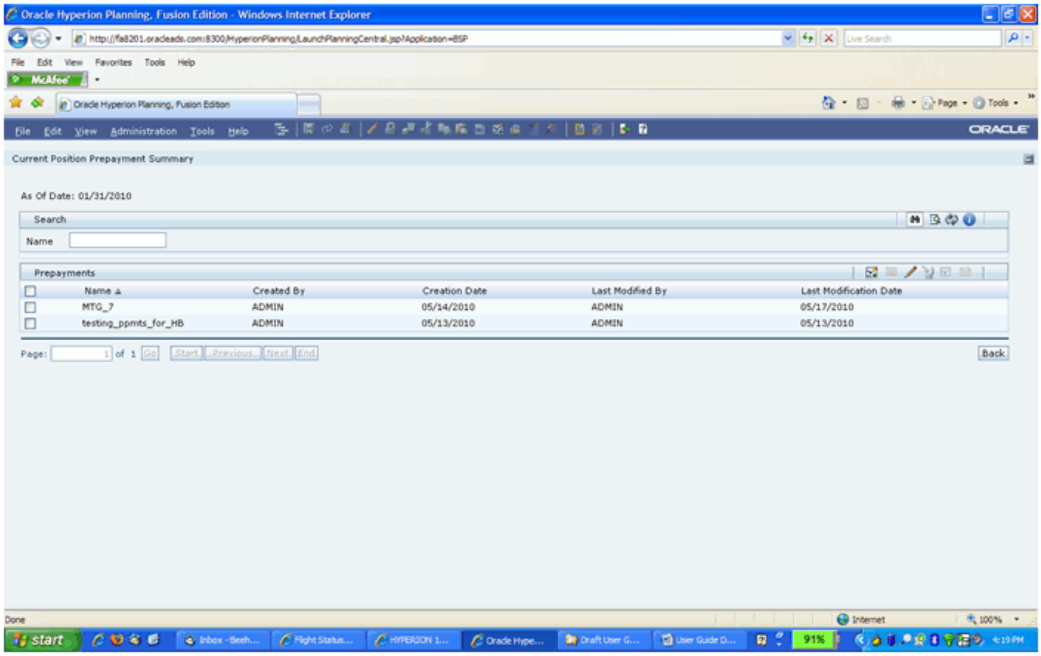
Prepayments for Current Position rules allow you to specify methodologies to model the loan prepayment behavior of products that are in your current book of business at the start of a budget or forecast horizon.

Working With Prepayments for Current Position

Navigate to the Master Maintenance > Assumption Forms and select Prepayment for Current Position from the list of forms displayed.



When you first navigate to Master Maintenance > Prepayment for Current Position, an empty screen will be displayed. After you have constructed one or more Prepayment for Current Position definitions, navigating to Master Maintenance > Prepayment for Current Position will display a summary screen showing each of the prepayment for current position definitions that you have previously built.



Search Container

A Search container is provided in which you may search for Prepayment for Current Position definitions by Name.

Search Control

Enter your desired search criteria and click on the Search control.

Advanced Search Control

You can also search for Prepayment for Current Position definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click on the Advanced Search Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the Reset control removes any filter constraint you may have specified and refreshes the screen.

Instructions Control

Click on the Instructions control to open a window containing instructions for working with Prepayment for Current Position definitions.

Page Navigation Controls

If more than 10 Prepayment for Current Position definitions exist, use the navigation

controls below the summary grid to go to other pages.

Prepayments Container

The Prepayments container presents a grid containing all of the Prepayment for Current Position definitions that meet your search criteria. The Prepayments grid offers several controls that allow you to perform different functions when a Prepayment for Current Position definition is selected.

To select a Prepayment for Current Position definition, click on a check box in the first column of the grid. More than one definition can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the Prepayment for Current Position definition.

You may select or deselect all of the Prepayment for Current Position definitions in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the New control begins the process of building a new prepayment for current position definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of a prepayment for current position definition on a read-only basis. The View control is only enabled when a single definition has been selected.

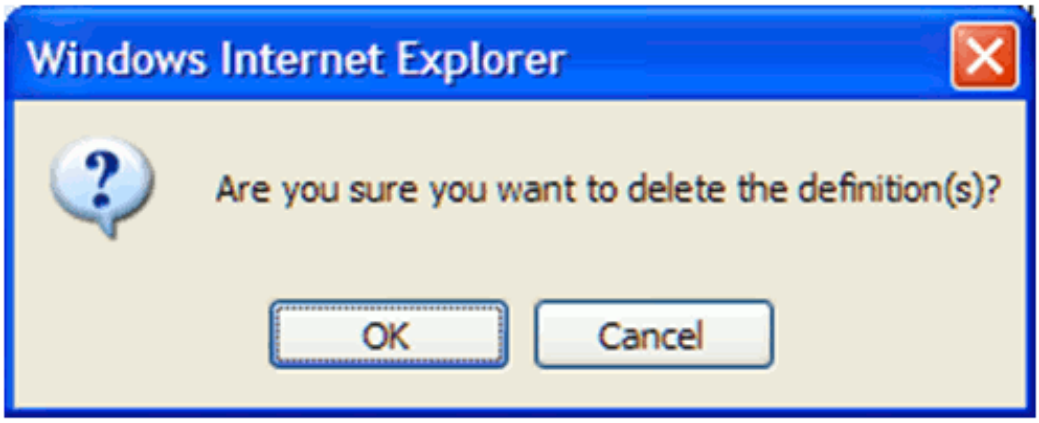
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved prepayment for current position definition. The Edit control is only enabled when a single definition has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the prepayment for current position definitions you have selected.

Deleting a prepayment for current position definition that has been used to generate current position cash flows supporting creation of a plan or forecast should only be performed when there is no longer a need to retain the rule. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the definition. Click on OK to proceed with the delete, or Cancel to prevent the deletion.



Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new prepayment for current position definition. To use the feature, click the checkbox next to an existing definition and click on the Save As control. The Save Prepayment for Current Position As dialog will open. Enter a Name and Description for the new prepayment for current position definition and click OK. A new prepayment for current position definition is added to the summary grid. You can then select the definition and click on the Edit control to refine it.

Prepayments Summary Grid

The following columns categorize each prepayment for current position definition in the Prepayments container summary grid:

- Name
- Created By
- Creation Date
- Last Modified By
- Last Modification Date

Name

Displays the name for a Prepayment for Current Position definition.

Created By

Displays the name of the user who created a prepayment for current position definition.

Creation Date

Displays the date and time at which a prepayment for current position definition was created.

Last Modified By

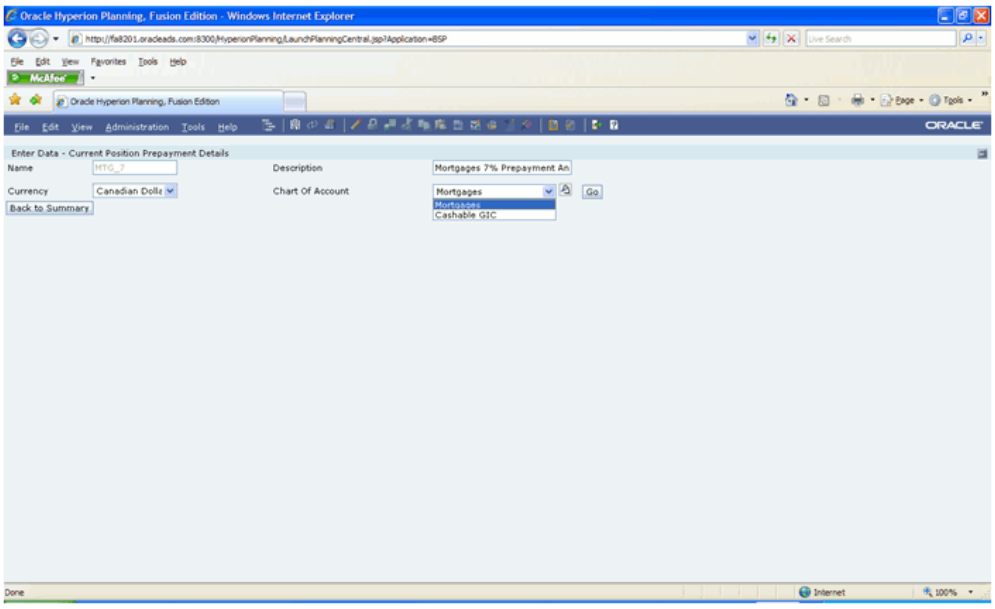
Displays the name of the user who last modified a prepayment for current position definition.

Last Modification Date

Displays the date and time at which a prepayment for current position definition was last modified.

Creating a New Prepayment for Current Position Definition

1. Click on the New icon to create a new Prepayment for Current Position definition.
2. The Enter Data – Current Position Prepayment Details page is displayed.

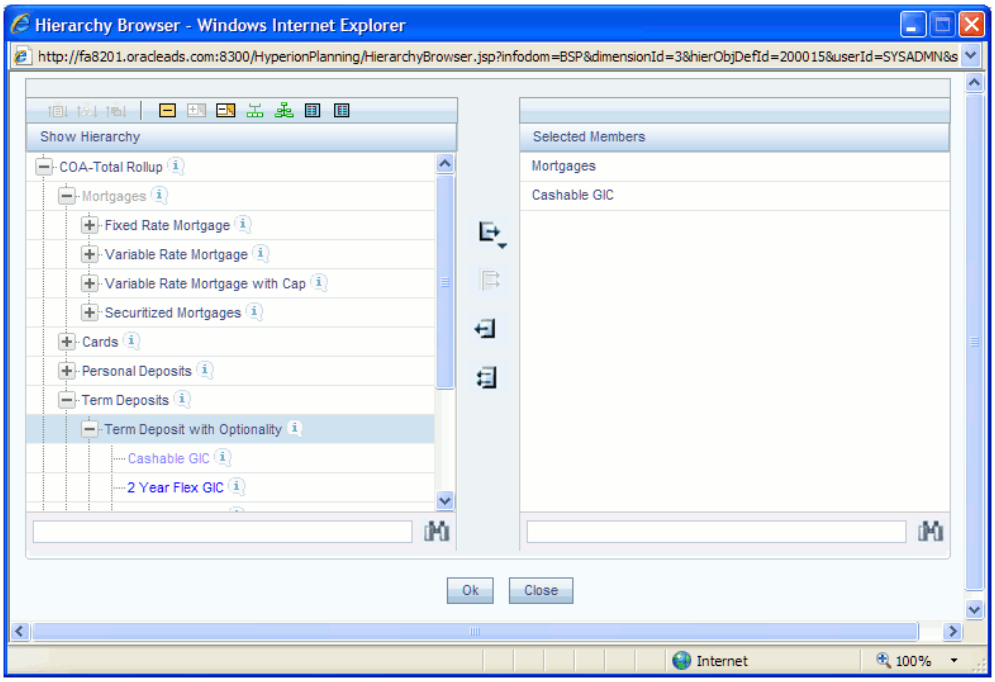


3. Enter a Name for the Prepayment for Current Position definition. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore and space, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

4. Enter a Description for the definition. The description field will accept all alphanumeric and special characters, and will accept a maximum of 255 characters.

5. The Currency field is a drop down list of all active currencies. Select the appropriate currency from the list of values to begin defining assumptions.

6. The Chart of Account droplist is populated via selection of dimension members from the Hierarchy Browser. Click on the lookup icon to open the Hierarchy Browser. Select the dimension members for which you will define prepayment assumptions by locating and moving the members to the Selected Members box. Then click Ok. This will close the browser and return to the Enter Data – Current Position Prepayment Details screen.



7. Select the Chart of Account dimension member from the drop down list, which should now be populated with the dimension members selected in the Hierarchy Browser.

   Note: Define assumptions for all Chart of Account dimension members for the Currency selected. Once complete, change the selection of currency and then define assumptions for the same or different Chart of Account dimension members. Repeat until finished with all Chart of Account and Currency dimension member combinations.

8. Click on Go. The Prepayment Calculation Method container will be displayed, and you are ready to define the prepayment assumptions for the Chart of Account and Currency dimension members selected.

   The table below describes key terms used for this procedure:

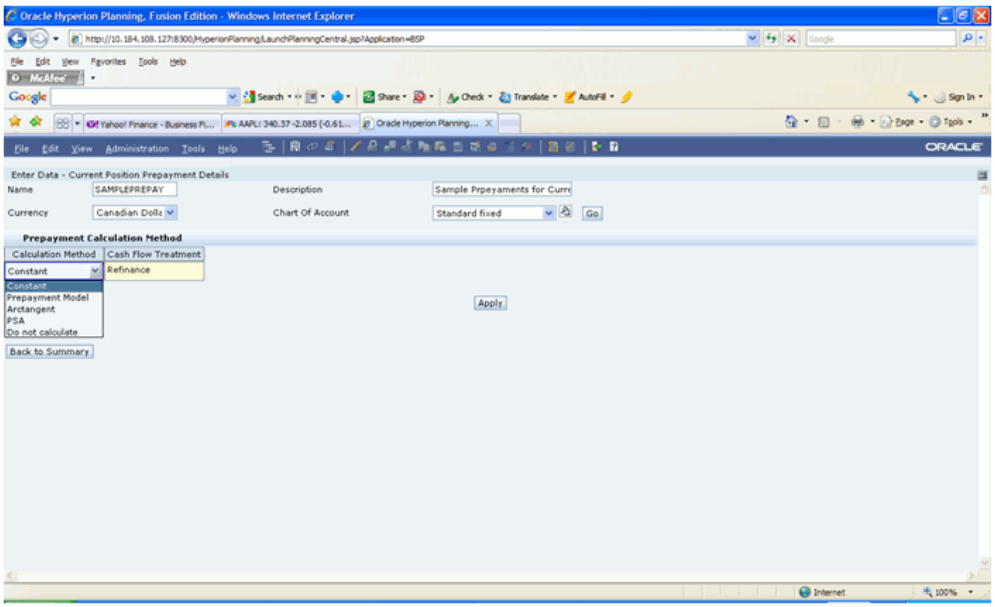
   Selected Terminology

Term	Description
Calculation Method	The method used to model prepayment behavior of instruments and new add volumes. Oracle Balance Sheet Planning provides four prepayment calculation methods: Constant, Prepayment Model, PSA, and Arctangent.
Cash Flow Treatment	Allows you to specify one of the following two ways in which prepayments are made. • **Refinance:**This is the most commonly used option. Select refinance to keep payment amounts after prepayment consistent with a portfolio-based assumption. This reduces the scheduled payment amount on each loan or new add volume and maintains the same maturity term. • **Curtailment:** Select curtailment to change the periodic payment amounts due. The prepayments are treated as accelerated payments, with a payoff earlier than the originally scheduled term.
Associated Term	Allows you to define the term for the point on the yield curve selected in the Market Rate definition that will be used in obtaining the market rate. • **Remaining Term:** The number of months remaining until the instrument matures. • **Reprice Frequency**: The frequency with which the instrument reprices. This defaults to the original term for a fixed rate instrument or new add volume. • **Original Term:** The number of months that was the originally scheduled life of the instrument or new add volume.

Term	Description
Prepayment Rate Definition	This table allows you to specify the constant annual prepayment rate or the associated factors that you want to apply to the instruments and new add volumes originated in a particular date range or time period.
Seasonality	This table allows you to specify seasonality adjustments. Seasonality refers to changes in prepayments that occur predictably at given times of the year. Seasonality adjustments are based on financial histories and experiences, and should be modeled when you expect the amount of prepayments made for certain types of instruments to increase or decrease in certain months. The default value for seasonality factors is 1, which indicates that no seasonality adjustment is made for a month. Changing the seasonality factors is optional. You can change the seasonality factors for none, one, or multiple months. To make seasonality adjustments, you need to enter a value between 0.00 and 99.9999 for the seasonality factors associated with each month. Seasonality factors less than 1 mean that prepayments are decreased for a particular month. Seasonality factors greater than 1 indicate that prepayments are increased for a particular month.

9. Select a Calculation Method: Constant, Prepayment Model, PSA , Arctangent or Do not calculate.

> **Note:** The default value for the Calculation Method drop down list is Constant. If you select "Do not calculate" as the calculation method, no prepayment assumptions will be assigned to the particular product-currency combination.



10. Select a Cash Flow Treatment type, Refinance or Curtailment. Click on Apply to open the Prepayment Specification container.

    Note: Refinance is the most commonly used method.

11. Define the parameters and annual prepayment rates for the selected calculation method: Constant, Prepayment Model, PSA or Arctangent.

    Important: The parameters displayed on clicking Apply vary depending on the calculation method that you have selected. See the following sections below for instructions for each calculation method:

    - Defining the Constant Prepayment Method.
    - Defining the Prepayment Table Method.
    - Defining the PSA Method.
    - Defining the Arctangent Calculation Method.

12. Click Apply to save the assumption.

    The parameters are saved and the containers are closed, returning to the display of dimension members available for selection. 'Please select the next product.' is displayed at the top of the screen

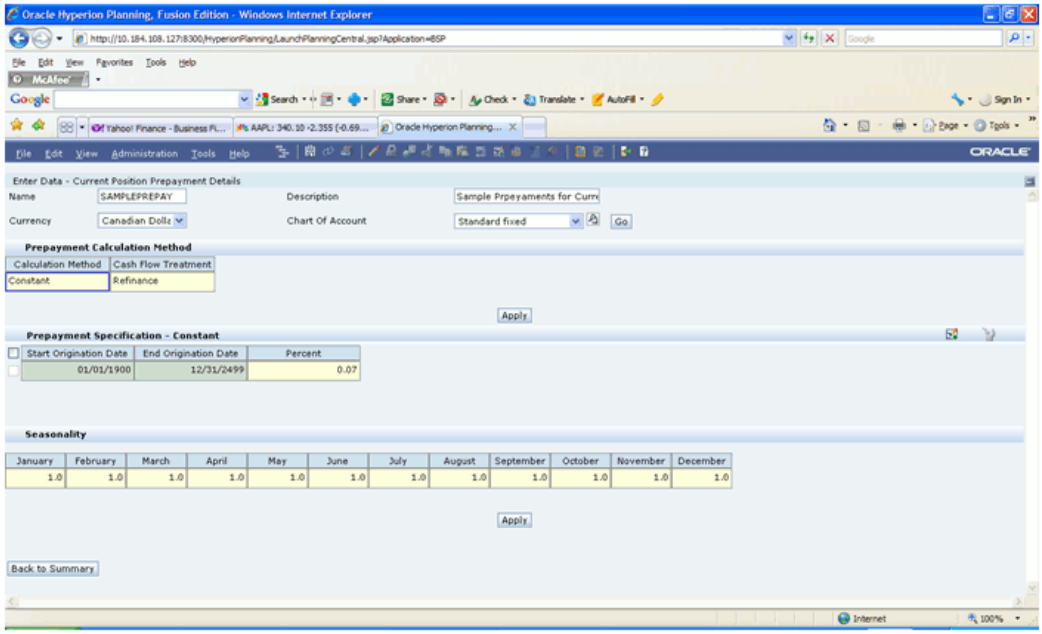
At this point you can:

- Continue defining additional methodologies for other product-currency combinations by repeating the above procedure.
- Complete the process by clicking the Save control.

> **Note:** When you click Save, the prepayment assumptions are Saved. Click on Back to Summary to return to the Prepayment rule summary page.

Defining the Constant Prepayment Method:

Use this procedure to define prepayment assumptions using the Constant Prepayment method.



1. Determine how many date ranges are to be defined. Click on the Add Row control at the top right of the Prepayment Specification – Constant container to add rows corresponding to the number of ranges to be defined. To delete a row, click on the checkbox next to the row(s) to be deleted and then click on the Delete Row control.

2. Double click on the Start Origination Date field to specify the Start Origination Date using the Select Date date picker. Alternatively, you can enter the Start Origination Date in the space provided.

> **Note:** The first cell in the Start Origination Date column and all of

the cells in the End Origination Date column are read only. This ensures that all possible origination dates have supporting reference values when Prepayment assumption lookups occur. Each row in the End Origination Date column is filled in by the system when you click elsewhere on the grid or save the rule. The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date that is a day prior to the previous End Origination Date field.

3. Enter the annual prepayment rate percent that you want to apply to the instruments having origination dates in a particular Start Origination Date - End Origination Date range.

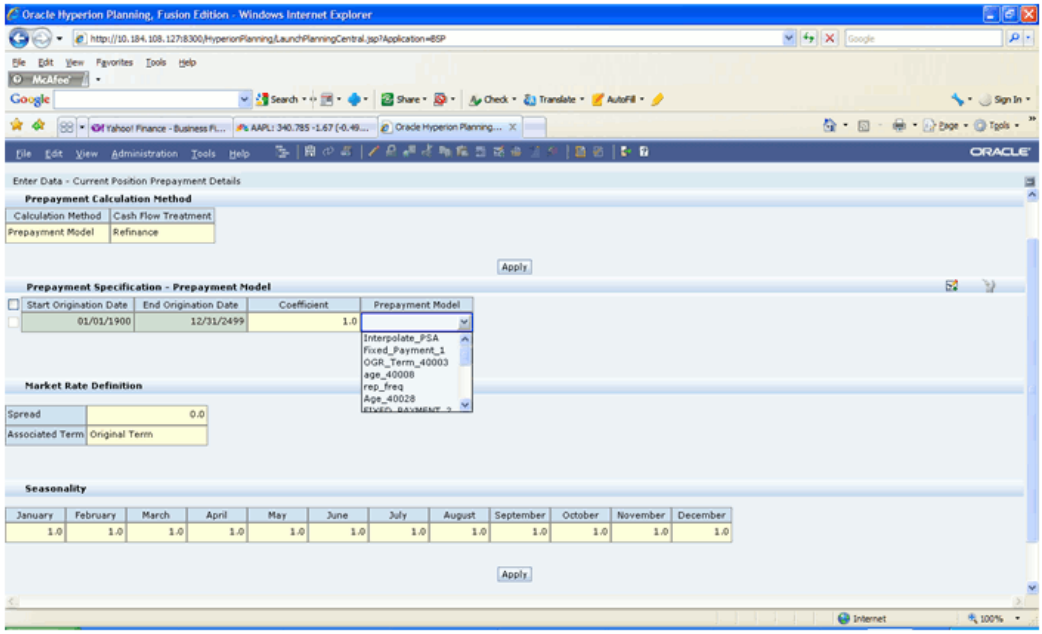
   Note: The Percent column represents the actual annualized prepayment percentage that the system uses to generate the principal runoff during the cash flow calculations.

4. Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, e.g. an input of 2 will double the prepayment rate in the indicated month. If desired, enter a value between zero and 99.9999. If nothing is entered, a default value of 1 is used.

5. Click on Apply to save the assumptions and move on to the next product/currency combination.

Defining the Prepayment Model Method:

Use this procedure to define prepayment assumptions using the Prepayment Model Calculation method.



1. Determine how many date ranges are to be defined. Click on the Add Row control at the top right of the Prepayment Specification – Constant container to add rows corresponding to the number of ranges to be defined. To delete a row, click on the checkbox next to the row(s) to be deleted and then click on the Delete Row control.

2. Double click on the Start Origination Date field to specify the Start Origination Date using the Select Date date picker. Alternatively, you can enter the Start Origination Date in the space provided.

3. Enter the Coefficient (if needed) by which the Prepayment Rate should be multiplied. Enter a value between .0001 and 99.9999. This multiple is applied only to the instruments for which the origination date lies in the range defined in the Start Origination Date-End Origination Date fields.

4. Select a predefined prepayment model from the Prepayment model Rule list of values. The system uses the prepayment model assumptions to calculate the prepayment amounts for each period. You need to associate a prepayment model for every Start Origination-End Origination Date range.

5. Enter the Spread. Enter a value between -99.9999 and 99.9999. A Spread is the difference between the Customer Rate and the Market Rate.

6. Select an Associated Term: Remaining Term, Reprice Frequency, or Original Term.

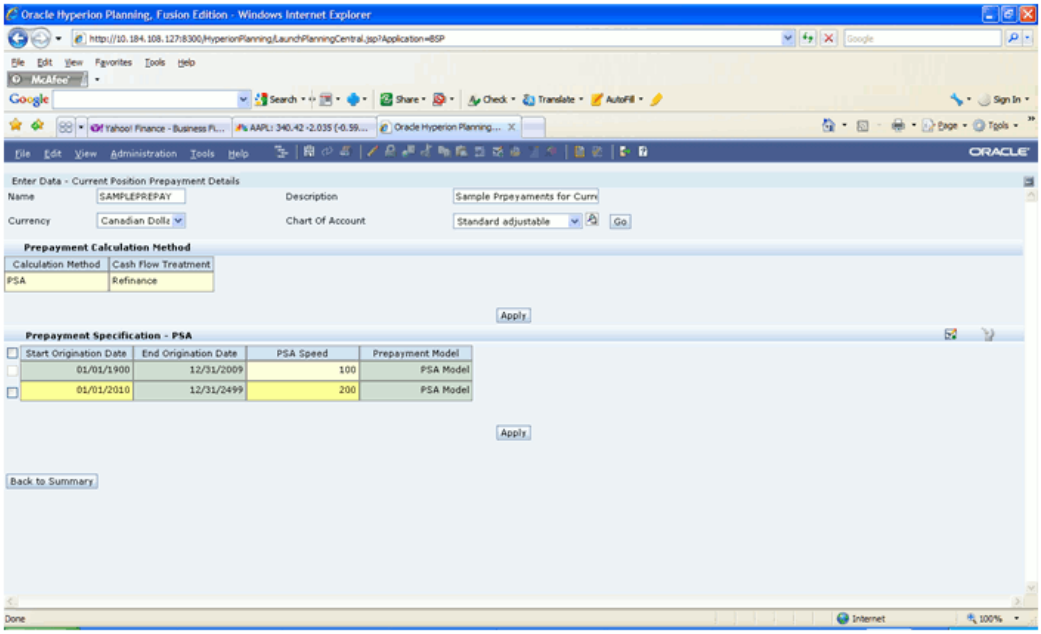
7. Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, e.g. an input of 2 will double the prepayment rate in the indicated month. If desired, enter a value between zero

and 99.9999. If nothing is entered, a default value of 1 is used.

8. Click on Apply to save the assumptions and move on to the next product/currency combination.

Defining the PSA Prepayment Method:

Use this procedure to define prepayment assumptions using the PSA Prepayment method.



1. Determine how many date ranges are to be defined. Click on the Add Row control at the top right of the Prepayment Specification – Constant container to add rows corresponding to the number of ranges to be defined. To delete a row, click on the checkbox next to the row(s) to be deleted and then click on the Delete Row control.

2. Double click on the Start Origination Date field to specify the Start Origination Date using the Select Date date picker. Alternatively, you can enter the Start Origination Date in the space provided.

3. Enter the PSA speed that you want to apply to the instruments having origination dates in a particular Start Origination-End Origination Date ranges. The PSA method is based on a standard PSA curve. You can view the seeded model by selecting the View Details icon.

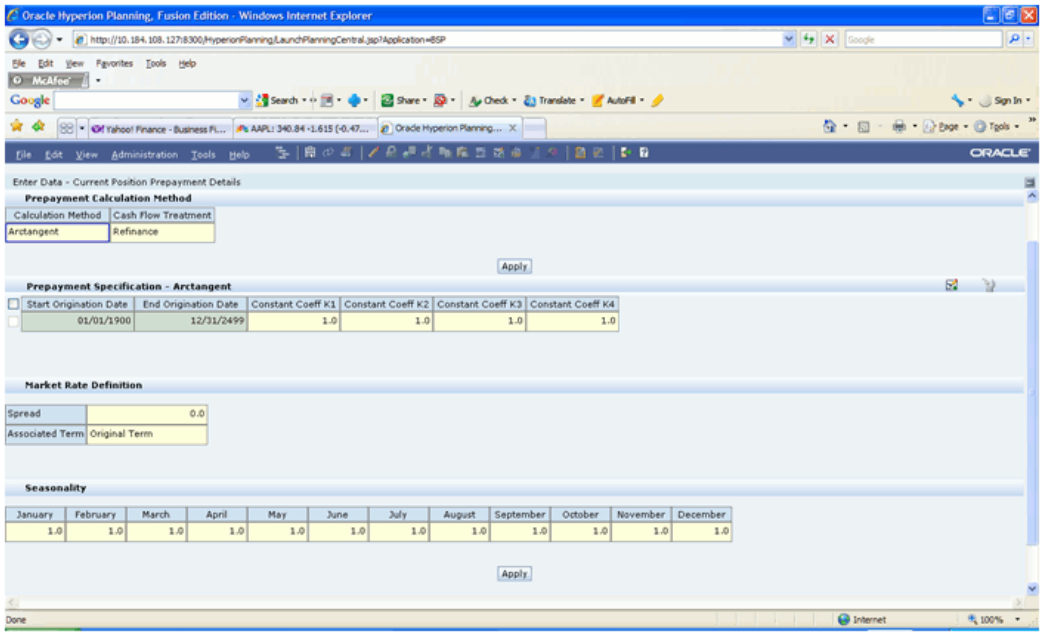
> **Note:** The default value is 100 PSA and inputs can range from 0 to 1667. Decimals are not allowed.

4. Define Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as a multiplier, e.g. an input of 2 will double the prepayment rate in the indicated month. If desired, enter a value between zero and 99.9999. If nothing is entered, a default value of 1 is used.

5. Click on Apply to save the assumptions and move on to the next product/currency combination.

Defining the Arctangent Calculation Method:

Use this procedure to define prepayment assumptions using the Arctangent Calculation method.



1. Determine how many date ranges are to be defined. Click on the Add Row control at the top right of the Prepayment Specification – Constant container to add rows corresponding to the number of ranges to be defined. To delete a row, click on the checkbox next to the row(s) to be deleted and then click on the Delete Row control.

2. Double click on the Start Origination Date field to specify the Start Origination Date using the Select Date date picker. Alternatively, you can enter the Start Origination Date in the space provided.

3. Enter the values for the Arctangent parameters (columns K1 through K4) for each Start Origination Date in the table. The valid range for each parameter is -99.9999 to 99.9999.

4. Enter the Spread. Enter a value between -99.9999 and 99.9999 A Spread is the difference between the Customer Rate and the Market Rate.

5. Select an Associated Term: Original Term, Reprice Frequency, or Remaining Term.

6. Define the Seasonality assumptions as required to model date specific adjustments to the annual prepayment rate. Inputs act as multiplier, e.g. an input of 2 will double the prepayment rate in the indicated month. If desired, enter a value between zero and 99.9999. If nothing is entered, a default value of 1 is used.

7. Click Apply to save the assumptions and move on to the next producth/currency combination.

14

Prepayment Models

This chapter describes the procedure for working with and managing Prepayment Models.

This chapter covers the following topics:

- Overview of Prepayment Models
- Working With Prepayment Models
- Creating Prepayment Models

Overview of Prepayment Models

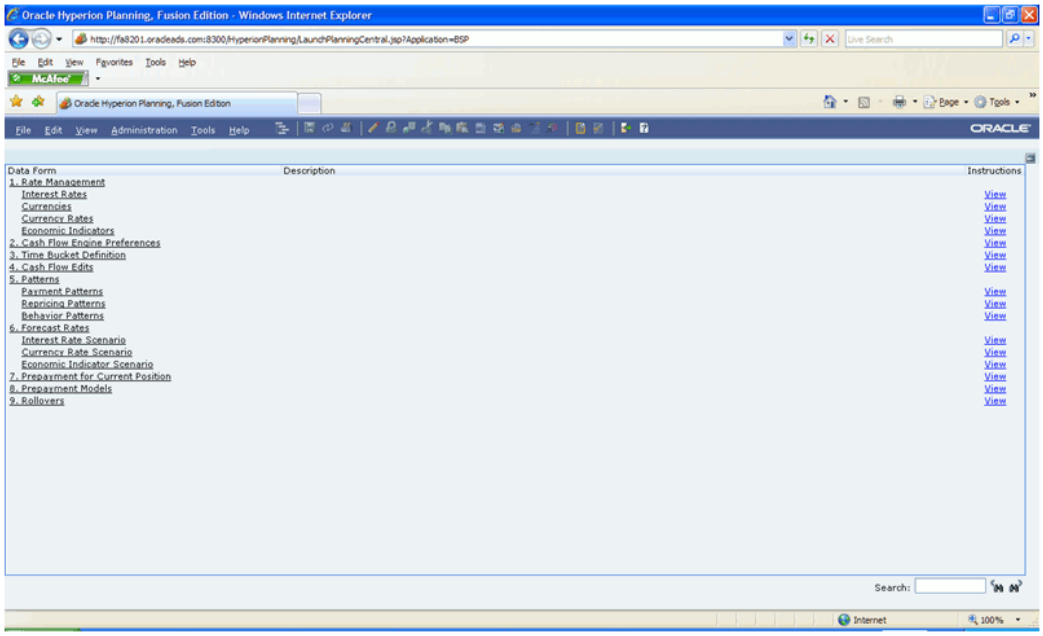
You can build a Prepayment Model using a combination of up to three prepayment drivers and define prepayment rates for various values of these drivers. Each driver maps to an attribute of the underlying transaction (age/term or rate) so that the cash flow engine can apply a different prepayment rate based on the specific characteristics of the record.

Prepayment Model definitions are centrally defined in Balance Sheet Planning, and can be attached to Prepayment for Current Position definitions or assigned to a chart of account dimension member in Maturity Mix Assumptions for use in generating new business cash flows.

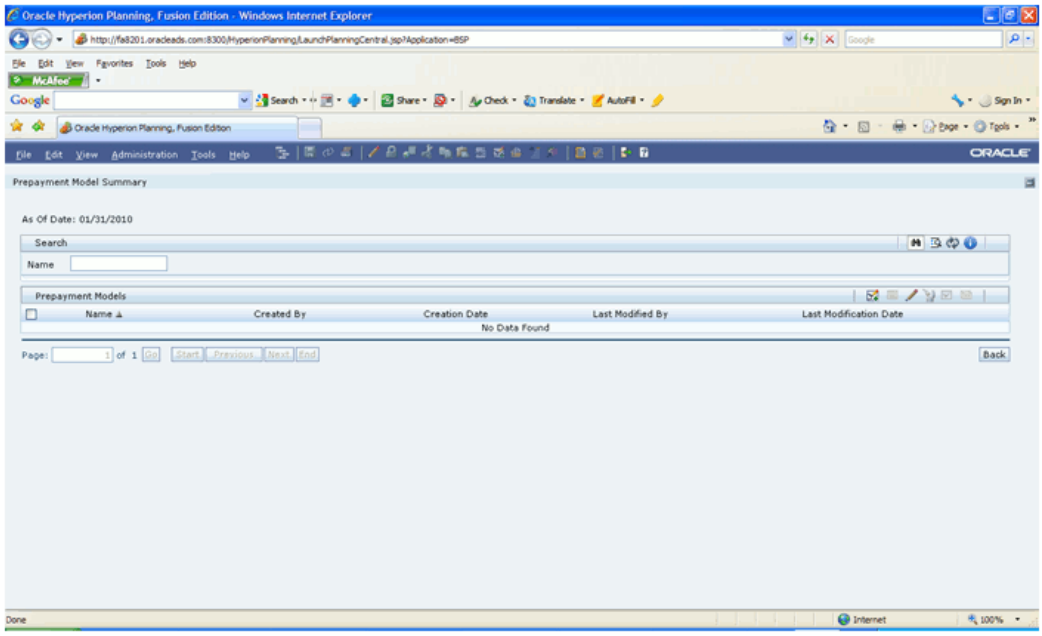
Note: All prepayment rates should be input as annual amounts.

Working With Prepayment Models

Navigate to the Master Maintenance > Assumption Forms and select Prepayment Models from the list of forms displayed.



When you first navigate to Master Maintenance > Prepayment Models, an empty screen will be displayed. After you have constructed one or more Prepayment Models, navigating to Master Maintenance > Prepayment Models will display a summary screen showing each of the prepayment models that you have previously built.



Search Container

A Search container is provided in which you may search for Prepayment Model

definitions by Name.

Search Control

Enter your desired search criteria and click on the Search control.

Advanced Search Control

You can also search for Prepayment Model definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click on the Advanced Search Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the Reset control removes any filter constraint you may have specified and refreshes the screen.

Instructions Control

Click on the Instructions control to open a window containing instructions for working with Prepayment Models.

Page Navigation Controls

If more than 10 Prepayment Model definitions exist, use the navigation controls below the summary grid to go to other pages.

Prepayment Models Container

The Prepayment Models container presents a grid containing all of the Prepayment Model definitions that meet your search criteria. The Prepayment Models grid offers several controls that allow you to perform different functions when a Prepayment Model is selected.

To select a Prepayment Model, click on a check box in the first column of the grid. More than one definition can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the Prepayment Model definition.

You may select or deselect all of the Prepayment Models in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the New control begins the process of building a new prepayment model definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the View control allows you to view the contents of a prepayment model on a read-only basis. The View control is only enabled when a single rule has been selected..

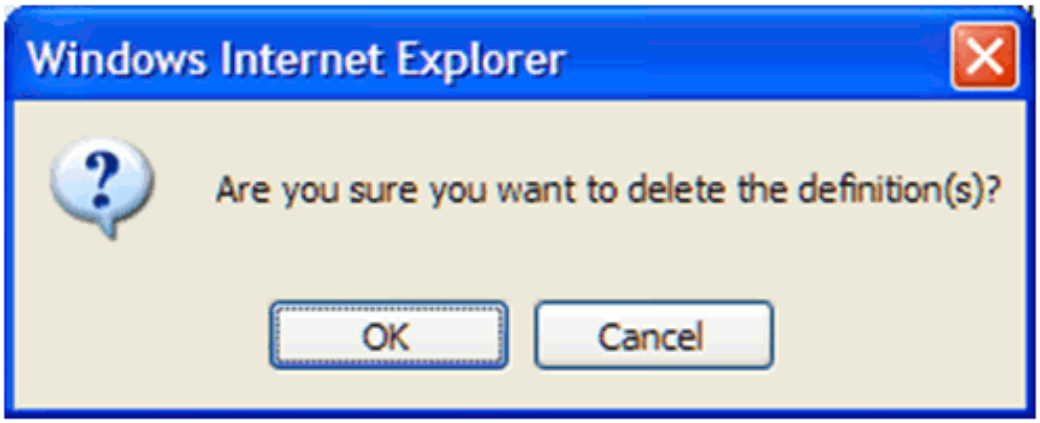
Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the Edit control allows you to modify a previously saved prepayment model definition. The Edit control is only enabled when a single rule has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the Delete control deletes the prepayment models you have selected.

Deleting a prepayment model that has been used to generate current position cash flows supporting creation of a plan or forecast should only be performed when there is no longer a need to retain the rule. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the rule. Click on OK to proceed with the delete, or Cancel to prevent the deletion.



Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new prepayment model definition. To use the feature, click the checkbox next to an existing definition and click on the Save As control. The Save Prepayment Model As dialog will open. Enter a Name and Description for the new prepayment model and click OK. A new prepayment model is added to the summary grid. You can then select the rule and click on the Edit control to refine the definition.

Prepayment Models Summary Grid

The following columns categorize each prepayment for current position rule in the Prepayment Models container summary grid:

- Name
- Creation Date
- Created By
- Last Modified By
- Last Modification Date

Name

Displays the name for a Prepayment Model definition.

Created By

Displays the name of the user who created a prepayment model.

Creation Date

Displays the date and time at which a prepayment model was created.

Last Modified By

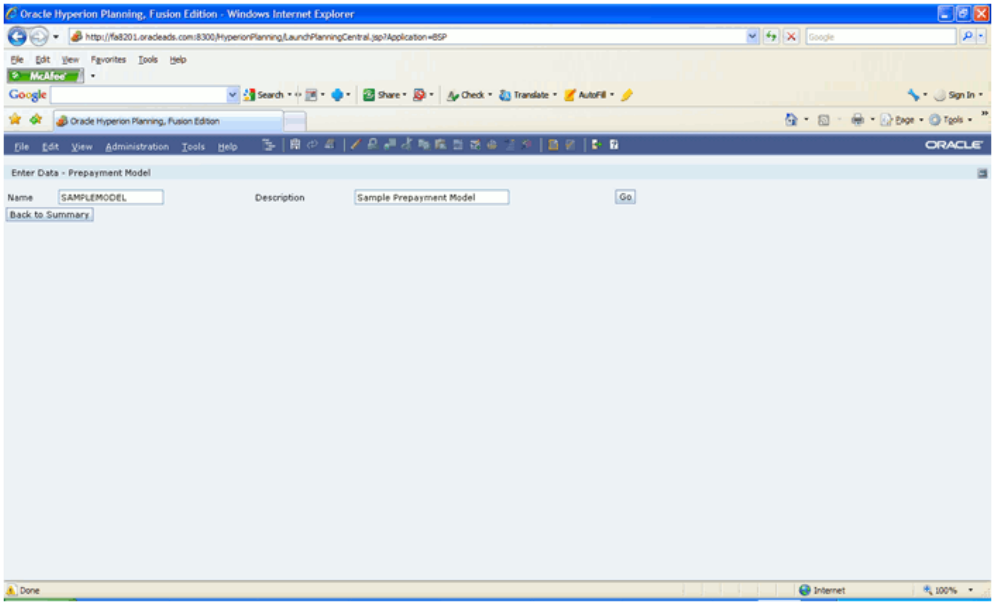
Displays the name of the user who last modified a prepayment model.

Last Modification Date

Displays the date and time at which a prepayment model was last modified.

Creating Prepayment Models

1. Click on the New icon to create a new Prepayment Model definition.
2. The Enter Data – Prepayment Model page is displayed.



3. Enter a Name for the Prepayment Model. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore and space, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

4. Enter a Description for the Prepayment Model. The description field will accept all alphanumeric and special characters, and will accept a maximum of 255 characters.

5. Click on Go. The Select Term, Repricing, Interest Rate Dimensions container will be displayed, and you are ready to define the prepayment model.

6. Select the dimensions to be used for Row, Column and Page dimensions. Selection of a Page dimension is optional. Select the Row dimension first, then select the Lookup Method (Interpolation or Range), and enter the number of buckets to be used.

   After the parameters are entered for the Row dimension, the Column dimension field is enabled. Select the Column dimension, then select the Lookup Method (Interpolation or Range), and enter the number of buckets to be used.

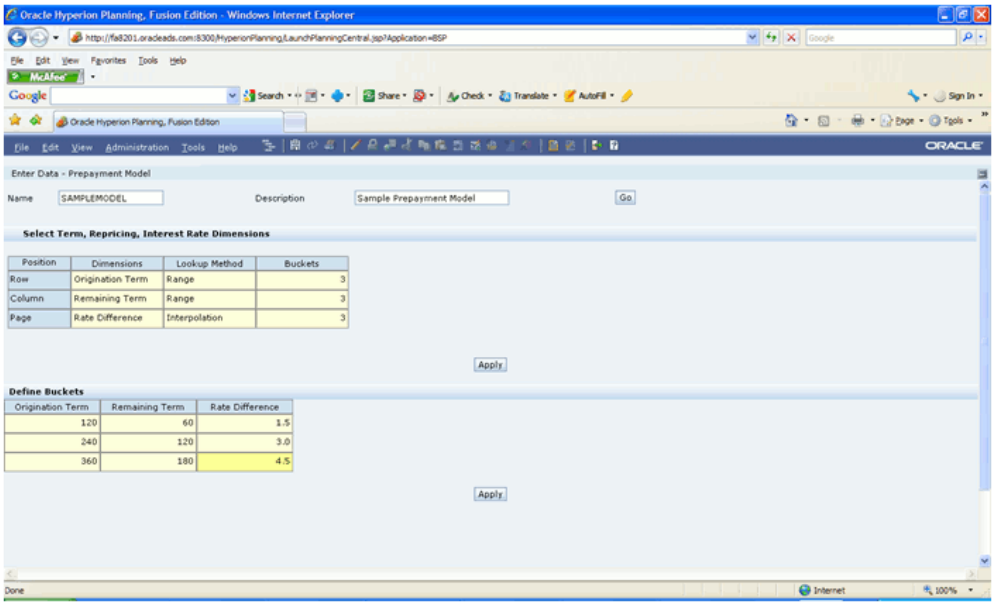
   After the parameters for the Column dimension are entered, the Page dimension field is enabled. Select the Page dimension, Lookup Method (Interpolation or Range) and enter the number of buckets to be used.

7. Click on Apply to open the Define Buckets container. Define the value ranges for each dimension. Only numeric values will be accepted.

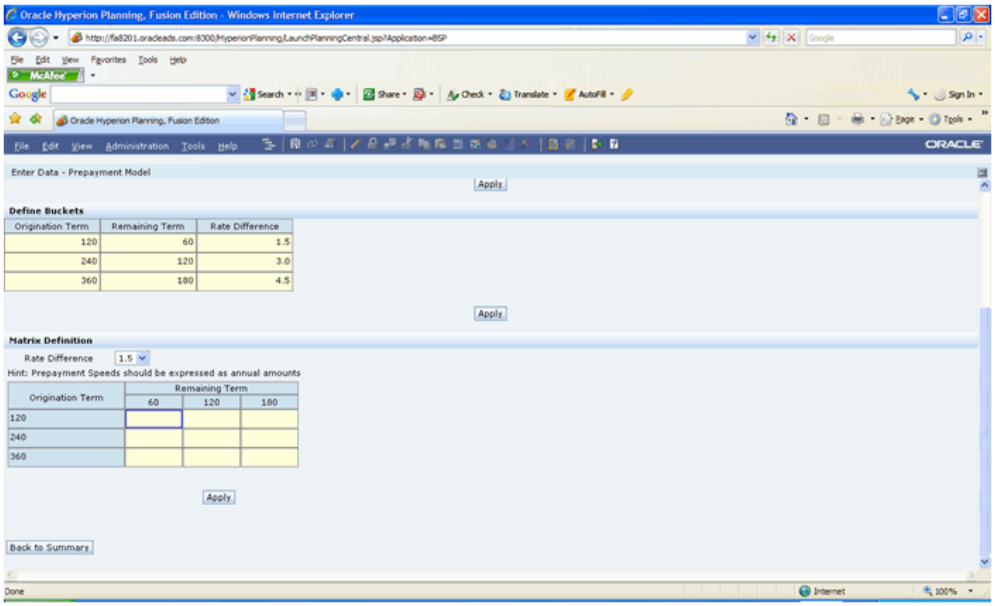
   If the dimension chosen is Original Term, Repricing Frequency, Remaining Term, Expired Term or Term to Reprice, the values entered should be between 0 and 999.

Entry of negative values and decimals is not allowed.

If the dimension chosen is Coupon Rate, Market Rate, Rate Ratio or Rate Difference, the values entered should be between 0 and 99.999999. Entry of negative values is not allowed.



8. Click on Apply to open the Matrix Definition container. Enter the annual prepayment percentages in the Matrix Definition grid. The values entered should be between 0 and 100. None of the fields should be left blank – enter a value of zero instead.



If you are using the Page dimension and more than one value is entered in the Define Buckets container, be sure to enter values for each page dimension member. Enter data for the first page dimension member, then click Apply, then change the page dimension member and enter data for the second member, then click Apply, etc. Repeat until valueshave been entered for all page dimension members.

9. When finished, click on the Save control to save the Prepayment Model. You can then click on Back to Summary to return to the Prepayment Model summary page.

15

Funds Transfer Pricing

Overview

Oracle Balance Sheet Planning provides the ability to generate transfer pricing results as part of budget or forecast creation for organizations that utilize funds transfer pricing in their performance measurement process. When setup to produce transfer pricing results, Oracle Balance Sheet Planning will:

- Utilize historical transfer rate assignments made to current book instrument records to generate projected transfer rate and charge/credit values for current position cash flows.

- Generate transfer pricing adjustment charges or credits for liquidity premiums, pricing incentives, basis costs and other adjustments using adjustment rates assigned to current book instruments records.

  Note: Oracle Balance Sheet Planning cannot be used to generate transfer rates or adjustment rates for current book instrument records. Such rates must be generated using the Oracle Funds Transfer Pricing application or by a third party transfer pricing application, with the transfer pricing results included in the instrument records loaded into the Balance Sheet Planning instrument tables.

- Reset the transfer rate assignments for adjustable rate instruments included in the current book instrument records and adjustable rate new business volumes based on forecasted transfer rate values.

- Generate transfer rates and charge/credit values for new business volumes generated or entered in the application using transfer pricing methodologies and parameters defined in the Transfer Pricing Rule associated with the budget or forecast version dimension member.

- Generate transfer pricing adjustments for new business volumes using adjustment methods and parameters defined in the transfer pricing Adjustment Rule associated with the budget or forecast version dimension member.

The following steps must be completed in order to setup the application to generate transfer pricing results:

1. Create Interest Rate Codes to hold historical and forecasted transfer rate values, and load historical rate values for the interest rate codes.
2. Create a Transfer Pricing Rule definition, assigning transfer pricing methodologies and associated parameters to Chart of Account dimension members.
3. If applicable, define a transfer pricing Adjustments Rule to assign rates for liquidity premiums, basis costs, pricing incentives and/or other adjustments.
4. Enter forecasted transfer rate values for the transfer pricing interest rate codes in a forecast Interest Rate Scenario.
5. Run Metadata Synchronization processes to update appropriate dimension members and SmartLists.
6. Define the Pricing Methodology, Transfer Pricing Rule and Adjustments Rule attributes for the appropriate Version dimension member in the Process Attributes data form.

The remainder of this chapter provides details on the following topics:

Transfer Pricing Methodologies

The transfer pricing methodologies supported by Oracle Balance Sheet Planning can be grouped into the following two categories:

- **Cash Flow Transfer Pricing Methods**: Cash flow transfer pricing methods are used to transfer price instruments that amortize over time. They generate transfer rates based on the cash flow characteristics of the instruments.

  In order to generate cash flows, the system requires a detailed set of transaction-level data attributes, such as, origination date, outstanding balance, contracted rate, and maturity date, which resides only in the instrument tables. Consequently, for current book data, cash flow methods apply only if the data source is Account tables. For new business volumes, the requisite data is accessed from maturity mix assumptions defined for the Chart of Account dimension members.

  The cash flow methods are also unique in that Prepayment rules are used only with these methods. You can select the required Prepayment for Current Position rule for processing current book instrument records in the Process Attributes data form. Prepayment assumptions for new business processing are also defined in maturity mix assumptions.

  Oracle Balance Sheet Planning supports the following cash flow transfer pricing methods:

  - Cash Flow: Average Life, page 15-4
  - Cash Flow: Duration, page 15-5
  - Cash Flow: Weighted Term, page 15-6
  - Cash Flow: Zero Discount Factors, page 15-8

- **Non-cash Flow Transfer Pricing Methods**: These methods do not require the calculation of cash flows. Oracle Balance Sheet Planning supports the following noncash flow transfer pricing methods:

  - Moving Averages, page 15-10
  - Straight Term, page 15-10
  - Spread from Interest Rate Code, page 15-11
  - Spread from Note Rate, page 15-12
  - Redemption Curve, page 15-12
  - Unpriced Account, page 15-13

- **Do not calculate**: If you do not wish to calculate transfer rates for an account, you can set the transfer pricing method to **Do not calculate**.

Cash Flow : Average Life

The Average Life method determines the average life of the instrument by calculating the effective term required to repay back half of the principal or nominal amount of the instrument. The TP rate is equivalent to the rate on the associated interest rate curve corresponding to the calculated term.

$$\text{Average Life} = \sum_{i=1}^{n} \frac{P_i}{P} t_i$$

Where:

P is the principal

P_i is the principal repayment in coupon i, hence,

$$\frac{P_i}{P}$$

is the fraction of the principal repaid in coupon i and t_i is the time from the start of coupon *i*.

Oracle Balance Sheet Planning derives the Average Life based on the cash flows of an instrument as determined by the characteristics specified in the instrument tables and maturity mix assumptions and using your specified prepayment rate, if applicable. The average life formula calculates a single term, that is, a point on the yield curve used to transfer price the instrument being analyzed.

The following options become available on the Transfer Pricing Rule interface with this method:

- **Interest Rate Code**: Select the interest rate code whose forecasted transfer rate values will be used to transfer price the Chart of Account dimension member.
- **Cash Flow Type**: Available options include:
  - Principal
  - Principal and Interest
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- Output Average Life To Instrument
- Run Using Monte Carlo Option Cost Method
- Target Balance

Cash Flow: Duration

The Duration method uses the MacCauley duration formula:

$$\text{Duration} = \frac{\sum_{n=1}^{N}\left[\frac{CF_n}{(1+r)^m} \times t_n\right]}{\sum_{n=1}^{N}\left[\frac{CF_n}{(1+r)^m}\right]}$$

In this formula:

Where:

N = Total number of payments from Start Date until the earlier of repricing or maturity

CF_n = Cash flow (such as regular principal, prepayments, and interest) in period n

r = Periodic rate (current rate/payments per year)

m = Remaining term to cash flow/active payment frequency

t_n = Remaining term to cash flow n, expressed in years

Oracle Balance Sheet Planning derives the MacCauley duration based on the cash flows of an instrument as determined by the characteristics specified in the instrument tables and maturity mix assumptions, using your specified prepayment rate, if applicable. The duration formula calculates a single term, that is, a point on the yield curve used to transfer price the instrument or new business volume.

> **Note:** Remaining term to cash flow is the difference between the date of each cash flow and the modeling start date for that instrument.

The following options become available on the Transfer Pricing rule interface with this method:

- **Interest Rate Code**: Select the interest rate code whose forecasted transfer rate values will be used to transfer price the Chart of Account dimension member.

- **Cash Flow Discounting Method**: Available options include:
  - Multiple Rate: Select this option to discount the cash flows using spot rates from the selected interest rate code. With this approach, a discount rate is read from the selected interest rate curve corresponding to the term of each cash flow.
  - Single Rate: When Single Rate is selected, the Single Rate Discounting option is activated.
- **Single Rate Discounting**: Available options include:
  - Coupon Rate: Coupon rate is defined as current net rate if the processing option, **Model with Gross Rates** is not selected and current gross rate if the option is selected. The coupon rate is used as a constant discount rate for each cash flow.
  - Constant Rate: When Constant Rate is selected, the Constant Rate option is activated.
- **Constant Rate**: The user may directly input, while defining the Transfer Pricing Rule, a constant rate to use for discounting. If specified, this rate is used as a constant discount rate for each flow.
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- Output Duration to Instrument

Cash Flow: Weighted Term

The Cash Flow: Weighted Term method builds on the theoretical concepts of duration. As shown earlier, duration calculates a weighted-average term by weighting each time period, n, with the present value of the cash flow (discounted by the rate on the instrument) in that period.

Since the goal of the Weighted Term method is to calculate a weighted average transfer rate, it weights the transfer rate in each period, y_n, by the present value for the cash flow of that period. Furthermore, the transfer rates are weighted by an additional component, time, to account for the length of time over which a transfer rate is applicable. The time component accounts for the relative significance of each strip cash

flow to the total transfer pricing interest income/expense. The total transfer pricing interest income/expense on any cash flow is a product of that cash flow, the transfer rate, and the term. Hence, longer term cash flows will have relatively larger impact on the average transfer rate. The Weighted Term method, with **Discounted Cash Flow** option selected, can be summarized by the following formula:

$$\text{Weighted- Average} = \bar{Y} = \frac{\sum_{n=1}^{N}[y_n \times \frac{CF_n}{(1+r)^m} \times t_n]}{\sum_{n=1}^{N}[\frac{CF_n}{(1+r)^m} \times t_n]}$$

In this formula:

N = Total number of payments from Start Date until the earlier of repricing or maturity

CF_n= Cash flow (such as regular principal, prepayments, and interest) in period n

r = Periodic coupon rate on instrument (current rate/payments per year)

m = Remaining term to cash flow n /active payment frequency

t_n = Remaining term to cash flow n, expressed in years

y_n= Transfer rate in period n

Within the Weighted Average Cash Flow method definition screen, users can choose whether or not to discount the cash flows as described earlier. If the **Cash Flow** option is selected, rather than the **Discounted Cash Flow**, the following simplified formula is applied:

$$\text{Weighted- Average= } \bar{Y} = \left(\frac{\sum_{n=1}^{N}[y_n \times CF \times t_n]}{\sum_{n=1}^{N}[CF \times t_n]}\right)$$

The following options become available on the Transfer Pricing rule interface with this method:

- **Interest Rate Code**: Select the interest rate code whose forecasted transfer rate values will be used to transfer price the Chart of Account dimension member.
- **Cash Flow Type**: Available options include:
  - Cash Flow
  - Discount Cash Flow
- **Model With Gross Rates**: Available options include:

- No
- Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- Run Using Monte Carlo Option Cost Method
- Target Balance

Cash Flow: Zero Discount Factors

The Zero Discount Factors (ZDF) method takes into account common market practices in valuing fixed rate amortizing instruments. For example, all Treasury strips are quoted as discount factors. A discount factor represents the amount paid today to receive $1 at maturity date with no intervening cash flows (that is, zero coupon).

The Treasury discount factor for any maturity (as well as all other rates quoted in the market) is always a function of the discount factors with shorter maturities. This ensures that no risk-free arbitrage exists in the market. Based on this concept, one can conclude that the rate quoted for fixed rate amortizing instruments is also a combination of some set of market discount factors. Discounting the monthly cash flows for that instrument (calculated based on the constant instrument rate) by the market discount factors generates the par value of that instrument (otherwise there is arbitrage).

ZDF starts with the assertion that an institution tries to find a funding source that has the same principal repayment factor as the instrument being funded. In essence, the institution strip funds each principal flow using its funding curve (that is, the transfer pricing yield curve). The difference between the interest flows from the instrument and its funding source is the net income from that instrument.

Next, ZDF tries to ensure consistency between the original balance of the instrument and the amount of funding required at origination. Based on the transfer pricing yield used to fund the instrument, the ZDF solves for a single transfer rate that would amortize the funding in two ways:

- Its principal flows match those of the instrument.
- The Present Value (PV) of the funding cash flows (that is, the original balance) matches the original balance of the instrument.

ZDF uses zero coupon factors (derived from the original transfer rates, see the following example) because they are the appropriate vehicles in strip funding (that is, there are no intermediate cash flows between origination date and the date the particular cash flow is received). The zero coupon yield curve can be universally applied to all kinds of instruments.

This approach yields the following formula to solve for a weighted average transfer rate based on the payment dates derived from the instrument's payment data.

Zero Discount Factors = y =

$$100 \times \left[\frac{B_0 - \sum_{n=1}^{N}(B_{n-1} \times DTP_n) + \sum_{n=1}^{N}(B_n \times DTP_n)}{\sum_{n=1}^{N}(B_{n-1} \times DTP_n)} \right] \times p$$

In this formula:

B_0 = Beginning balance at time, 0

B_{n-1}= Ending balance in previous period

B_n= Ending balance in current period

DTP_n= Discount factor in period n based on the TP yield curve

N = Total number of payments from Start Date until the earlier of repricing or maturity

p = Payments per year based on the payment frequency; (for example, monthly payments gives p=12)

Deriving Zero Coupon Discount Factors: An Example

This table illustrates how to derive zero coupon discount factors from monthly pay transfer pricing rates:

Term in Months	(a) Monthly Pay Transfer Rates	(b) Monthly Transfer Rate: (a)/12	(c) Numerator (Monthly Factor): 1+ (b)	(d) PV of Interest Payments: (b)*Sum((f)/100 to current row	(e) Denominator (1 - PV of Int Pmt): 1 - (d)	(f) Zero Coupon Factor: [(e)/(c) * 100
1	3.400%	0.283%	1.002833	0.000000	1.000000	99.7175
2	3.500%	0.292%	1.002917	0.002908	0.997092	99.4192
3	3.600%	0.300%	1.003000	0.005974	0.994026	99.1053

The following options become available on the Transfer Pricing Rule interface with this method:

- **Interest Rate Code**: Select the interest rate code whose forecasted transfer rate values will be used to transfer price the Chart of Account dimension member.
- **Model With Gross Rates**: Available options include:

- No
- Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- Run Using Monte Carlo Option Cost Method
- Target Balance

Moving Averages

Under this method, a user definable moving average of any point on the transfer pricing yield curve can be applied to a transaction record to generate transfer prices. For example, you can use a 12-month moving average of the 12-month rate to transfer price a particular product.

The following options become available on the Transfer Pricing rule interface with this method:

- **Interest Rate Code**: Select the Interest Rate Code to be used as the yield curve to generate transfer rates.
- **Yield Curve Term**: The Yield Curve Term defines the point on the Interest Rate Code that is used.
- **Historical Range**: The Historical Term defines the period over which the average is calculated.
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Straight Term

When you select the Straight Term method, the system derives the transfer rate using the last repricing date and the next repricing date for adjustable rate instruments, and the origination date and the maturity date for fixed rate instruments. For loans in a tease period, origination date and tease end date are used.

The following options become available on the Transfer Pricing rule interface with this method:

- **Interest Rate Code**: Select the Interest Rate Code to be used for transfer pricing the

account.

- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- **Mid-Period** Repricing Option

Spread from Interest Rate Code

Under this method, the transfer rate is determined as a fixed spread from any point on an Interest Rate Code. The following options become available on the Transfer Pricing Rule interface with this method:

- **Interest Rate Code**: Select the Interest Rate Code for transfer pricing the account.
- **Yield Curve Term**: The Yield Curve Term defines the point on the Interest Rate Code that will be used to transfer price. If the Interest Rate Code is a single rate, the Yield Curve Term is irrelevant. Select Days, Months, or Years from the Multiplier list, and enter the number in the Term field.
- **Lag Term**: While using a yield curve from an earlier date than the Assignment Date, you need to assign the Lag Term to specify a length of time prior to the Assignment Date. Select Days, Months, or Years from the Multiplier list, and enter the number in the Term field.
- **Rate Spread**: The transfer rate is a fixed spread from the rate on the transfer rate yield curve. The Rate Spread field allows you to specify this spread.
- **Assignment Date**: The Assignment Date allows you to choose the date for which the yield curve values are to be picked up. Choices available are the As of Date, Last Repricing Date, or Origination Date.
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- **Mid-Period** Repricing Option

Spread from Note Rate

To generate transfer rates using this method, you need to provide a rate spread parameter. This spread is added or subtracted from the coupon rate of the underlying transaction to generate the final transfer rate for that record.

While entering the rate spread, make sure to input it with the appropriate positive or negative sign. In the situation where you are transfer pricing an asset and want to have a positive matched spread for it (the difference between the contractual rate of the transaction and the transfer rate is positive), you need to enter a negative rate spread.

The following options become available on the application with this method:

- **Rate Spread**: The transfer rate is a fixed spread from the coupon rate on the transaction. The Rate Spread field allows you to specify this spread.
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- **Mid-Period** Repricing Option

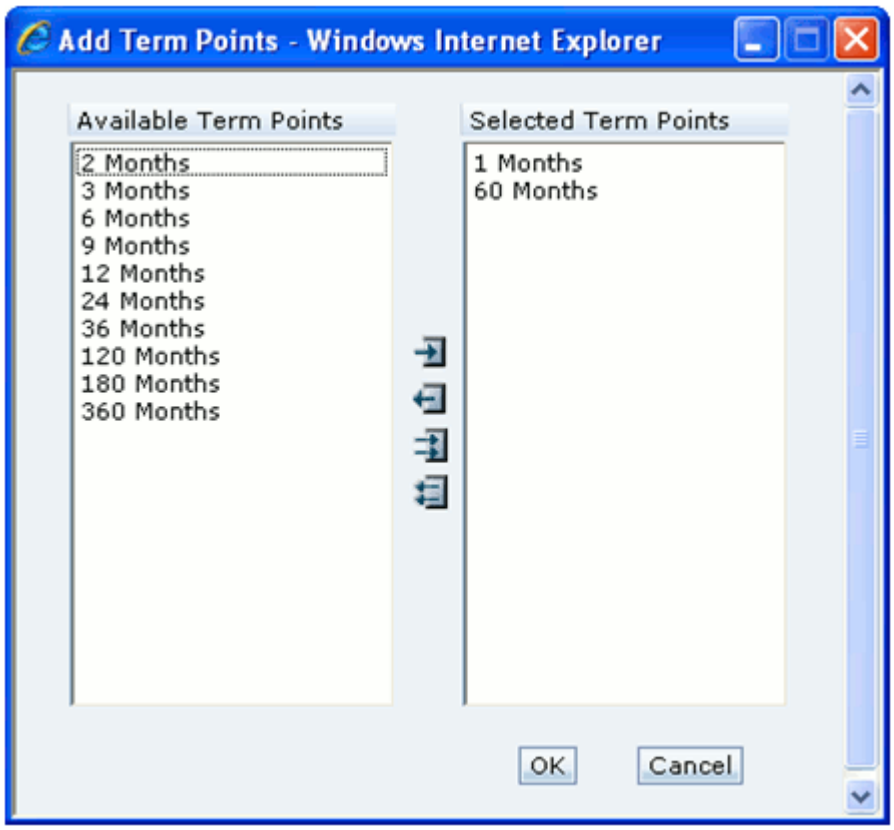
Redemption Curve

This method allows you to select multiple term points from your transfer pricing yield curve and calculate an average transfer rate based on the weights you assign to each term point. The following options become available in the application with this method:

- **Interest Rate Code**: Select the Interest Rate Code which you want to use as the transfer pricing yield curve.
- **Assignment Date**: The Assignment Date allows you to choose the date for which the yield curve values will be picked up. Choices available are the As of Date, Last Repricing Date, or Origination Date.
- **Model With Gross Rates**: Available options include:
  - No
  - Yes

After you select a value for the Interest Rate Code option, the Term Point Selection container is displayed.

- **Term Point Selection**: To select the Term Points on the interest rate code to be used, click the **Select Term Points** button at the top right of the Term Point Selection container. Select the wanted term points in the Add Term Points popup window and click **OK**. Then enter the Percentages in the Term Point Selection grid. Percentages must add up to 100 percent.



Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- **Mid-Period** Repricing Option

Unpriced Account

Under the unpriced account method, the transfer rate for the account is defined as the weighted average of other dimension members. While using the unpriced account methodology, you can specify whether the weighted average of transfer rates has to be taken across all entities or for accounts only within that entity.

The following options become available in the Transfer Pricing rule interface with this

method:

- **Across all Entities**: Allows you to specify whether weighted average of transfer rates should be taken across all entities.

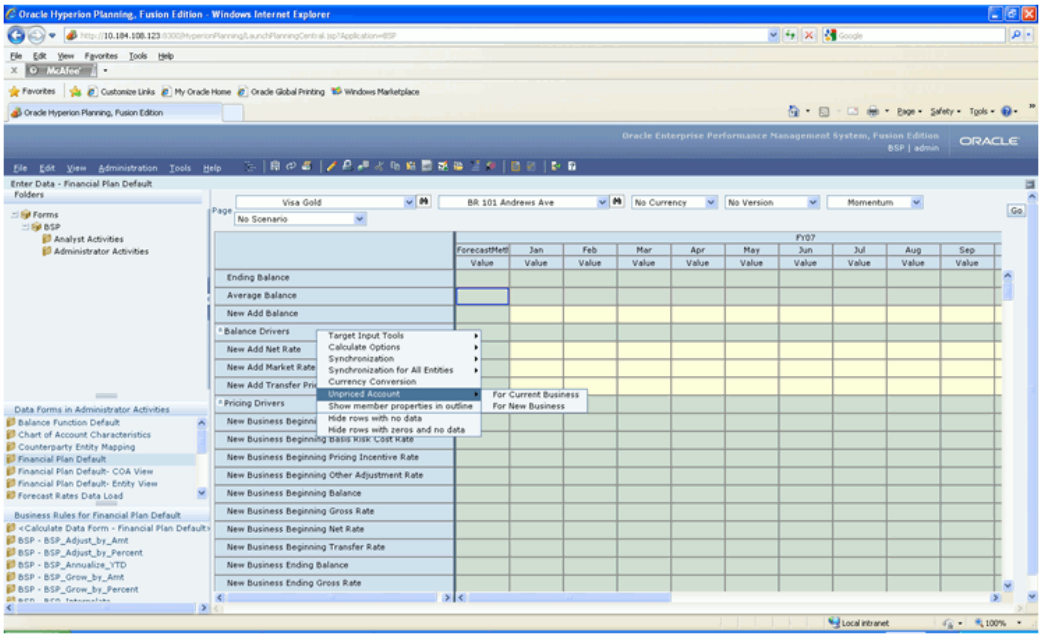
To specify the chart of account dimension members to use in deriving the transfer rate for the unpriced account, click the **Select Dimension Members** button at the top right of the Add Dimension Values container to open the Chart of Account dimension Hierarchy Browser.

Then select the wanted Chart of Account dimension members whose weighted average transfer rate will be assigned to the dimension member being defined.

Caution: You should not base an unpriced account on another unpriced account.

Note: The Unpriced Account method applies only to accounts that use the Ledger Table as their data source.

Important: The calculation of transfer rates for Unpriced Accounts is launched from the Financial Plan or the Financial Plan Default data forms. The calculation is run for Current Business and New Business separately, and should be processed after cash flows have been run. To launch the processes, right click the **Financial Plan data form**, select **Unpriced Account**, then select **For Current Business** to run the BSP_UPA_Seq_CB business rule for current position data, or select **For New Business** to run the BSP_UPA_Seq_NB business rule for new business data.



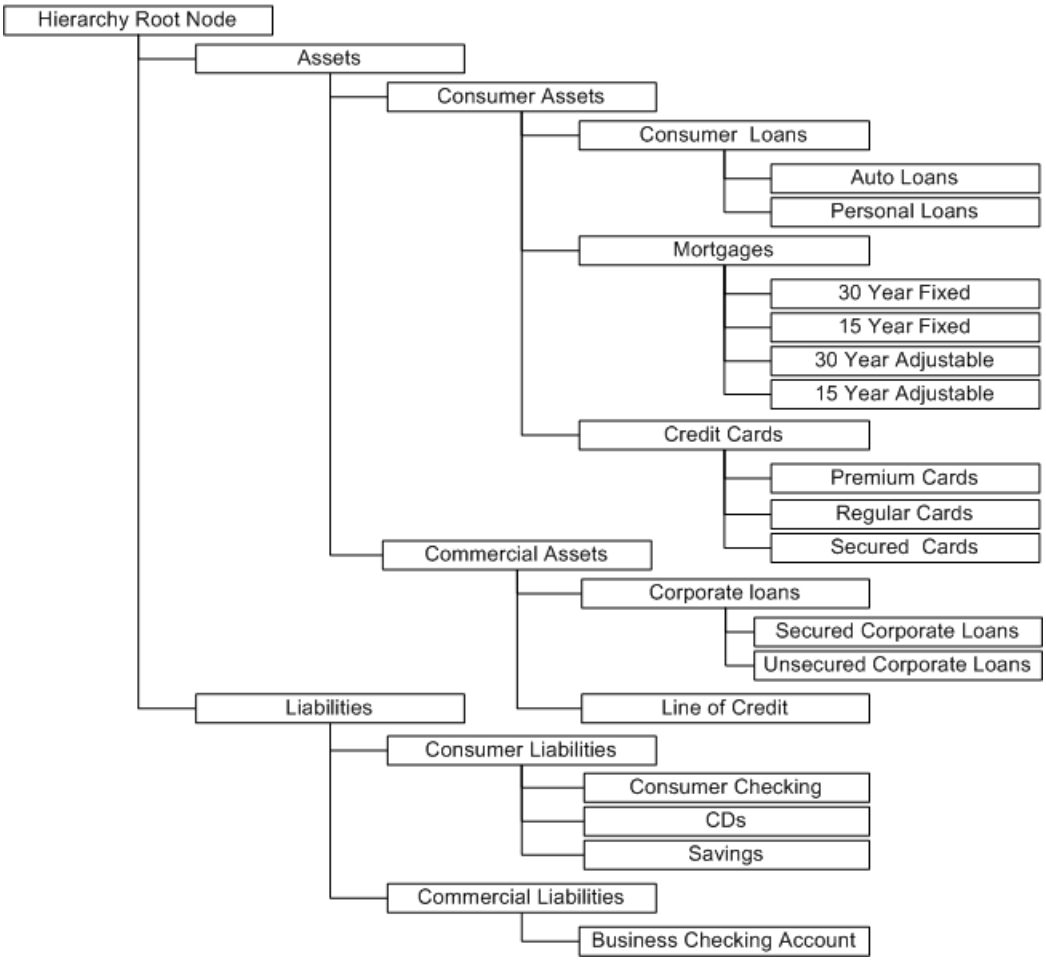
Defining Transfer Pricing Methodologies Using Node Level Assumptions

In Oracle Balance Sheet Planning, your balance sheet product portfolio is represented using the Chart of Account Dimension specified in Cash Flow Engine Preferences. Node Level Assumptions allow you to define transfer pricing and adjustment assumptions at any level of the Chart of Account dimension hierarchy. The Chart of Account dimension supports a hierarchical representation of your dimension members, so you can take advantage of the parent-child relationships defined for the various nodes of your hierarchy while defining transfer pricing and adjustment assumptions. Child nodes for which no assumptions have been specified automatically inherit the methodology of their closest parent node. Conversely, explicit definitions made at a child level will take precedence over any higher level parent node assumption.

Node level assumptions simplify the process of applying rules in the user interface and significantly reduce the effort required to maintain business rules over time as new products are added to the product mix. It is also not required for all rules to assign assumptions to the same nodes. Users may assign assumptions at different levels throughout the hierarchy.

Behavior of Node Level Assumptions

The following graphic displays a sample product hierarchy:



Suppose you want to transfer price this product hierarchy using the Spread from Interest Rate Code transfer pricing method except for the following products:

- Mortgages: You want to transfer price these using the Zero Discount Factors cash flow based method.
- Credit Cards: You want to transfer price all but secured credit cards using the Spread from Note Rate method.

To transfer price in this manner, you need to attach transfer pricing methods to the nodes of the product hierarchy as follows:

- Hierarchy Root Node: Spread from Interest Rate Code
- Mortgages: Zero Discount Factors Cash Flow
- Credit Cards: Spread from Note Rate
- Secured Credit Cards: Spread from Interest Rate Code

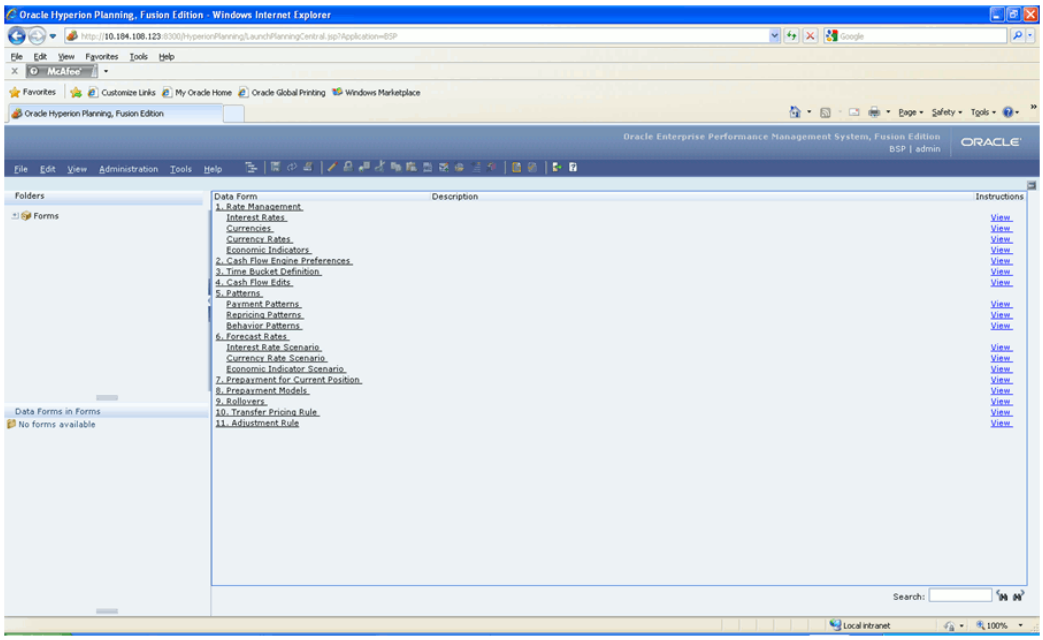
The transfer pricing method for a particular product is determined by searching up the nodes in the hierarchy. Consider the Secured Credit Cards in the earlier example. Since Spread from IRC is specified at the leaf level, the system does not need to search any further to calculate the transfer rates for the Secured Credit Cards. However, for a Premium Credit Card the system searches up the hierarchical nodes for the first node that specifies a method. The first node that specifies a method for the Premium Credit Card is the Credit Card node and it is associated with the Spread from Note Rate method.

> **Note:** Not specifying assumptions for a node is not the same as selecting the **Do Not Calculate** method. Child nodes for which no assumptions have been specified automatically inherit the methodology of their closest parent node. So if neither a child node nor its immediate parent has a method assigned, the application searches up the nodes in the hierarchy until it finds a parent node with a method assigned, and uses that method for the child node. If there are no parent nodes with a method assigned then the application triggers a processing error stating that no assumptions are assigned for the particular product/currency combination. However, if the parent node has the **Do Not Calculate** method assigned to it then the child node inherits **Do Not Calculate**, obviating the need for calculation and for a processing error.

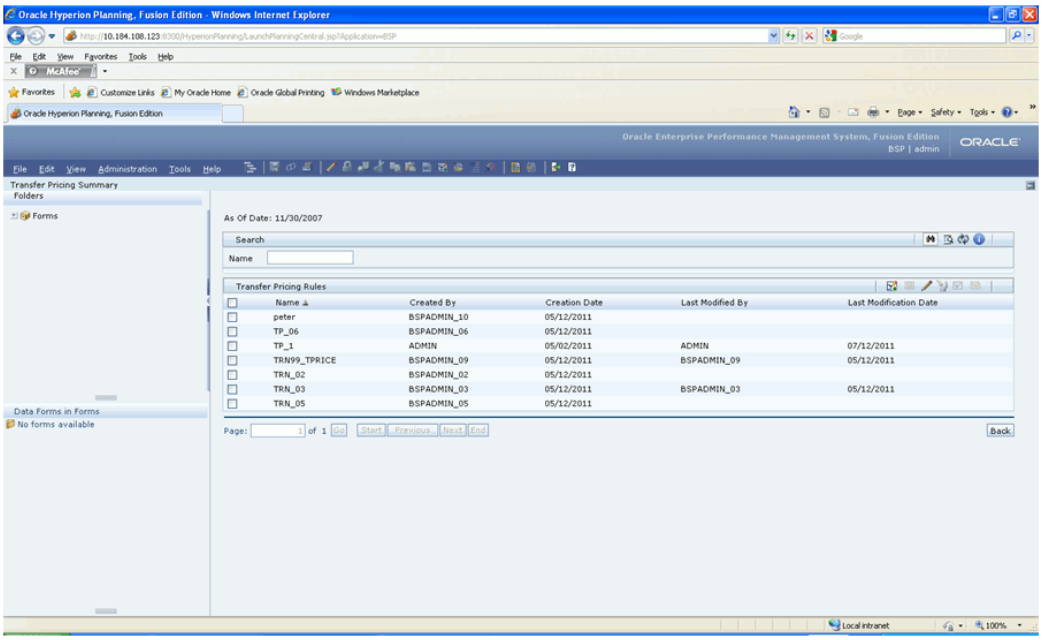
All parameters that are attached to a particular methodology (such as Interest Rate Code) are specified at the same level as the method. If multiple Interest Rate Codes are to be used, depending on the type of the product, the method would need to be specified at a lower level. For instance, if you want to use IRC 211178 for Consumer Products and IRC 3114 for Commercial Products, then the transfer pricing methodologies for these two products need to be specified at the Commercial Products and Consumer Products nodes.

Working With Transfer Pricing Rules

Navigate to the Master Maintenance > Assumption Forms and select Transfer Pricing Rule from the list of forms displayed.



When you first navigate to Master Maintenance > Transfer Pricing Rule, an empty screen will be displayed. After you have constructed one or more Transfer Pricing Rules, navigating to Master Maintenance > Transfer Pricing Rule will display a summary screen showing each of the Transfer Pricing Rules that you have previously built.



Search Container

A Search container is provided in which you may search for Transfer Pricing Rule definitions by Name.

Search Control

Enter your wanted search criteria and click the **Search** control.

Advanced Search Control

You can also search for Transfer Pricing Rule definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any filter constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with Transfer Pricing Rule definitions.

Page Navigation Controls

If more than 10 Transfer Pricing Rule definitions exist, use the navigation controls

below the summary grid to go to other pages.

Transfer Pricing Rules Container

The Transfer Pricing Rules container presents a grid containing all of the Transfer Pricing Rule definitions that meet your search criteria. The Transfer Pricing Rules grid offers several controls that allow you to perform different functions when a Transfer Pricing Rule definition is selected.

To select a Transfer Pricing Rule definition, click a check box in the first column of the grid. More than one definition can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the Transfer Pricing Rule definition.

You may select or deselect all of the Transfer Pricing Rule definitions in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the **New** control begins the process of building a new Transfer Pricing Rule definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of a Transfer Pricing Rule definition on a read-only basis. The View control is only enabled when a single definition has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Transfer Pricing Rule definition. The Edit control is only enabled when a single definition has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Transfer Pricing Rule definitions you have selected.

Deleting a Transfer Pricing Rule definition that has been used to generate current position and/or new business cash flows supporting creation of a plan or forecast should only be performed when there is no longer a need to retain the rule. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the definition. Click **OK** to proceed with the delete, or **Cancel** to prevent the deletion.

Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new Transfer Pricing Rule definition. To use the feature, click the checkbox next to an existing definition and click **Save As** control. The Save Transfer Pricing Rule As dialog will open. Enter a Name and Description for the new Transfer Pricing Rule and click **OK**. A new Transfer Pricing Rule definition is added to the summary grid. You can then select the definition and click the **Edit** control to refine it.

Transfer Pricing Rules Summary Grid

The following columns categorize each Transfer Pricing Rule definition in the Transfer Pricing Rules container summary grid:

- Name
- Created By
- Creation Date
- Last Modified By
- Last Modification Date

Name

Displays the name for a Transfer Pricing Rule definition.

Created By

Displays the name of the user who created a Transfer Pricing Rule definition.

Creation Date

Displays the date and time at which a Transfer Pricing Rule definition was created.

Last Modified By

Displays the name of the user who last modified a Transfer Pricing Rule definition.

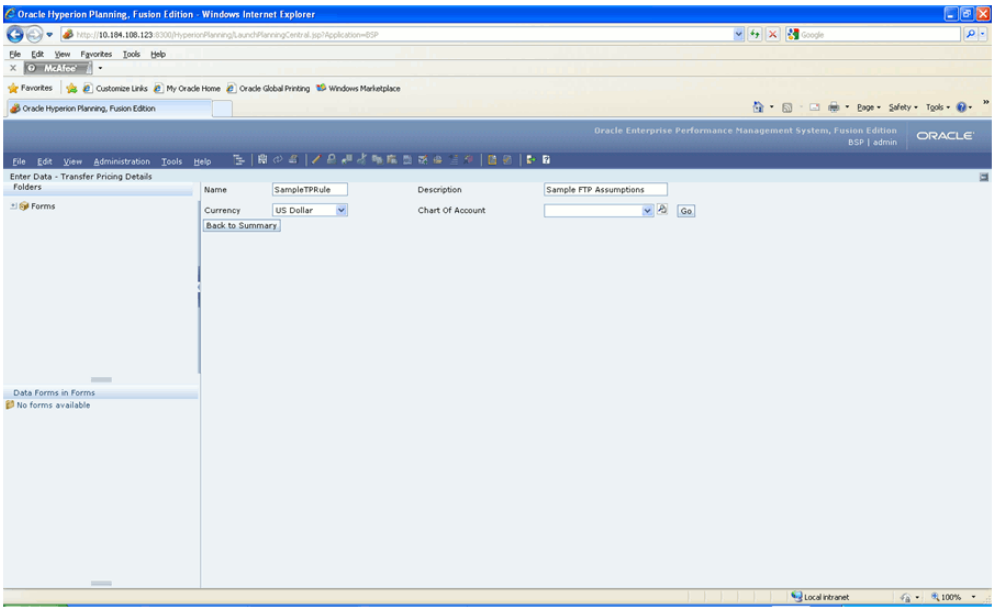
Last Modification Date

Displays the date and time at which a Transfer Pricing Rule definition was last modified.

Creating a New Transfer Pricing Rule Definition

1. Click the **New** icon to create a new Transfer Pricing Rule definition.

2. The **Enter Data – Transfer Pricing Details** page is displayed.

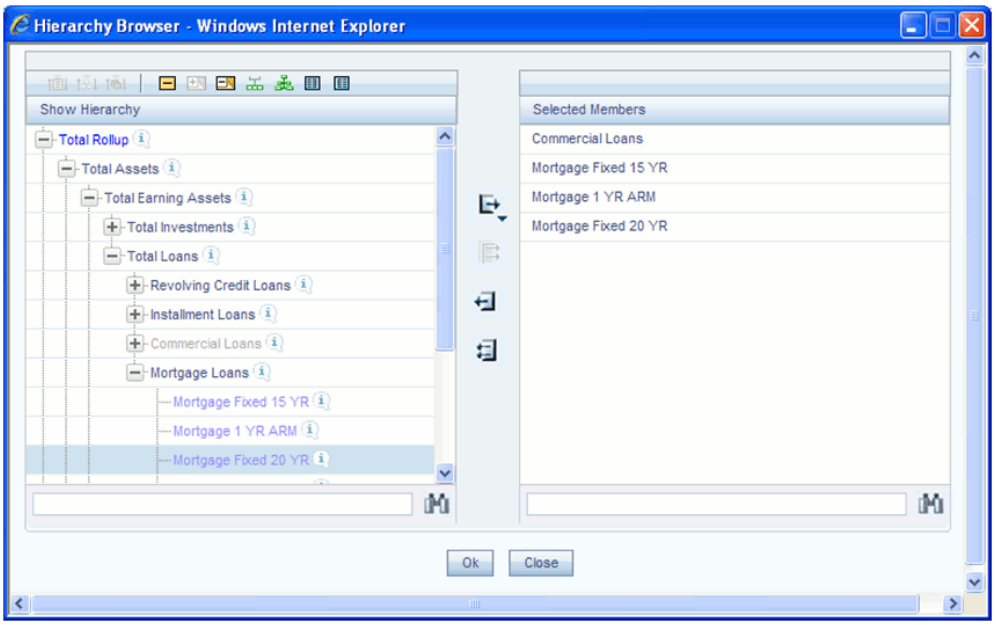


3. Enter a Name for the Transfer Pricing Rule definition. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

4. Enter a Description for the definition. The description field will accept all alphanumeric and special characters, and will accept a maximum of 255 characters.

5. The Currency field is a list of all active currencies. Select the appropriate currency from the list of values to begin defining assumptions.

6. The Chart of Account list is populated through selection of dimension members from the Hierarchy Browser. Click the **lookup** icon to open the Hierarchy Browser. Select the dimension members for which you will define transfer pricing methodology assumptions by locating and moving the members to the Selected Members box. Then click **Ok**. This will close the browser and return you to the Enter Data – Transfer Pricing Details screen.



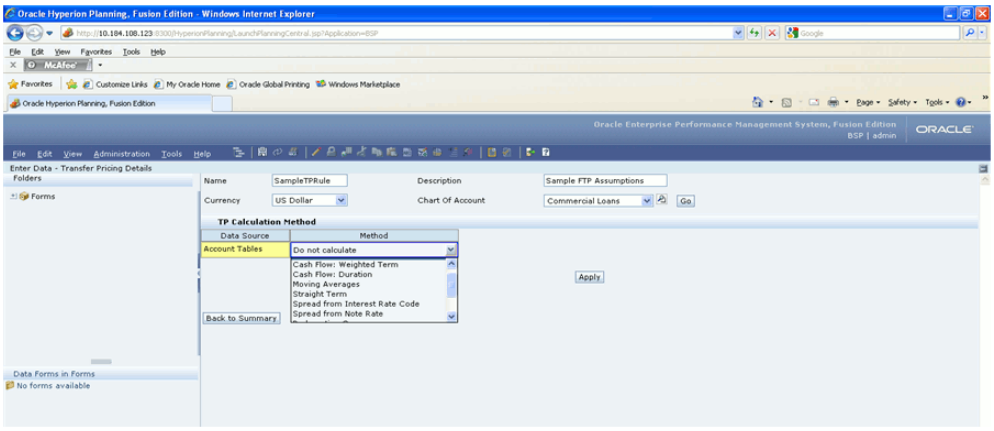
7. Select the Chart of Account dimension member from the list, which should now be populated with the dimension members selected in the Hierarchy Browser.

   Note: Define assumptions for all Chart of Account dimension members for the Currency selected. Once complete, change the selection of currency and then define assumptions for the same or different Chart of Account dimension members. Repeat until finished with all Chart of Account and Currency dimension member combinations.

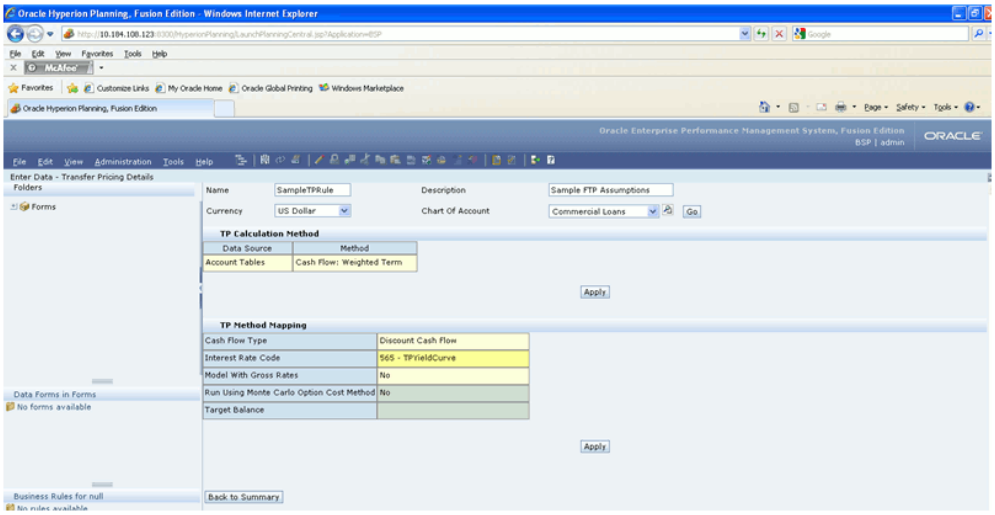
8. Click **Go**. The TP Calculation Method container will be displayed, and you are ready to define the transfer pricing assumptions for the Chart of Account and Currency dimension members selected.

9. Select the Data Source and the Method in the TP Calculation Method container. Click **Apply**.

   Note: The Data Source is Account Tables for all Methods except the Unpriced Account Method, where the Data Source is Ledger Table.



10. Specify the transfer pricing method options in the TP Method Mapping container. For the Redemption Curve method, select the Term points and enter percentages in the Term Point Selection container.



11. Click **Apply**. Select the next chart of account dimension member and repeat steps 9 and 10 until you are finished.

12. Click the **Save** control to save the Transfer Pricing Rule.

Transfer Pricing Adjustments Overview

Adjustment Rules allow users to define Transfer Pricing Add-on rates that are assigned incrementally to the base FTP rate to account for a variety of miscellaneous risks such as Liquidity risk or Basis risk, or to supplement strategic decision making through use of Pricing Incentives or other types of rate adjustments.

Add-on rates can be a fixed rate or a formula based rate. The adjustments are calculated

and output separately from the base funds transfer pricing rate, so they can be easily identified and reported.

Adjustment Methods

You can use either of the following methods in an Adjustment Rule when the selected Adjustment Type is Liquidity Premium, Basis Risk Cost, Pricing Incentive or Other Adjustment:

- Fixed Rate

  The Fixed Rate Adjustment Method allows the user to associate a fixed rate with specific terms or term ranges. Reference Term selections include:

  - Repricing Frequency
  - Original Term
  - Remaining Term
  - Duration
  - Average Life

  You can create your own reference term ranges and assign a particular adjustment rate to all instruments with a reference term falling within the specified range.

  Note: All adjustment rates should be input as annual rates.

- Formula Based Rate

  The Formula Based Rate Adjustment Method allows the user to determine the add-on rate based on a lookup from the selected yield curve, plus a spread amount and then the resulting rate can be associated with specific terms or term ranges. Reference term selections include:

  - Repricing Frequency
  - Original Term
  - Remaining Term
  - Duration
  - Average Life

  You can create your own reference term ranges and assign a particular formula based adjustment rate to all instruments with a reference term falling within the

specified range.

With this method you also specify the Interest Rate Code and define an Assignment Date for the Rate Lookup.

Assignment Date selections includes the **Origination Date**.

The formula definition is comprised of the following components

Term Point: Allows you to associate a specific term point from the IRC to each Term Range.

Coefficient: Allows you to define a multiplier which is applied to the selected rate.

Rate Spread: Allows you to define an incremental rate spread to be included on top of the IRC rate.

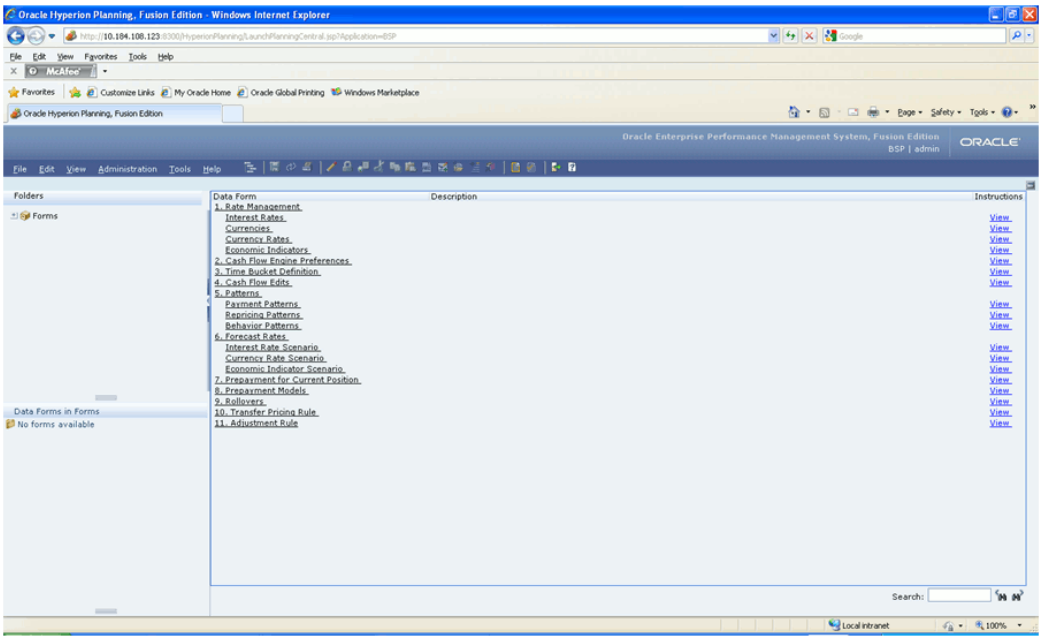
The resulting formula for the adjustment rate is:

(Term Point Rate * Coefficient) + Spread

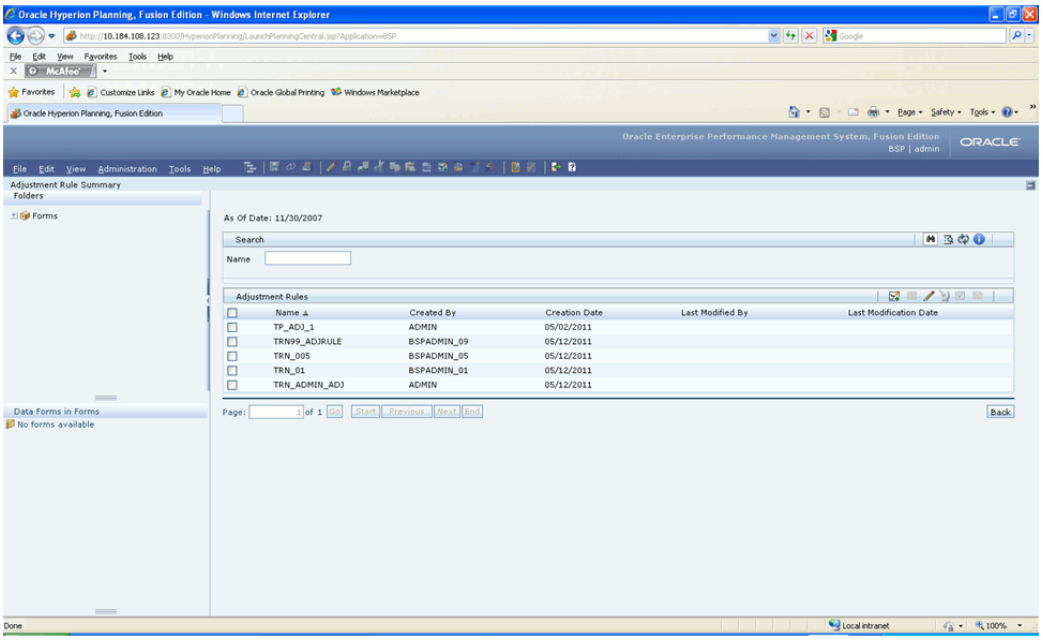
- Do not calculate: If you do not wish to calculate adjustments for an account, you can set the Adjustment Method to **Do not calculate**.

Working With Adjustment Rules

Navigate to the Master Maintenance > Assumption Forms and select Adjustment Rule from the list of forms displayed.



When you first navigate to Master Maintenance > Adjustment Rule, an empty screen will be displayed. After you have constructed one or more Adjustment Rules, navigating to Master Maintenance > Adjustment Rule will display a summary screen showing each of the Adjustment Rules that you have previously built.



Search Container

A Search container is provided in which you may search for Adjustment Rule

definitions by Name.

Search Control

Enter your wanted search criteria and click the **Search** control.

Advanced Search Control

You can also search for Adjustment Rule definitions by Created By, Creation Date, Last Modified By and Last Modification Date values. Click the **Advanced Search** Control to open a dialog to specify any of these search criteria.

Reset Control

Clicking on the **Reset** control removes any filter constraint you may have specified and refreshes the screen.

Instructions Control

Click the **Instructions** control to open a window containing instructions for working with Adjustment Rule definitions.

Page Navigation Controls

If more than 10 Adjustment Rule definitions exist, use the navigation controls below the summary grid to go to other pages.

Adjustment Rules Container

The Adjustment Rules container presents a grid containing all of the Adjustment Rule definitions that meet your search criteria. The Adjustment Rules grid offers several controls that allow you to perform different functions when an Adjustment Rule definition is selected.

To select an Adjustment Rule definition, click a check box in the first column of the grid. More than one definition can be selected at a time but this will cause some of the controls to become disabled. Clicking on a checkbox a second time de-selects the Adjustment Rule definition.

You may select or deselect all of the Adjustment Rule definitions in the grid by clicking on the check box in the upper left hand corner of the grid directly to the left of the Name column header.

New

Clicking the on **New** control begins the process of building a new Adjustment Rule definition. The New control is disabled if any rows in the grid have been selected.

View

Selecting a single row out of the grid enables the View control. Clicking on the **View** control allows you to view the contents of an Adjustment Rule definition on a read-only basis. The View control is only enabled when a single definition has been selected.

Edit

Selecting a single row out of the grid enables the Edit control. Clicking on the **Edit** control allows you to modify a previously saved Adjustment Rule definition. The Edit control is only enabled when a single definition has been selected.

Delete

Selecting one or more rows out of the grid enables the Delete control. Clicking on the **Delete** control deletes the Adjustment Rule definitions you have selected.

Deleting an Adjustment Rule definition that has been used to generate current position and/or new business cash flows supporting creation of a plan or forecast should only be performed when there is no longer a need to retain the rule. When clicking on Delete, a warning message will appear asking if you are sure you want to delete the definition. Click **OK** to proceed with the delete, or **Cancel** to prevent the deletion.

Check Dependency

The Check Dependency control is not functional in this release.

Save As

The Save As control will allow you to save an existing definition to a new Adjustment Rule definition. To use the feature, click the checkbox next to an existing definition and click the **Save As** control. The Save Adjustment Rule As dialog will open. Enter a Name and Description for the new Adjustment Rule and click **OK**. A new Adjustment Rule definition is added to the summary grid. You can then select the definition and click the **Edit** control to refine it.

Adjustment Rules Summary Grid

The following columns categorize each Adjustment Rule definition in the Adjustment Rules container summary grid:

- Name
- Created By
- Creation Date
- Last Modified By

- Last Modification Date

Name

Displays the name for an Adjustment Rule definition.

Created By

Displays the name of the user who created an Adjustment Rule definition.

Creation Date

Displays the date and time at which an Adjustment Rule definition was created.

Last Modified By

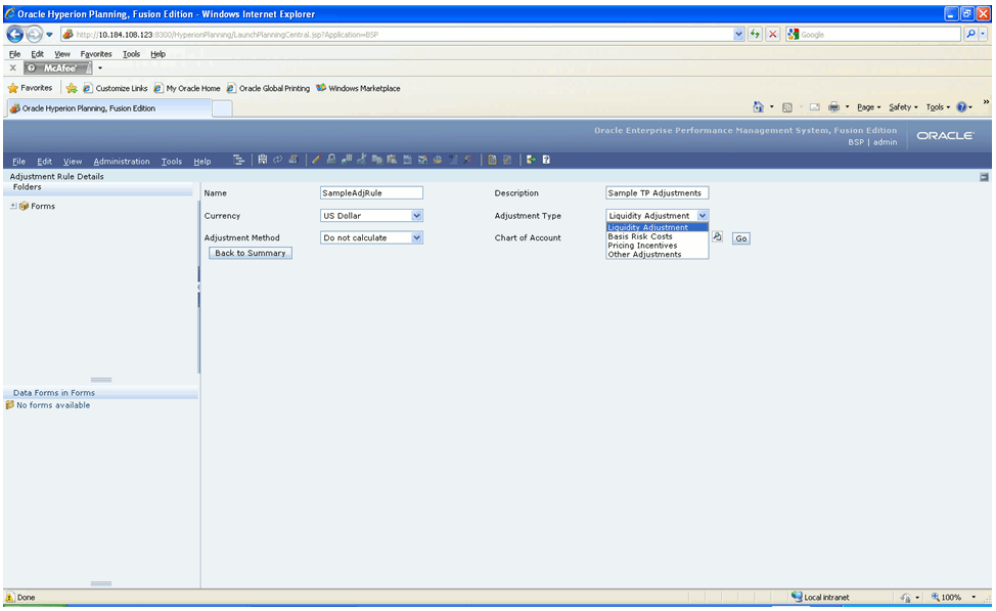
Displays the name of the user who last modified an Adjustment Rule definition.

Last Modification Date

Displays the date and time at which an Adjustment Rule definition was last modified.

Creating a New Adjustment Rule Definition

1. Click the **New** icon to create a new Adjustment Rule definition.
2. The Adjustment Rule Details page is displayed.



3. Enter a Name for the Adjustment Rule definition. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

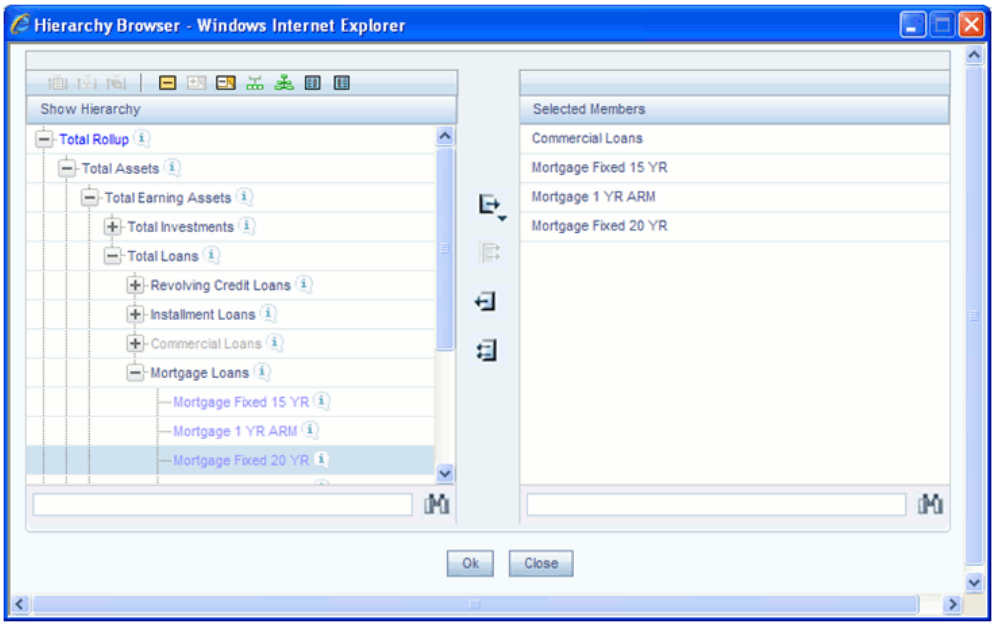
4. Enter a Description for the definition. The description field will accept all alphanumeric and special characters, and will accept a maximum of 255 characters.

5. The Currency field is a list of all active currencies. Select the appropriate currency from the list of values to begin defining assumptions.

6. Select the Adjustment Type.

7. Select the Adjustment Method.

8. The Chart of Account list is populated through the selection of dimension members from the Hierarchy Browser. Click the **lookup** icon to open the Hierarchy Browser. Select the dimension members for which you will define Adjustment Rule assumptions by locating and moving the members to the Selected Members box. Then click **Ok**. This will close the browser and return to the Adjustment Rule Details screen.



9. Select the Chart of Account dimension member from the list, which should now be populated with the dimension members selected in the Hierarchy Browser.

   Note: Define assumptions for all Chart of Account dimension members for the Currency selected. Once complete, change the selection of currency and then define assumptions for the same or different Chart of Account dimension members. Repeat until finished with all Chart of Account and Currency dimension member combinations.

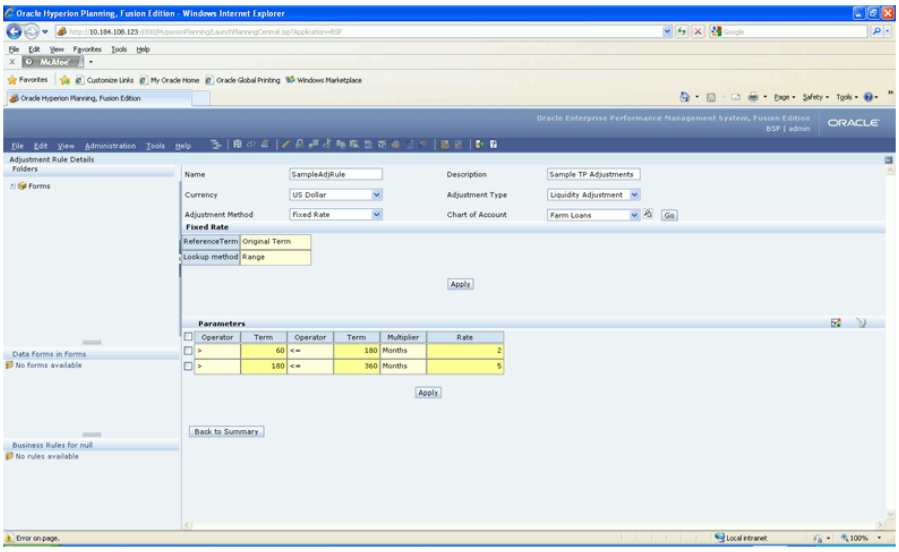
10. Click **Go**.

11. Specify the parameters for the Adjustment Method chosen for the account.

    - **Fixed Rate Adjustment Method**

      The Fixed Rate container will be displayed if the Fixed Rate Adjustment Method is selected. In the container:

      - Select the Reference Term.
      - Select the Lookup Method. Available options include Range and Interpolate.
      - Click **Apply**. The Parameters container will be displayed.

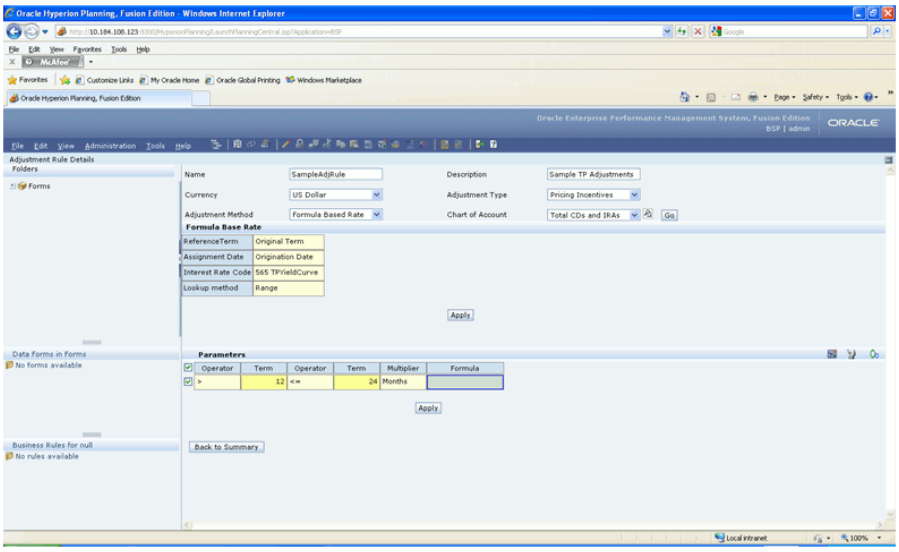


- Define the Term and Rate parameters in the Parameters container. If you wish to define more than one range, click the **Add Row** button at the top right of the Parameters container to add as many rows as wanted. If you add too many rows, click the box next to the row you wish to remove and then click the **Delete Row** button to remove it.
- Click **Apply**.
- Repeat the process until you have defined assumptions for the entire Chart of Account dimension members for which adjustments will be used.

- **Formula Based Rate Adjustment Method**

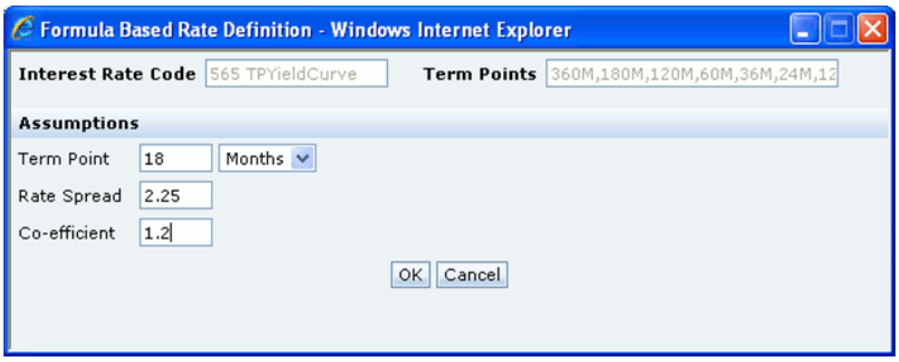
  The Formula Based Rate container will be displayed if the Formula Based Rate Adjustment Method is selected. In the container:

  - Select the Reference Term.
  - Select the Assignment Date.
  - Select the Interest Rate Code.
  - Select the Lookup Method. Available options include Range and Interpolate
  - Click **Apply**. The Parameters container will be displayed.



- Define the Term parameters in the Parameters container. If you wish to define more than one range, click the **Add Row** button at the top right of the Parameters container to add as many rows as wanted. If you add too many rows, click the box next to the row you wish to remove and then click the **Delete Row** button to remove it.

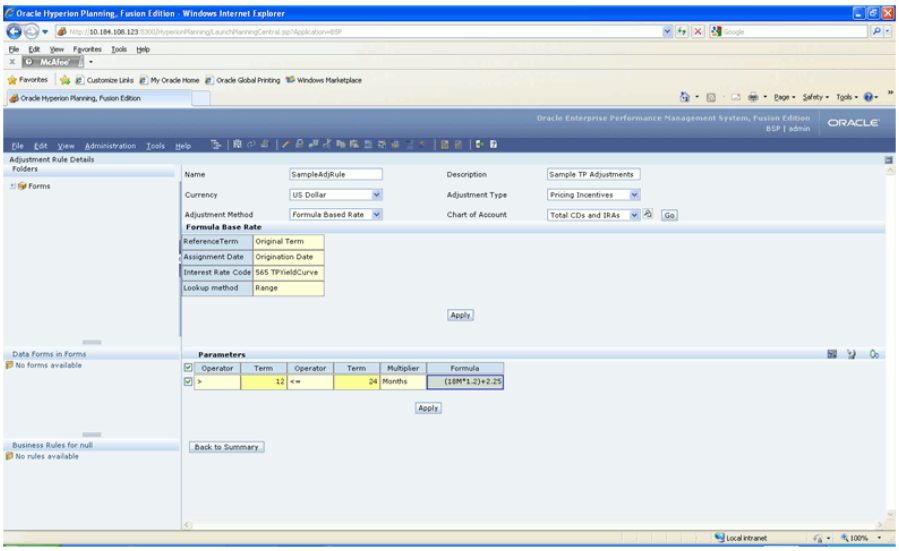
- To define the formula(s) to be used for the range(s), select the check box next to each row and then click the **Specify Formula** button to the right of the Delete Row button. The Formula Based Rate Definition popup will open.



- The Term Points available for selection are displayed in the Term Points cell on the popup. Enter the appropriate Term Point, Rate Spread and Co-efficient in the screen and click **OK**.

- The resulting formula is displayed in the Parameters container for the row selected. Repeat the process until formulas have been defined for all ranges.

- Click **Apply**.
- Repeat the process until you have defined assumptions for all of the Chart of Account dimension members for which adjustments will be used.



12. When finished defining the Adjustment Rule, click the **Save** control to save the definition.

16

Metadata Synchronization

Overview

Metadata synchronization processes perform comparisons of certain metadata between the Balance Sheet Planning relational database tables and Hyperion Planning, and identify and make changes needing to be made to keep the information synchronized. Common administrator activities that result in a need to run metadata synchronization include:

- Creating, Editing or Deleting Dimension Members
- Creating, Editing or Deleting Dimension Hierarchies
- Creating Interest Rate Codes and Term Points
- Creating Interest Rate, Currency Rate and/or Economic Indicator Scenarios
- Creating Payment, Repricing and/or Behavior Patterns
- Creating Current Book Prepayment Assumptions
- Creating Prepayment Models
- Creating Maturity Mix Scenarios

The metadata synchronization process involves three basic steps:

1. Export Hyperion metadata (dimensions, members and/or SmartLists) into XML files using Life Cycle Management (LCM).
2. Launch Balance Sheet Planning metadata synchronization programs to compare the Balance Sheet Planning data model metadata and the Hyperion metadata. The metadata synchronization programs locate differences between the two sets of metadata and modify the XML files and Balance Sheet Planning metadata tables

accordingly.

3. Import the Hyperion metadata XML files into Planning using LCM.

The metadata synchronization programs referenced earlier are provided with the Balance Sheet Planning application and include four separate processes that are launched from the Master Maintenance menu:

- Smart Lists

  In Balance Sheet Planning, Hyperion Smart Lists are used to populate certain drop lists in the application's standard data forms. Many Smart Lists and Smart List Members are predefined and do not change while the application is being used. These Smart Lists and Members are created during the application installation process.

  Members for several other Smart Lists must be created in Hyperion Planning after definition of business assumptions and certain code values under Master Maintenance has been performed. The SmartLists metadata synchronization routine will create these members based on the defined business assumptions and code values for you.

- Hierarchical Dimensions

  The Hierarchical Dimension metadata synchronization routine will synchronize dimension members and dimension hierarchies for those dimensions that are hierarchical in the Balance Sheet Planning relational database, including the Chart of Account, Entity and Strategy dimensions and hierarchies.

- Flat – Standard Dimension

  The Flat – Standard Dimensions metadata synchronization routine will synchronize dimension members for the Scenario, Version and Currency dimensions.

- Flat – Custom Dimensions

  The Flat – Custom Dimensions metadata synchronization routine will synchronize dimension members for the Assumption, RateElement, Term Points and Mix Breakout dimensions.

When processing Metadata Synchronization for Balance Sheet Planning, you can select specific Smart List and dimension components or combinations of components that should be processed. For example, assume that a custom Payment Pattern has been defined in Master Maintenance for use in the application. A corresponding SmartList Member must be created and added to the list of existing members of the Balance Sheet Model attribute (a_Core_Attr_BS_Model) so that the pattern can be assigned to the appropriate Chart of Account dimension member(s) in the Chart of Account Characteristics data form. Assuming there are no other changes for which Metadata Synchronization needs to be run, you can select the specific SmartList to be updated when selecting the artifacts and defining the migration in the Hyperion Shared Services

Console.

The following table lists the metadata synchronization programs, the individual Smart Lists and Dimensions that can be chosen for processing and the Artifact selection path for selecting the individual items in the Artifact List when defining and running the migration in the Shared Services Console.

Program	SmartList/Dimension(s)	Artifact Selection Path
SmartList	a_Core_Attr_BS_Model	/Global Artifacts/Smart Lists
SmartList	a_Core_Attr_Adj_Type	/Global Artifacts/Smart Lists
SmartList	a_Core_Attr_IRC	/Global Artifacts/Smart Lists
SmartList	s_Int_Rate_Scenario	/Global Artifacts/Smart Lists
SmartList	s_Eco_Indicator_Scenario	/Global Artifacts/Smart Lists
SmartList	s_Curr_Rate_Scenario	/Global Artifacts/Smart Lists
SmartList	v_CB_Prepay_Scenario	/Global Artifacts/Smart Lists
SmartList	v_Maturity_Mix_Scenario	/Global Artifacts/Smart Lists
SmartList	m_Prepayment_Model_Id	/Global Artifacts/Smart Lists
Hierarchical Dimensions	Entity	/Global Artifacts/Common Dimensions/Standard Dimensions
Hierarchical Dimensions	Chart of Account	/Global Artifacts/Common Dimensions/Standard Dimensions
Hierarchical Dimensions	Strategy	/Global Artifacts/Common Dimensions/Standard Dimensions
Flat – Standard Dimensions	Scenario	/Global Artifacts/Common Dimensions/Standard Dimensions
Flat – Standard Dimensions	Version	/Global Artifacts/Common Dimensions/Standard Dimensions

Program	SmartList/Dimension(s)	Artifact Selection Path
Flat – Standard Dimensions	Currency	/Global Artifacts/Common Dimensions/Standard Dimensions
Flat – Custom Dimensions	Assumption	/Plan Type/Rates/Standard Dimensions
Flat – Custom Dimensions	Rate Element	/Plan Type/Rates/Standard Dimensions
Flat – Custom Dimensions	Term Points	/Plan Type/Rates/Standard Dimensions
Flat – Custom Dimensions	Mix Breakout	/Plan Type/Rates/Standard Dimensions

Detailed Instructions

The remainder of this chapter provides detailed instructions for running the metadata synchronization processes.

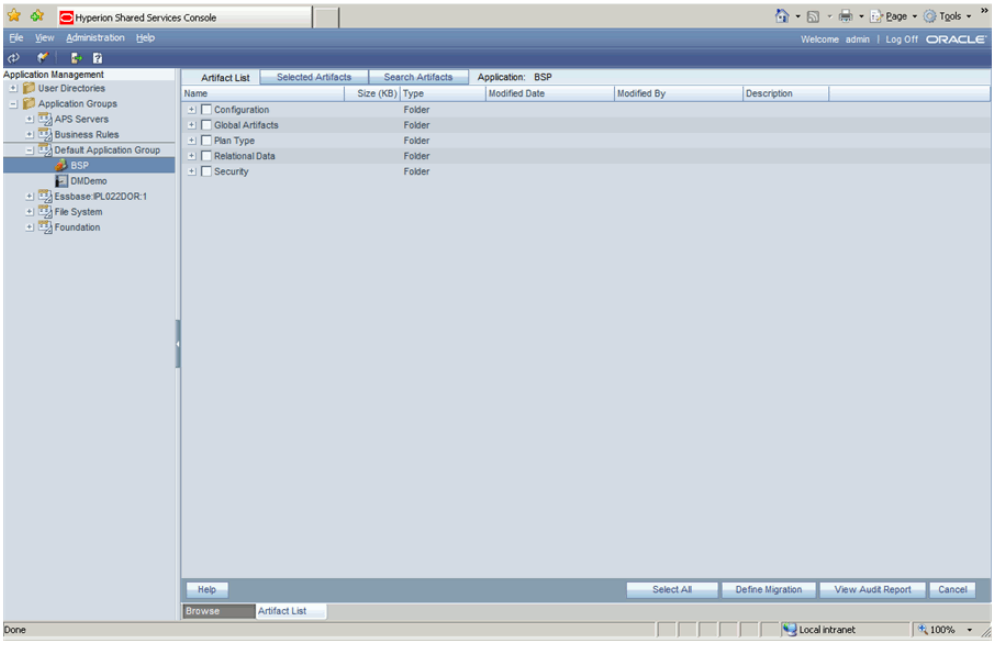
I) Lifecycle Management – Export Metadata

1. Login to the Hyperion Shared Services Console using the **admin** user.

   Note: If your system is configured to allow access directly from Hyperion Planning, you can access the Shared Services Console by clicking on Administration > User Management.

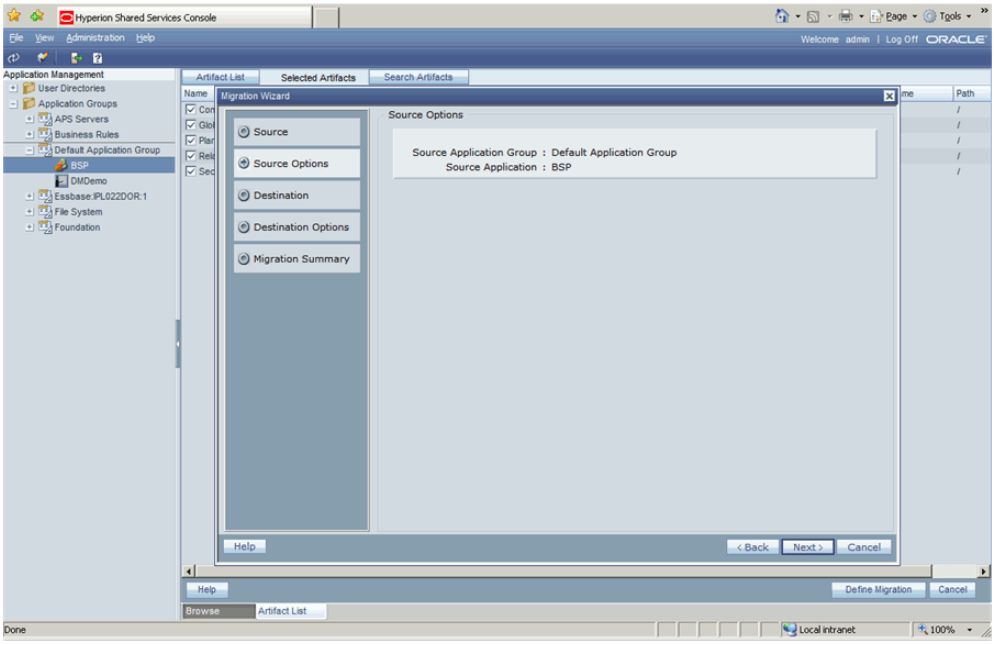
2. Under Application Management, expand the Application Groups folder and the Default Application Group folder, then select **BSP**.

   Note: BSP refers to the application name used when Balance Sheet Planning was installed. If you used a different name when the application was created, then select the name you actually used.

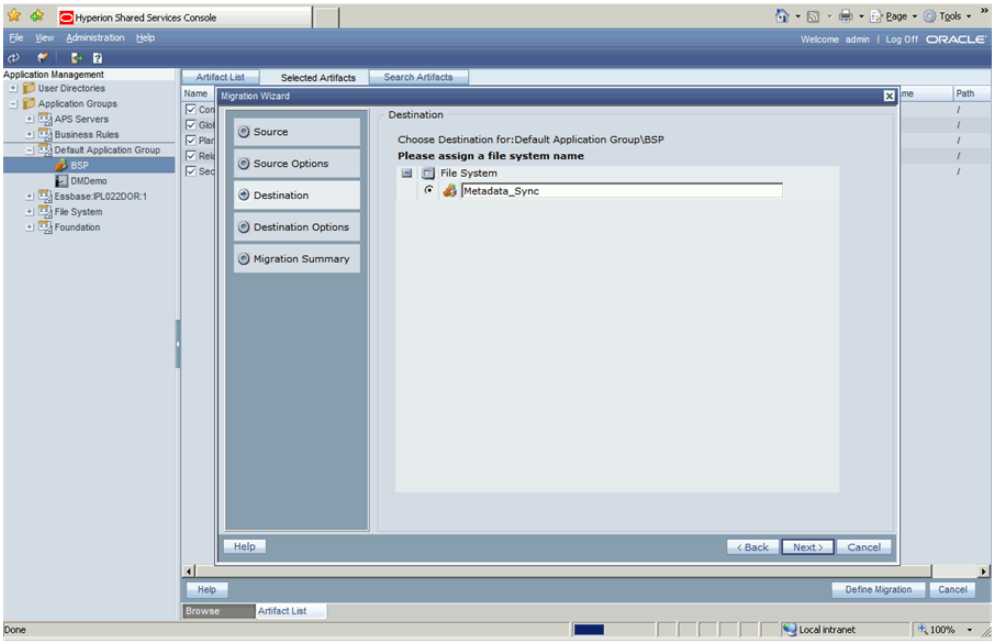


3. On the Artifacts List tab, select the necessary artifacts for defining the Migration. This will export the Hyperion Metadata in form of XMLs. If desired, you can click the **Select All** button at the bottom to select everything, and then click **Define Migration** to open the Migration Wizard.

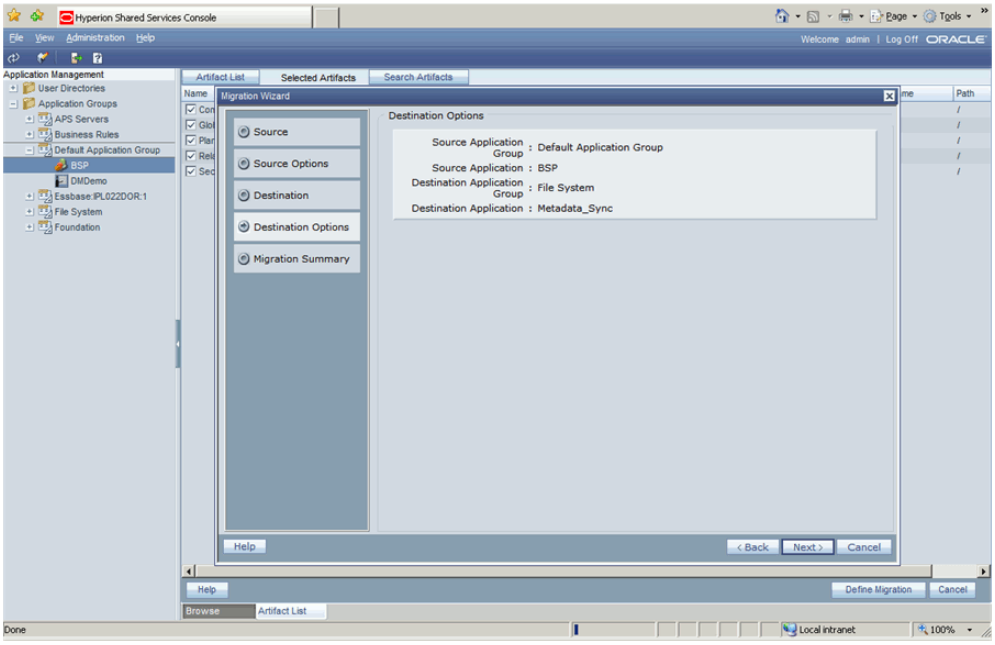
   Alternatively, you can select all **Global Artifacts** and **Plan Types** by clicking on the checkboxes next to those captions. You can also expand the Global Artifacts and/or Plan Type lists and select just the individual components you want to migrate based on the metadata component to be synchronized, and then click **Define Migration** to open the Migration Wizard. This may be preferable to selecting all artifacts from a processing time perspective.



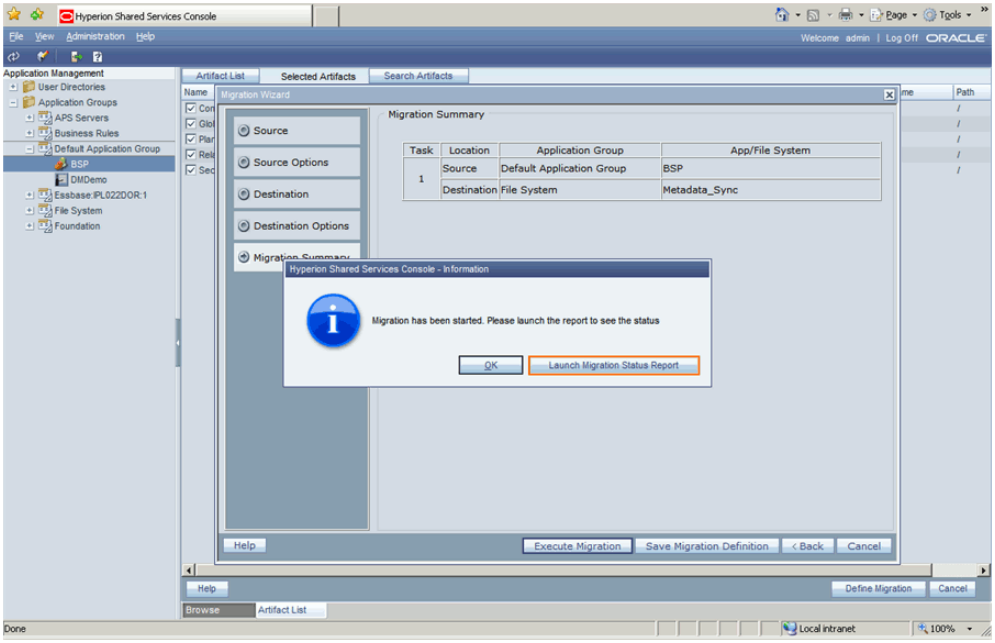
4. Click the **Next** button to specify the destination and assign the file system folder name where requested. Use **Metadata_Sync** as the name.



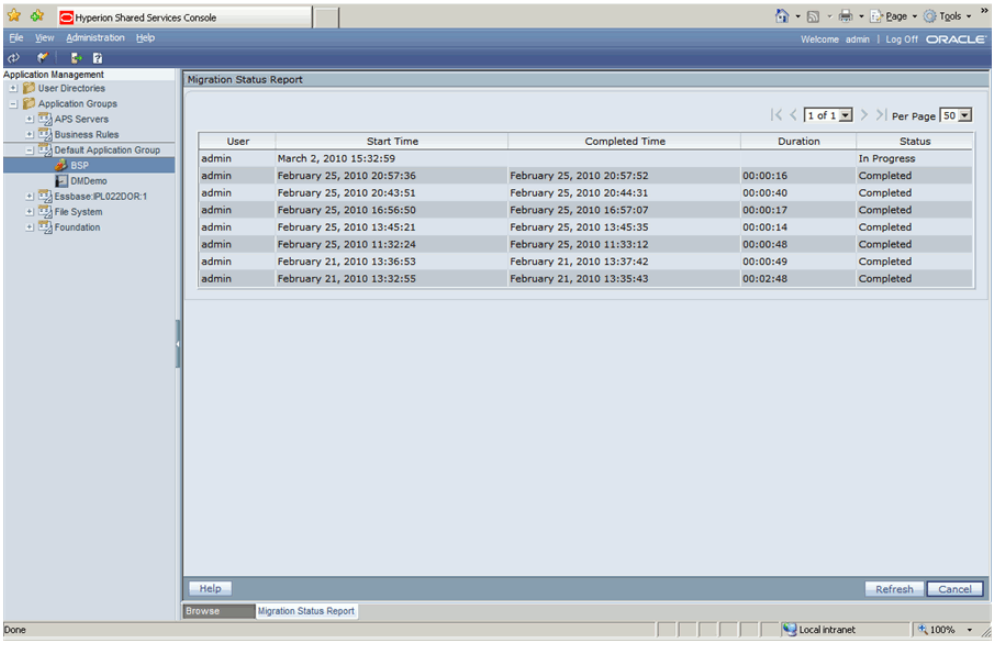
5. Click the **Next** button to open the Destination Options screen and review and confirm the displayed information. If correct, click the**Next** button on the Destination Options screen to open the Migration Summary screen.



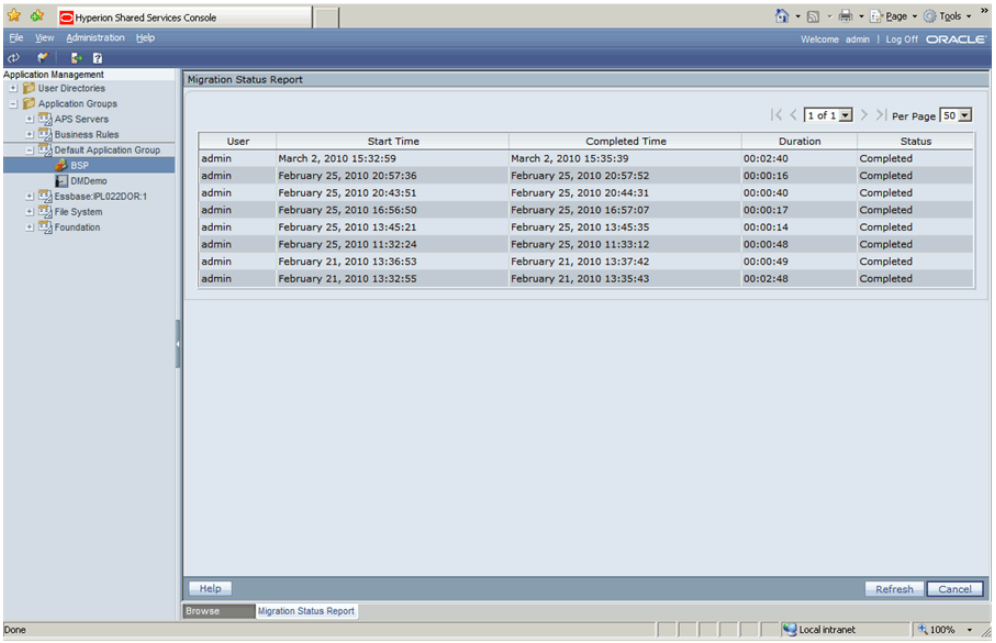
6. Click the **Execute Migration** button to initiate the migration. A confirmation message will popup stating that migration has started.



7. On the confirmation message popup screen, click the **Launch Migration Status Report** button to monitor the progress of the migration. This will open a window displaying the status of the migration.



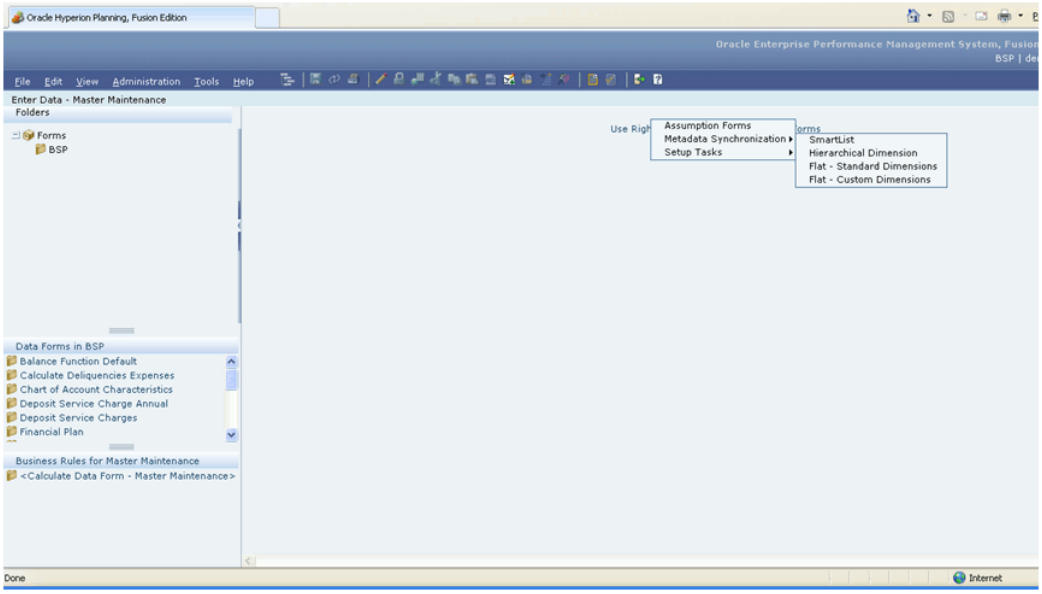
8. Click the **Refresh** button at the bottom of the screen to monitor the status of the migration. A "Completed" status indicates that the migration process is finished.



Once the migration is completed, close the window and return to Enterprise Performance Management Hyperion Planning for execution of Metadata Synchronization functions in Balance Sheet Planning.

II) Metadata Synchronization

To run Metadata Synchronization in Balance Sheet Planning, navigate to the Master Maintenance > Metadata Synchronization menu item and four synchronization functions will be displayed for selection.



Launch the appropriate synchronization routine(s) from the Metadata Synchronization menu:

1. Select **SmartList** option to synchronize the Smart Lists. A business rule, BSP_SmartList_Sync, will be run, after which a confirmation message will appear stating that rule has been successfully executed.

2. Select **Hierarchical Dimensions** option to synchronize the hierarchical dimension members and hierarchies. A business rule, BSP_HierDim_Sync, will be run, after which a confirmation message will appear stating that rule has been successfully executed.

3. Select **Flat - Standard Dimension** option to synchronize the flat standard dimensions. A business rule, BSP_Flat_StdDim_Sync, will be run, after which a confirmation message will appear stating that rule has been successfully executed.

4. Select **Flat – Custom Dimension** option to synchronize the flat custom dimensions. A business rule, BSP_Flat_CustDim_Sync will be run, after which a confirmation message will appear stating that rule has been successfully executed.

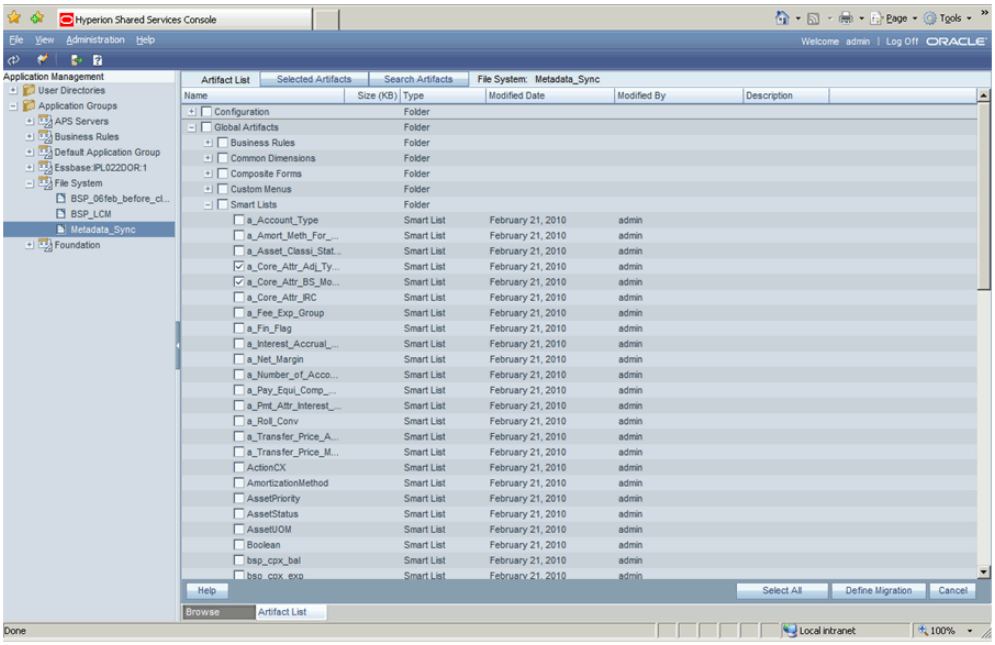
Once the appropriate functions have been processed, you are ready to import revised metadata into Hyperion Planning.

III) Lifecycle Management – Import Metadata

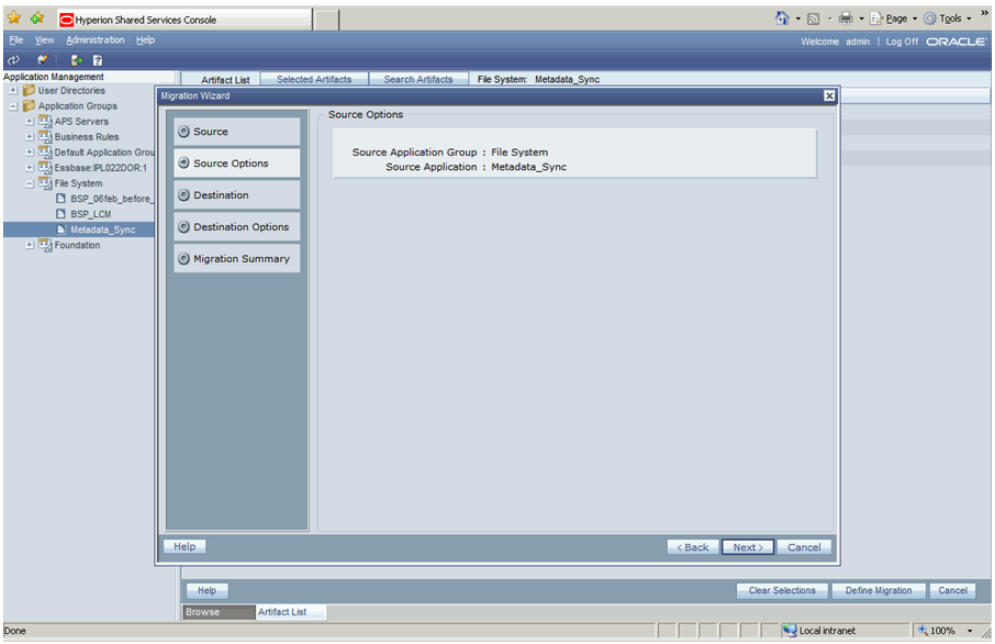
1. Login to the Hyperion Shared Services Console using the **admin** user.

Note: If your system is configured to allow access directly from Hyperion Planning, you can access the Shared Services Console by clicking on Administration > User Management.

2. Under Application Management, expand the Application Groups folder and the File System folder, then select **Metadata_Sync**.

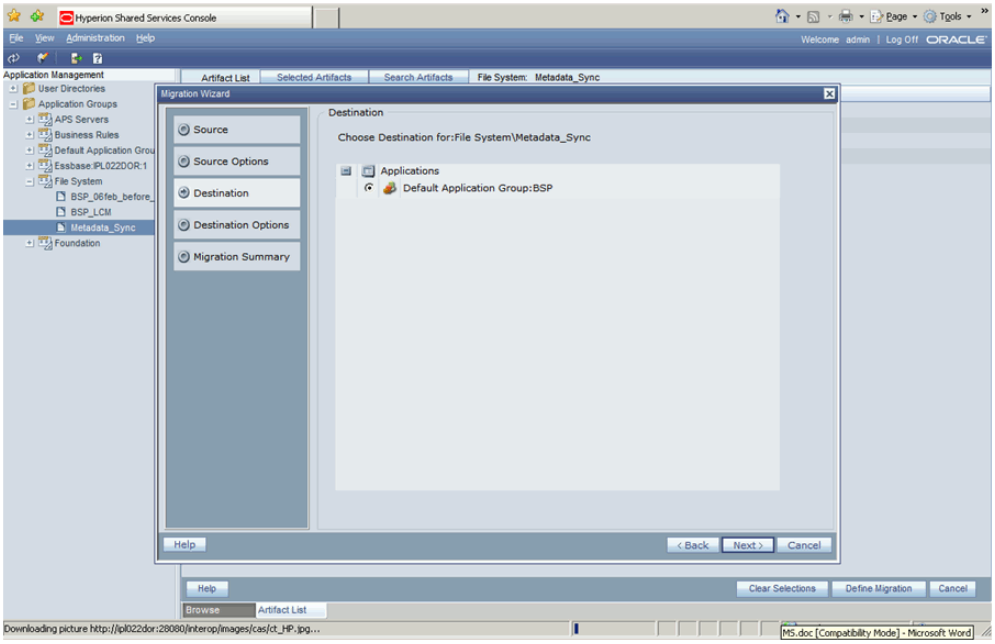


3. On the Artifact List tab, select the artifacts under the Global Artifacts folder that you wish to import. You should select the same artifacts you selected earlier in the Lifecycle Management – Export Metadata section of these instructions. After selecting the artifacts, click the **Define Migration** button to open the Migration Wizard.

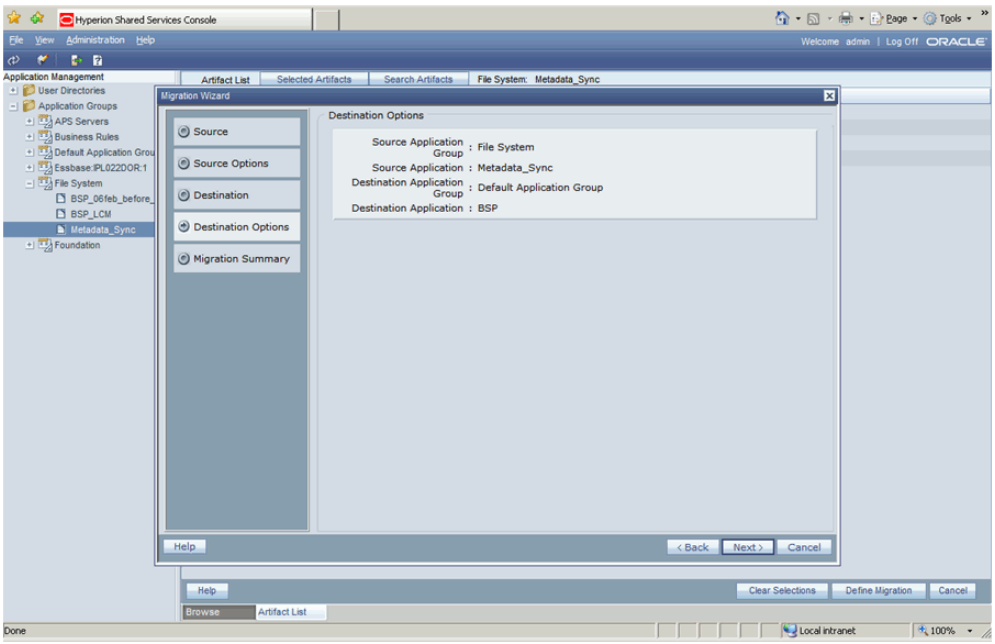


4. Click the **Next** button to choose the destination where the metadata should be imported. Select the **Default Application Group: BSP** as the destination.

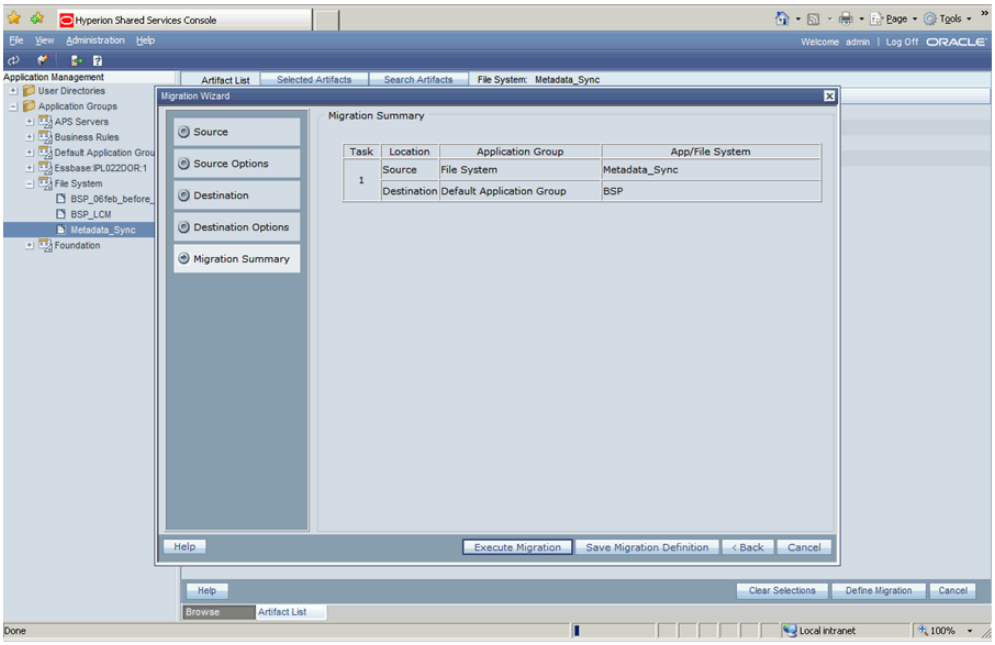
   Note: BSP refers to the application name used when Balance Sheet Planning was installed. If you used a different name when the application was created, then select the Default Application Group reflecting the name you actually used.



5. Click the **Next** button to open the Destination Options screen and review and confirm the displayed information. If correct, click the **Next** button on the Destination Options screen to open the Migration Summary screen.



6. Click the **Execute Migration** button to initiate the migration. A confirmation message will popup stating that migration has started.



7. On the confirmation message popup screen, click the **Launch Migration Status Report** button to monitor the progress of the migration. When the Status changes to 'Completed' the metadata import is finished.

17

Defining Process Attributes

Overview

When preparing the Balance Sheet Planning application for use, the Budget Administrator will create scenario information that is associated with Scenario dimension members, and that provides assumptions used to generate cash flow and other plan data. This information includes a forecasted Interest Rate Scenario used to generate future cash flows, a Currency Rate Scenario used to calculate currency translations in a multi-currency installation, and an Economic Indicator Scenario that can provide other useful information serving as a backdrop for forecasted interest and exchange rates.

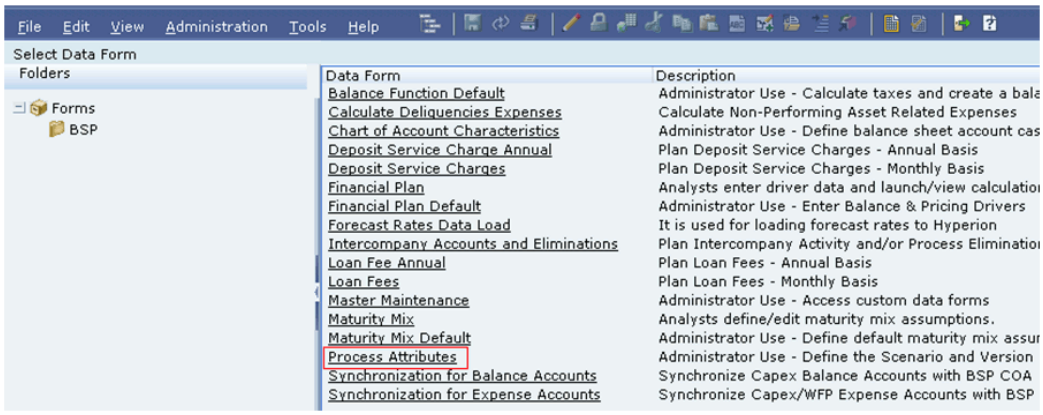
Creation of these forecasted scenarios is performed using the Master Maintenance > Forecast Rates interfaces. See Forecast Rates – Creating Interest Rate, Exchange Rate and Economic Indicator Scenarios, page 11-1. Once the forecasted scenarios are created and metadata synchronization is run, the Administrator can assign the scenarios to the Scenario dimension members in the Process Attributes data form.

Certain other information defined by the Administrator, including the Maturity Mix Scenario, Rollover Scenario (for future use), the Pricing Methodology, the Current Business Prepayment Scenario and the Output by Currency Flag are associated with or attached to the Version dimension member in the second block.

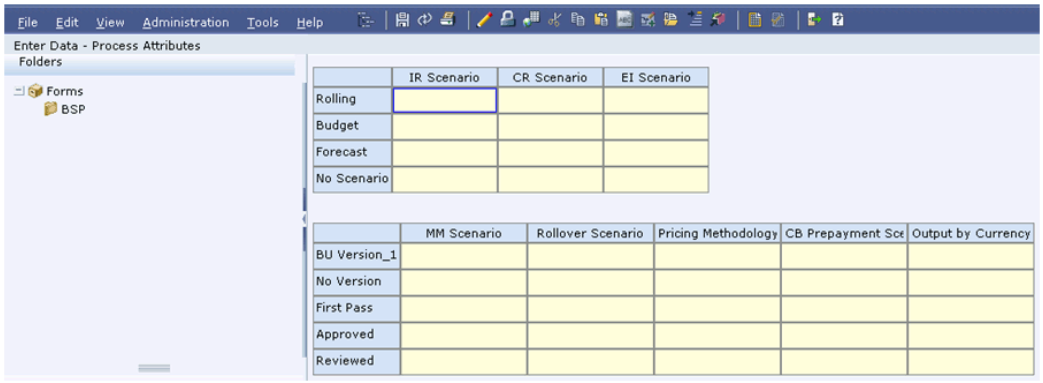
The Process Attributes Data Form is used by the Budget Administrator to define these attributes of Scenario and Version dimension members.

Working with the Process Attributes Data Form

To open the Process Attributes data form, Click on the 'BSP' Folder on the Left Pane and click on Process Attributes in the Data Form list.



In the Process Attributes data form, Scenario dimension attributes are defined in the top container on the form, and Version dimension attributes are defined in the bottom container on the form.



Note: The Budget Administrator must first create interest rate, currency rate, economic indicator, maturity mix, rollover and CB Prepayment scenarios and run metadata synchronization in order for scenarios to be available for selection in the Process Attributes data form. Once this process is completed, clicking on the cells next to the desired scenario dimension member will display the available scenarios for selection from the drop lists.

Assigning Scenario Dimension Attributes

The Budget Administrator assigns the attributes of the Scenario dimension by clicking on the respective cells next to the appropriate Scenario dimension member and selecting the attribute values from the drop lists.

- **IR Scenario:** Select the interest rate scenario to be used in generating cash flow results. This attribute is mandatory.

- **CR Scenario:** Select the currency rate scenario to be used in currency translations.

  Note: Currency translation functionality is not yet available in Balance Sheet Planning release 5.0, and will be delivered in a future release. This attribute can be left blank

- **EI Scenario**: Select the economic indicator scenario to be assigned to the Scenario dimension member. The definition and display of economic indicator data within Balance Sheet Planning is optional.

Once the Scenario dimension member attributes have been defined in the data form, click on the Save control to save the data.

After saving the data, right click over the Scenario dimension member and select Export Scenario Definition to copy the assumptions to the cash flow engine metadata tables.

Assigning Version Dimension Attributes

The Budget Administrator assigns additional processing attributes at the Version dimension member level.

These attributes include the following:

- **MM Scenario** - This attribute specifies the Maturity Mix Scenario to be used in processing.

- **Rollover Scenario** - This attribute specifies the rollover scenario to be used in processing.

  Note: Rollover functionality is not yet available and is targeted for a future release. This attribute can be left blank.

- **Pricing Methodology** - This attribute specifies the pricing methodology to be used in generating forecast or budget results. There are two seeded Pricing Methodologies available in the drop list:

  - Mkt Rate Pricing Methodology

  - Mkt Rate with Transfer Pricing Methodology

    Note: Only the Mkt Rate Pricing Methodology is available in the initial release of Balance Sheet Planning. Transfer Pricing functionality will be available in a future release. The Budget Administrator should select the 'Mkt Rate Pricing Methodology' for this attribute.

- **CB Prepayment Scenario** - This attribute specifies the prepayment scenario to use for processing of the Current Book of business (i.e., current position data) residing in the instrument tables.

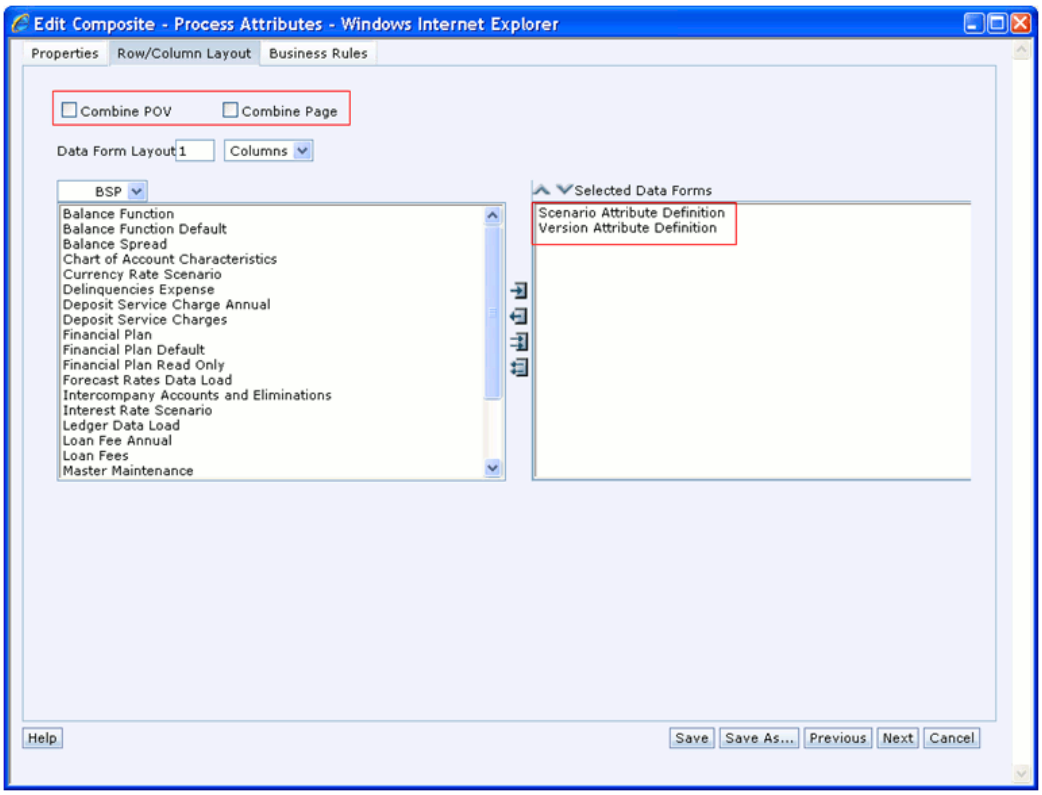
- **Output By Reporting Currency** - This attribute specifies whether cash flow results should be generated in a single reporting currency or in denominated currencies. Select No to generate results by denominated currencies, or select Yes to generate results in a single reporting currency.

Once the Version dimension member attributes are assigned, click on the Save control to save the assumptions.

Then right click over the version dimension member label, and click on Export Version Definition to copy the assumptions to the cash flow engine metadata tables.

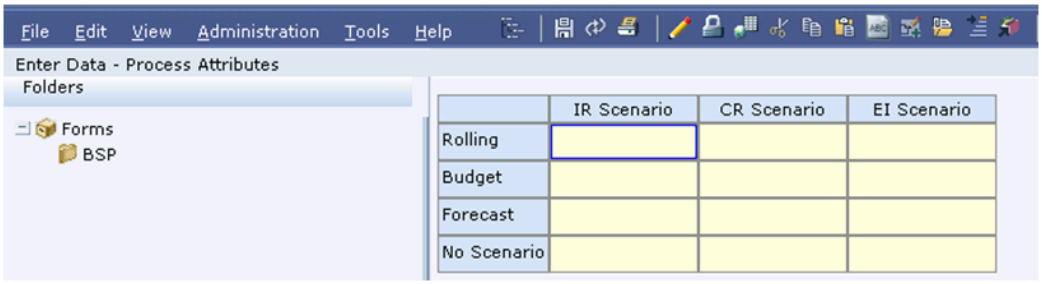
Process Attributes Data Form Details

The Process Attributes Data Form is a composite form. This form is designed using the Scenario Attribute Definition Data Form and Version Attribute Definition Data Form. This is created using the Standard 'Manage Data Forms' option available in Hyperion Planning in the BSP Folder.



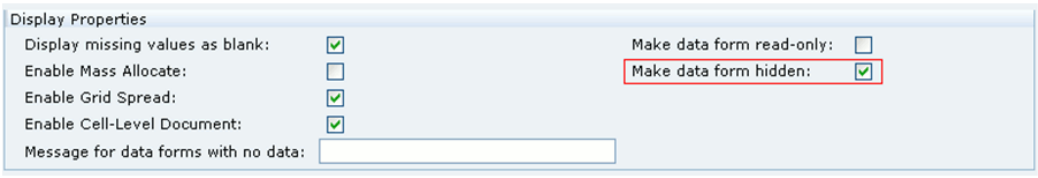
Scenario Attribute Definition Data Form

Scenario Attribute Definition Data form lists the Scenario Dimension members to which the Interest Rate Scenario, Currency Rate Scenario and Economic Indicator Scenario are to be attached.



Scenario Attribute Definition Details

The First Block of the Process Attributes Data form is the Scenario Attribute Definition Data Form. This Form is designed on the 'BSP' Plan Type. The Point of View Dimensions are hidden on the form. There are no Page Dimensions. The 'Make data form hidden' in 'Other Options' is checked.



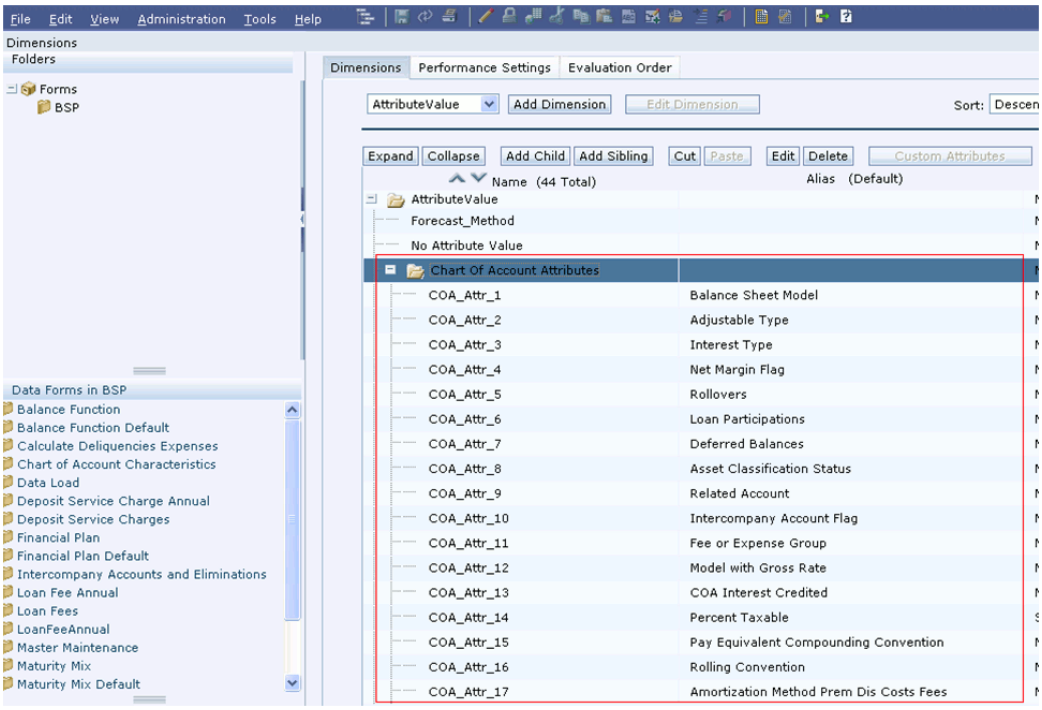
Seeded Dimension Member Selection on the Data Form

The following table shows the pre-defined dimension member selections on the Scenario Attribute Definition data form:

Dimension View	Dimension Name	Description
Column	AttributeValue	ILvl0Descendants(Scenario Attributes)
Row	Scenario	Budget, Forecast, Rolling
Point of View	Account	No Financial Element
Point of View	Version	No Version
Point of View	Year	No Year
Point of View	Chart of Account	No Chart of Account
Point of View	Entity	No Entity
Point of View	Currency	No Currency
Point of View	Strategy	No Strategy
Point of View	Period	BegBalance

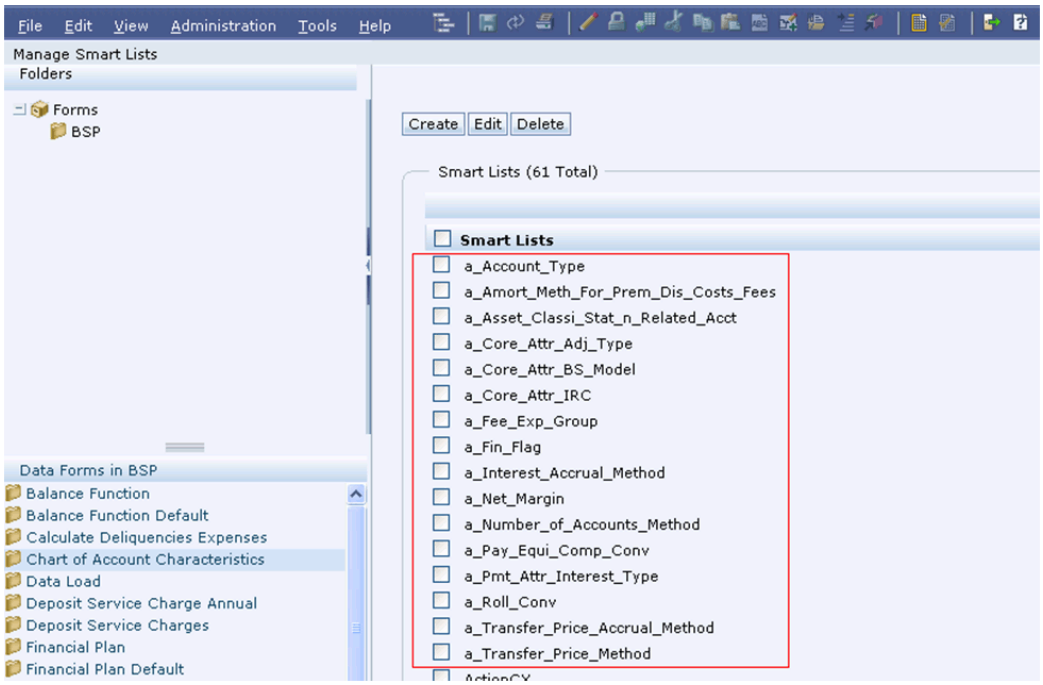
AttributeValue Dimension Member Details

The required Attribute Values to be associated with Scenario dimension have been created as dimension members of the Attribute Value Dimension. The pre-defined Scenario Attributes have been highlighted in the following Screenshot:

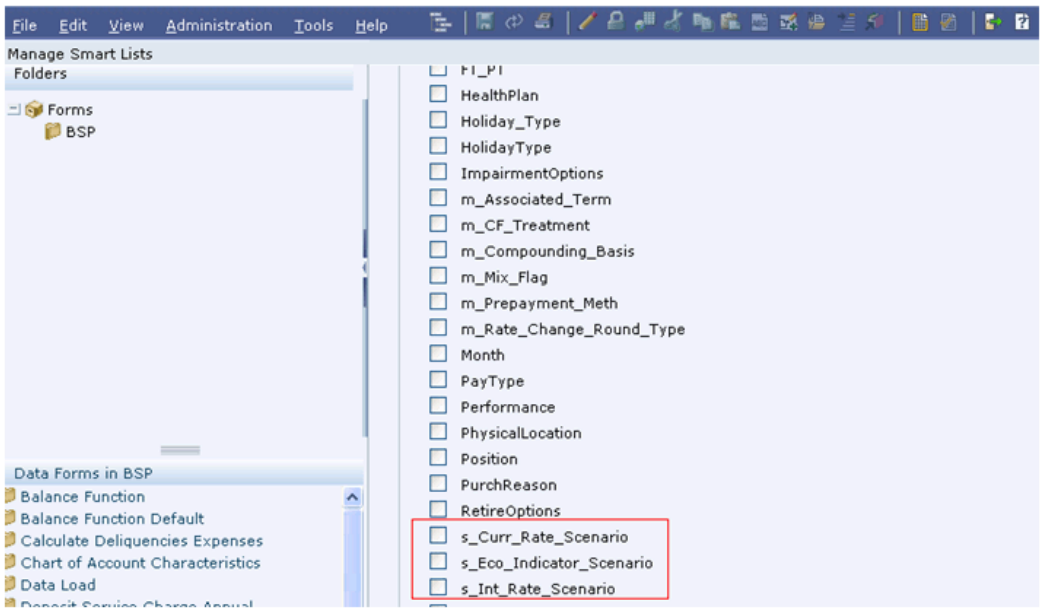


'AttributeValue' Dimension Members and Smart List Association

The AttributeValue Dimension members are associated with Smart Lists. The available values for Interest Rate Scenario, Currency Rate Scenario and Economic Indicator Scenario Smart Lists appear in the drop down list. These values are updated by running Metadata Synchronization after new scenarios are created in Master Maintenance.



The required Attribute Values to be associated with Scenario dimension have been created as dimension members of AttributeValue Dimension.

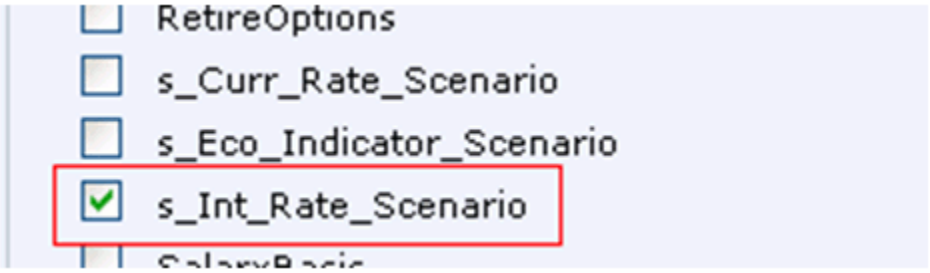


Each of the members of Scenario Attributes node of the 'AttributeValue' Dimension is associated to a Smart List. The Smart List consists of entries of the Scenario Codes and Names created in the RDBMS.

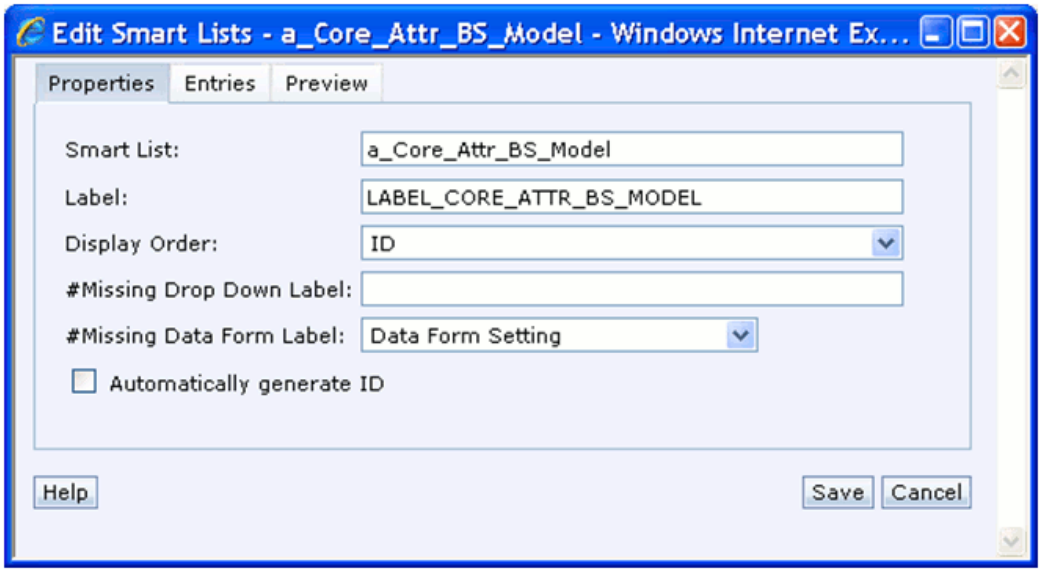
The available entries for s_Curr_Rate_Scenario, s_Eco_Indicator_Scenario and s_Int_Rate_Scenario are created by Metadata Synchronization.

Illustration

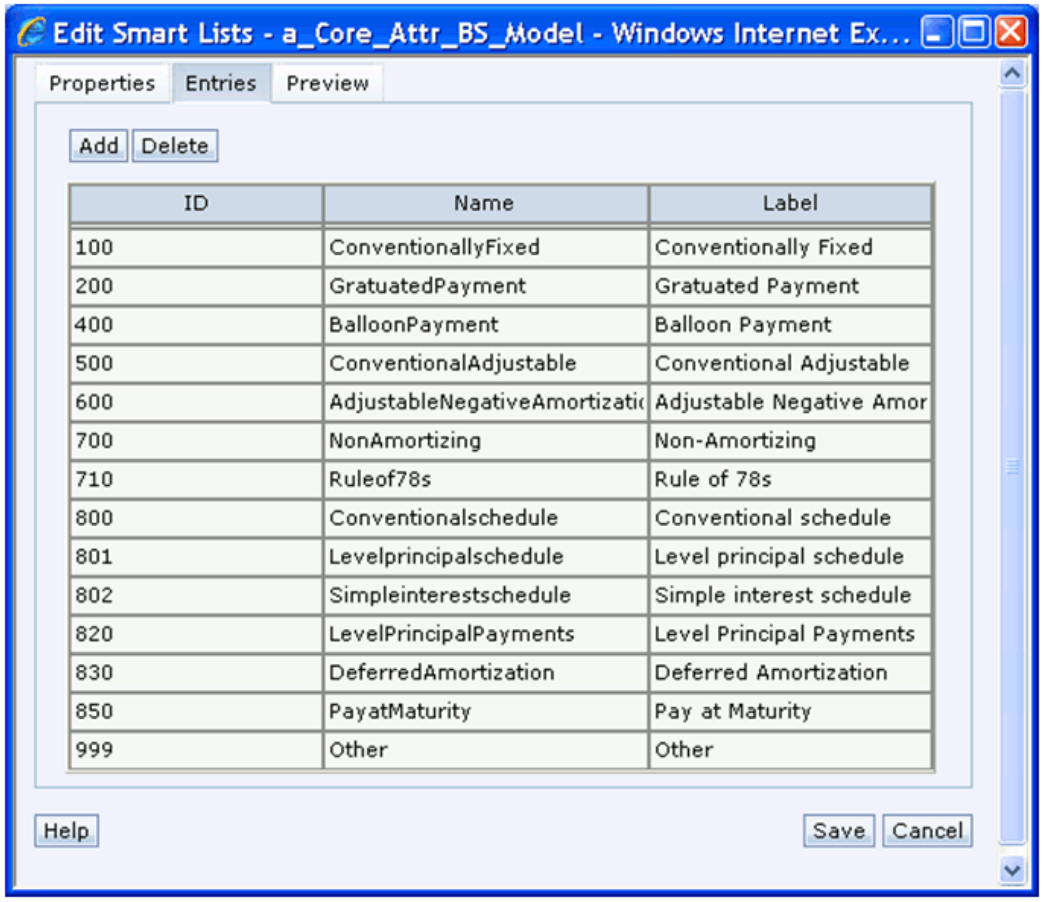
For example, the IR Scenario Attribute Value that appears in the Screenshot above has been created in the following manner. In the following Screenshot, the Smart List created for Interest Rate Scenario is highlighted. This is created using the 'Create' Button on the top of the page.



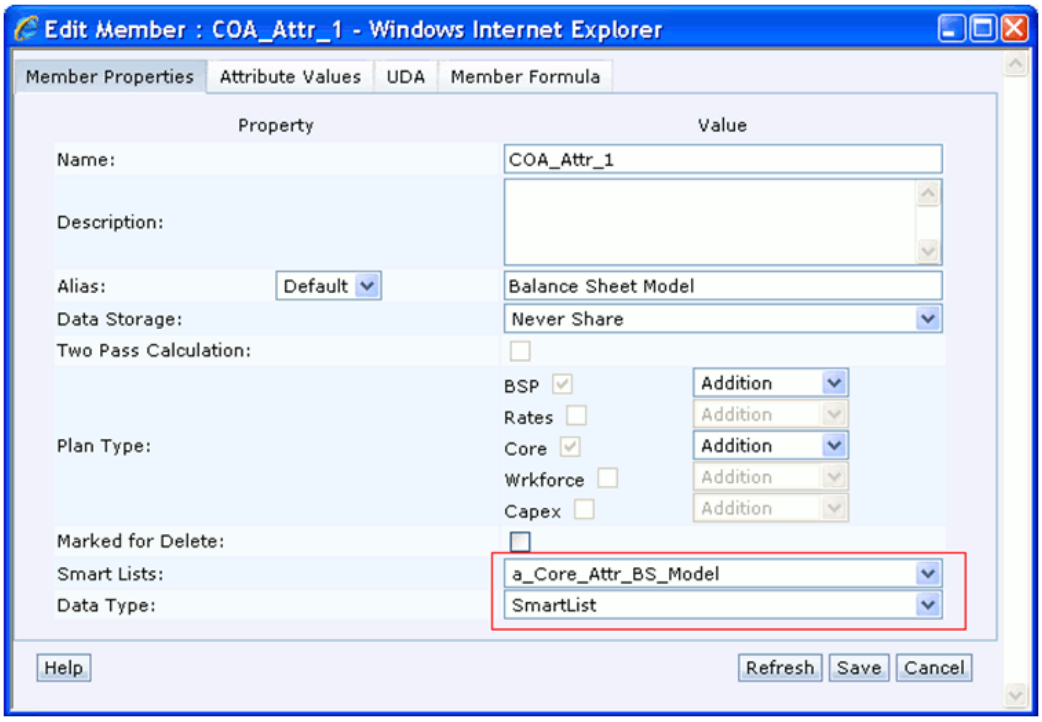
On Click of 'Edit' button (to view/modify the details), the following pop up appears



The Entries in the Smart List will appear as shown in the Screenshot below.



The created smart list is associated with the AttributeValue dimension member IR Scenario. This is highlighted in the following Screenshot. The Data Type Property is set to Smart List and the s_Int_Rate_Scenario Smart List is selected from the drop down against the Smart Lists to attach the Smart List with the dimension member.


Edit Member : COA_Attr_1 - Windows Internet Explorer
Member Properties
Attribute Values
UDA
Member Formula
Property
Value
Name:
COA_Attr_1
Description:
Alias:
Default
Balance Sheet Model
Data Storage:
Never Share
Two Pass Calculation:
Plan Type:
BSP
Addition
Rates
Addition
Core
Addition
Wrkforce
Addition
Capex
Addition
Marked for Delete:
Smart Lists:
a_Core_Attr_BS_Model
Data Type:
SmartList
Help
Refresh
Save
Cancel

18

Defining Chart of Account Attributes

Overview

Many cash flow processing attributes are defined in Balance Sheet Planning as attributes of the Chart of Accounts dimension members. The Budget Administrator is responsible for defining these attributes.

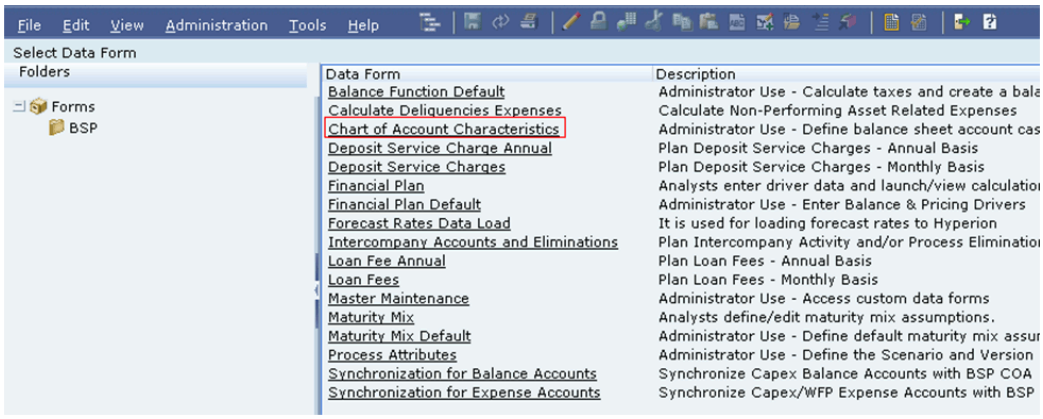
This chapter provides details on setting up attributes like Balance Sheet Model, Adjustable Type, Interest Type etc. for each of the Chart of Account Dimension Members.

Prerequisites

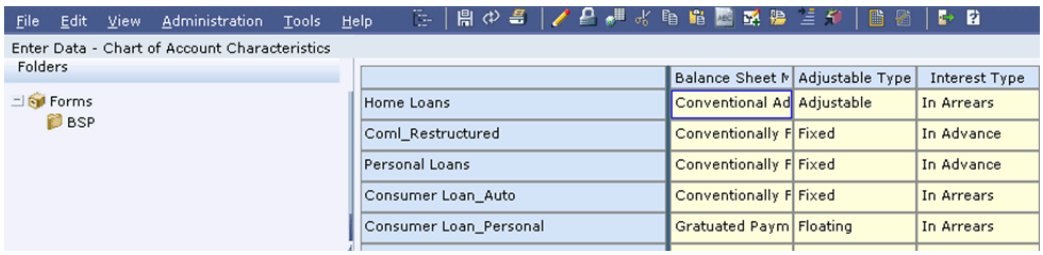
- Chart of Account Dimension Members are created
- Metadata Synchronization has been processed.

Working with the Chart of Account Characteristics Data Form

This section covers access to the Chart of Account Characteristics Data form to define the Chart of Account attributes. To access the data form, go to 'BSP' Folder on the left pane, click on 'Chart of Account Characteristics'.



This will open the Enter Data – Chart of Accounts Data Form .



Select or enter values in the data form for relevant characteristics for each chart of account dimension member listed as rows in the data form. Click on the Hyperion Save control to save the data.

> **Note:** To open and work with one chart of account dimension member at a time, first open the Chart of Accounts data form. Right click over the dimension member you wish to work with and select the Navigate to Single COA View menu item. This will open a form where the chart of account dimension is a page dimension and the different attributes are displayed as rows on the form.

Right click over a row on the Single COA View form and select the Back to COA Characteristics Form to return to the original display.

List of Attribute Values

The List of Attribute Values and their details are stated below.

- **Balance Sheet Model** - This represents the cash flow template that should be used in generating results for the account. The available Balance Sheet Models include:
  - Conventional Fixed

- Graduated Payment
- Balloon Payment
- Conventional Adjustable
- Adjustable Negative Amortization
- Non-Amortizing
- Rule of 78s
- Level Principal Payments
- Deferred Amortization
- Other
- Conventional schedule
- Pay at Maturity
- Level principal schedule
- Simple interest schedule
- User Defined Payment Patterns
- User Defined Behavior Patterns

  Note: User Defined Payment Patterns and User Defined Behavior Patterns are defined using Payment Patterns and Behavior Patterns custom forms under Master Maintenance. When a pattern is defined, the BSP Administrator must add the pattern information to the Smart List for this attribute using the Metadata Synchronization available in Master Maintenance Form.

- **Adjustable Type** - This attribute identifies the repricing method and repricing characteristics of the account. The following Adjustable Type shall be supported:
  - Fixed Rate
  - Floating Rate
  - Other Adjustable

- User defined Repricing Pattern

  Note: User Defined Repricing Patterns are defined using the Repricing Patterns custom forms under Master Maintenance. When a pattern is defined, the BSP Administrator must add the pattern information to the Smart List using the Metadata Synchronization available in Master Maintenance Form.

- **Interest Type** – Interest type specifies whether interest cash flows are paid in advance or in arrears. The default value will be interest in arrears. It has two valid values:
  - Interest In Advance
  - Interest In Arrears

- **Net Margin Flag** - Net Margin Flag defines the relationship between Gross Rate and Net Rate used in Cash Flow Engine when Loan participations functionality is turned on. It is referenced for calculation of forecasted interest rate.

  It has the following two valid values:
  - Floating Net Rate
  - Fixed Net Rate

- **Rollovers** – This attribute is a switch with Y/N flag, indicating whether to use rollovers or not (to be specified only by the budget administrator). When this switch is turned on, additional financial elements and mix elements will be used.

  Note: Rollover functionality is not yet available in Balance Sheet Planning, and will be delivered in a future release. This attribute can be left blank.

- **Loan Participations** – This attribute is a switch with Y/N flag, indicating whether the account will model participations or not (to be specified only by budget administrator). When this switch is turned on, additional financial elements and mix elements will be used.

- **Deferred Balances** – This attribute is a switch with Y/N flag, indicating whether the account will model deferred balances or not (to be specified only by the budget administrator). When this switch is turned on, additional financial elements and mix elements will be used.

- **Asset Classification** - This attribute is used to support Modeling Delinquencies

functionality. Attribute assignment will be on a 'one-to-one' basis. Available attribute values include:

- Performing Account
- Nonaccrual Account
- Charge off Account
- Recovery Account
- Restructured Account
- OREO Account
- Repossession Account
- Interest Reversal Account
- OREO Expense Account
- Repossession Expense Account
- Debt Workout Expense Account
- Debt Collection Expense Account

> **Note:** Modeling Delinquencies functionality is not yet supported in Balance Sheet Planning and will be delivered in a future release. This attribute can be left blank.

- **Model with Gross Rates** - The cash flow engine reads this attribute to calculate forecasted cash flow data. This switch allows the budget administrator to calculate gross interest cash flow (financial element 435), and is used for participated instruments which are not fully owned by the institution. For these instruments, both a net and a gross rate will be calculated within the cash flow engine and both gross and net rate financial elements will be output. The gross rate will be used for prepayment and amortization, and the net rate will be used for income simulation.
- **COA Interest Credited** - This switch can be enabled for any Chart of Account dimension member. However, it affects only the cash flows of Simple or Non-amortizing instruments. When switch is enabled for non amortizing instruments, interest cash flows are added to the principal balance at each payment prior to maturity. On the maturity date, the initial principal balance plus the accumulated cash flows are reflected as principal runoff at maturity. When the switch is enabled for amortizing instruments, it is ignored by the cash flow engine.

This will not be supported for new business.

- **Percent Taxable** - Percent Taxable is used to determine the percentage of total income/expense that is subject to income tax. Percent taxable is used in calculating income tax related output as part of BSP Balancing Process.

- **Pay Equivalent Compounding Convention** - When the cash flow engine calculates interest, this switch indicates when it needs to convert rates from the quoted compounding basis to the payment basis for the account.

- **Rolling Convention** - Rolling Convention is used to define the way calculations need to be rolled over based on the holiday calendar. The following are methods available:

  - No Rolling Convention
  - Following Business Day
  - Modified Following Business Day
  - Previous Business Day
  - Modified Previous Business Day

  Note: Rollover functionality is not yet supported in Balance Sheet Planning and will be delivered in a future release. The value to be selected is No Rolling Convention.

- **Amortization Method for Premium, Discounts, Costs, Fees** - The following are the two amortization methods available for calculation of Premium, Discounts, Costs, Fees.

  - Straight Line
  - Level Yield

- **Account Type** - Account types classify instruments by their use in financial statements and determine how the cash flow engine processes an individual instrument. Available account types include:

  - Earning Asset
  - Interest Bearing Asset
  - Other Asset
  - Other Liability

- Equity
- Dividends
- Interest Income
- Interest Expense
- Non- Interest Income
- Non- Interest Expense
- Off Balance Sheet Payable
- Off Balance Sheet Receivable
- Taxes
- Off Balance Sheet

- **Market Rate Interest Rate Code** - All the Interest Rate Codes defined under Master Maintenance > Interest Rates are available for selection. Interest Rate Codes are defined during implementation, and there are no seeded values. The Smart List Entries for this attribute are updated using right click option 'Metadata Synchronization' in Master Maintenance Form. The Market Rate interest rate code identifies the market interest rate used in conjunction with Market Rate Spreads as the index in the pricing of account balances.

- **Transfer Rate Interest Rate Code** - All the Interest Rate Codes defined under Master Maintenance > Interest Rates are available for selection. Interest Rate Codes are defined during implementation, and there are no seeded values. The Smart List Entries are updated using right click option 'Metadata Synchronization' in Master Maintenance Form. The transfer rate interest rate code identifies the transfer rates to be used in conjunction with TP pricing spreads in generating transfer pricing results.

- **Interest Accrual Method** – The Interest Accrual Method specifies the accrual basis to be used in calculating interest income or expense for the account. The following interest accrual methods shall be supported:
  - Actual/Actual (Actual number of days in period / actual number of days in the year)
  - Actual/365 (Actual number of days in period / 365 days in year)
  - Actual/360 (Actual number of days in the period / 360 days in year)

- 30/360 (30 days per month / 360 days in the year)
- 30/Actual (30 days per month / Actual number of days in the year)
- 30/365 (30 days per month / 365 days in the year)
- Business/252 (Actual Number of Business Days / 252)

  Note: Business/252 is not currently supported in Balance Sheet Planning, and will be delivered in a future release.

- **Financial Element Flag** - This flag can be used to drive the display of financial elements in the financial plans data form for the Analyst at the Chart of Account dimension member level.
- **Maturity Mix Flag** - This flag can be used to drive the display of mix elements in the maturity mix data form for the Analyst at the Chart of Account dimension member level.
- **Number of Accounts Method** – This attribute is a switch with a Yes/No flag indicating whether the account will use number of accounts based calculations. This attribute will trigger calculation of forecast balance driver values by specifying information like the number of customer accounts, the average balance per customer account, etc. If number of accounts method is turned on, the financial elements appearing in the Financial Plan UI should be modified to add the additional financial elements used in the method. These include:
- **Is On Balance Sheet** – This attribute is a switch with Y/N flag, indicating whether Chart of Account is an On Balance Sheet Chart of Account or not (to be specified only by the budget administrator). When this switch is turned on, the given Chart of Account Dimension member is considered to be on-balance sheet Chart of Account.

  Note: Off Balance Sheet Chart of Accounts are not yet supported in Balance Sheet Planning. Support for off balance sheet products will be delivered in a future release. The value to be used currently is 'Y'.

Chart of Account Characteristics Form Details

The 'Chart of Account Characteristics' Data Form has been created using the 'Manage Data Form' feature available in Hyperion Planning on the BSP Plan Type. The Point of View Dimensions are hidden on the form. All the leaf members of the Chart of Account Dimension members appear in the Row Dimension. There are no Page Dimension

selections for this data form.

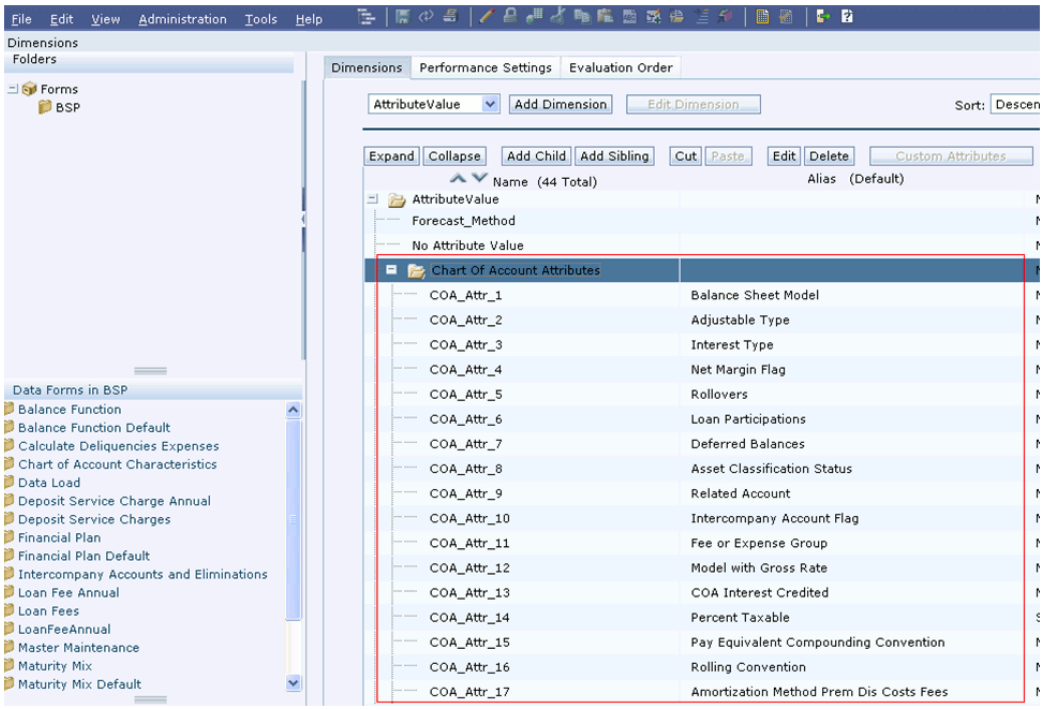
Seeded Dimension Member Selection on the Data Form

The table below displays the seeded dimension member selections for each of the dimensions on the data form.

Dimension View	Dimension Name	Description
Column	AttributeValue	ILvl0Descendants(Chart Of Account Attributes)
Row	Chart of Account	ILvl0Descendants(BSP_COA)
Point of View	Entity	No Entity
Point of View	Period	BegBalance
Point of View	Account	No Financial Element
Point of View	Currency	No Currency
Point of View	Scenario	No Scenario
Point of View	Version	No Version
Point of View	Strategy	No Strategy
Point of View	Year	No Year

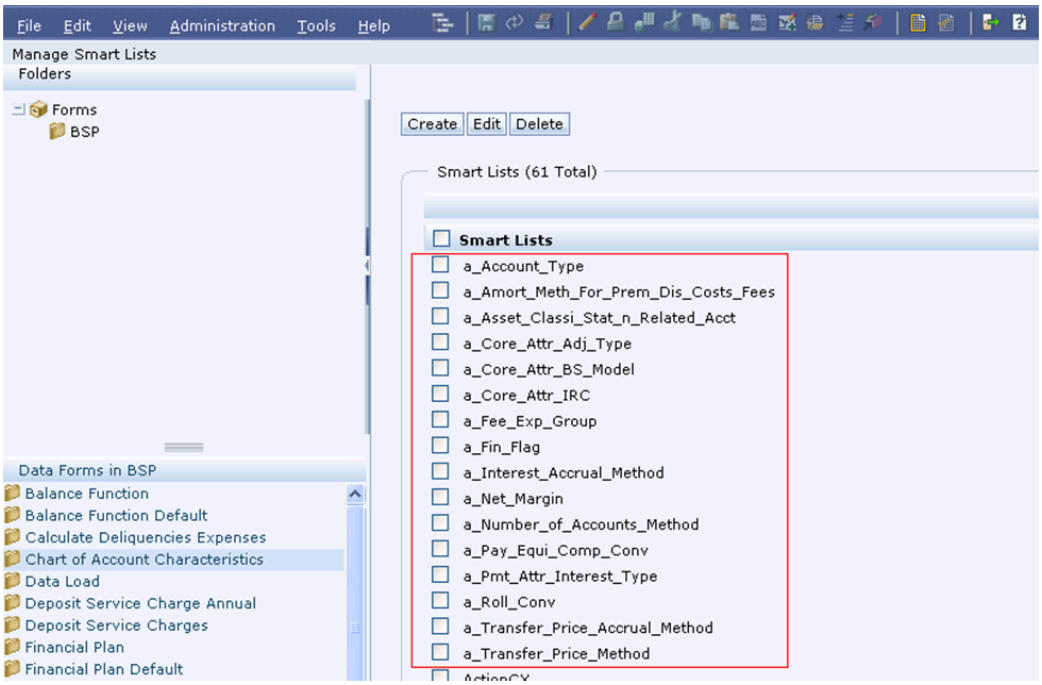
AttributeValue Dimension Member Details

The required Attribute Values to be associated with Chart of Account dimension have been created as dimension members of AttributeValue Dimension. The created Chart of Account Attributes have been highlighted in the following Screenshot.



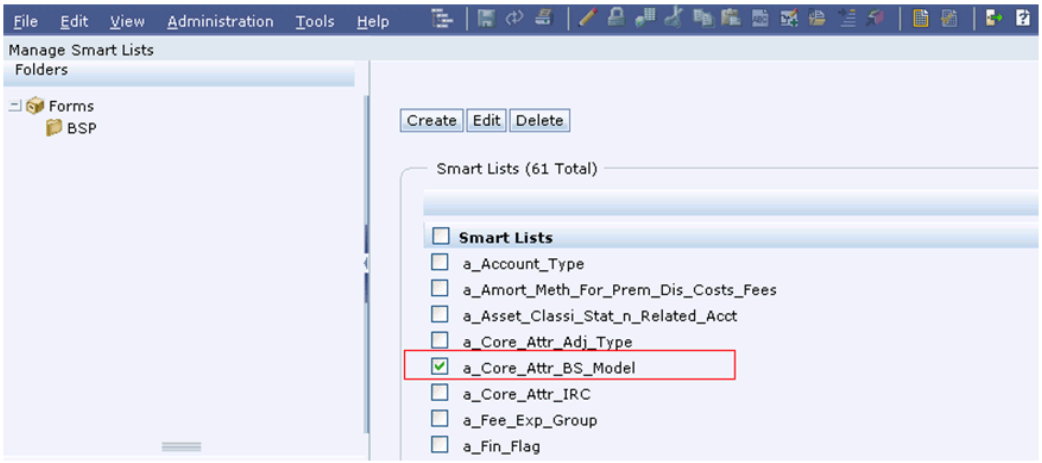
'AttributeValue' Dimension Members and Smart List Association

The 'AttributeValue' Dimension members are associated with Smart Lists. The required Smart Lists for the Attribute Values for the Chart of Account Dimension have been created in Hyperion Planning using the 'Manage Smart List option'. The List of created Smart Lists is as shown in the following Screenshot. The Smart Lists specific to Chart of Account Dimension have been highlighted.

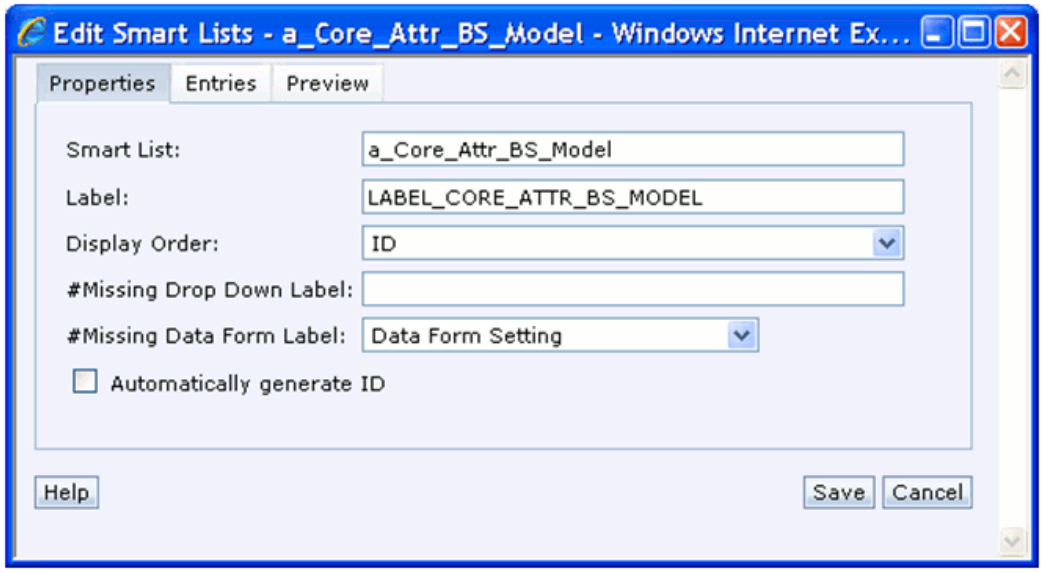


Illustration

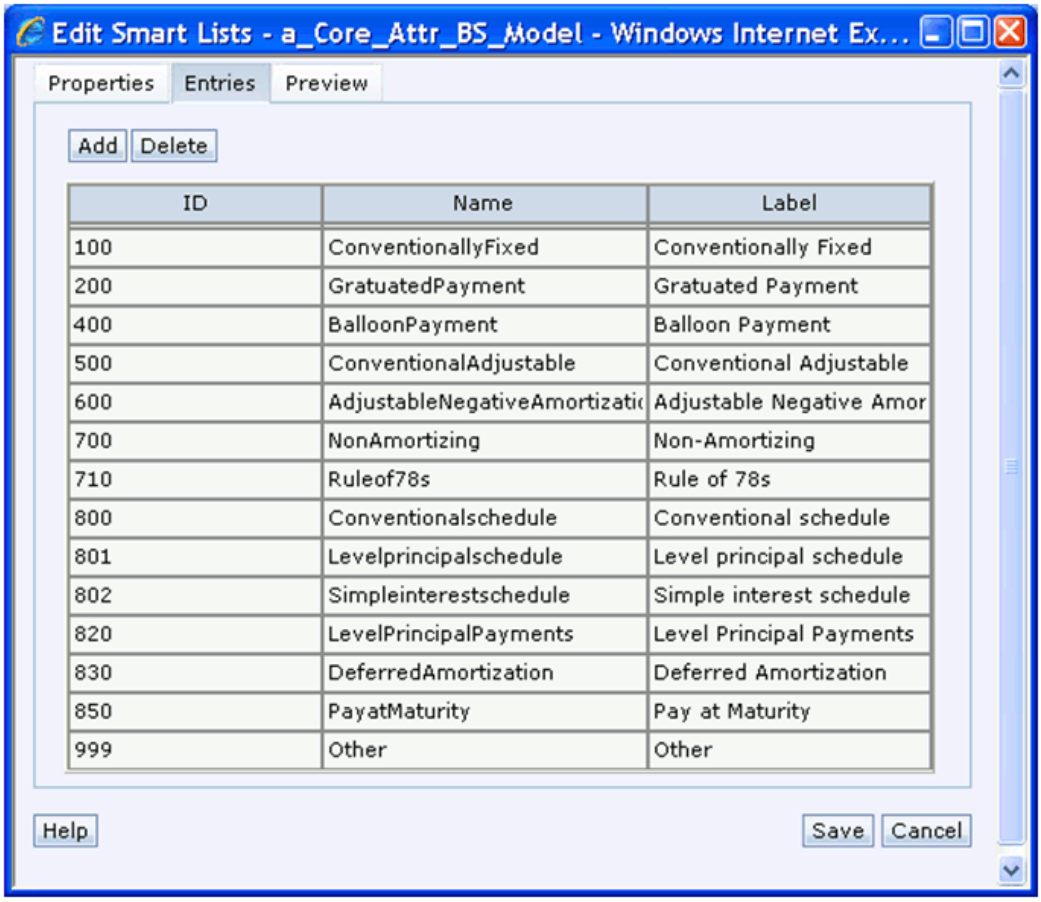
For example, the Balance Sheet Model Attribute Value (a_Core_attr_BS_Model) that appears in the Screenshot above has been created in the following manner. In the following screenshot, the Smart List created for Balance Sheet Model is highlighted. This is created using the 'Create' control.



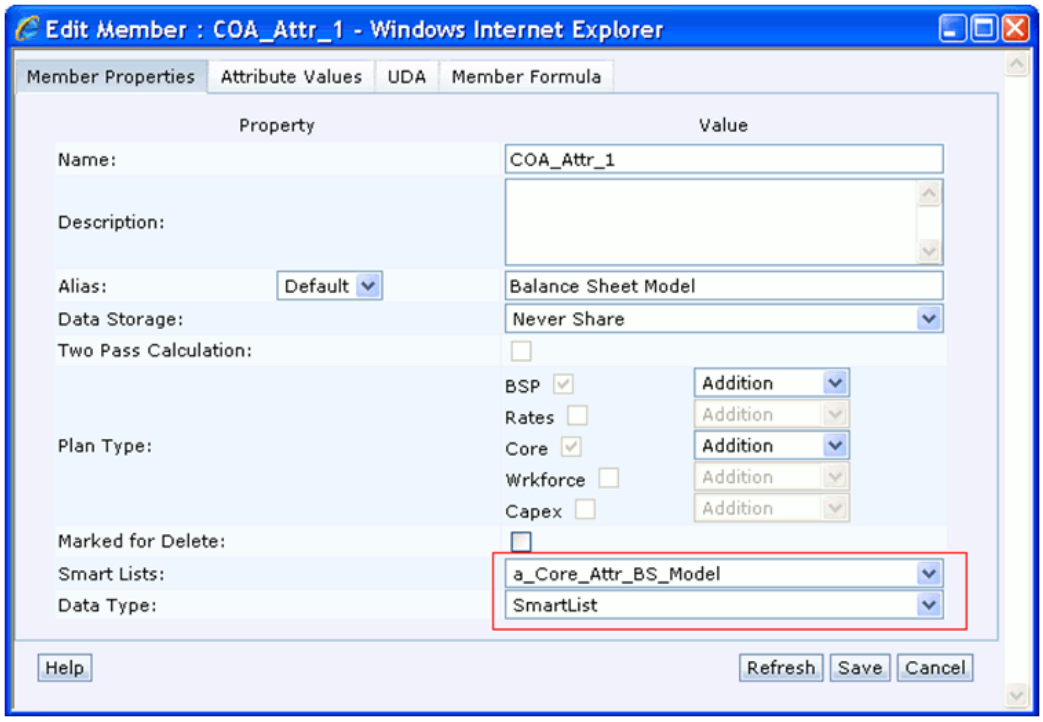
On Click of 'Edit' control, the following pop up appears:



The Entries in the Balance Sheet Model Attribute Smart List will be as shown in the following Screenshot. The Entry IDs in the Smart List will correspond to the Codes in the corresponding MLS table of FS Data Model. For Balance Sheet Model, the IDs used correspond to the codes in the FSI_Amortization_Type_MLS table



The created smart list is associated with the AttributeValue Dimension Member-Balance Sheet Model. This is highlighted in the following Screenshot.


Edit Member : COA_Attr_1 - Windows Internet Explorer
Member Properties
Attribute Values
UDA
Member Formula
Property
Value
Name:
COA_Attr_1
Description:
Alias:
Default
Balance Sheet Model
Data Storage:
Never Share
Two Pass Calculation:
Plan Type:
BSP
Rates
Core
Wrkforce
Capex
Addition
Addition
Addition
Addition
Addition
Marked for Delete:
Smart Lists:
a_Core_Attr_BS_Model
Data Type:
SmartList
Help
Refresh
Save
Cancel

19

Maturity Mix Assumptions

Overview

Maturity Mix Assumptions define payment, pricing/repricing activities and other relevant parameters for generation of new business cash flows in Balance Sheet Planning. Default maturity mix assumptions can be defined by the Budget Administrator. The Budget Administrator can optionally allow analysts to view and or modify default assumptions as desired.

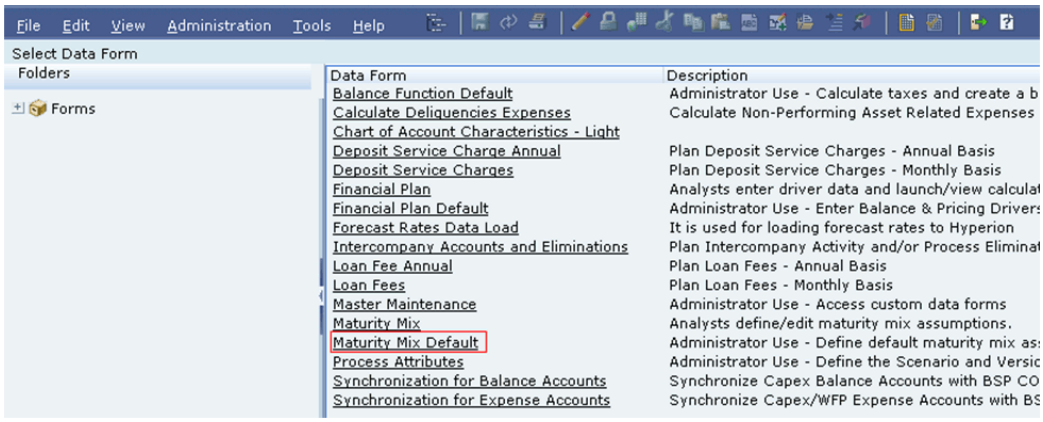
This chapter covers the definition of default values for Maturity Mix Elements by the Budget Administrator using the Maturity Mix Default data form.

Prerequisites

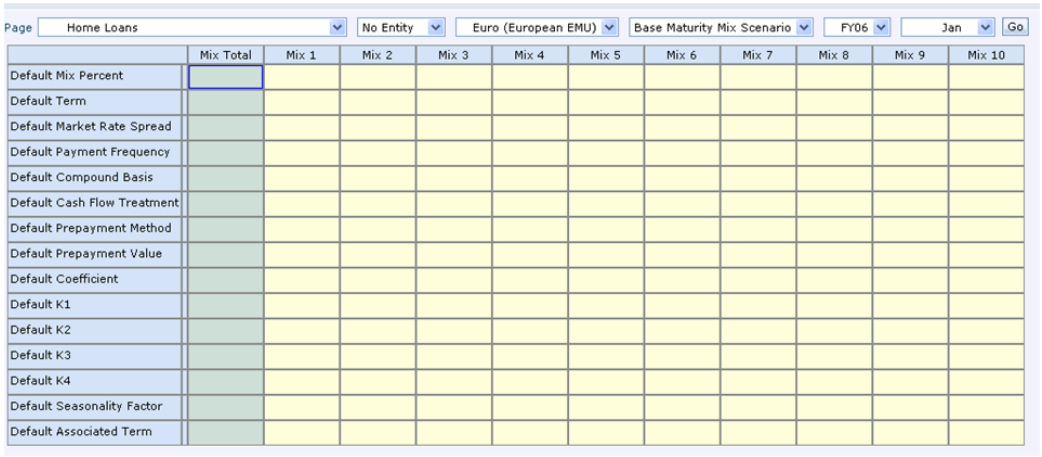
- Chart of Account dimension members have been created and metadata synchronization has been processed.

Working with the Maturity Mix Default Data Form

Click on 'BSP' Folder on the Left Pane and click on the 'Maturity Mix Default' in the Data Form list to open the Maturity Mix Default data form.



Select the combination of dimension members on the Paging Dimensions and click on 'Go' to define default values for Mix Elements.



Mix Breakouts

There are 10 pre-defined mix breakouts reflected in the diagram above, labeled as Mix 1, Mix 2…Mix 10. These mix breakouts allow the engine to divide a period's New Add Balance into smaller pieces with their own unique cash flow characteristics before launching the cash flow engine.

For example, if you want to model two different terms to maturity for a single new add balance, enter values in Mix 1 and Mix 2, along with values for the associated mix elements. The sum of Mix Percentages must equal 100 percent.

Cash flow calculations are generated at the mix breakout level and then aggregated to the Chart of Account dimension member level prior to import into Essbase.

Mix Element Dimension Members

Every parameter represented by mix elements has three pre-defined mix element

dimension members. For example, the Mix Percent mix element has the following predefined dimension members:

Name	Alias
ME1	Mix Percent
MD1	Default Mix Percent
MO1	Override Mix Percent

When the budget administrator defines default assumptions, the data is written to Essbase in the 'Default' mix elements. In the above example, default mix percent definitions would be written to 'MD1 – Default Mix Percent'. When planning analysts make adjustments to default assumptions, they enter the adjustments to 'Override' mix elements. In the above example, the analyst overrides to default mix percentages would be entered in and written to the 'MO1 – Override Mix Percent' Mix Element in the Mix Override data form accessed from the Financial Plan data form. When the analyst saves his entries, the node level mix element is populated. The node level mix element will be populated with the default value defined by the administrator if no overrides are entered, or with the override value defined by the analyst if he enters a value. The value in the node level mix element is then transferred to the relational database when the Extract Maturity Mix Data function is processed.

Mandatory Mix Elements

At a minimum, there are four mix elements that must be defined in order to successfully generate cash flows for a chart of account dimension member. Those mix elements include:

- Mix Percent
- Term
- Payment Frequency
- Compound Basis

Population of other mix elements is dependent upon the type of product represented by the chart of account dimension members, and may or may not be necessary for a given member.

See the mix element definitions table below to view definitions for all mix elements.

Mix Element Definitions

The following table describes each of the Mix Elements in the Mix Element dimension.

Dimension Value	Required/Description	Description
Term	Required	The length, in months, of the term to maturity for one corresponding mix breakout
Mix Percent	Required	The mix percentage for this term number
Amortization Term	Optional	Amortization term length for balloon maturities, in months.
Average Market Rate Spread	Optional	The spread applied to a market interest rate index to determine Net Rate for simplified accounts.
Market Rate Spread	Optional	The spread applied to a market interest rate index to determine New Add Net Rate
Repricing Frequency	Optional	The repricing frequency, in months
Rate Cap Life	Optional	The maximum rate for the life of the product
Rate Set Lag	Optional	Defines the period by which repricing lags the current interest rate changes.
Rate Change Rounding Factor	Optional	Factor to which the rate change on an adjustable instrument is rounded.
Rate Change Rounding Type	Optional	Method used for rounding of the interest rate change.

Dimension Value	Required/Description	Description
Rate Increase Period	Optional	The maximum percentage the rate can increase each repricing period
Rate Decrease Period	Optional	The maximum percentage the rate can decrease each repricing period.
Minimum Rate Change	Optional	The minimum required change in rate on a repricing date.
Rate Floor Life	Optional	The minimum rate for the life of the product
Rate Increase Life	Optional	The maximum percentage the rate can increase over the life of the product
Rate Decrease Life	Optional	The maximum percentage the rate can decrease over the life of the product
Payment Change Frequency	Optional	Defines the frequency, in months, at which a product's payment adjusts.
Payment Increase Period	Optional	Maximum payment increase allowed during a payment change cycle of an adjustable-rate instrument.
Payment Increase Life	Optional	Maximum payment increase allowed during the life of an adjustable-rate instrument.
Payment Decrease Period	Optional	Maximum payment decrease allowed during a payment change cycle of an adjustable-rate instrument.

Dimension Value	Required/Description	Description
Payment Decrease Life	Optional	Maximum payment decrease allowed during the life of an adjustable-rate instrument.
NGAM Equalization Frequency	Optional	Define the frequency, in months, that negatively amortizing accounts are fully re-amortized.
NGAM Equalization Limit	Optional	Maximum negative amortization allowed as a percentage of the original balance.
Payment Frequency	Optional	Defines the payment frequency, in months of an account.
Compound Basis	Optional	Indicates the compounding used to calculate interest income.
Cash Flow Treatment	Optional	Used in prepayment assumptions, specifies if cash flow treatment to be applied is Curtailment or Refinance.
Prepayment Method	Optional	The prepayment method to be applied to new add balances.
Prepayment Value	Optional	The prepayment value, corresponding to the prepayment method, to be applied to new add balances.
Coefficient	Optional	The Coefficient to be applied to prepayment speeds defined in a Prepayment Model.
K1	Optional	Coefficient used in Arctangent prepayment method.

Dimension Value	Required/Description	Description
K2	Optional	Coefficient used in Arctangent prepayment method.
K3	Optional	Coefficient used in Arctangent prepayment method.
K4	Optional	Coefficient used in Arctangent prepayment method.
Seasonality Flag	Optional	Yes/No flag indicates if seasonality adjustments are to be applied to prepayment assumptions
Prepayment Model Id	Optional	Lists prepayment model definitions created by the Budget Administrator. Displayed after Metadata Synchronization is run.
Residual Value	Optional	Residual value percentage for lease accounts. Note: Leases are not yet supported in the current release.
Percent Sold	Optional	Percent of balance sold to investors.
Original Deferred Amortization Percent	Optional	Percentage of balance to receive deferred amortization treatment
Tease Period	Optional	The term, in months, of the period where the Tease Discount is applied.
Tease Discount	Optional	The percentage discount from the contractual rate.

Dimension Value	Required/Description	Description
New Add Gross Market Rate Spread	Optional	The contractual spread that is added to the pricing index, which results in the customer (Gross) rate, for adjustable rate loan participation accounts.
Net Margin Code	Optional	Defines the relationship between gross rate and net rate for adjustable rate loan participation accounts.

After defining the default maturity mix assumptions for a combination of dimension members, save the data by clicking on the Save control. Then proceed to the next combination of dimension members and repeat the process until finished. Be sure to click on the Save Control when finished.

> **Note:** Clicking on the Save control saves the information to Essbase. In order to transfer the data to the relational database where cash flow engine processes are run, the Extract Maturity Mix Data function must be run from the Financial Plan or the Financial Plan Default data form.

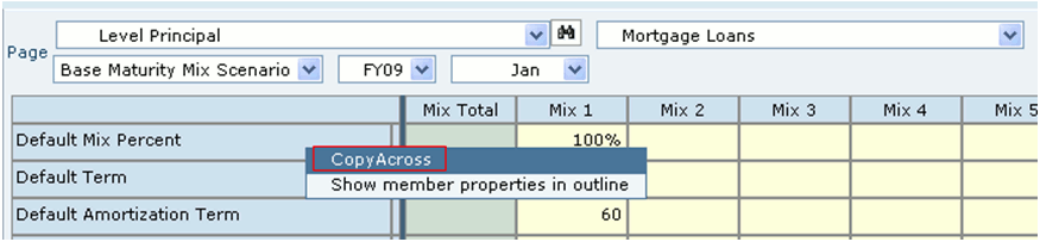
Copy Across Chart of Account, Entity and Time Dimension Members

This section covers the Copy Across feature that can be used to copy maturity mix assumption data across Chart of Account, Entity and Time dimension members.

Prerequisites

- Data for Source Dimension Members is defined.

To access the Copy Across feature, right click on the Maturity Mix Default Form and select Copy Across.



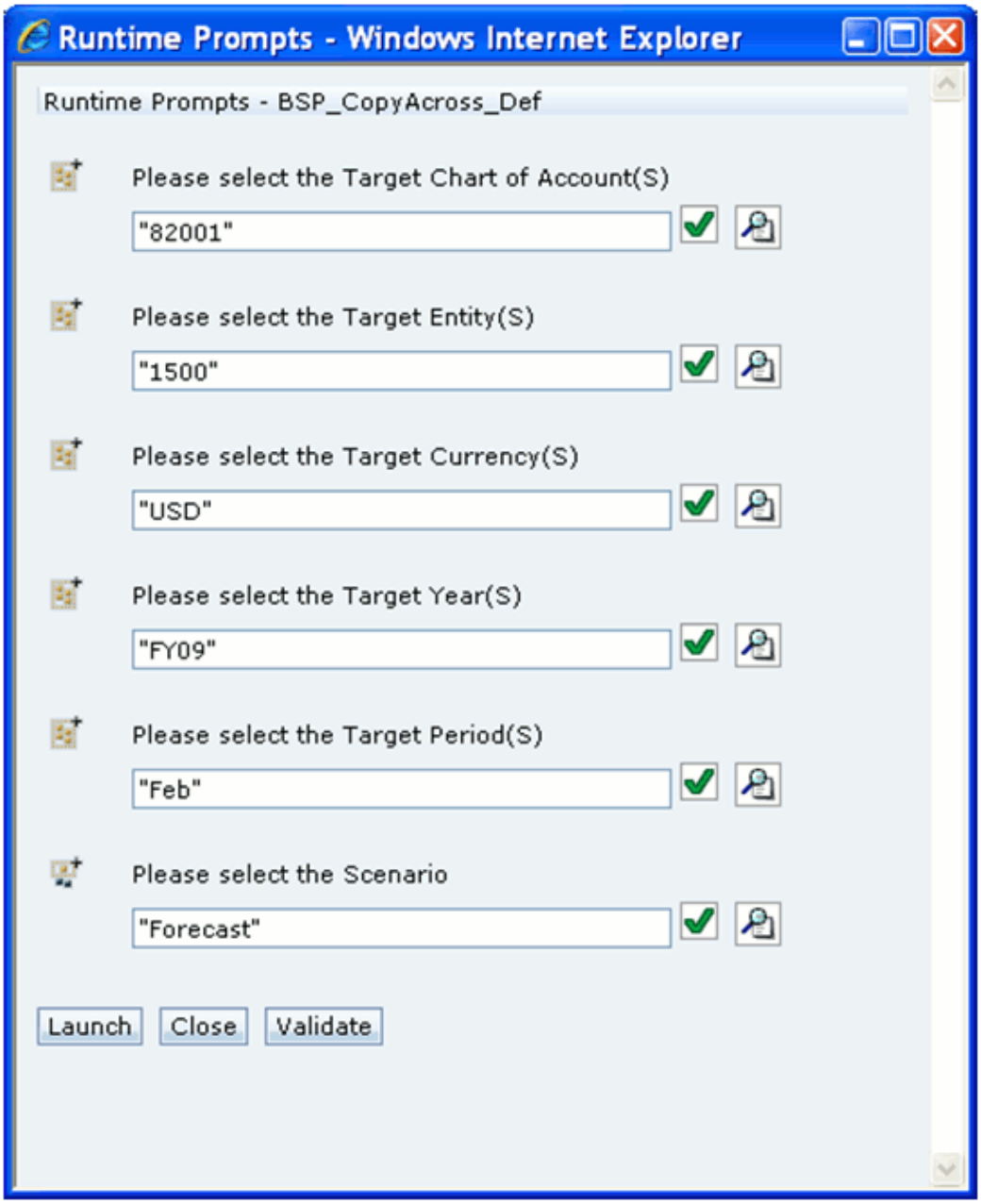
A pop up (Run Time Prompt) appears to capture Dimension Members required to

execute business rule 'BSP_CopyAcross_Def'. The Run time Prompt Variables are detailed below. Note that some of the run-time prompts are hidden on the run-time prompts screen, and are automatically read from the page where the function is launched.

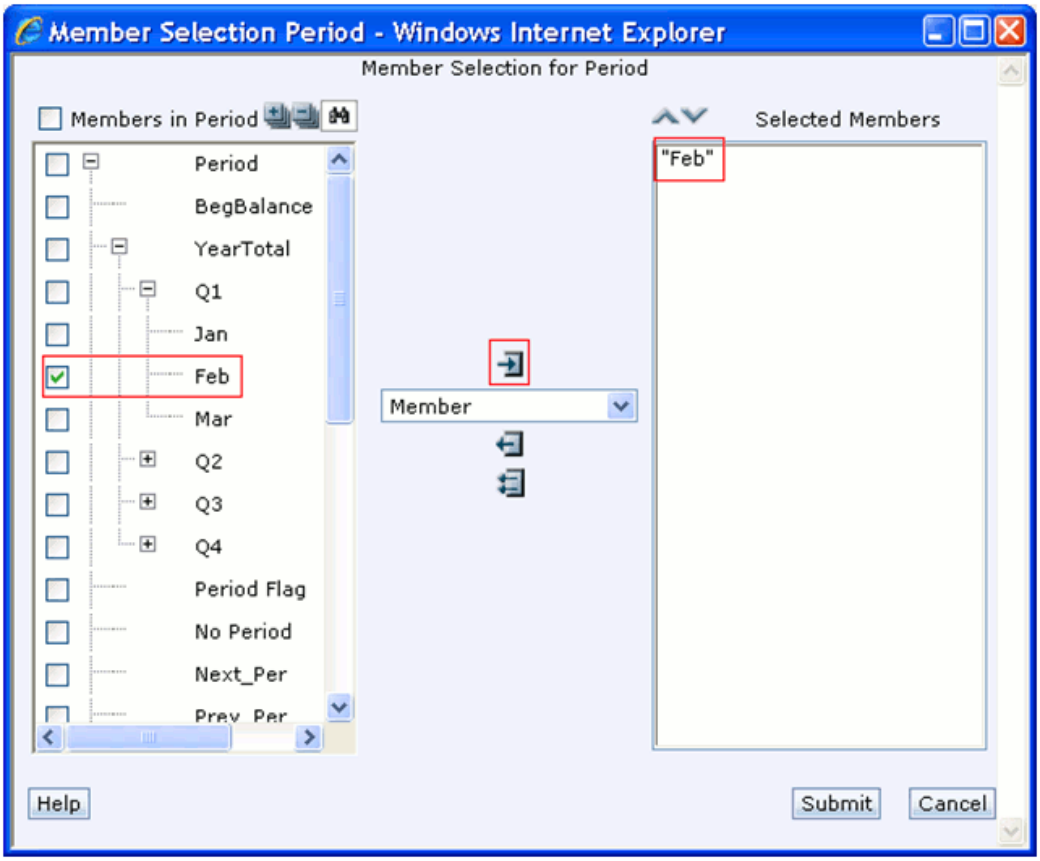
Variable Name	Associated Dimension	Type	Description
Rates_COA_S	Chart of Account	Hidden	Picks the Chart of Account Dimension Member selected on the Page Dimension.
Rates_Entity_S	Entity	Hidden	Picks the Entity Dimension Member selected on the Page Dimension.
Rates_Currency_S	Currency	Hidden	Picks the Currency Dimension Member selected on the Page Dimension.
Rates_Year_S	Year	Hidden	Picks the Year Dimension Member selected on the Page Dimension.
Rates_Period_S	Period	Hidden	Picks the Period Dimension Member selected on the Page Dimension.
Rates_Assumption_S	Assumptions	Hidden	Picks the Assumptions Dimension Member selected on the Page Dimension.
Rates_COA_Targ	Chart of Account	Visible	Allows to select the Target Chart of Account Dimension Members

Variable Name	Associated Dimension	Type	Description
Rates_Entity_Targ	Entity	Visible	Allows to select the Target Entity Dimension Members
Rates_Currency_Targ	Currency	Visible	Allows to select the Target Currency Dimension Members
Rates_Year_Targ	Year	Visible	Allows to select the Target Year Dimension Members
Rates_Period_Targ	Period	Visible	Allows to select the Target Period Dimension Members
Rates_Scenario_S	Scenario	Visible	Allows to select the Target Scenario Dimension Member

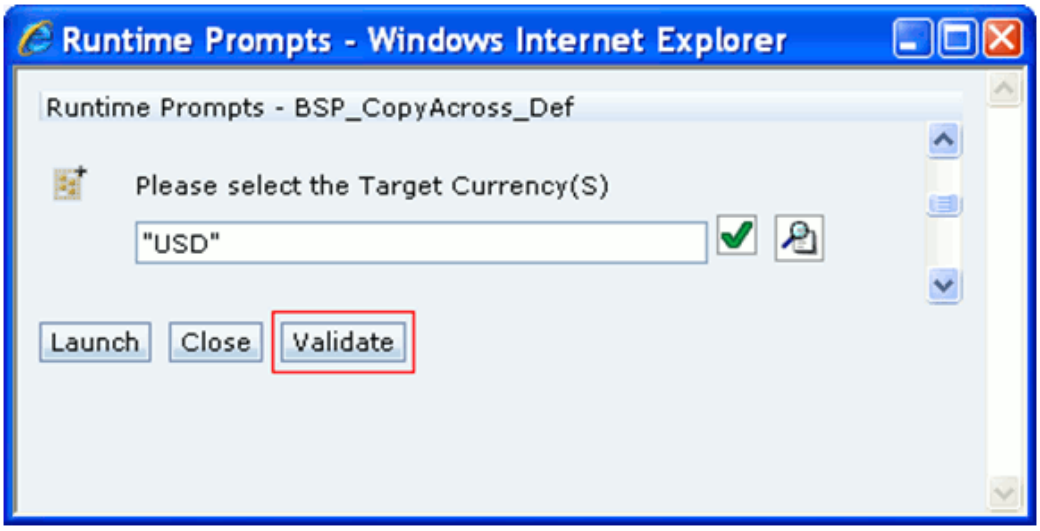
The run-time prompts screen will open as reflected below:



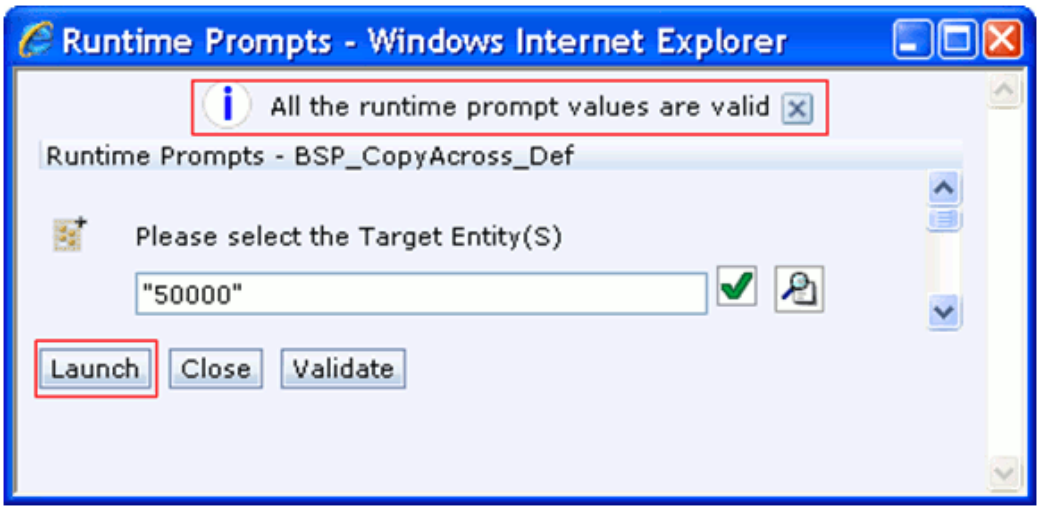
Select Dimension Members in the Run Time Prompts screen using the Selector icon against each Dimension Selection. All the run time prompts allow for multiple selections of Dimension members except for the Scenario dimension.



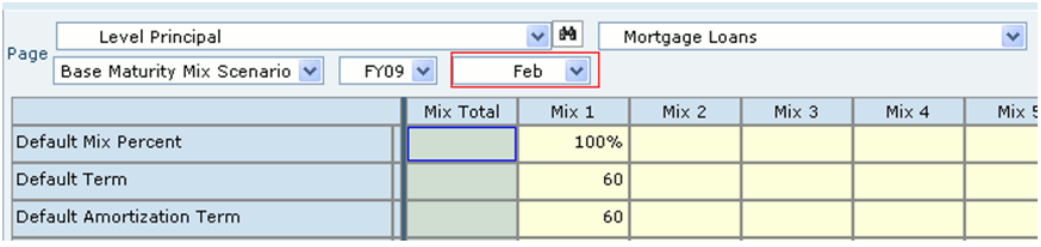
After making your run-time prompt selections, click on 'Validate' on the Run Time Prompt.



A message appears 'All the runtime prompt values are valid'. Then, click on 'Launch' button to run the business rule

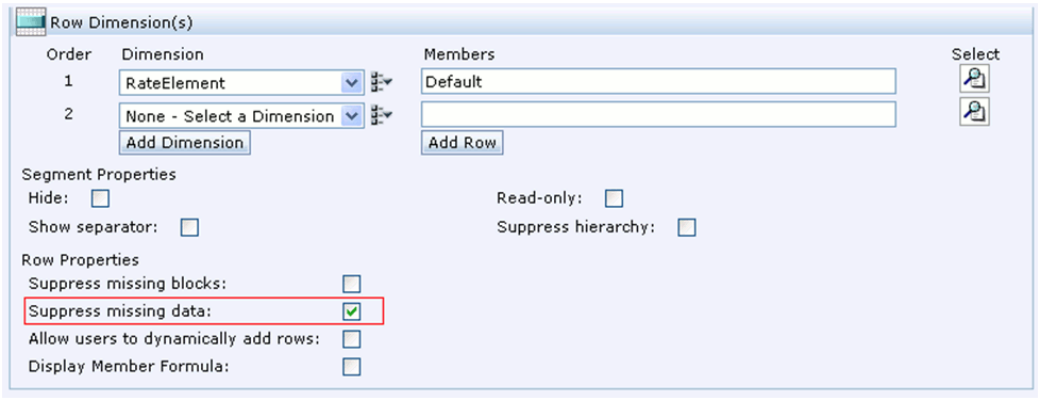


Verify results at the intersection defined by selection of dimension members in the run time prompt.



Maturity Mix Default Form Details

The Maturity Mix Default data form has been created using the 'Manage Data Forms' feature available in Hyperion Planning on the 'Rates' Plan Type. The Point of View Dimensions are hidden. The 'Suppress Missing Data' in the Row Dimension Member Properties is checked to drive the display of mix elements based on the selected Chart of Account Dimension Member Characteristics.



Seeded Dimension Member Selection on the Form

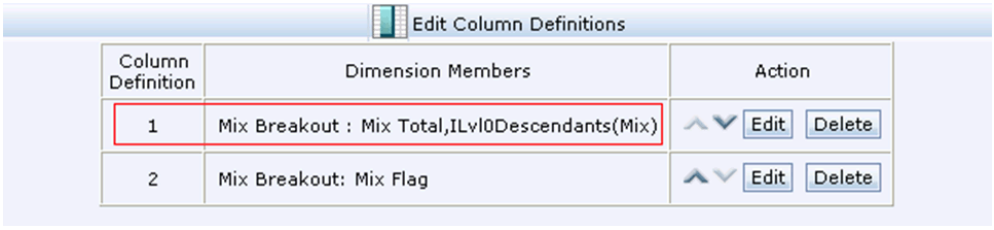
The table below displays the seeded dimension member selections for each of the dimensions on the data form.

Dimension View	Dimension Name	Description
Column	Mix Breakout	Segment one: MixTotal,ILvl0Descendants(Mix) Segment two: Mix Flag
Row	RateElement	Default
Page	Chart of Account	Descendants(BSP_COA)
Page	Entity	ILvl0Descendants(BSP_Entities)
Page	Currency	ILvl0Descendants(Currency)
Page	Assumption	ILvl0Descendants(Maturity Mix Scenario)
Page	Year	&FirstYr,&SecondYr

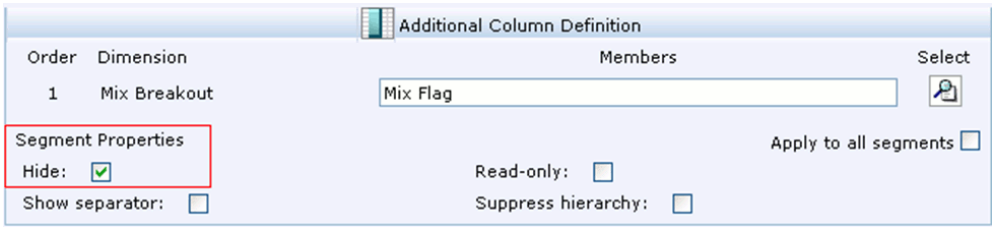
Dimension View	Dimension Name	Description
Page	Period	IDescendants(YearTotal)
Point of View	Scenario	No Scenario
Point of View	Version	No Version
Point of View	Strategy	No Strategy
Point of View	Account	No FE – Rates
Point of View	Term Points	No Term Points

Mix Breakout Dimension Member Details

- **Segment One:** Mix Total shows the Total for RateElement- Mix Percent calculated using Member Formulae. ILvl0Descendants(Mix) includes Level zero members of Mix consisting of all Mix Breakouts.

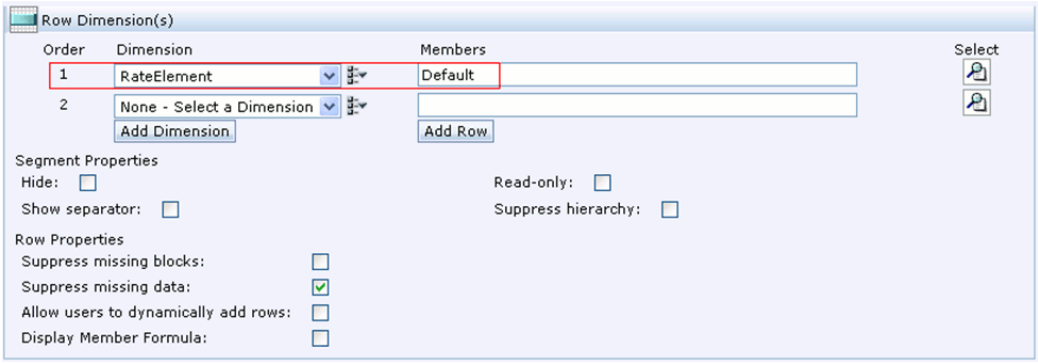


- **Segment Two:** Mix Flag is used to configure display of mix elements on the basis of Mix Flag assigned to the Chart of Account Dimension Members. A Member Formulae in the Mix Flag and UDA is used to drive the display of mix elements. This segment is hidden, the Segment Properties 'Hide' is checked.



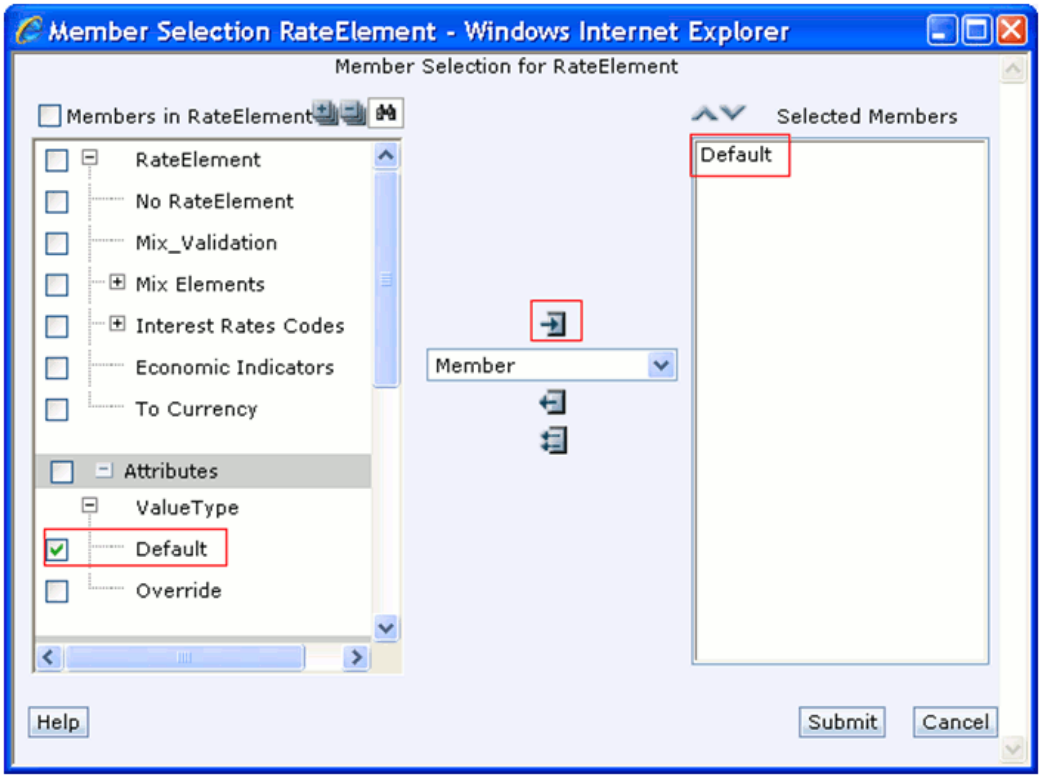
RateElement Dimension Member Details

The Default Mix Elements dimension members in the RateElement Dimension have been selected in the Row Dimension using the Attribute Value 'Default' as highlighted in the following Data Form Definition Screenshot.



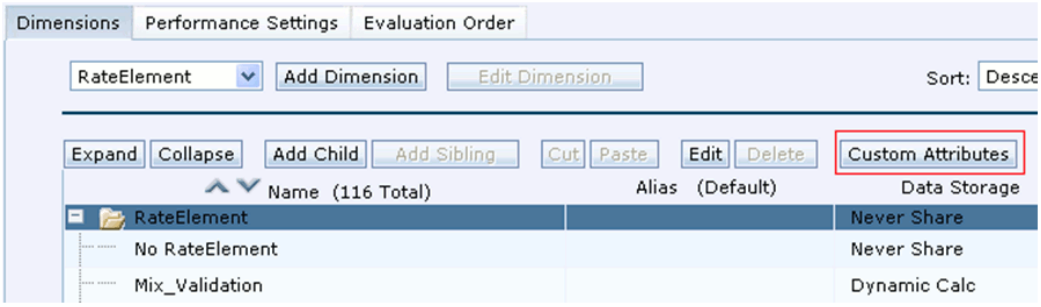
Selector Icon

The Selector Icon is used to select the Default from the Attribute 'Value Type' as shown below.

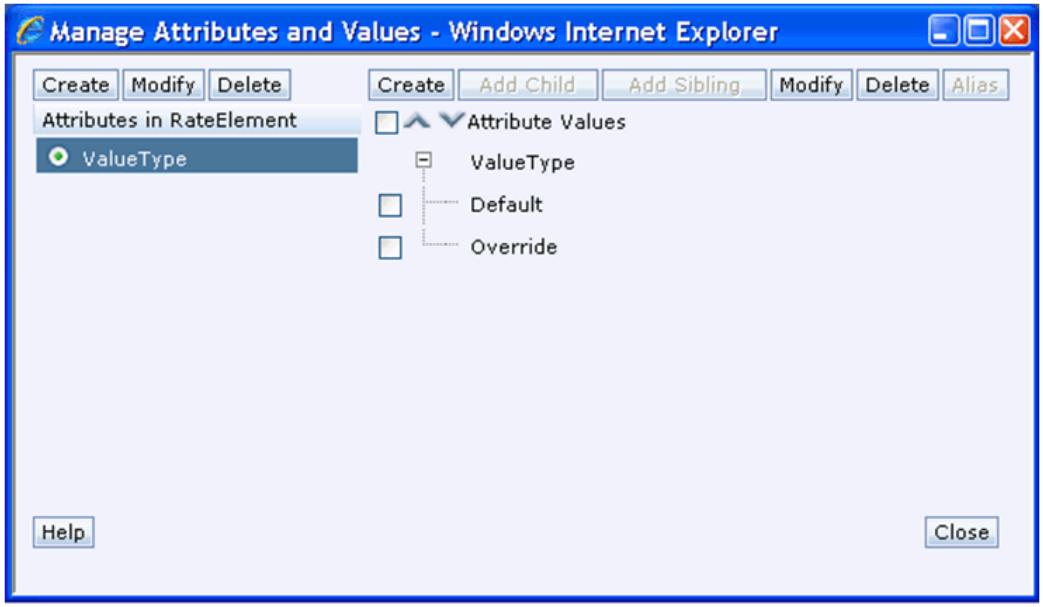


Attribute Value Creation

A Custom Attribute 'Value Type' is created for RateElement from the screen using the 'Custom Attributes' button as shown below.

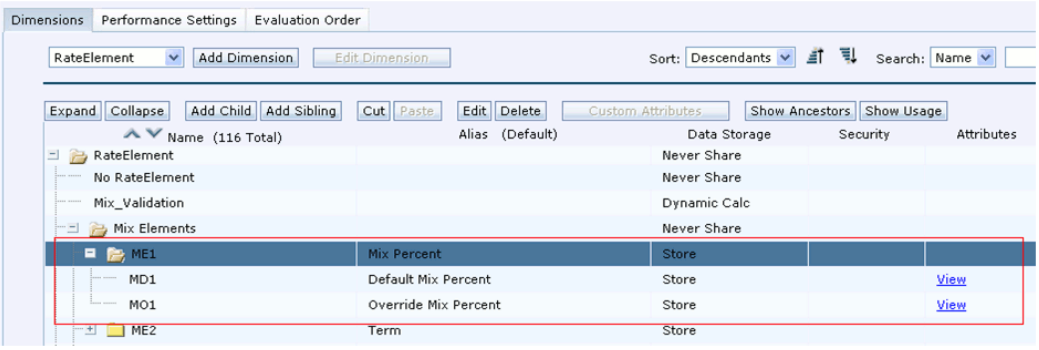


The created Attribute 'Value Type' with members 'Default' and 'Override' are shown below in the screenshot.

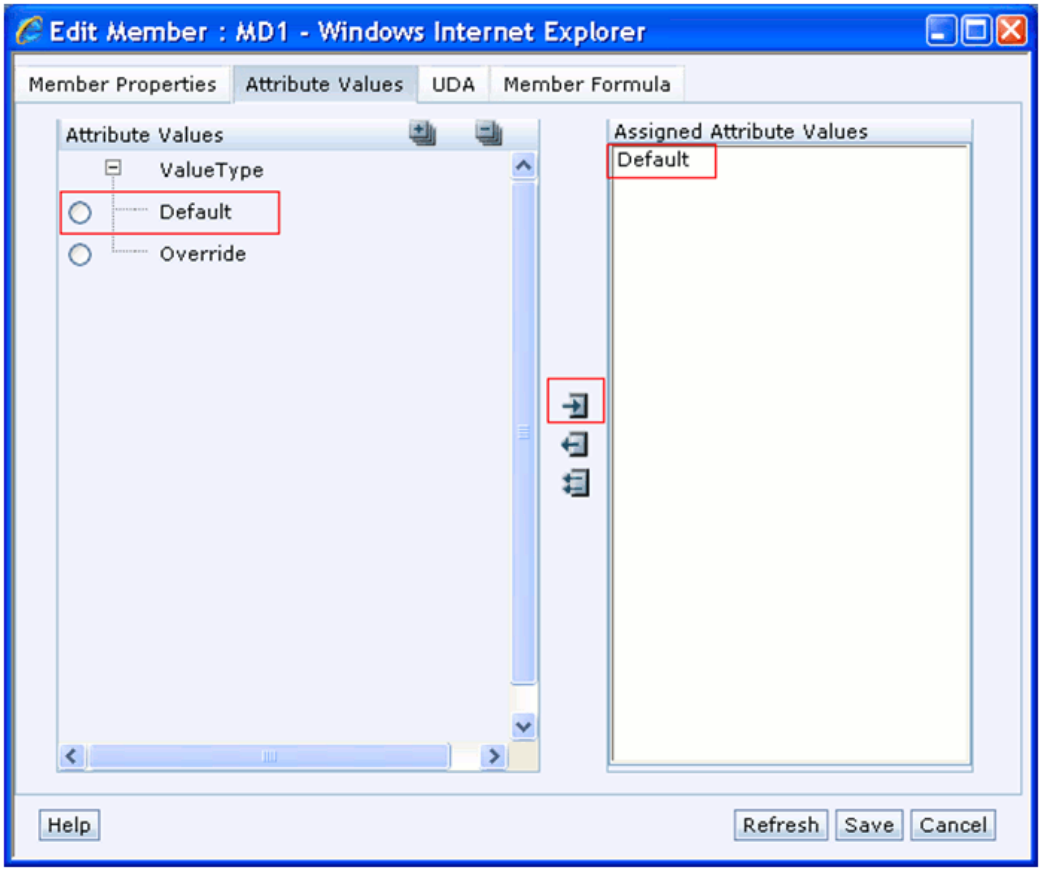


Association of Attribute Value

The Mix Elements need to be assigned to the Attribute 'Value Type' at member level as shown below. For example, select 'Default Mix Percent' click on 'Edit' button as shown in the example below.



Assign 'Default' Value in the pop-up as shown below on the Attribute Values Tab.



Click on 'Save' control in the toolbar to save data into Essbase.

List of Mix elements

The following table lists the mix element dimension members that are seeded within Balance Sheet Planning. Each mix element is listed with Data Storage, Data Type and Smartlist definitions where appropriate. Each mix element includes default and override children, which are used to separately store administrator defined defaults from analyst overrides.

Name	Alias	Data Storage	Data Type	Smart List
ME1	Mix Percent	Store	Percentage	
MD1	Default Mix Percent	Store	Percentage	

Name	Alias	Data Storage	Data Type	Smart List
MO1	Override Mix Percent	Store	Percentage	
ME2	Term	Store	Non Currency	
MD2	Default Term	Store	Non Currency	
MO2	Override Term	Store	Non Currency	
ME3	Amortization Term	Store	Non Currency	
MD3	Default Amortization Term	Store	Non Currency	
MO3	Override Amortization Term	Store	Non Currency	
ME4	Average Market Rate Spread	Store	Percentage	
MD4	Default Average Market Rate Spread	Store	Percentage	
MO4	Override Average Market Rate Spread	Store	Percentage	
ME5	Market Rate Spread	Store	Percentage	
MD5	Default Market Rate Spread	Store	Percentage	
MO5	Override Market Rate Spread	Store	Percentage	
ME6	Repricing Frequency	Store	Non Currency	

Name	Alias	Data Storage	Data Type	Smart List
MD6	Default Repricing Frequency	Store	Non Currency	
MO6	Override Repricing Frequency	Store	Non Currency	
ME7	Rate Cap Life	Store	Percentage	
MD7	Default Rate Cap Life	Store	Percentage	
MO7	Override Rate Cap Life	Store	Percentage	
ME8	Rate Set Lag	Store	Non Currency	
MD8	Default Rate Set Lag	Store	Non Currency	
MO8	Override Rate Set Lag	Store	Non Currency	
ME9	Rate Change Rounding Factor	Store	Non Currency	
MD9	Default Rate Change Rounding Factor	Store	Non Currency	
MO9	Override Rate Change Rounding Factor	Store	Non Currency	
ME10	Rate Change Rounding Type	Store	Smart List	m_Rate_Change_Round_Type
MD10	Default Rate Change Rounding Type	Store	Smart List	m_Rate_Change_Round_Type
MO10	Override Rate Change Rounding Type	Store	Smart List	m_Rate_Change_Round_Type

Name	Alias	Data Storage	Data Type	Smart List
ME11	Rate Increase Period	Store	Percentage	
MD11	Default Rate Increase Period	Store	Percentage	
MO11	Override Rate Increase Period	Store	Percentage	
ME12	Rate Decrease Period	Store	Percentage	
MD12	Default Rate Decrease Period	Store	Percentage	
MO12	Override Rate Decrease Period	Store	Percentage	
ME13	Minimum Rate Change	Store	Percentage	
MD13	Default Minimum Rate Change	Store	Percentage	
MO13	Override Minimum Rate Change	Store	Percentage	
ME14	Rate Floor Life	Store	Percentage	
MD14	Default Rate Floor Life	Store	Percentage	
MO14	Override Rate Floor Life	Store	Percentage	
ME15	Rate Increase Life	Store	Percentage	
MD15	Default Rate Increase Life	Store	Percentage	

Name	Alias	Data Storage	Data Type	Smart List
MO15	Override Rate Increase Life	Store	Percentage	
ME16	Rate Decrease Life	Store	Percentage	
MD16	Default Rate Decrease Life	Store	Percentage	
MO16	Override Rate Decrease Life	Store	Percentage	
ME17	Payment Change Frequency	Store	Non Currency	
MD17	Default Payment Change Frequency	Store	Non Currency	
MO17	Override Payment Change Frequency	Store	Non Currency	
ME18	Payment Increase Period	Store	Percentage	
MD18	Default Payment Increase Period	Store	Percentage	
MO18	Override Payment Increase Period	Store	Percentage	
ME19	Payment Increase Life	Store	Percentage	
MD19	Default Payment Increase Life	Store	Percentage	
MO19	Override Payment Increase Life	Store	Percentage	
ME20	Payment Decrease Period	Store	Percentage	

Name	Alias	Data Storage	Data Type	Smart List
MD20	Default Payment Decrease Period	Store	Percentage	
MO20	Override Payment Decrease Period	Store	Percentage	
ME21	Payment Decrease Life	Store	Percentage	
MD21	Default Payment Decrease Life	Store	Percentage	
MO21	Override Payment Decrease Life	Store	Percentage	
ME22	NGAM Equalization Frequency	Store	Non Currency	
MD22	Default NGAM Equalization Frequency	Store	Non Currency	
MO22	Override NGAM Equalization Frequency	Store	Non Currency	
ME23	NGAM Equalization Limit	Store	Percentage	
MD23	Default NGAM Equalization Limit	Store	Percentage	
MO23	Override NGAM Equalization Limit	Store	Percentage	
ME24	Payment Frequency	Store	Non Currency	
MD24	Default Payment Frequency	Store	Non Currency	
MO24	Override Payment Frequency	Store	Non Currency	

Name	Alias	Data Storage	Data Type	Smart List
ME25	Compound Basis	Store	Smart List	m_Compounding_Basis
MD25	Default Compound Basis	Store	Smart List	m_Compounding_Basis
MO25	Override Compound Basis	Store	Smart List	m_Compounding_Basis
ME26	Cash Flow Treatment	Store	Smart List	m_CF_Treatment
MD26	Default Cash Flow Treatment	Store	Smart List	m_CF_Treatment
MO26	Override Cash Flow Treatment	Store	Smart List	m_CF_Treatment
ME27	Prepayment Method	Store	Smart List	m_Prepayment_Meth
MD27	Default Prepayment Method	Store	Smart List	m_Prepayment_Meth
MO27	Override Prepayment Method	Store	Smart List	m_Prepayment_Meth
ME28	Prepayment Value	Store	Non Currency	
MD28	Default Prepayment Value	Store	Non Currency	
MO28	Override Prepayment Value	Store	Non Currency	
ME29	Coefficient	Store	Non Currency	
MD29	Default Coefficient	Store	Non Currency	

Name	Alias	Data Storage	Data Type	Smart List
MO29	Override Coefficient	Store	Non Currency	
ME30	K1	Store	Non Currency	
MD30	Default K1	Store	Non Currency	
MO30	Override K1	Store	Non Currency	
ME31	K2	Store	Non Currency	
MD31	Default K2	Store	Non Currency	
MO31	Override K2	Store	Non Currency	
ME32	K3	Store	Non Currency	
MD32	Default K3	Store	Non Currency	
MO32	Override K3	Store	Non Currency	
ME33	K4	Store	Non Currency	
MD33	Default K4	Store	Non Currency	
MO33	Override K4	Store	Non Currency	
ME34	Seasonality Flag	Store	Smart List	Boolean

Name	Alias	Data Storage	Data Type	Smart List
MD34	Default Seasonality Flag	Store	Smart List	Boolean
MO34	Override Seasonality Flag	Store	Smart List	Boolean
ME35	Prepayment Model Id	Store	Smart List	m_Prepayment_Model_Id
MD35	Default Prepayment Model Id	Store	Smart List	m_Prepayment_Model_Id
MO35	Override Prepayment Model Id	Store	Smart List	m_Prepayment_Model_Id
ME36	Residual Value	Store	Non Currency	
MD36	Default Residual Value	Store	Non Currency	
MO36	Override Residual Value	Store	Non Currency	
ME37	Percent Sold	Store	Percentage	
MD37	Default Percent Sold	Store	Percentage	
MO37	Override Percent Sold	Store	Percentage	
ME38	Original Deferred Amortization Percent	Store	Percentage	
MD38	Default Original Amortization Percent	Store	Percentage	
MO38	Override Original Amortization Percent	Store	Percentage	

Name	Alias	Data Storage	Data Type	Smart List
ME39	Tease Period	Store	Non Currency	
MD39	Default Tease Period	Store	Non Currency	
MO39	Override Tease Period	Store	Non Currency	
ME40	Tease Discount	Store	Percentage	
MD40	Default Tease Discount	Store	Percentage	
MO40	Override Tease Discount	Store	Percentage	
ME41	New Add Gross Market Rate Spread	Store	Percentage	
MD41	Default New Add Gross Market Rate Spread	Store	Percentage	
MO41	Override New Add Gross Market Rate Spread	Store	Percentage	
ME42	Net Margin Code	Store	Smart List	a_Net_Margin
MD42	Default Net Margin Code	Store	Smart List	a_Net_Margin
MO42	Override Net Margin Code	Store	Smart List	a_Net_Margin

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Additional Administrator Data Forms and Functions

Overview

Besides being responsible for performing Master Maintenance activities and defining process attributes, chart of account attributes and default maturity mix assumptions in Balance Sheet Planning, the Budget Administrator is also responsible for performing the following additional centralized administration functions, and can centrally define assumptions and calculate cash flow data for different areas or across areas of the organization as well. These functions and capabilities include:

- Defining synchronization between Balance Sheet Planning and the Hyperion Workforce Planning and Hyperion Capital Asset Planning modules.
- Loading forecast interest rates, exchange rates and economic indicator data to Essbase.
- Calculating current position cash flow data.
- Launching data consolidations.
- Entering or generating target driver data and launching calculations.
- Extracting default maturity mix data from Essbase to the RDBMS.

The last four functions listed in the preceding section are performed using the predefined Financial Plan Default data form.

Defining Synchronization with Workforce Planning and Capital Asset Planning Modules

Balance Sheet Planning provides predefined data forms for use by the Budget

Administrator in defining the mapping between Account dimension members utilized in Workforce Planning and Capital Asset Planning and the Chart of Accounts dimension members utilized in Balance Sheet Planning.

Prerequisites

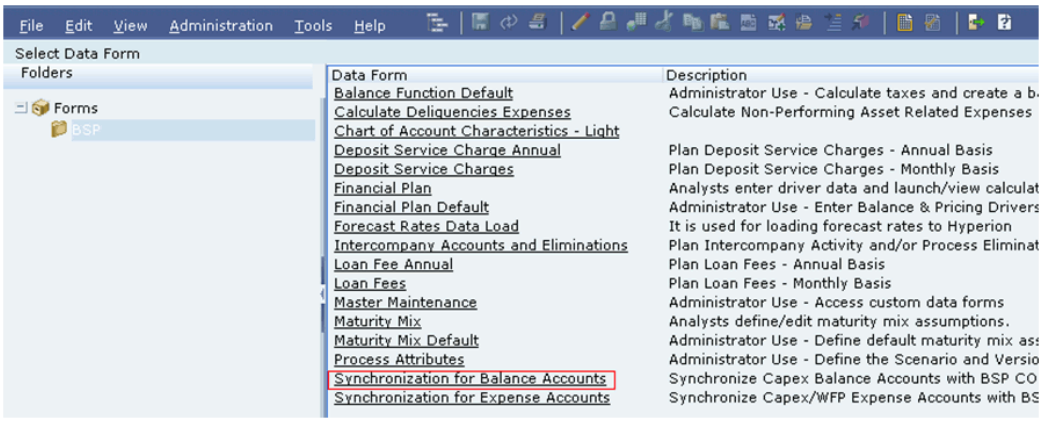
- Chart of Account and Entity dimension members are created and synchronized with the Balance Sheet Planning data model.
- Hyperion Workforce Planning and Capital Expenditure Planning modules are initialized.

> **Note:** Dimension members should be defined for the Chart of Accounts dimension for each noninterest expense and/or balance sheet account that will receive data from the Workforce Planning and/or Capital Asset Planning modules through the synchronization process. Balance Sheet Planning will use the following seeded dimension members in the Account dimension when synchronization is run:
>
> - F457 – Non Interest Expense
> - F100 – Ending Balance

Synchronization Data Forms

Two predefined data forms are provided for mapping Account dimension members to Balance Sheet Planning Chart of Account dimension members – one for mapping noninterest expense accounts and one for mapping balance sheet accounts.

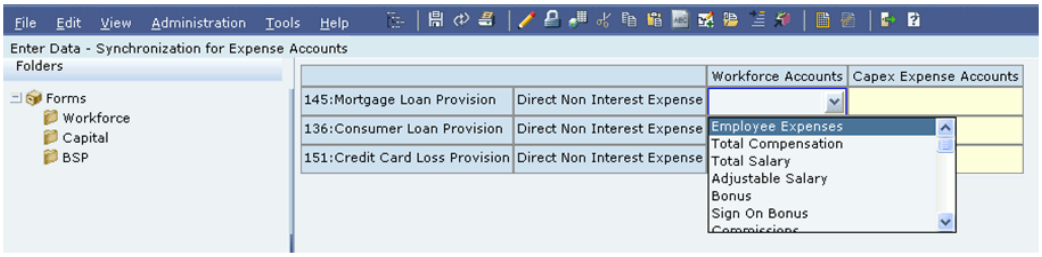
To access the data forms, go to the **BSP** Folder on the left pane; click **Synchronization for Balance Accounts** data form to define balance sheet account mapping, or click **Synchronization for Expense Accounts** form to define expense account mapping.



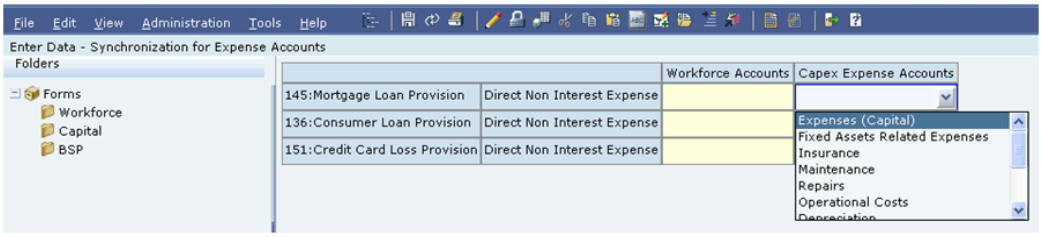
To complete the mapping of dimension members, select the Account dimension members from the Smart List for each of the appropriate Chart of Account dimension members listed in the forms.

The same data form, Synchronization for Expense Accounts, is used for dimension member mapping between Balance Sheet Planning and both the Workforce and Capital Asset Planning modules. If you are using only one of these modules, simply complete the mapping for the module being used and leave the other module mapping blank.

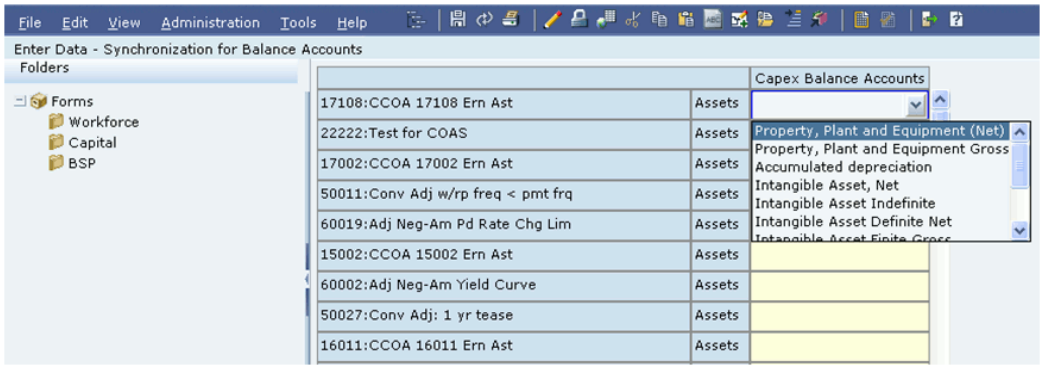
Selection of Mapping for Workforce Expense Account Dimension Members



Selection of Mapping for Capital Asset Expense Account Dimension Members



Selection of Mapping for Capital Asset Balance Sheet Account Dimension Members



After defining the mapping on each data form, click **Save** to save the mapping information.

Financial Plan Default Data Form

The Financial Plan Default data form is used by the Balance Sheet Planning Budget Administrator to perform various functions. To access the **Financial Plan Default** data form, go to the **BSP** Folder on the left pane and select the form.

The following menu items and functions are accessed from the Financial Plan Default data form by placing your cursor over a row label on the form and right clicking with your mouse:

- Target Input Tools
  - Replace Target Value with Input Value
  - Adjust by Amount
  - Adjust by Percentage
  - Grow by Amount
  - Grow by Percentage
  - Percent Growth over Prior Year
  - Target an End Value
  - Interpolate
  - Annualize Year to Date Amt
- Calculate Options

    - Extract Maturity Mix Data
    - Calculate
    - Calculate with Partial Solve
    - Calculate Current Business
    - Consolidate Dimensions
- Synchronization
    - Synchronize with Capital Expenditure
    - Synchronize with Capital Balance Accounts
    - Synchronize with Workforce Plan
- Synchronization for All Entities
    - Sync with Capital Exp (All Entities)
    - Sync with Capital Balance Accounts (All Entities)
    - Sync with Workforce Plan (All Entities)

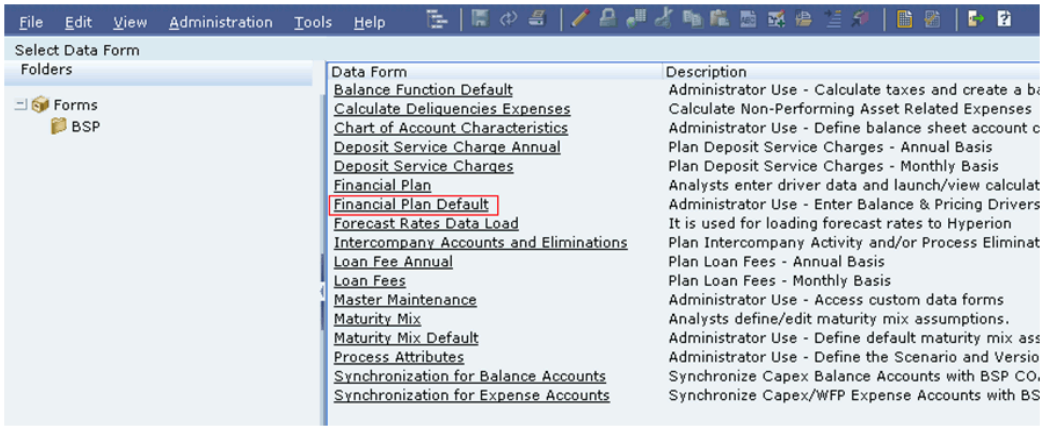
Many of the functions listed earlier are the same functions that are available to Analysts in the Financial Plan data form provided for their use. The rest of this chapter provides details related to the following:

- Calculation of Current Position Cash Flow Data, using **Calculate Current Business** menu.
- Launching Data Consolidations, using **Consolidate Dimensions** menu.
- Running Synchronization with Workforce and Capital Asset Planning Modules, using the menu items available under **Synchronization** and **Synchronization for All Entities.**
- **Target Input Tools** – Descriptions, associated business rules and business rule run time prompt variable information is provided.

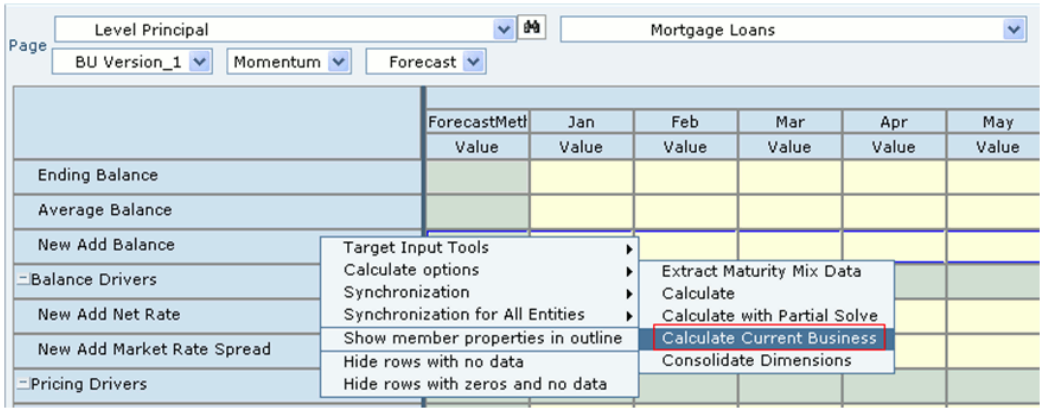
Information on the remaining functions and additional details on the usage of Target Input Tools is provided in Analyst Data Forms and Functions, page 21-1. The Budget Administrator should review the information in that chapter prior to performing activities not described in the remainder of this chapter.

Calculation of Current Position Cash Flow Data

To access the Financial Plan Default data form, go to the **BSP** Folder on the left pane and click **Financial Plan Default** form in the data form list.



Right Click **Financial Plan Default** Form and click **Calculate Options,** then click **Calculate Current Business** as highlighted in the following screenshot.



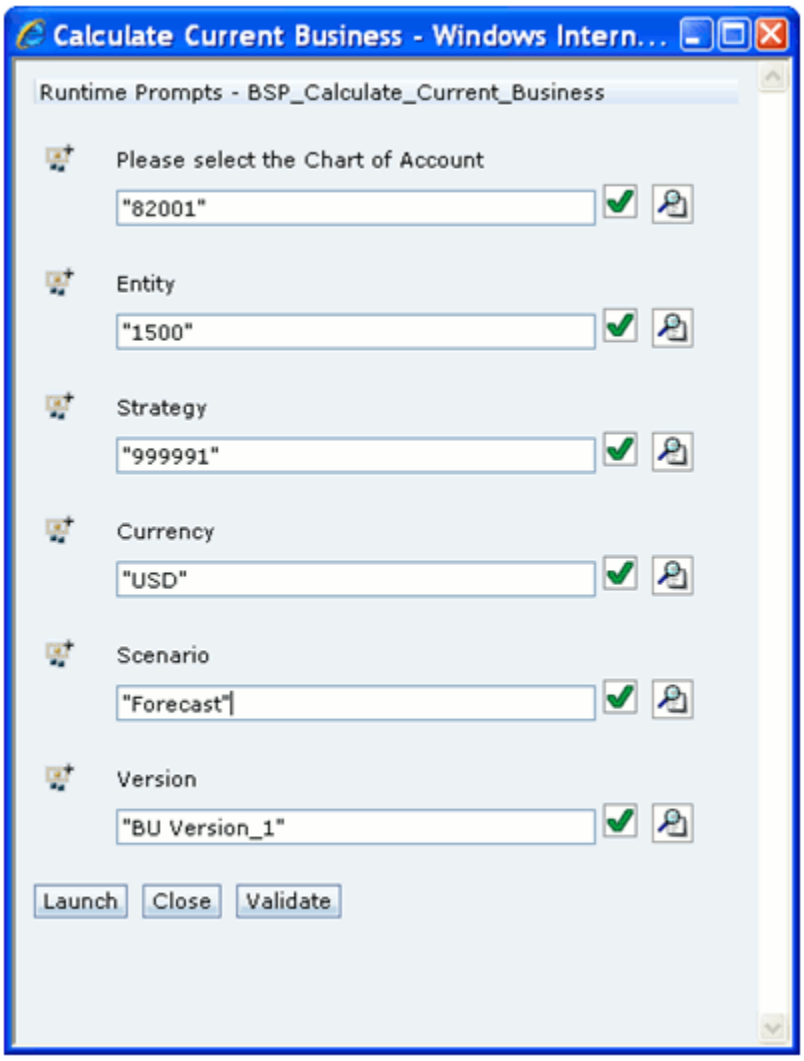
Run Time Prompt window appears to capture parameters to run the business rule (BSP_Calculate_Current_Business).

The Run time Prompt Variables are detailed as follows.

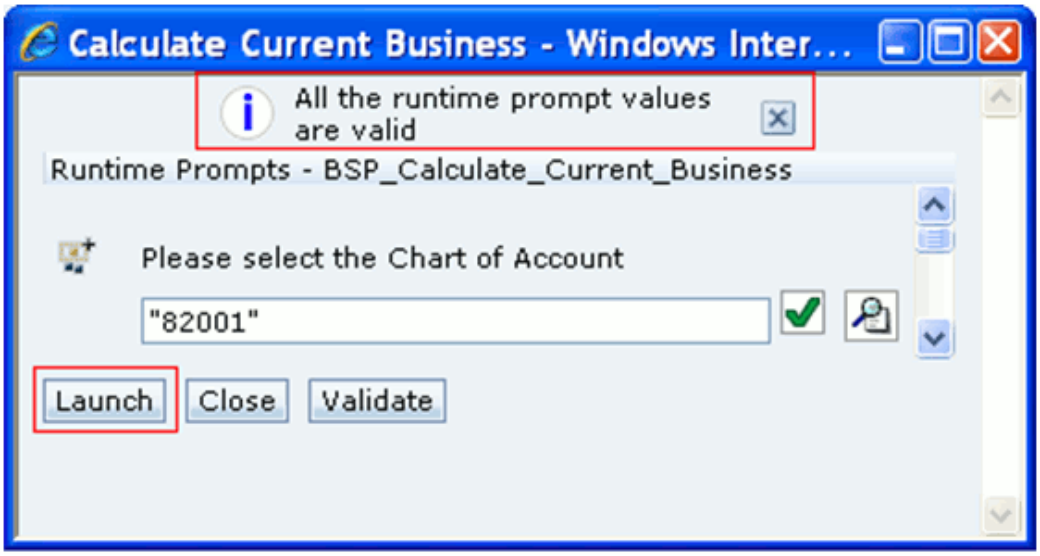
Variable Name	Associated Dimension	Type	Description
BSP_COA_S	Chart of Account	Visible	Allows selection of a single Chart of Account dimension member. You can select a higher node level dimension member, and data for all underlying lowest level dimension members will be calculated.
BSP_Entity_S	Entity	Visible	Allows selection of a single Entity dimension member. You can select a higher node level dimension member, and data for all underlying lowest level dimension members will be calculated.
BSP_Strategy_S	Strategy	Visible	Allows selection of a single Strategy dimension member. You can select a higher node level dimension member, and data for all underlying lowest level dimension members will be calculated.
BSP_Currency_S	Currency	Visible	Allows to select a single Currency Dimension Member.
BSP_Scenario_S	Scenario	Visible	Allows to select a single Scenario Dimension Member.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Visible	Allows to select a single Version Dimension Member.

Click the Selector control next to each parameter to open the dimension member selector and make your selections for each dimension.



After making your parameter selections, click **Validate** to validate the entered parameters. A message appears stating that "All the runtime prompt values are valid." You can then click **Launch** to run the calculations and load the results to Essbase.



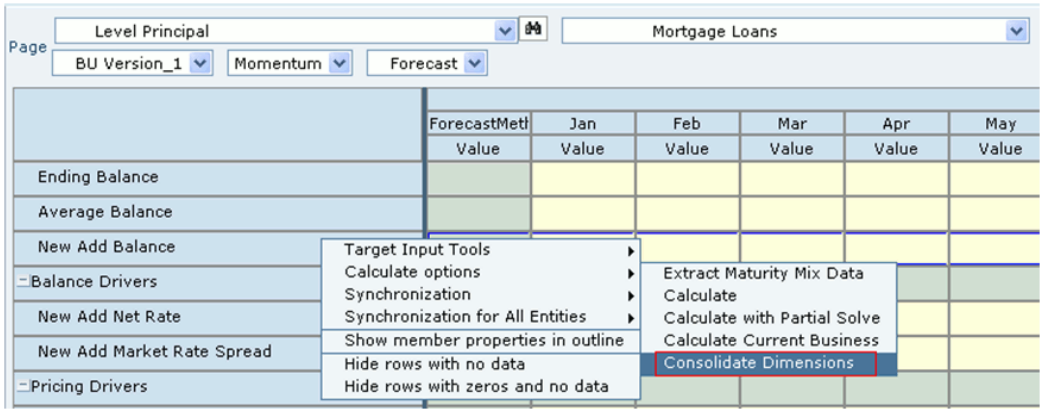
After the cash flow data is generated by the cash flow engine, it is imported into Essbase and the data form is refreshed with the results. You can review and verify the results in the Financial Plan Default Form.

Launching Data Consolidations

After analysts have completed preparing their budget or forecast, the Budget Administrator can consolidate the results up the Chart of Account, Entity, Strategy and Time (Year and Period) dimensions. This consolidation process allows for review of budget or forecast data at consolidated levels.

Consolidate Dimensions is run by the Budget Administrator from the Financial Plan Default data form. To access the Financial Plan Default data form, go to the **BSP** Folder on the left pane and click **Financial Plan Default** form in the data form list.

Right Click **Financial Plan Default** Form and click **Calculate Options,** then click **Consolidate Dimensions** as highlighted in the following screenshot.



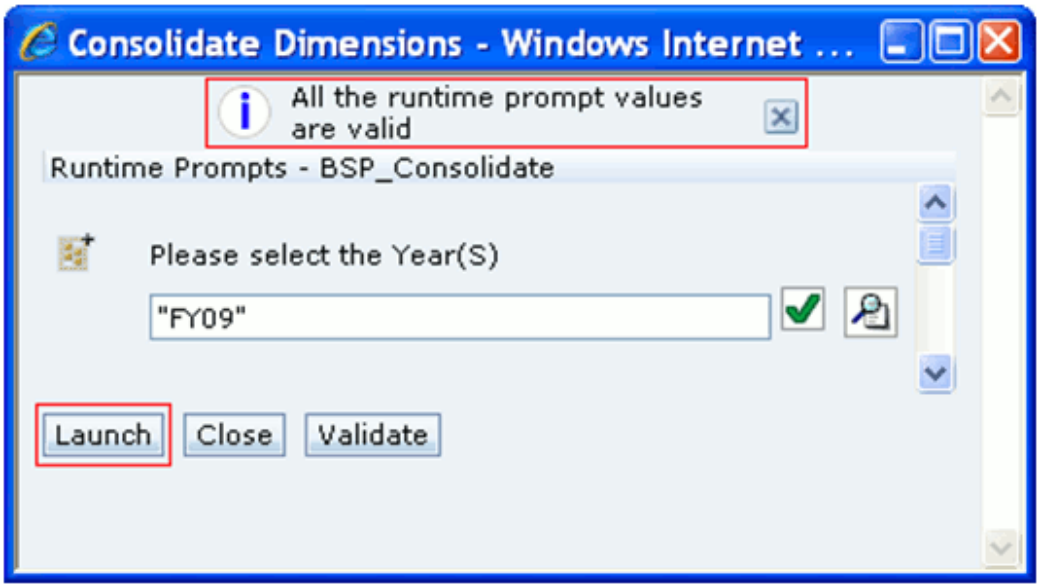
Run Time Prompt window appears to capture parameters to run the business rule (BSP_Consolidate).

The Run time Prompt Variables are detailed as follows.

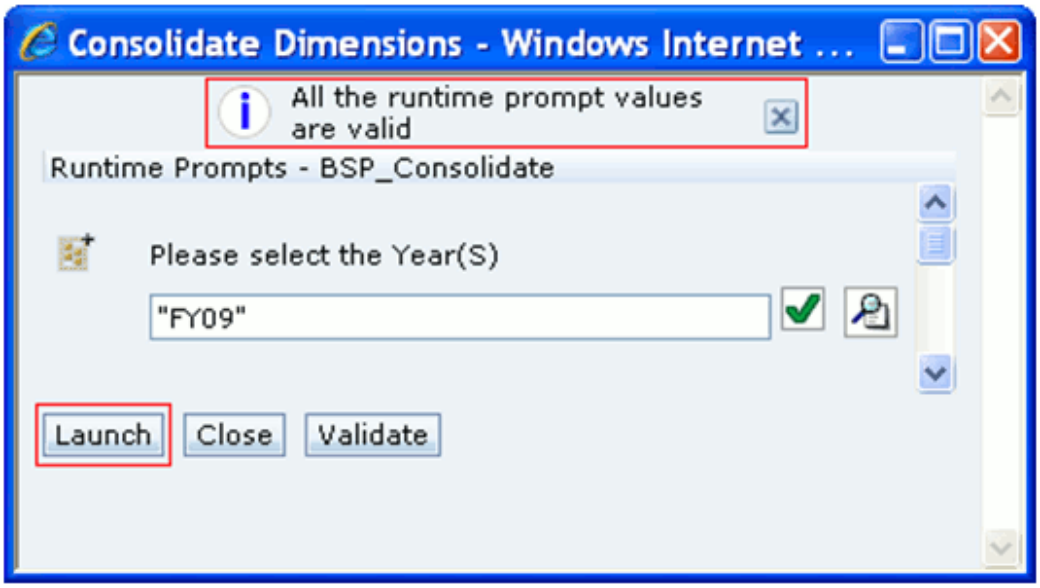
Variable Name	Associated Dimension	Type	Description
BSP_Year	Year	Visible	Allows to select Year Dimension Members.
BSP_COA_S	Chart of Account	Visible	Allows selection of a single Chart of Account dimension member. You can select a higher node level dimension member, and data for all underlying node level dimension members will be aggregated.
BSP_Entity_S	Entity	Visible	Allows selection of a single Entity dimension member. You can select a higher node level dimension member, and data for all underlying node level dimension members will be aggregated.

Variable Name	Associated Dimension	Type	Description
BSP_Strategy_S	Strategy	Visible	Allows selection of a single Strategy dimension member. You can select a higher node level dimension member, and data for all underlying node level dimension members will be aggregated.
BSP_Currency_S	Currency	Hidden	Allows to select a single Currency Dimension Member.
BSP_Scenario_S	Scenario	Hidden	Allows to select a single Scenario Dimension Member.
BSP_Version_S	Version	Hidden	Allows to select a single Version Dimension Member.

Click the Selector control next to each parameter to open the dimension member selector and make your selections for each dimension.



After making your parameter selections, click **Validate** to validate the entered parameters. A message appears stating that "All the runtime prompt values are valid." You can then click **Launch** to run the consolidation.



Verify the results in the Financial Plan Default Form. The results can be verified by selecting the node level dimension members and confirming results at those aggregated levels.

Running Synchronization with Workforce and Capital Expenditures

The Budget Administrator can run the Balance Sheet Planning synchronization

functions that load data developed in Workforce Planning and/or Capital Asset Planning from the plan types used in those modules to the BSP plan type. The Administrator can run the functions for a single entity dimension member at a time or for all entity dimension members in a single run.

Prerequisites

Mapping of Account Dimension members of the Workforce and/or Capital Asset Planning module with the Chart of Account Dimension members of Balance Sheet Planning module.

Launching Synchronizations

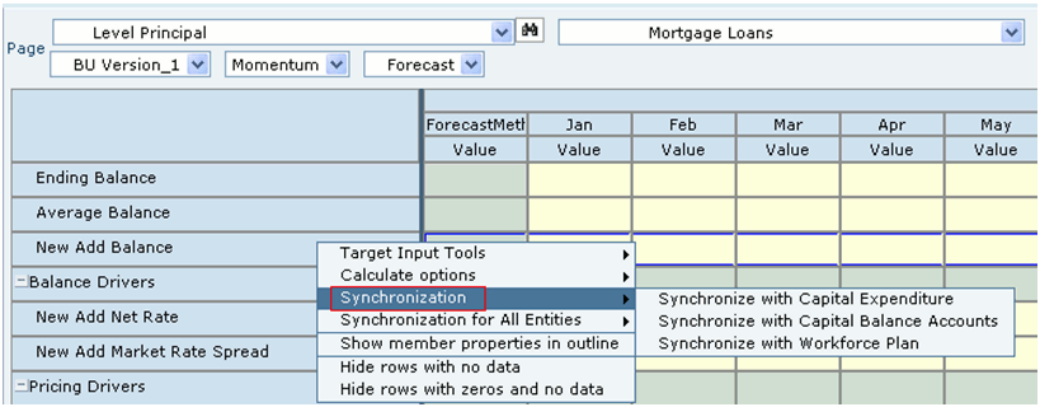
The synchronization routines can be launched by the Budget Administrator from the Financial Plan Default data form. To access the Financial Plan Default data form, go to the **BSP** Folder on the left pane and click **Financial Plan Default** form in the data form list.

To launch synchronization for a single entity dimension member, right click **Financial Plan Default** Form and click **Calculate Options,** then click **Synchronization.** Three functions will be available for selection:

- Synchronize with Capital Expenditure - Synchronize with Capital Expenditure copies data for the expense Account dimension members in the Capital Asset Planning module to Chart of Account dimension members in Balance Sheet Planning. The Synchronization of the Account dimension members with the Chart of Account dimension members of BSP is dependent on the mapping defined in the Synchronization for Expense Accounts Data form.

- Synchronize with Capital Balance Accounts - Synchronize with Capital Balance Accounts copies data for the balance sheet Account dimension members in the Capital Asset Planning module to Chart of Account dimension members in Balance Sheet Planning. The Synchronization of the Account dimension members with the Chart of Account dimension members of BSP is dependent on the mapping defined in the Synchronization for Balance Accounts Data form.

- Synchronize with Workforce Plan - Synchronize with Workforce Plan copies data for the expense Account dimension members in the Workforce Planning module to Chart of Account dimension members in Balance Sheet Planning. The Synchronization of the Account dimension members with the Chart of Account dimension members of BSP is dependent on the mapping defined in the Synchronization for Expense Accounts Data form.



To launch synchronization for for all entity dimension members, right click **Financial Plan Default** Form and click **Calculate Options,** then click **Synchronization for All Entities.** Three functions will be available for selection:

- Synchronize with Capital Exp (All Entities)
- Synchronize with Capital Balance Accounts (All Entities)
- Synchronize with Workforce Plan (All Entities)

Target Input Tools

Balance Sheet Planning provides a set of tools to assist users in creating initial forecast or budget projections or adjusting existing projection values. These tools enable you to generate projections for balance and pricing driver data types.

Business unit managers, budget administrators, sub-administrators and other individuals responsible for creating budget plans will find these tools useful to generate preliminary or revised results in an automated fashion.

Target Input Tool Methods

The Target Input Tools include nine different methods for generating target values in Balance Sheet Planning, including:

- Replace Target Value with Input Value
- Adjust by Amount
- Adjust by Percentage
- Grow by Amount
- Grow by Percentage

- Percent Growth over Prior Year
- Target an End Value
- Interpolate
- Annualize Year to Date Amt

For information on the following, refer Analyst Data Forms and Functions, page 21-1:

- Steps to Use the Tools
- Descriptions
- Displayed Run Time Prompts
- Examples

For the Balance Sheet Planning Budget Administrator's use, the rest of this section provides a brief description of the individual Target Input Tools, their associated business rules, and business rule run time prompt variables, including:

- Variable Names
- Variable Associated Dimensions
- Variable Type (Visible or Hidden)
- Variable Descriptions

Method: Replace Target Value with Input Value

Description

This method copies the value you input in **Enter Amount** field to specified future time periods.

Business Rule: BSP_Replace_Target_Input

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Input_Value	NA	Visible	Enter the value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Adjust By Amount

Description

Increase or decrease existing values by the value you input in **Enter Amount** field in the Run Time Prompts window. A positive value increases the existing values; a negative value decreases the existing values.

Business Rule: BSP_Adjust_by_Amt

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Input_Value	NA	Visible	Enter the value to be used.

Variable Name	Associated Dimension	Type	Description
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Adjust By Percentage

Description

Increase or decrease existing values by the percentage value you input in **Enter the Increment Value** field in the Run Time Prompts window. A positive value increases the existing values; a negative value decreases the existing values.

Business Rule: BSP_Adjust_by_Percent

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Prct_Inc	NA	Visible	Enter the percent value to be used.

Variable Name	Associated Dimension	Type	Description
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Grow By Amount

Description

Increments the value from the prior period by the value you enter in **Enter Amount** field. A positive value increases balances and a negative value decreases balances.

Business Rule: BSP_Grow_by_Amt

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Input_Value	NA	Visible	Enter the value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.

Variable Name	Associated Dimension	Type	Description
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Grow By Percentage

Description

Increments the value from the prior period on a percentage basis by the value you input in **Increment Value (%)** field.

Business Rule: BSP_Grow_by_Percent

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Prct_Inc	NA	Visible	Enter the percent value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension

Variable Name	Associated Dimension	Type	Description
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Percent Growth over Prior Year

Description

Increments the value from the prior period on a percentage basis by the value you input in **Increment Value (%)** field.

Business Rule: BSP_Grow_by_Percent

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Prct_Inc	NA	Visible	Enter the percent value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension

Variable Name	Associated Dimension	Type	Description
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Target an End Value

Description

Generates interim values between the start month and end month specified in the Run Time Prompts, with the goal of achieving a target value by the end month. The values increase incrementally between the start and end month.

Business Rule: BSP_Target_End_Value

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Target_Value	NA	Visible	Enter the target value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension

Variable Name	Associated Dimension	Type	Description
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Interpolate

Description

Generates interim values between the Start Period entered value and the End Period entered value using straight line interpolation.

Business Rule: BSP_Interpolate

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Start_Value	NA	Visible	Enter the start value to be used.
BSP_Target_Value	NA	Visible	Enter the target value to be used.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Start	Period	Visible	Select the Start Period from the Period dimension

Variable Name	Associated Dimension	Type	Description
BSP_Period_End	Period	Visible	Select the End Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

Method: Annualize Year to Date Amount

Description

Annualizes year-to-date values for future time periods remaining in the current year.

Business Rule: BSP_Annualize_YTD

Run Time Prompt Variables:

The Run Time Prompt Variables are detailed in the following table.

> **Note:** Many of the run time prompts are hidden in the run time prompts screen, and are automatically populated with page values from the Financial Plan Default data form.

Variable Name	Associated Dimension	Type	Description
BSP_Account_TE	Account	Visible	Select the Account dimension member.
BSP_Year_S	Year	Visible	Select a single Year dimension member.
BSP_Period_Annualize	Period	Visible	Select the Start Period from the Period dimension
BSP_COA_S	Chart of Account	Hidden	Select a single Chart of Account dimension member. Defaults to dimension member displayed on the data form.

Variable Name	Associated Dimension	Type	Description
BSP_Entity_S	Entity	Hidden	Select a single Entity dimension member. Defaults to dimension member displayed on the data form.
BSP_Strategy_S	Strategy	Hidden	Select a single Strategy dimension member. Defaults to dimension member displayed on the data form.
BSP_Currency_S	Currency	Hidden	Select a single Currency dimension member. Defaults to dimension member displayed on the data form.
BSP_Scenario_S	Scenario	Hidden	Select a single Scenario dimension member. Defaults to dimension member displayed on the data form.
BSP_Version_S	Version	Hidden	Select a single Version dimension member. Defaults to dimension member displayed on the data form.

21

Analyst Data Forms and Functions

Overview of Analyst Data Forms and Functions

Balance Sheet Planning provides several predefined data forms intended for use by analysts who will be working with the application. These data forms include the following:

- Financial Plan Data Form
- Loan Fee Data Form
- Loan Fee Annual Data Form
- Deposit Service Charges Data Form
- Deposit Service Charge Annual Data Form
- Calculate Delinquency Expenses Data Form

This chapter provides information on these data forms and their associated usage, including details on available menu items and available functions in each data form.

The Financial Plan data form is discussed in the following Financial Plan Form section. The loan fee, deposit service charges and calculate delinquency expenses data forms are discussed in the Automated Fee and Expense Calculations section later in this chapter.

Financial Plan Form

Overview

The Financial Plan data form is the main data form used by Balance Sheet Planning analysts in working with the application. This data form can be copied and adjustments made to its configuration by the Budget Administrator to suit the needs of the

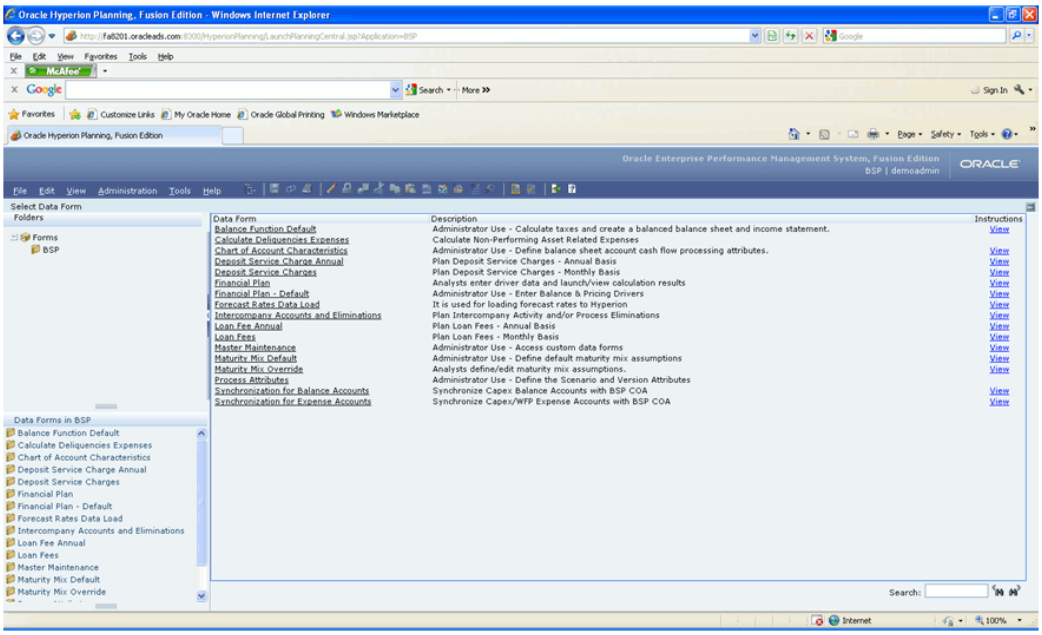
organization.

The data form is used to perform the following actions relative to creation of a plan or forecast:

- Enter or generate balance driver projections throughout the forecast or plan time horizon.
- Enter or generate pricing driver projections throughout the forecast or plan time horizon
- Access a separate form to enter product maturity mix assumptions, or view and/or edit default maturity mix assumptions created by the Budget Administrator.
- View information associated with a plan or forecast scenario or version, such as the interest rate scenario or currency rate scenario upon which the plan or forecast is based.
- Launch cash flow engine calculations and partial aggregations of cash flow data.
- Synchronize Balance Sheet Planning with data developed in Hyperion Workforce Planning and/or Hyperion Capital Asset Planning modules.

Working With the Financial Plan Data Form

To access the **Financial Plan data** form, click the **BSP** folder on the left side of the screen and select the data form.



With the data form open, select the Chart of Account, Entity, Currency, Version, Strategy and Scenario dimension members you want to work with and click the **Go** button.

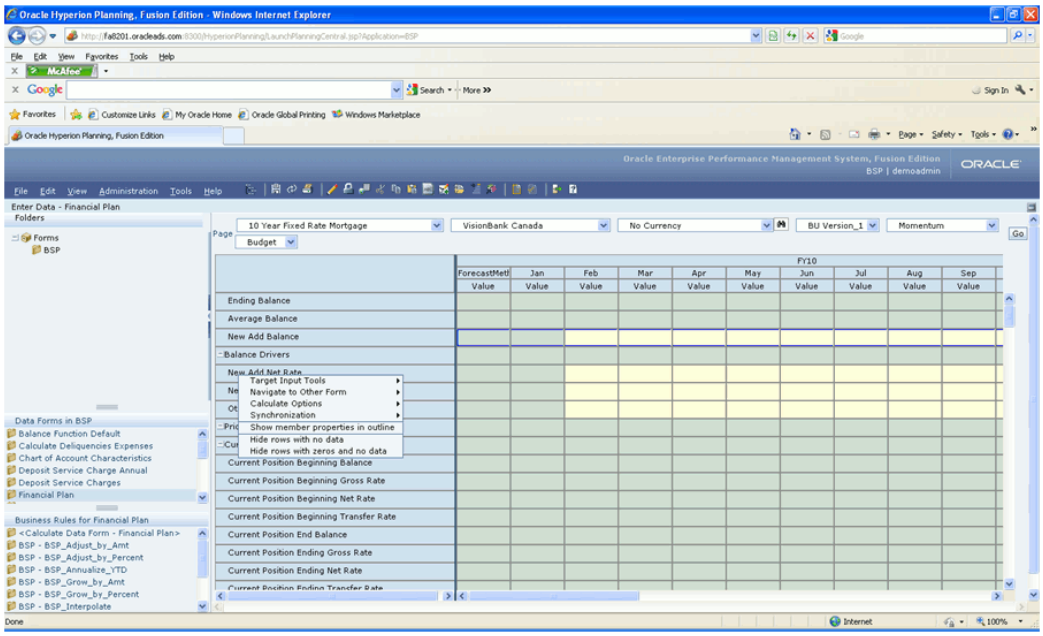
The screen will refresh and any existing data for that combination of dimension members will be displayed on the data form.

The following menu items and functions are accessed from the Financial Plan data form:

- Target Input Tools
    - Replace Target Value with Input Value
    - Adjust by Amount
    - Adjust by Percentage
    - Grow by Amount
    - Grow by Percentage
    - Percent Growth over Prior Year
    - Target an End Value
    - Interpolate
    - Annualize Year to Date Amt

- Navigate to Other Form
  - Maturity Mix
  - Balance Function
- Calculate Options
  - Extract Maturity Mix Data
  - Calculate
  - Calculate with Partial Solve
- Synchronization
  - Synchronize with CAPEX Expense Accounts
  - Synchronize with CAPEX Balance Accounts
  - Synchronize with Workforce

The top level menu items are accessed from the Financial Plan data form by placing your curser over a row label on the form and right clicking with your mouse:



When you highlight a top level menu item with your curser, lower level menu items are displayed and available for selection.

Each of these menu items and functions are described in the next section of this chapter.

Target Input Tools

Budgeting and Planning provides a set of tools to assist users in creating initial forecast or budget projections or adjusting existing projection values. These tools enable you to generate projections for balance and pricing driver data types.

Budget administrators and analysts using the system will find these tools useful to generate preliminary or revised results in an automated fashion, prior to generating cash flow data based on the projected values.

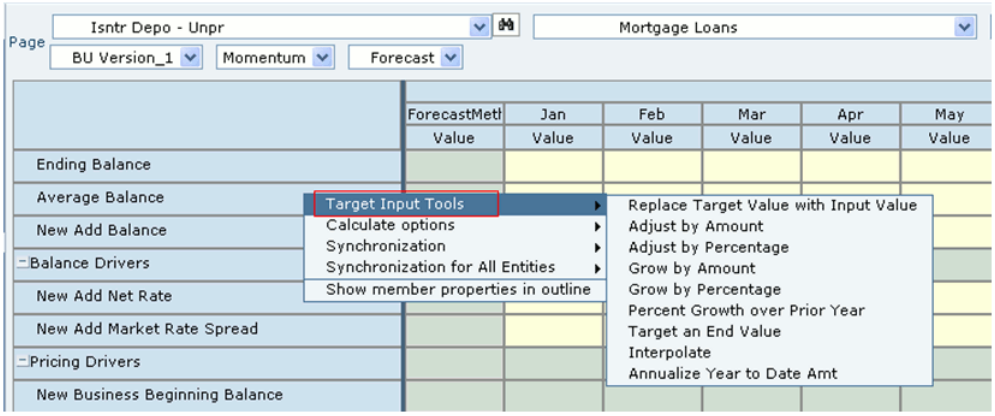
This section explains how to use the Target Input Tools and provides descriptions, run time prompts and examples for each method.

Using Target Input Tools

Steps

1. In the Financial Plan Form, place your mouse over the name of the financial element for which you want to generate target values.

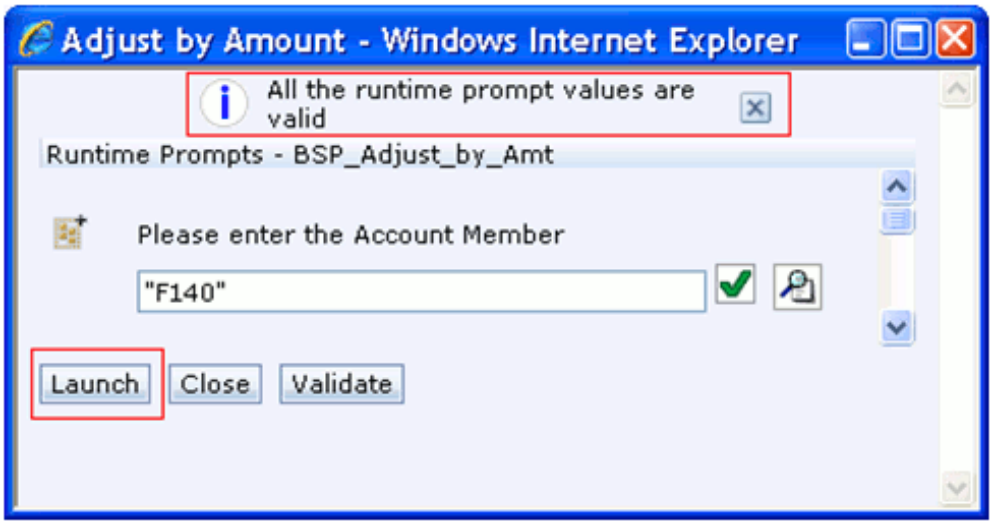
2. Hover over the **Target Input Tools** menu item with your mouse and the list of available tools will be displayed.



3. Select the method to be used. A Run Time Prompt window will appear. Select dimensions members using the **Selector** icon next to each dimension selection.

   Note: If known, the values can be directly entered in the screen.

4. Click the **Validate** button to validate the entries. If valid, a message appears stating "All the runtime prompt values are valid".



5. Click the **Launch** button to generate the target values. After the rule is run, you will be returned to the Financial Plan data form and a message will appear stating that the rule was successful.

6. Review the generated values in the Financial Plan data form. The target input tool method used will be reflected in the Forecast Method Value column on the data form.

7. Repeat the process for any subsequent years in the budget or forecast horizon, and/or for other dimension member combinations.

8. Run the cash flow engine to generate projected cash flow data based on the input data. (For details on running cash flow calculations, see the Calculate Options, page 21-29 section.)

Target Input Tool Methods

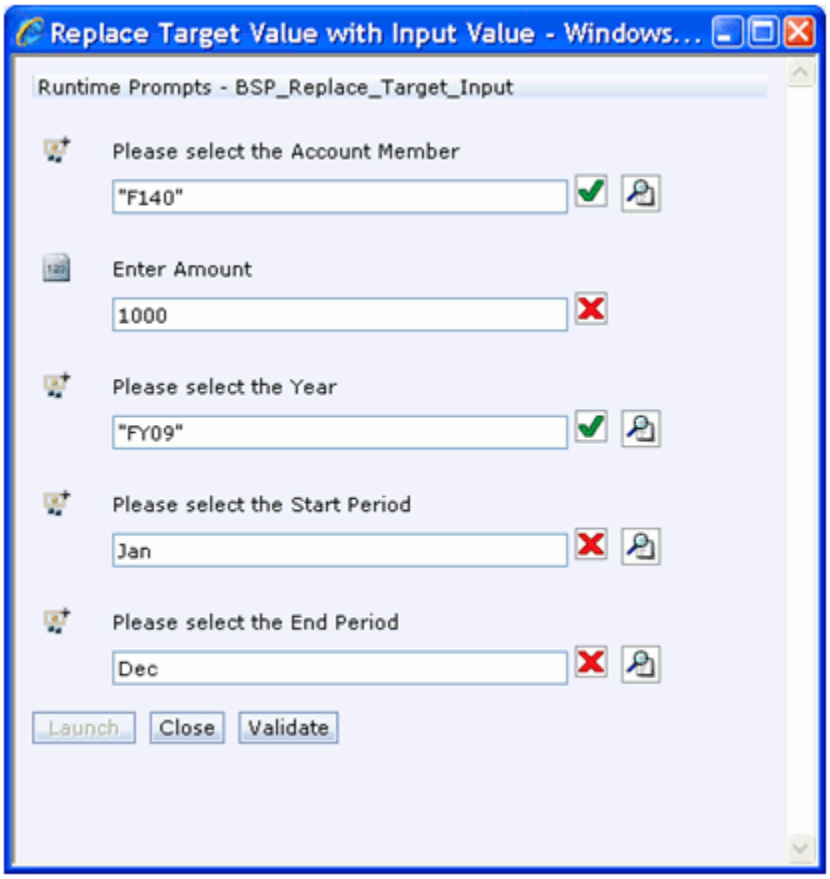
Method: Replace Target Value with Input Value

Description

This method copies the value you input in the Enter Amount field to specified future time periods.

Run Time Prompts

The following screen displays the run time prompts for the Replace Target Value with Input Value method:



Example

The following chart shows the results for running the business rule having entered Average Balance (F140) as the Account Member, 1000 in the Enter Amount field, January as the start period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Old Values	100	110	120	125	120	125	130	125	150	140	135	150
New Values	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

After the method has been run, the values are updated on the data form and a message stating "BSP_Replace_Target_Input was successful" is displayed.

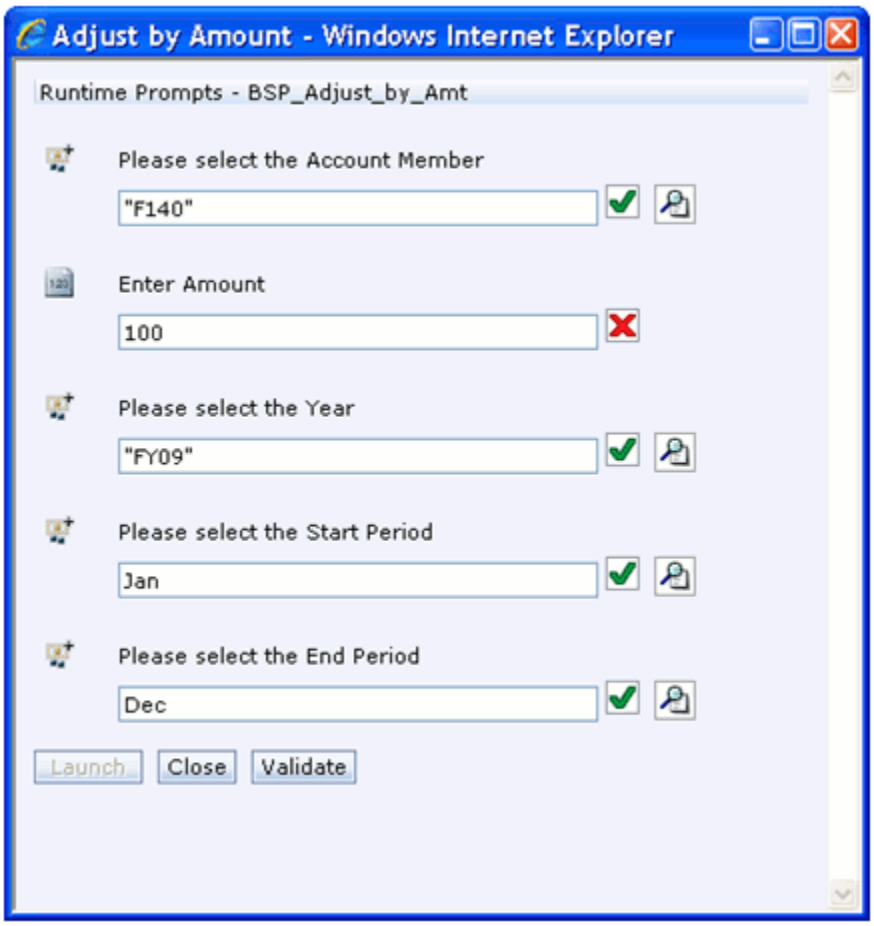
Method: Adjust By Amount

Description

Increase or decrease existing values by the value you input in the Enter Amount field on the Run Time Prompts window. A positive value increases the existing values; a negative value decreases the existing values.

Run Time Prompts

The following screen displays the run time prompts for the Adjust by Amount method:



Example

The following chart shows the results for running the business rule having entered Average Balance ("F140") in the Account Member field, 100 in the Enter Amount field, January as the Start Period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New Values	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100

After the method has been run, the values are updated on the data form and a message stating that "BSP_Adjust_by_Amt was successful" is displayed.

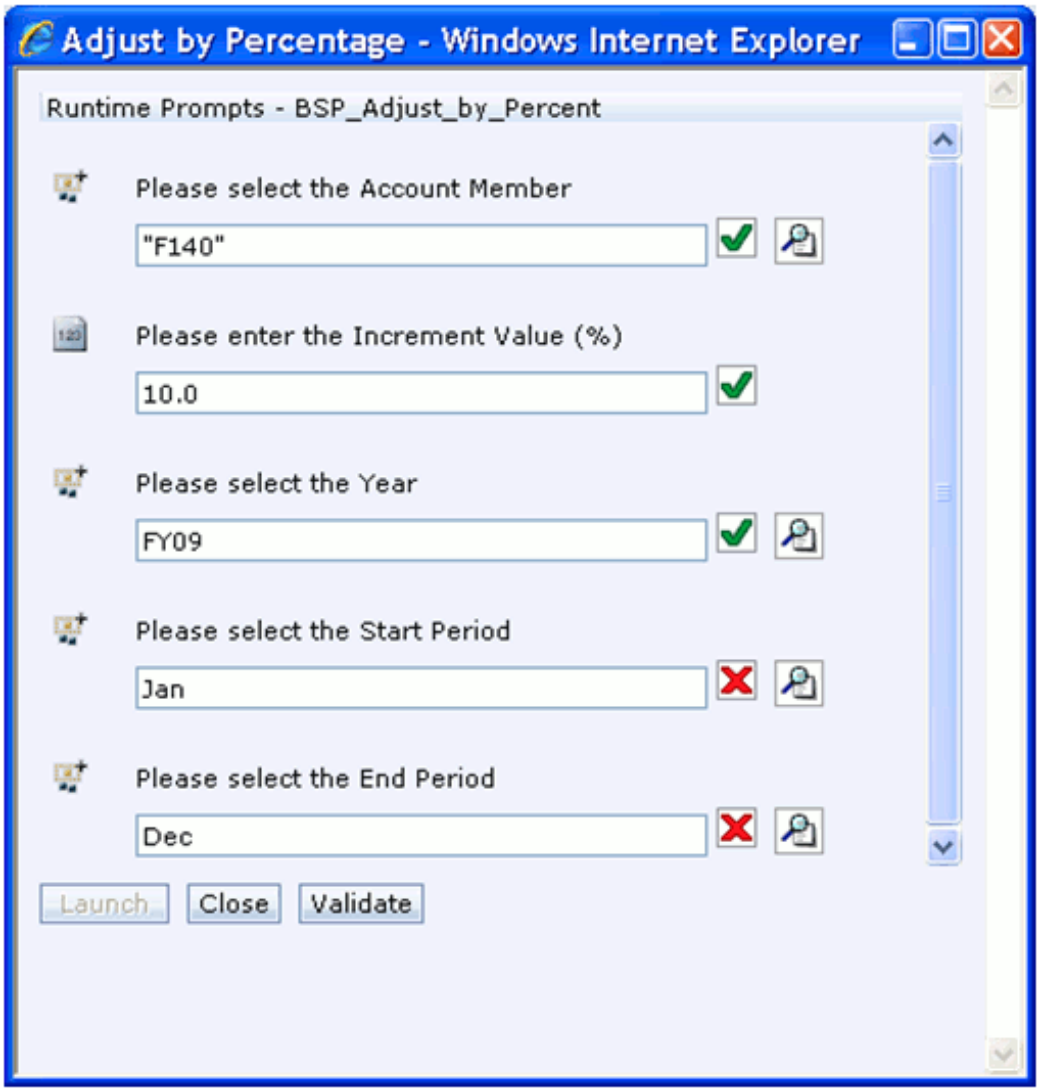
Method: Adjust By Percentage

Description

Increase or decrease existing values by the percentage value you input in the Enter the Increment Value field on the Run Time Prompts window. A positive value increases the existing values; a negative value decreases the existing values.

Run Time Prompts

The following screen displays the run time prompts for the Adjust by Percentage method:



Example

The following chart shows the results for running the business rule having entered Average Balance ("F140) in the Account Member field, 10.0 in the Increment Value field, January as the start period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
New Values	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100	1100

After the method has been run, the values are updated on the data form and a message stating that "BSP_Adjust_by_Percent was successful" is displayed.

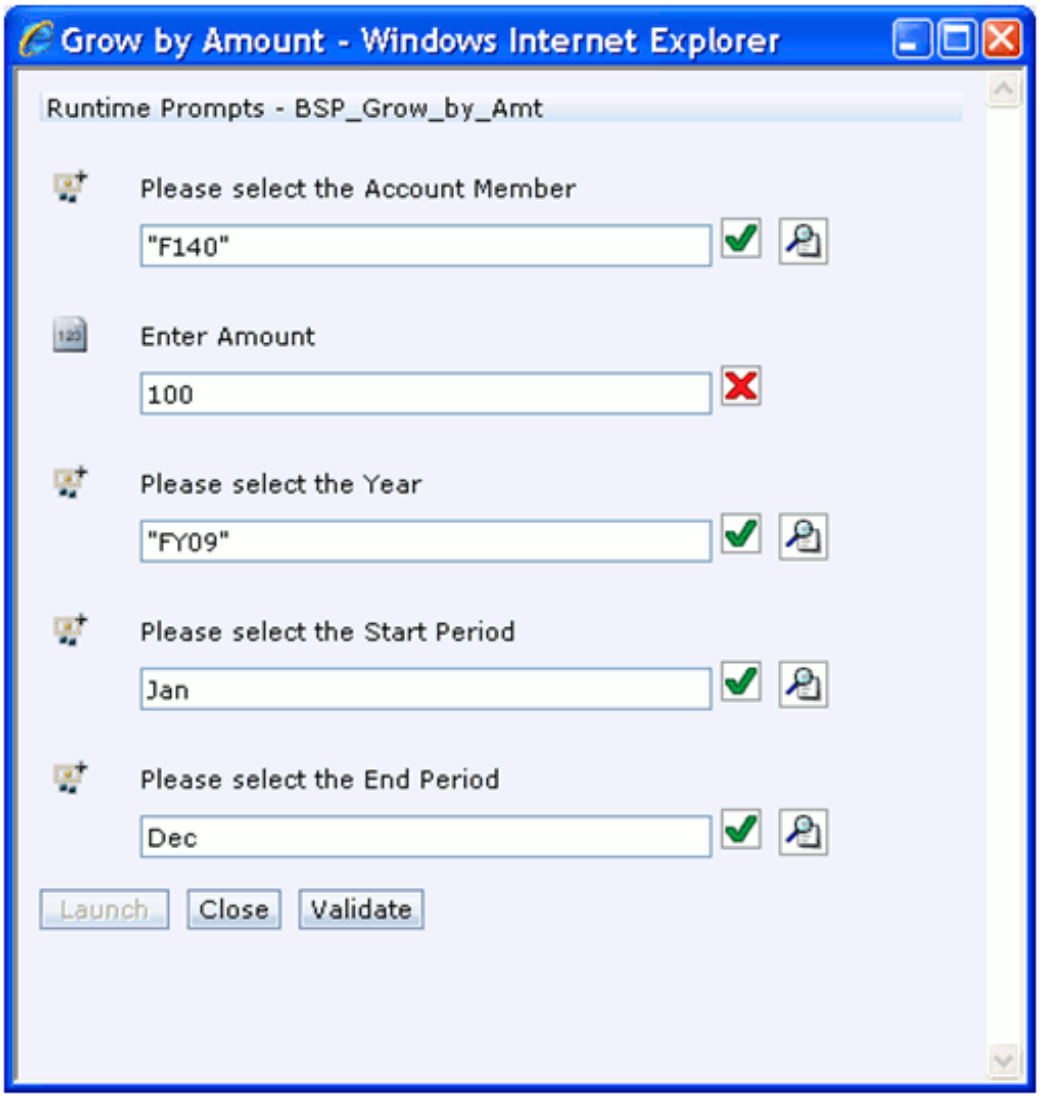
Method: Grow By Amount

Description

Increments the value from the prior period by the value you enter in the Enter Amount field. A positive value increases balances and a negative value decreases balances.

Run Time Prompts

The following screen displays the run time prompts for the Grow by Amount method:



Example

Note: This example assumes that the value for Average Balance ("F140") is 1000 for Year: FY08 and Period: Dec.

Note: Historical actual data is normally loaded into the **Actual** dimension member of the Scenario dimension. The historical values must be copied into the Scenario dimension member in which you are working in order for this function to work properly.

The following chart shows the results for running the business rule having entered Average Balance ("F140") in the Account Member field, 100 in the Enter Amount field, January as the Start Period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New Values	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200

After the method has been run, the values are updated on the data form and a message stating that "BSP_Grow_by_Amt was successful" is displayed.

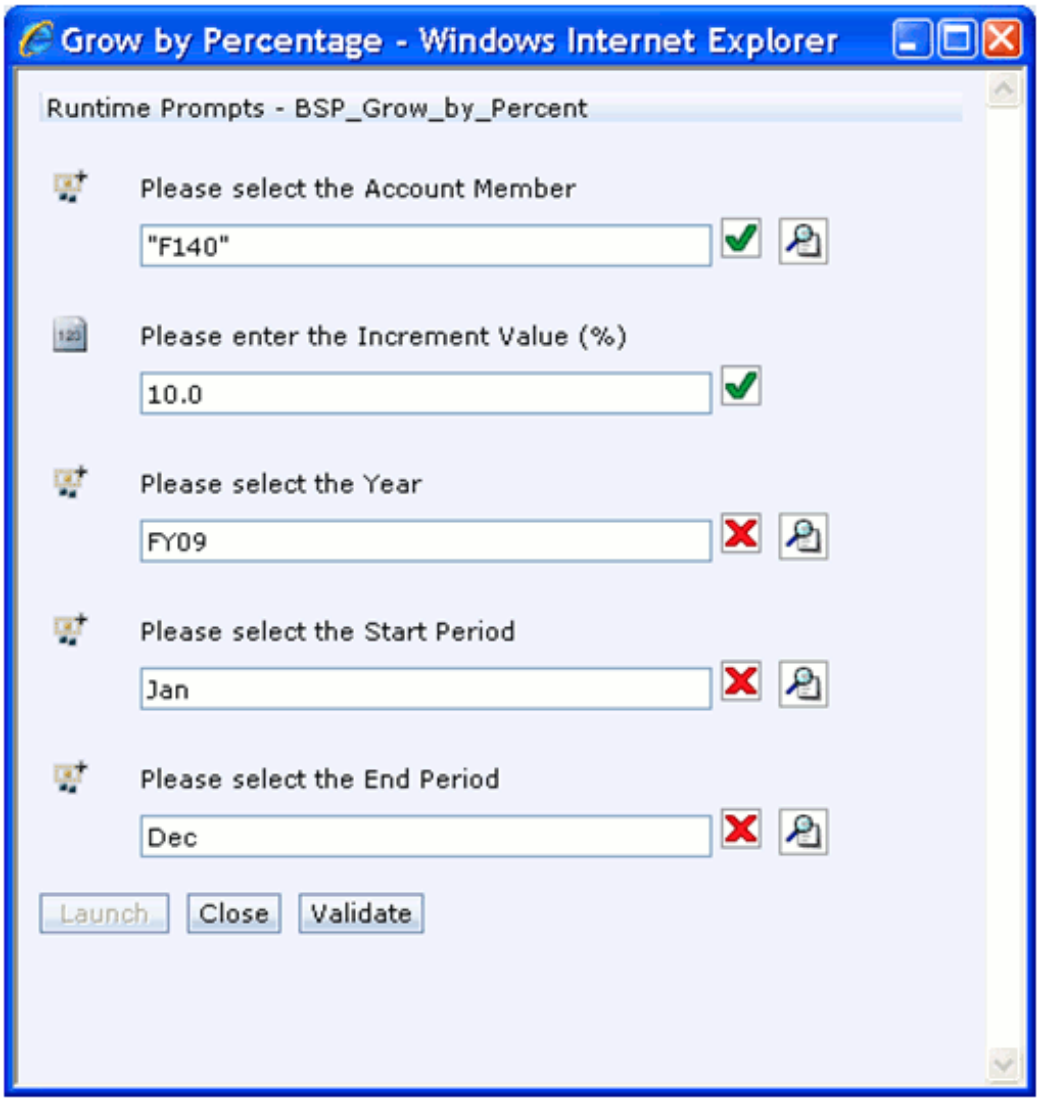
Method: Grow By Percentage

Description

Increments the value from the prior period on a percentage basis by the value you input in the Increment Value (%) field.

Run Time Prompts

The following screen displays the run time prompts for the Grow by Percentage method:



Example

Note: This example assumes that the value for Average Balance ("F140") is 1000 for Year: FY08 and Period: Dec.

Note: Historical actual data is normally loaded into the **Actual** dimension member of the Scenario dimension. The historical values must be copied into the Scenario dimension member in which you are working in order for this function to work properly.

The following chart shows the results for running the business rule having entered 10.0 in the Increment Value field, January as the start period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
New Values	1100	1210	1331	1464.1	1610.5	1771.5	1948.7	2143.5	2357.9	2593.7	2853.1	3138.4

After the method has been run, the values are updated on the data form and a message stating that "BSP_Grow_by_Percent was successful" is displayed.

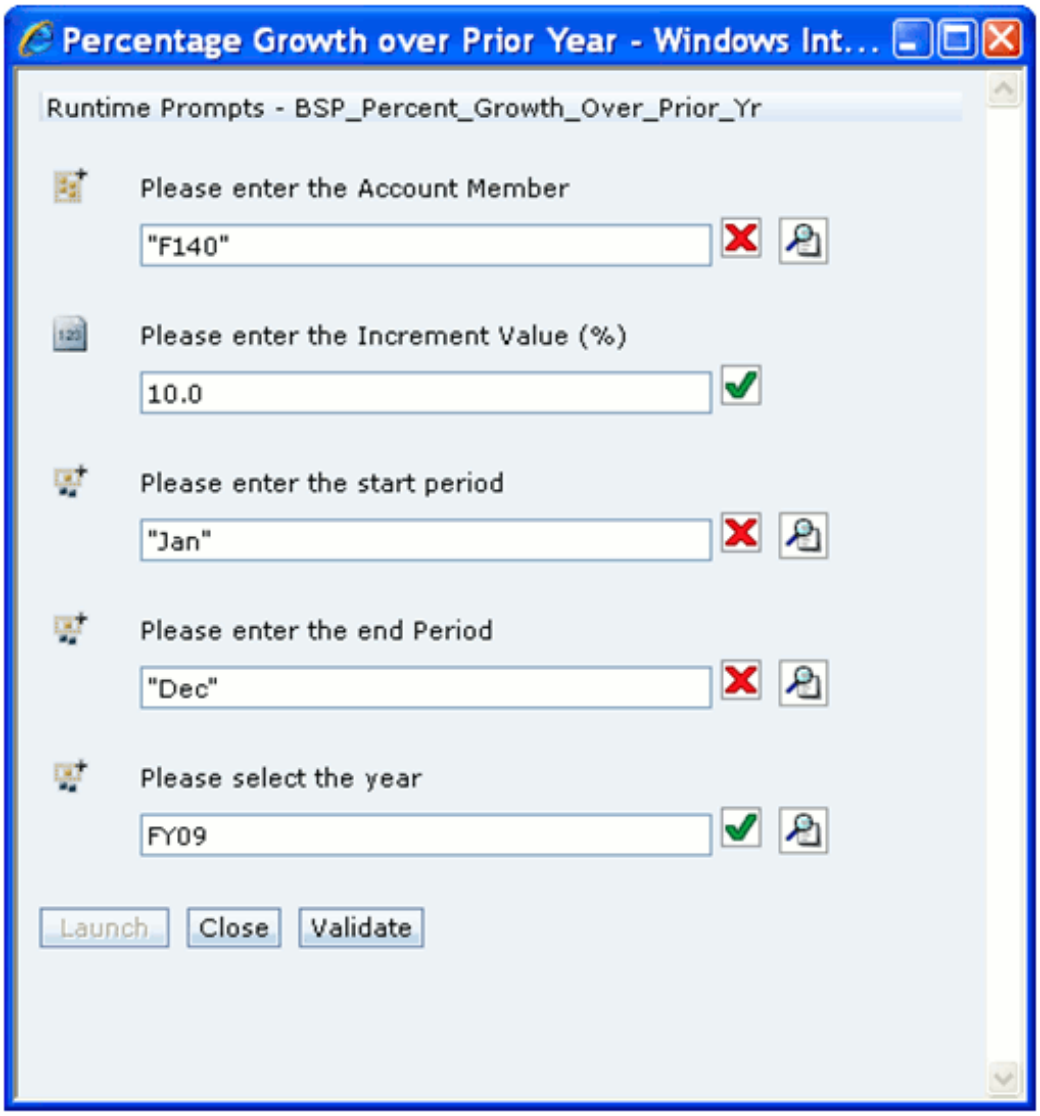
Method: Percent Growth over Prior Year

Description

Calculates target values by multiplying the value in the same month of the prior year by one plus the value you enter in the Increment Value (%) field. Use this method to incorporate seasonal fluctuations into your budget planning.

Run Time Prompts

The following screen displays the run time prompts for the Percentage Growth over Prior Year method:



Example

Note: Historical actual data is normally loaded into the **Actual** dimension member of the Scenario dimension. The historical values must be copied into the Scenario dimension member in which you are working in order for this function to work properly.

The following chart shows the results for running the business rule having entered Average Balance (F140) in the Account Member field, 10.0 as the Increment Value (%), January as the Start Period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Previous Year Values	1000	1200	1400	1600	1800	2000	2200	2400	2600	2800	3000	3200
New Values	1100	1320	1540	1760	1980	2200	2420	2640	2860	3080	3300	3520

After the method has been run, the values are updated on the data form and a message stating that "BSP_PrctGrowth was successful" is displayed.

Method: Target an End Value

Description

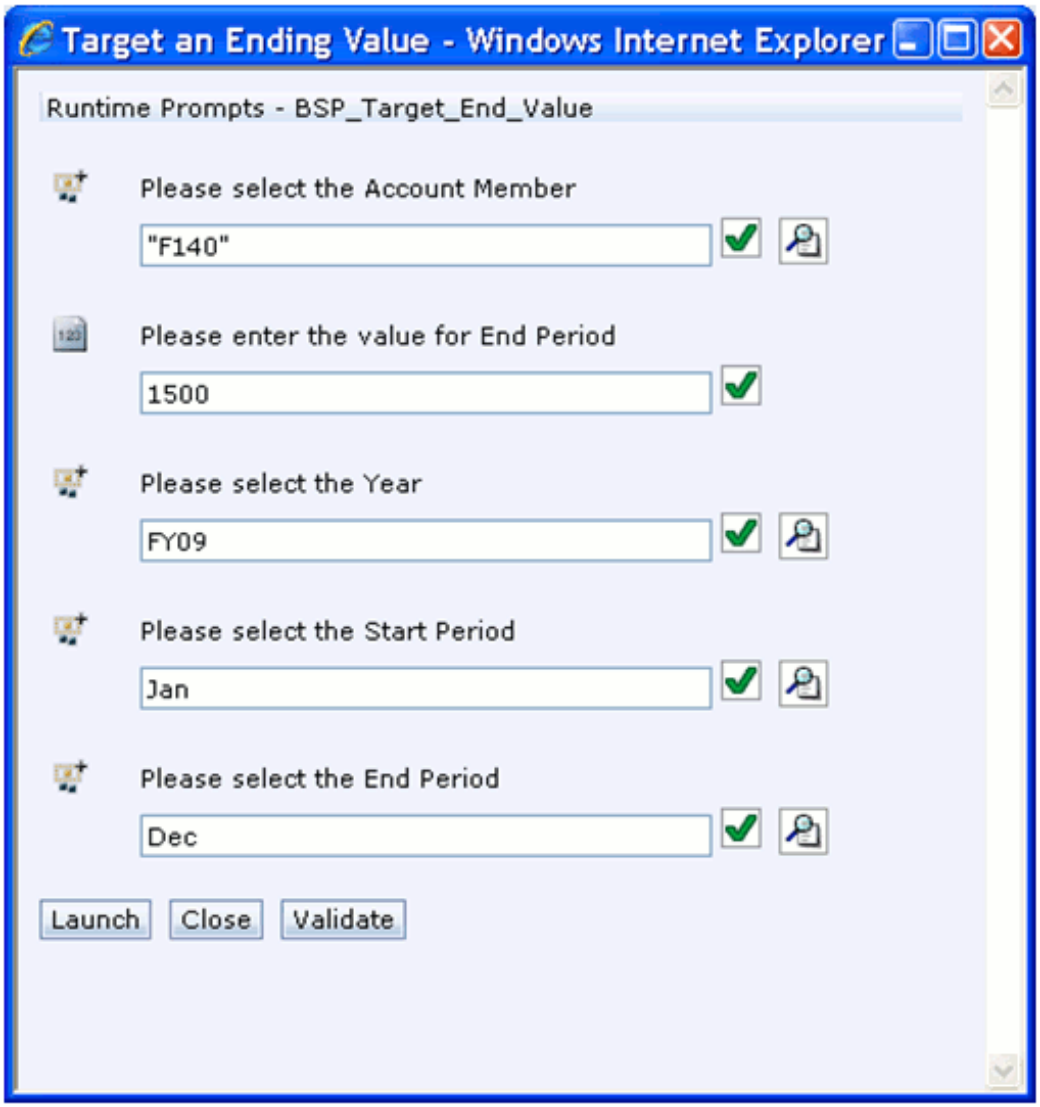
Generates interim values between the start month and end month specified in the Run Time Prompts, with the goal of achieving a target value by the end month. Enter the target value in the Run Time Prompt labeled: "Please enter the value for End Period".

The values increase incrementally between the start and end month.

> **Note:** Calculations begin using the value from the month prior to the Start Month specified in the Run Time Prompts.

Run Time Prompts

The following screen displays the run time prompts for the Target an End Value method:



Example

Note: This example assumes that the value for Average Balance is 1000 for Year: FY08 and Period: Dec.

Note: Historical actual data is normally loaded into the **Actual** dimension member of the Scenario dimension. The historical values must be copied into the Scenario dimension member in which you are working in order for this function to work properly.

The following chart shows the results for running the business rule having entered Average Balance ("F140") in the Account Member field, 1500 in the Enter Amount field, January as the Start Period and December as the End Period in the run time prompts

screen:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
New Values	1041.7	1083.3	1125	1166.7	1208.3	1250	1291.7	1333.3	1375	1416.7	1458.3	1500

After the method has been run, the values are updated on the data form and a message stating that "BSP_Target_End_Value was successful" is displayed.

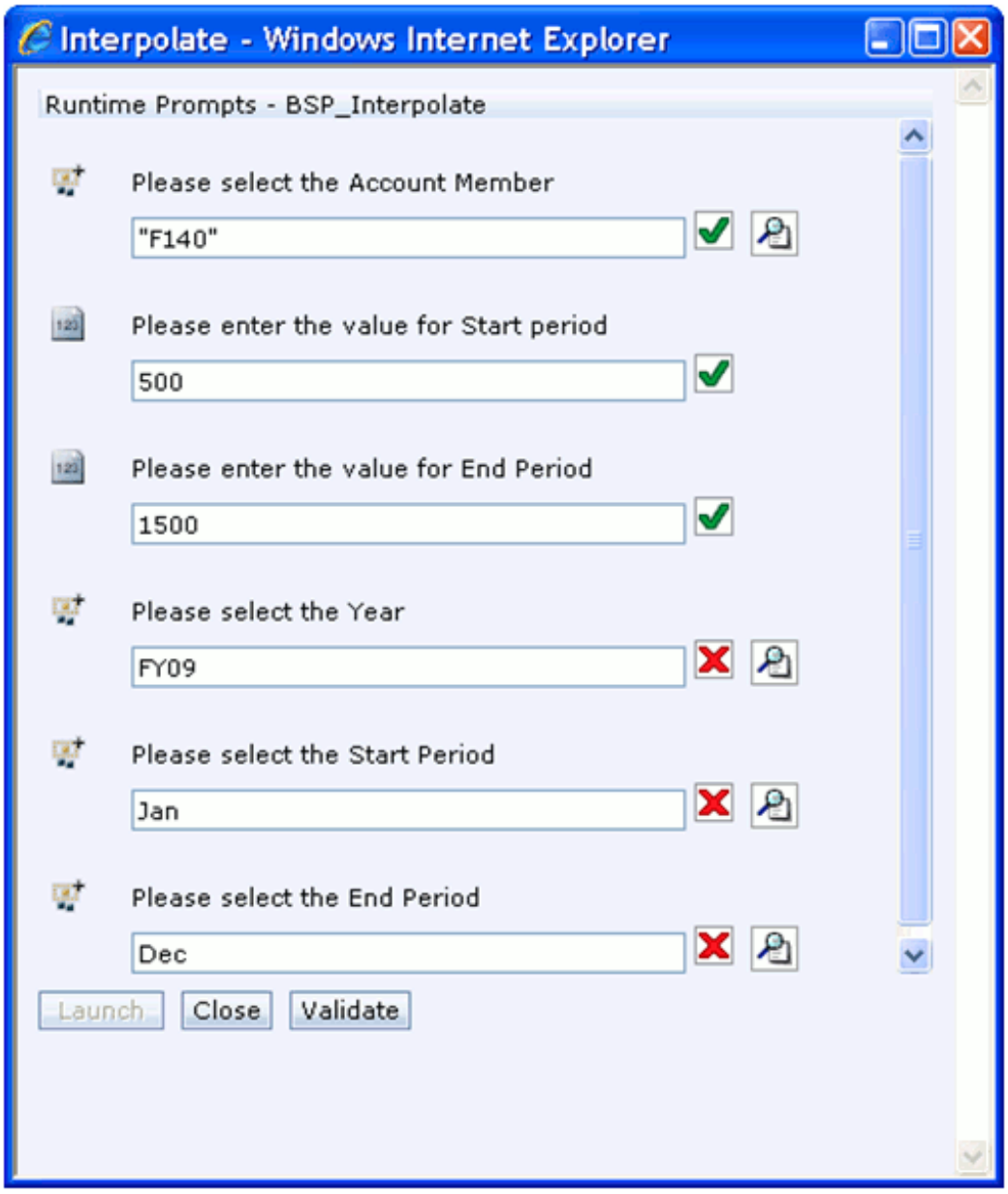
Method: Interpolate

Description

Generates interim values between the Start Period entered value and the End Period entered value using straight line interpolation.

Run Time Prompts

The following screen displays the run time prompts for the Interpolate method:



Example

The following chart shows the results for running the business rule having entered Average Balance ("F140") in the Account Member field, 500 in the Start Period value field, 1500 in the End Period value field, January as the Start Period and December as the End Period in the run time prompts screen:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200
New Values	500	590.9	681.8	772.7	863.6	954.5	1045.5	1136.4	1227.3	1318.2	1409.1	1500

After the method has been run, the values are updated on the data form and a message stating that "BSP_Interpolate was successful" is displayed.

Method: Annualize Year to Date Amt

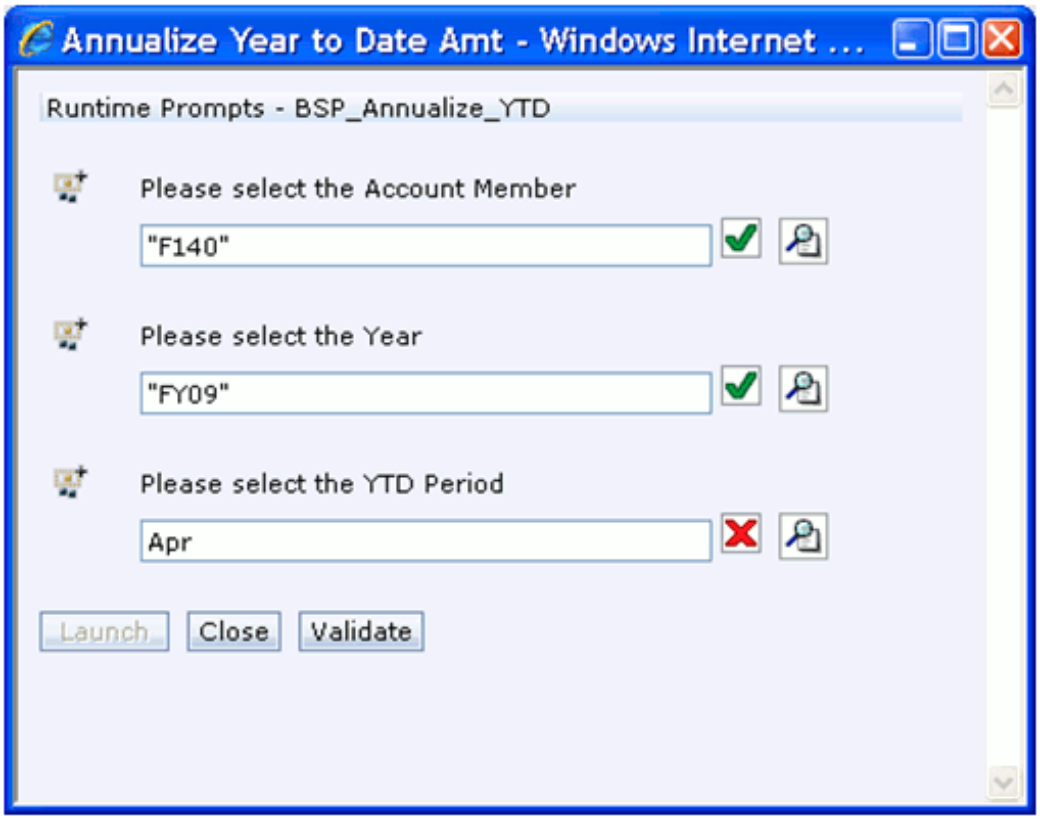
Description

Annualizes year-to-date values for future time periods remaining in the current year, as designated by the YTD Period specified in the run time prompt screen.

> **Note:** Historical actual data is normally loaded into the **Actual** dimension member of the Scenario dimension. The historical values must be copied into the Scenario dimension member in which you are working in order for this function to work properly.

Run Time Prompts

The following screen displays the run time prompts for the Annualize Year to Date Amt method:



The calculations performed by the Annualize Year-to-date Values function vary depending on the type of financial element being projected:

- If you are using the tool to generate projected Ending Balances ("F100"), the values for the remaining future periods of the current year are set equal to the last historical period balance.

- If you are using the tool to generate projected average balances ("F140"), the values for the remaining future periods of the current year are set equal to the day-weighted average balance of the historical year-to-date values.

- If you are using the tool to generate project new add balances ("F340"), new add net rates ("F360") or new add market rate spreads ("F376"), an average daily balance is first computed based on the values reflected in the historical time periods. A value for the remainder of the year is calculated by multiplying the computed average daily balance by the number of days remaining in the year. Then the values for the remaining periods in the year are computed by dividing the value for the remainder of the year by the number of periods remaining in the year.

Example

The following chart shows the results for running the business rule having entered Average Balance (F140) as the Account Member and April as the YTD Period in the run time prompts screen:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1100	1200	1300	1400								
New Values	1100	1200	1300	1400	1250	1250	1250	1250	1250	1250	1250	1250

Example

The following chart shows the results for running the business rule having entered Ending Balance (F100) as the Account Member and April as the YTD Period in the run time prompts screen:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1100	1200	1300	1400								
New Values	1100	1200	1300	1400	1400	1400	1400	1400	1400	1400	1400	1400

Example

The following chart shows the results for running the business rule having entered New Add Balance (F340) and April as the YTD Period in the run time prompts screen:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Old Values	1100	1200	1300	1400								
New Values	1100	1200	1300	1400	1276.04	1276.04	1276.04	1276.04	1276.04	1276.04	1276.04	1276.04

After the method has been run, the values are updated on the data form and a message stating that "BSP_Annualize_YTD was successful" is displayed.

Navigate to Other Form

This menu item provides access to two other data forms available for use by analysts:

- Maturity Mix
- Balance Function

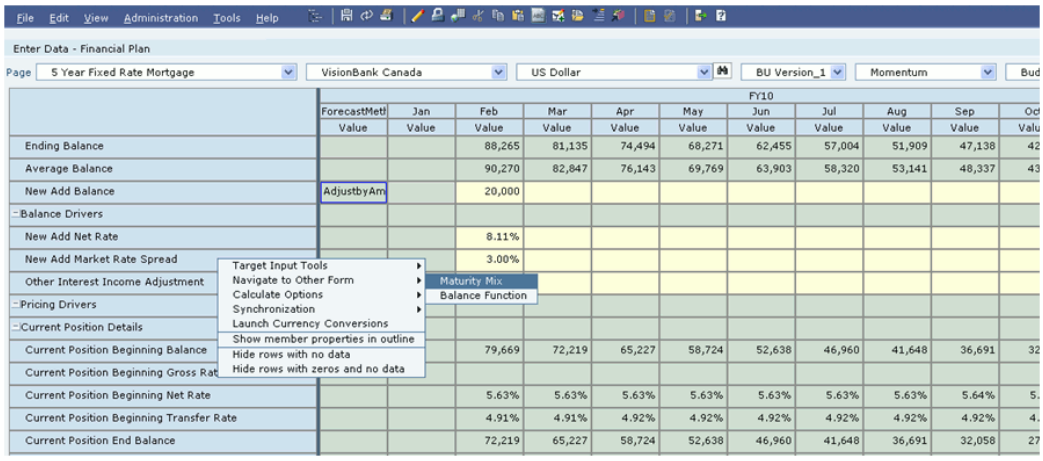
The Maturity Mix data form, and additional menu items accessed from that data form, is discussed in detail in this section. The Balance Function data form is briefly discussed at the end of this section. For more information, see Balance Function.

Maturity Mix

Overview

Maturity Mix Assumptions define payment, pricing and repricing activities and other relevant parameters for generation of new business cash flows in Balance Sheet Planning. Default maturity mix assumptions can be defined by the Budget Administrator. The Budget Administrator can optionally allow analysts to view and or modify default assumptions as desired. Alternatively, the Budget Administrator may decide not to define default assumptions, and instead require that analysts define their own assumptions specific to their business.

This section covers analyst usage of the Maturity Mix data form, accessed from the Financial Plan data form. The Maturity Mix data form is accessed from the Financial Plan data form by right-clicking on a row in the Financial Plan form, selecting Navigate to Other Form and then selecting Maturity Mix.



In the Maturity Mix data form, three rows are generally displayed for each maturity mix assumption including a node level row, an underlying default row and an underlying override row. The node level rows are displayed underneath the underlying 'children' rows.

If the Budget Administrator has defined default maturity mix assumptions, those assumptions will be displayed in the Maturity Mix form in rows with descriptions

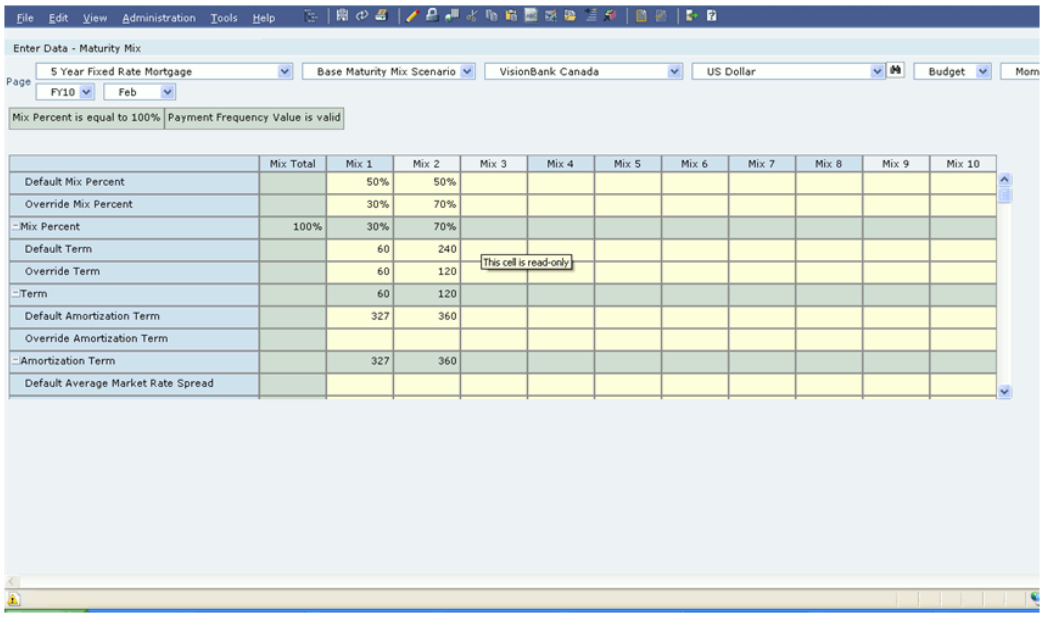
beginning with **Default**. If Analysts desire to make changes to the default assumptions, or enter assumptions where no defaults have been defined, they enter those values in the rows with descriptions beginning with **Override**.

Most dimension members for the point of view dimensions are automatically populated with the same dimension members selected in the Financial Plan form when the Maturity Mix form is opened, including selections for:

- Chart of Account
- Entity
- Currency
- Version
- Strategy
- Scenario

Typically the first Year dimension member and first Period dimension member displayed on the Financial Plan data form are automatically displayed as well.

If the first year defined for the Scenario includes historical time periods, the Maturity Mix data form may default to a historical time period when it is opened. Data for historical time periods cannot be entered in the form, and the columns are presented on a read only basis. To enter data in the form, change the period dimension member in the **Period dimension** list and click the **Go** , and the form is refreshed. To enter values for other combinations of dimension members, select the desired dimension members from the dimension lists and click the **Go** button. The screen will then be refreshed.

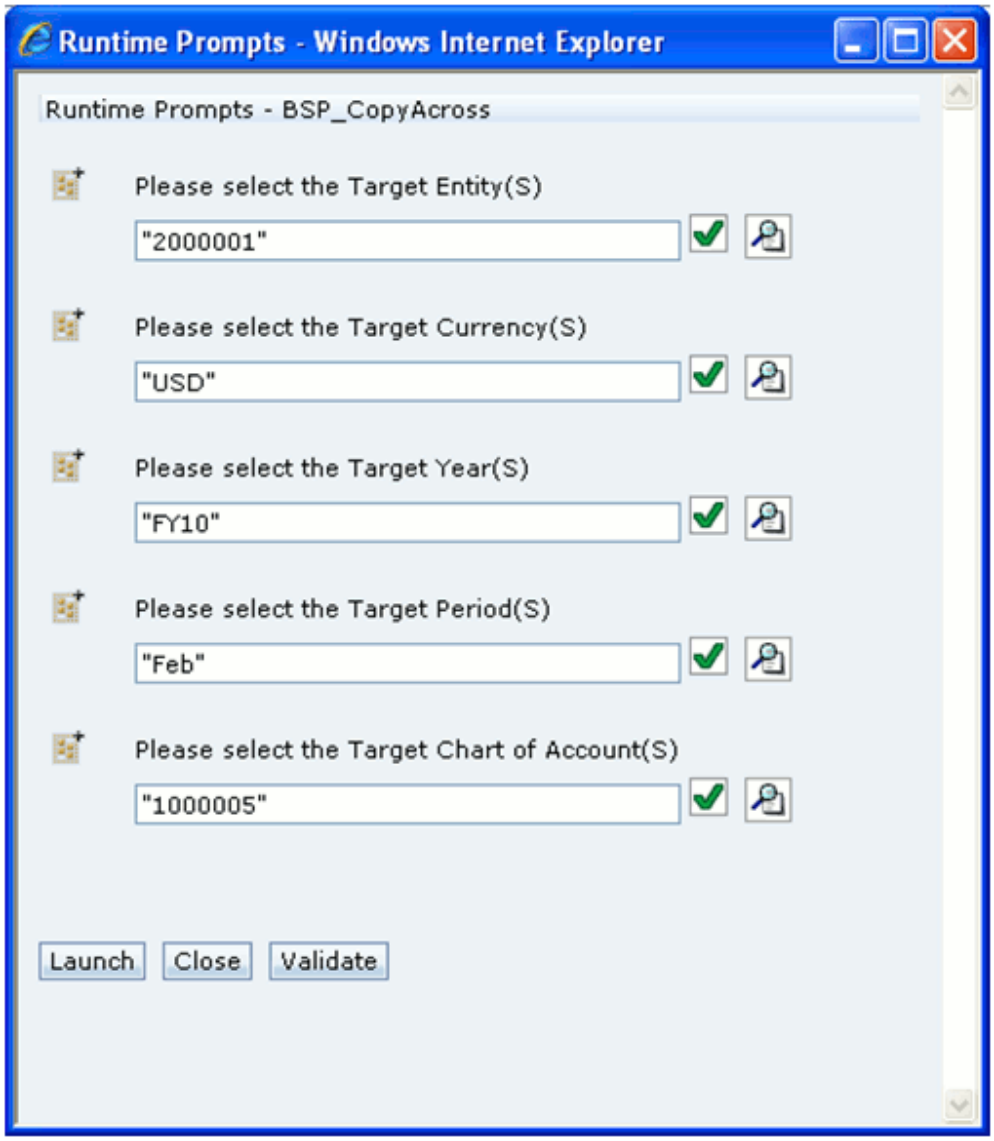


Once the data form is opened and the dimension member selections are made, you can enter maturity mix assumptions into the **Override** rows on the data form. After entering values for the Override rows, click the **Planning Save** icon to save the assumptions. At that point, the node level rows are populated with the final maturity mix assumptions that will be sent to the cash flow engine for processing.

In the preceding screenshot, note that the Year and Period dimension selections are FY10 and February. The assumptions defined on this page will be applied to new add balances for the month of February, 2010 when the cash flow engine is processed. Mix Percent and Term specify what percentages of the new add volume for the period have what Terms to Maturity. Looking at the node level rows labeled **Mix Percent** and **Term**, the preceding assumptions specify that 30% of the new add volume for February, 2010 will have a term to maturity of 60 months, and 70% of the new add volume for February will have a term to maturity of 120 months.

Several menu items are accessible from the Maturity Mix data form. To access the menu items, right click on the data form with your curser over one of the row labels, and the following menu items specific to Balance Sheet Planning are displayed:

- Copy Across – This function will assist you in completing the maturity mix assumptions definitions across all future time periods. When you click Copy Across, a run time prompt screen opens for entry of parameters associated with the business rule used to copy data:



You can copy maturity mix assumptions defined on the page to other years, periods, currencies, entities and chart of account dimension members by selecting the target dimension members in the respective selectors. Once you have made the selections of members to be copied to, click **Launch** to copy the data.

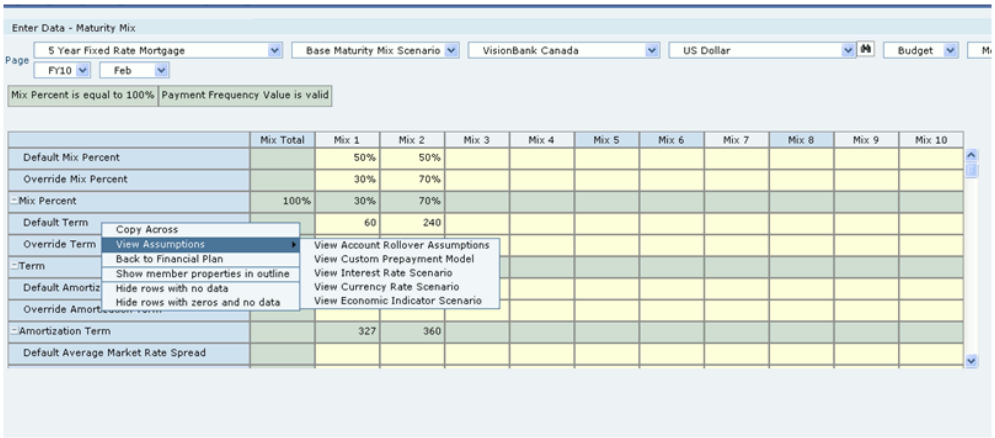
> **Important:** After you have entered maturity mix assumptions for a period in the data form, be sure to click the **Save** icon to save the assumptions before attempting to copy them to other dimension members. This is a required step, and failure to do so prior to clicking on Launch will result in the entered data being lost.

- View Assumptions – When this menu item is highlighted, another list of menu

items is displayed:

- View Interest Rate Scenario – Click this menu item to view data for the interest rate scenario being used for the budget or forecast scenario.
- View Currency Rate Scenario – Click this menu item to view data for the currency rate scenario being used for the budget or forecast scenario.
- View Economic Indicator Scenario – Click this menu item to view data for the economic indicator scenario being used for the budget or forecast scenario.
- View Custom Prepayment Model – If a Prepayment Model has been defined and specified for use with the chart of account dimension member, the Prepayment Model assumptions can be viewed by clicking on this menu item.
- View Rollover Scenario – This menu item is for future use, as rollover functionality is not yet available in Balance Sheet Planning.

When clicked, each of these menu items will open another data form displaying relevant information associated with the scenario and version that you are working on.



- Back to Financial Plan – After you have entered all of your maturity mix assumptions data and copied it to other appropriate dimension members, clicking on this menu item will take you back to the Financial Plan data form. Once there, you will need to run the Calculate Option called Extract Maturity Mix Data to copy the assumption data to where it can be accessed by the cash flow engine. For more information, see Extract Maturity Mix Data, page 21-29.

Balance Function

Balance Sheet Planning includes functionality used to calculate balancing entries, income taxes and net income at the legal entity level after analysts have completed creation of a plan or forecast. If the Budget Administrator has provided an Analyst with

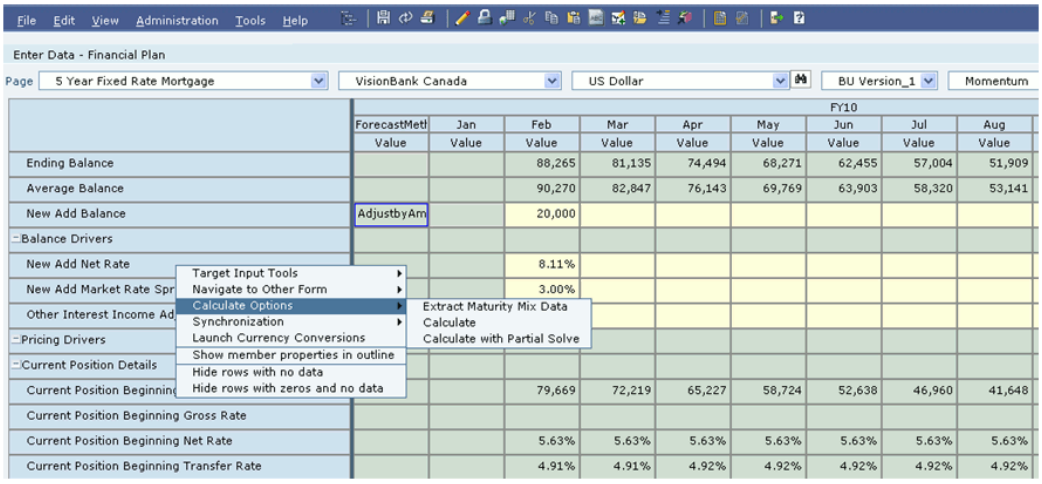
access to this feature, clicking on the **Balance Funtion** menu item will open a data form used to prepare for and run the Balancing process. For more details about the routine, see Balance Function.

Calculate Options

There are three options available under the **Calculate Options** menu item accessed from the Financial Plan data form:

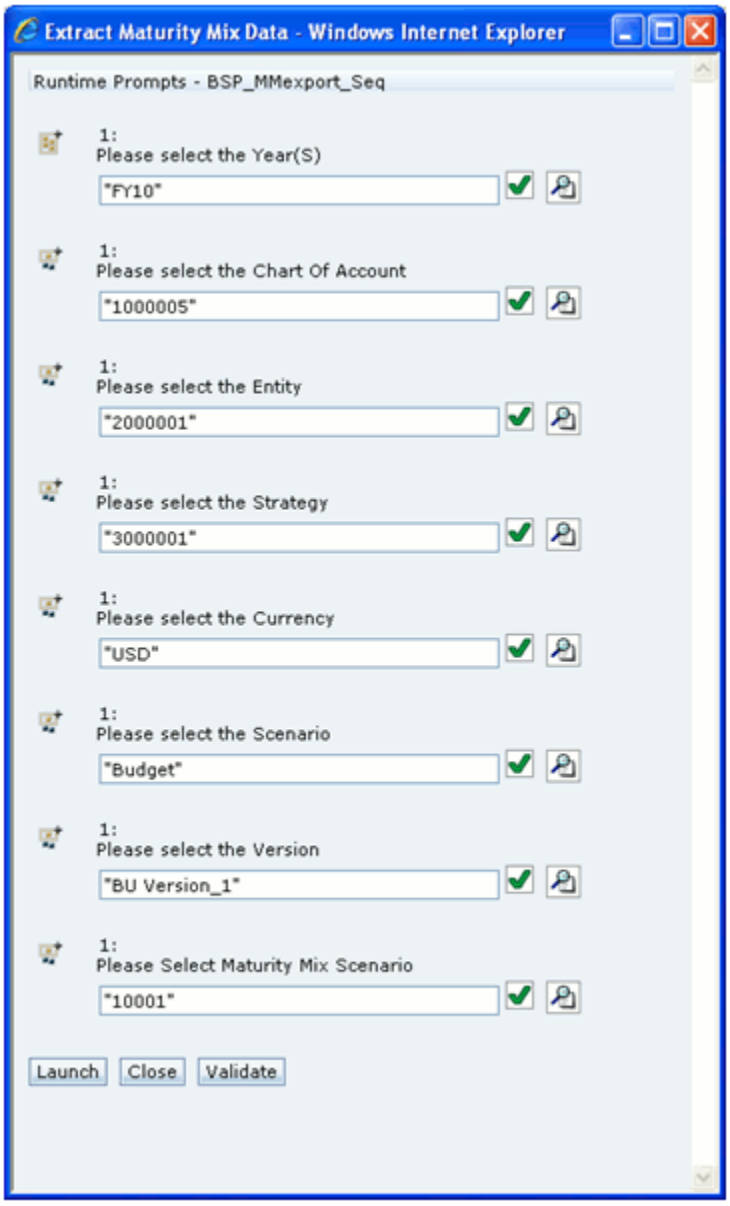
- Extract Maturity Mix Data
- Calculate
- Calculate with Partial Solve

To access the menu items, place your curser over a row label on the data form and right click with your curser. Highlight Calculate Options and the three sub-menu items will be displayed for selection.



Extract Maturity Mix Data

After entering maturity mix data in the Maturity Mix data form, the assumptions entered must be copied over to metadata tables for use by the cash flow engine prior to running the engine. Select **Extract Maturity Mix Data** and a run time prompts screen will be displayed:



The run time prompts are pre-populated with dimension members reflected on the Financial Plan data form. To copy assumptions for more than one year, open the Year dimension selector and select the appropriate years to be extracted. If you want to change the dimension member selected for any of the other dimensions, open the appropriate dimension member selector and select the desired value.

After making selections in the run time prompts, if any of the prompts display a red **X** next to the dimension member selector icon, click **Validate** to validate the selections. A message will appear saying "All the runtime prompt values are valid".

Then click **Launch** to export the maturity mix data.

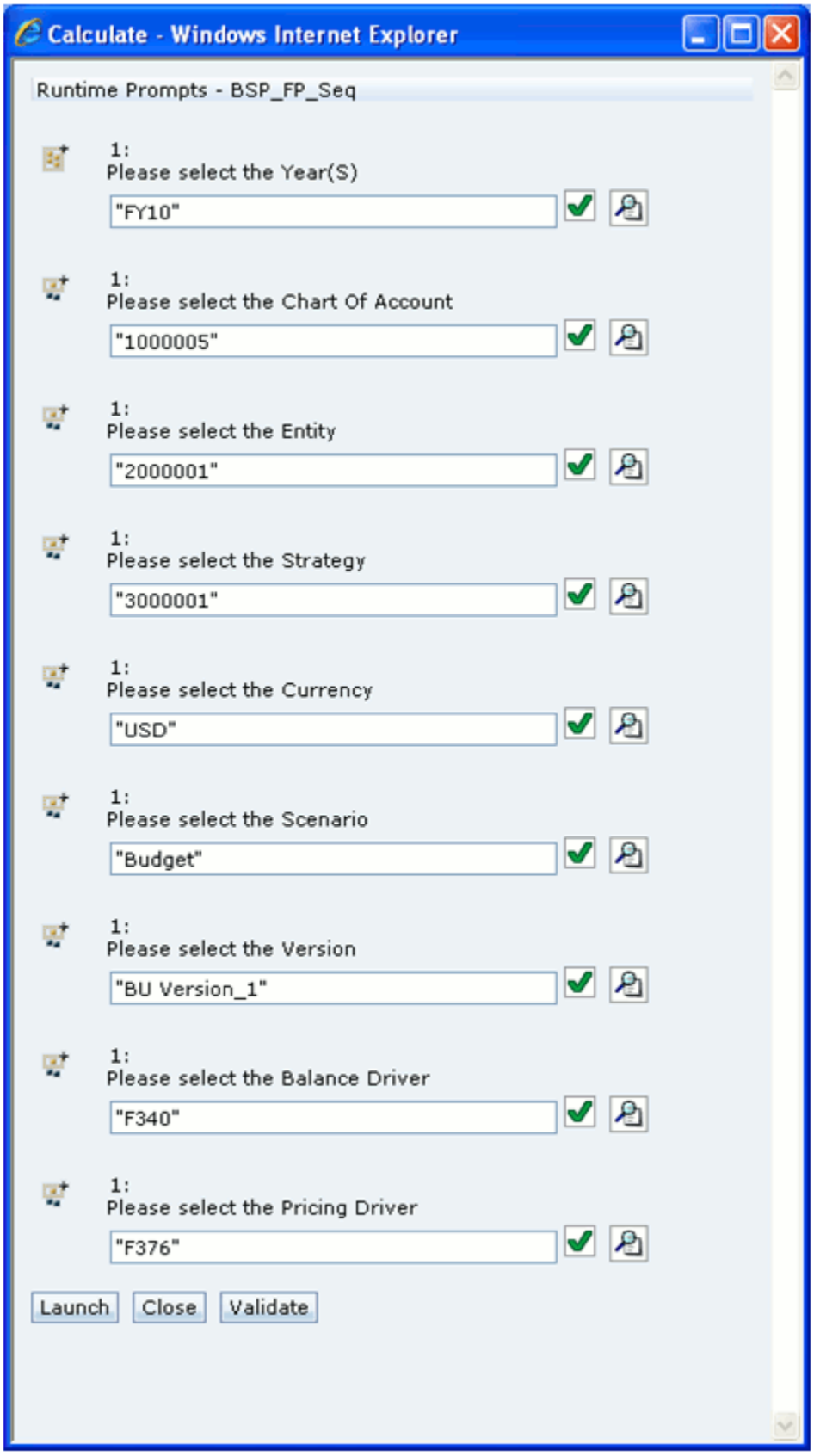
After the export is complete, you will be returned to the Financial Plan data form, and a

message will be displayed at the top center of the data form saying the "BSP_MMexport_Seq was successful". This confirms the success of the export.

> **Important:** Be sure to run the Export Maturity Mix Data function after making any changes in the Maturity Mix data form prior to running Calculate. If you do not run this function, then the resulting cash flows produced when you run Calculate will not reflect the latest maturity mix assumptions for the product.

Calculate

After entry of target balance driver pricing driver data, and after extracting maturity mix data to copy maturity mix assumptions over to the cash flow engine, you are ready to generate cash flow data. To do so, select **Calculate** under Calculate Options on the Financial Plan data form. A run time prompt screen will be displayed.


Calculate - Windows Internet Explorer
Runtime Prompts - BSP_FP_Seq
1:
Please select the Year(S)
"FY10"
1:
Please select the Chart Of Account
"1000005"
1:
Please select the Entity
"2000001"
1:
Please select the Strategy
"3000001"
1:
Please select the Currency
"USD"
1:
Please select the Scenario
"Budget"
1:
Please select the Version
"BU Version_1"
1:
Please select the Balance Driver
"F340"
1:
Please select the Pricing Driver
"F376"
Launch
Close
Validate

If your budget or forecast time horizon includes multiple future years, be sure to select all of the future year values for the Year(S) dimension run time prompt.

To generate cash flows for a single dimension member combination that is reflected on the Financial Plan data form, the values for Chart of Account, Entity Strategy, Currency, Scenario and Version are pre-populated from the Financial Plan form.

To run cash flows for a different combination of dimension members, open the dimension member selector and select the appropriate members for which cash flows will be run.

Cash flows can be generated for more than one dimension member combination at a time by selecting hierarchical node level dimension members for the Chart of Account, Entity and Strategy dimensions in the dimension member selector. When node level members are selected, the cash flow engine will be run for all lowest level dimension members underneath the selected nodes, in a single process execution.

Be sure that the Balance Driver displayed in the run time prompts screen reflects the driver for which you entered data – this will be either Average Balance (F140), Ending Balance (F100) or New Add Balance (F340). If the appropriate driver is not reflected, open the selector next to the driver field and select the correct driver.

Also be sure that the Pricing Driver displayed in the screen reflects the driver for which you entered data in the Financial Plan form – this will be either New Add Net Rate (F360) or New Add Market Rate Spread (F376). If the appropriate driver is not reflected, open the selector next to the driver field and select the correct driver.

Note

- If you enter pricing spreads in the Maturity Mix data form, those spreads will be used when the cash flow engine is run. You should still select New Add Market Rate Spread (F376) as the pricing driver in the run time prompt screen.

- The application always checks for the existence of spread values in the maturity mix assumptions first, and always uses those when present. If values exist in maturity mix assumptions and you subsequently enter values in the New Add Market Rate Spread row on the Financial Plan data form, the values entered will be ignored when the engine is run and overwritten with the average spreads resulting from usage of the maturity mix spread data.

Tip: If you place your curser over the row label on the Financial Plan form corresponding to the pricing driver you want to use, this driver will automatically be populated in the run time prompt screen.

After making selections in the run time prompt screen, if any field displays a red **X** next to the field, click **Validate** to validate the selections. A message stating that "All the

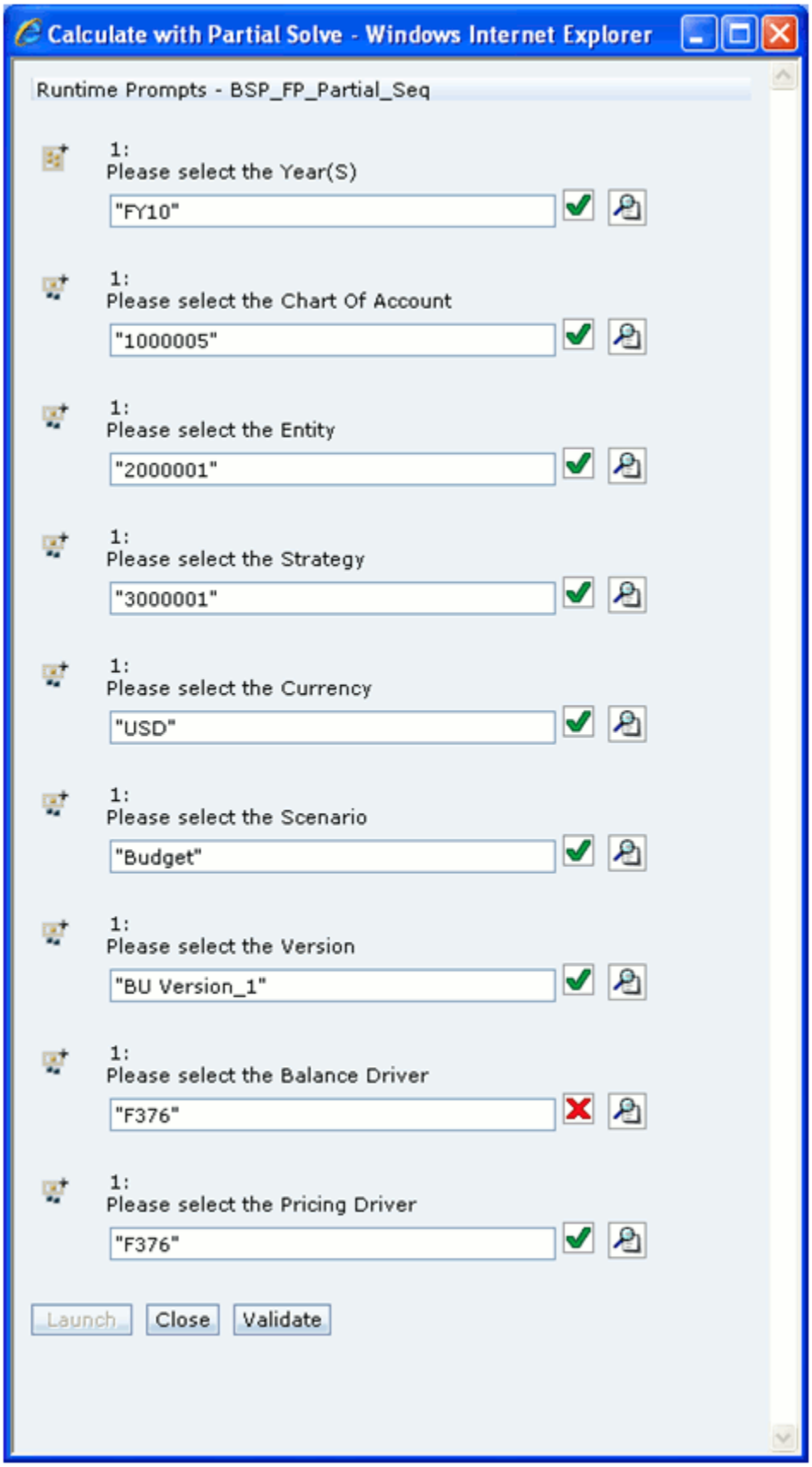
runtime prompt values are valid" will be displayed at the top of the run time prompt screen.

Then click **Launch** to run calculations for the account. Calculation time will vary depending on the number of account calculations being generated. After the calculations are complete, the financial plan data form will be refreshed with results, and a message will appear at the top of the form stating that the "BSP_FP_Seq was successful".

> **Important:** After entering driver data in the Financial Plan data form, be sure to click the **Save** icon before launching calculations or changing paging dimension member values in order to write the values to Essbase. If you do not do so, the entered data may be lost.

Calculate with Partial Solve

If hierarchical aggregation of cash flow data is desired after generation of results for lowest level dimension members, the Calculate with Partial Solve Calculation Option can be used. To do so, select **Calculate with Partial Solve** under Calculate Options on the Financial Plan data form. A run time prompt window will be displayed.


Calculate with Partial Solve - Windows Internet Explorer
Runtime Prompts - BSP_FP_Partial_Seq
1:
Please select the Year(S)
"FY10"
1:
Please select the Chart Of Account
"1000005"
1:
Please select the Entity
"2000001"
1:
Please select the Strategy
"3000001"
1:
Please select the Currency
"USD"
1:
Please select the Scenario
"Budget"
1:
Please select the Version
"BU Version_1"
1:
Please select the Balance Driver
"F376"
1:
Please select the Pricing Driver
"F376"
Launch
Close
Validate

Select the node level dimension members to which you wish to aggregate data after running the cash flow engine for hierarchical dimensions, including the Year, Chart of Account, Entity and Strategy dimensions.

Synchronization

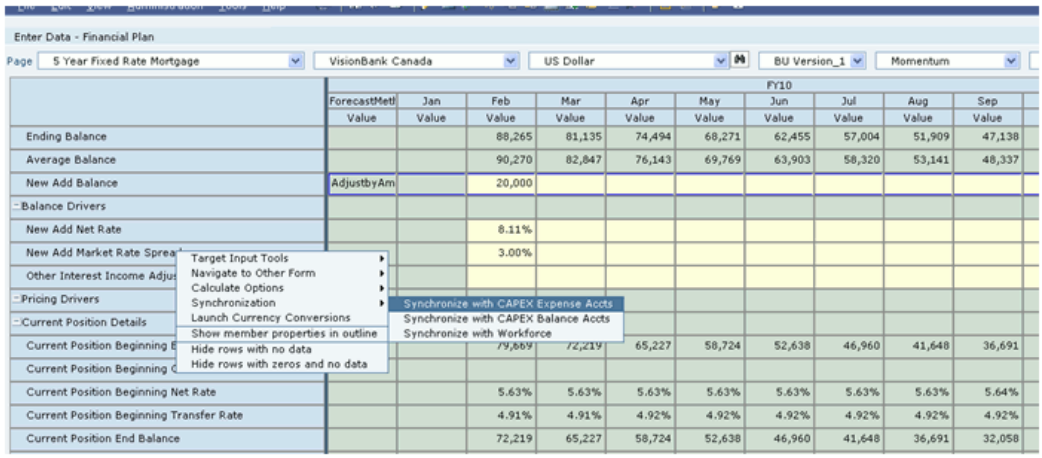
Balance Sheet Planning includes integration with Hyperion Workforce Planning and Hyperion Capital Asset Planning when either or both of the modules are licensed and installed in the same application where Balance Sheet Planning is installed.

The Balance Sheet Planning Budget Administrator must define the mapping of Workforce and/or Capital Asset Planning account dimension members to Balance Sheet Planning Chart of Account dimension members in order for analysts to be able to run the integration function and copy the data into the BSP plan type.

Three functions are available to copy the data:

- Synchronize with CAPEX Expense Accts
- Synchronize with CAPEX Balance Accts
- Synchronize with Workforce

To access and run the functions, right click on the Financial Plan data form, highlight Synchronization and select the function you wish to run from the sub-menu.

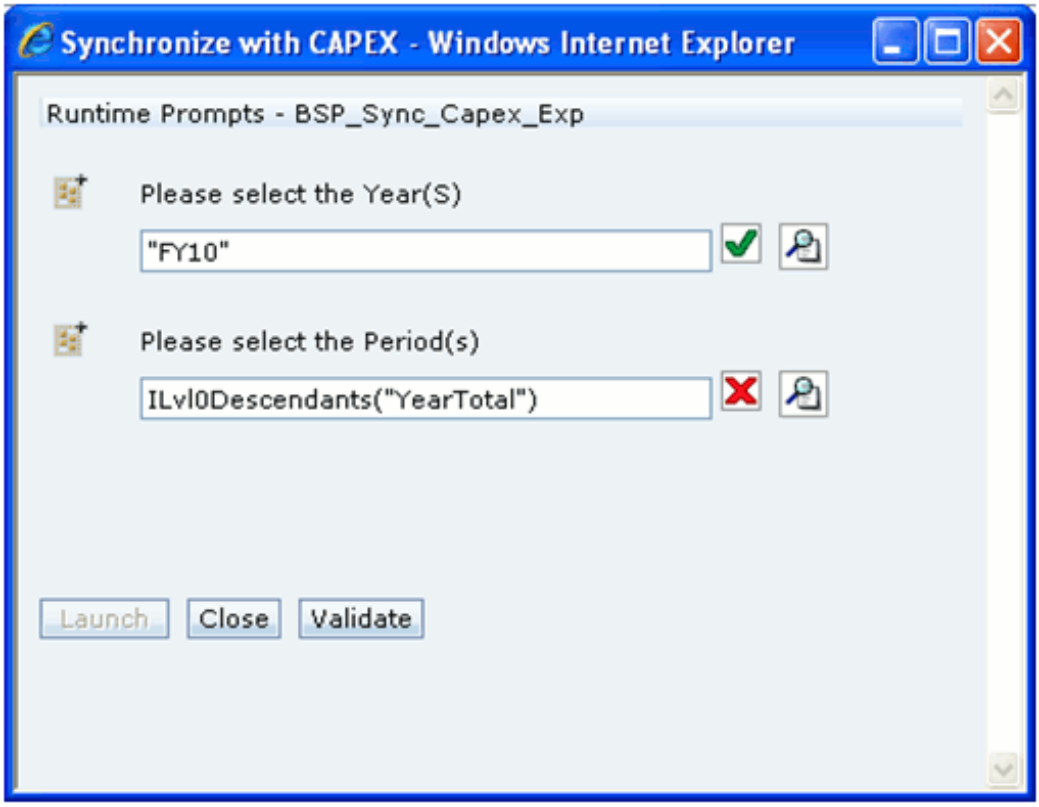


Synchronize with CAPEX Expense Accounts

This function will copy non-interest expense account data from the Capital Asset Planning plan type into the BSP plan type, based on the mapping defined by the Budget Administrator.

You can run this function after you have generated budget or forecast data in Capital Asset Planning by selecting the Synchronize with **CAPEX Expense Accounts** sub-menu item. A run time prompt window will be displayed, which require entry or selection of the Year(S) and Period(s) for which the integration should be processed. Make the

selections by opening the selector next to the run time prompt fields.



After making the run time prompt selections, click **Validate** to validate the selections if a red **X** is displayed for either prompt. A message appears "All the runtime prompt values are valid". Then click **Launch** to run the routine and copy the data.

> **Note:** Several of the run time prompts are hidden and do not show up on the screen, including prompts for the Entity, Strategy, Currency, Scenario and Version dimensions. The values for these dimensions are automatically populated from the members selected on the Financial Plan form when the rule is run.

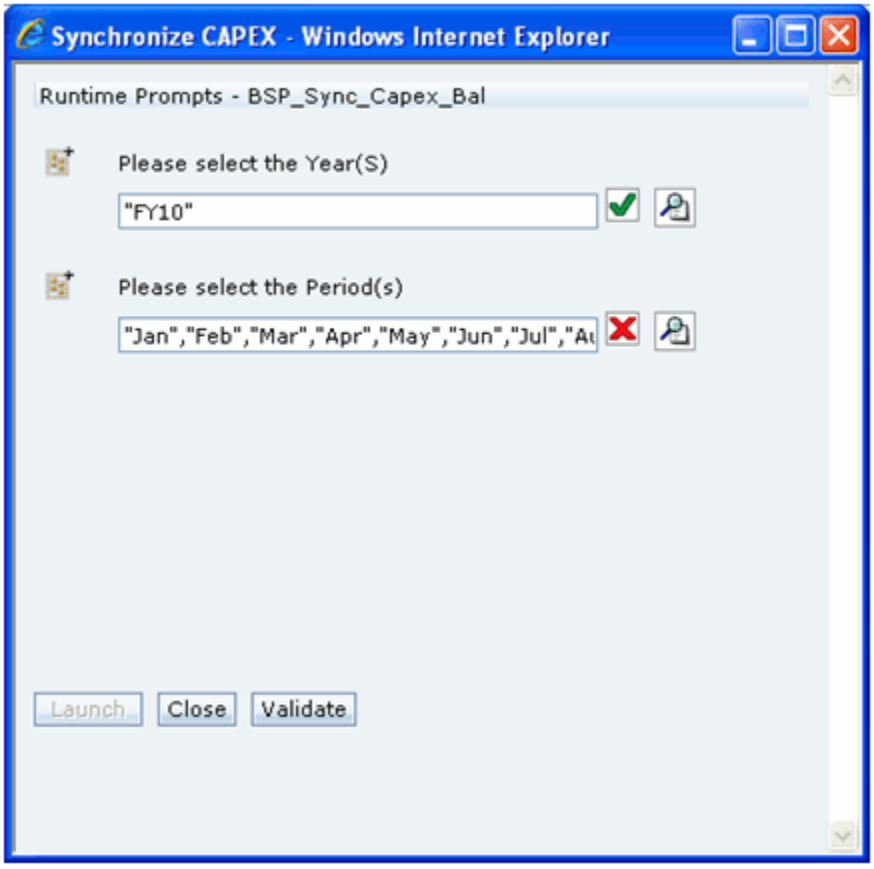
The routine will copy data for all non-interest expense Chart of Account dimension members that have corresponding data in the Capital Asset Planning module, based on the Account to Chart of Account dimension member mapping defined by the Budget Administrator. After the routine is run, you will be returned to the Financial Plan data form and a message stating "BSP_Sync_Capex_Exp was successful" will be displayed at the top of the form.

Synchronize with CAPEX Balance Accounts

This function will copy balance sheet account data from the Capital Asset Planning plan type into the BSP plan type, based on the mapping defined by the Budget

Administrator.

You can run this function after you have generated budget or forecast data in Capital Asset Planning by selecting the Synchronize with **CAPEX Balance Accounts** sub-menu item. A run time prompt window will be displayed, which require entry or selection of the Year(S) and Period(s) for which the integration should be processed. Make the selections by opening the selector next to the run time prompt fields.



After making the run time prompt selections, click **Validate** to validate the selections if a red **X** is displayed for either prompt. A message appears "All the runtime prompt values are valid". Then click **Launch** to run the routine and copy the data.

> **Note:** Several of the run time prompts are hidden and do not show up on the screen, including prompts for the Entity, Strategy, Currency, Scenario and Version dimensions. The values for these dimensions are automatically populated from the members selected on the Financial Plan form when the rule is run.

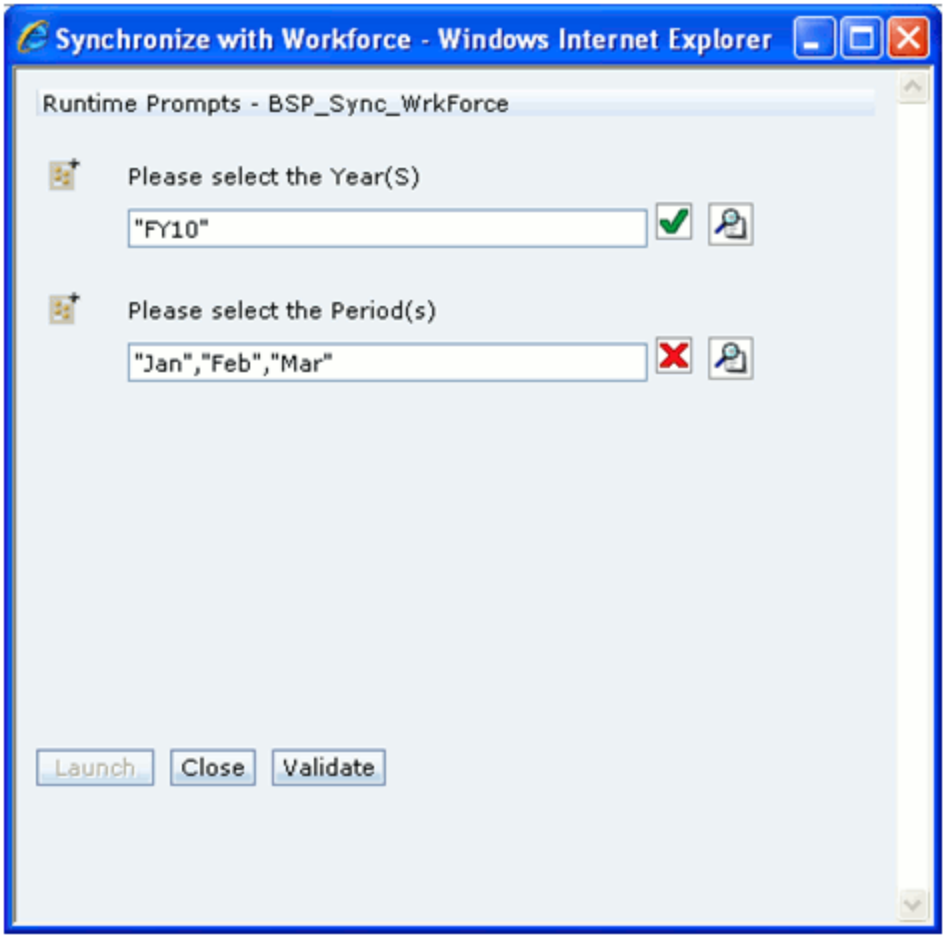
The routine will copy data for all balance sheet Chart of Account dimension members that have corresponding data in the Capital Asset Planning module, based on the Account to Chart of Account dimension member mapping defined by the Budget

Administrator. After the routine is run, you will be returned to the Financial Plan data form and a message stating "BSP_Sync_Capex_Bal was successful" will be displayed at the top of the form.

Synchronize with Workforce

This function will copy non-interest expense account data from the Workforce Planning plan type into the BSP plan type, based on the mapping defined by the Budget Administrator.

You can run this function after you have generated budget or forecast data in Workforce Planning by selecting the Synchronize with Workforce sub-menu item. A run time prompt window will be displayed, which requires entry or selection of the Year(S) and Period(s) for which the integration should be processed. Make the selections by opening the selector next to the run time prompt fields.



After making the run time prompt selections, click **Validate** to validate the selections if a red **X** is displayed for either prompt. A message appears "All the runtime prompt values are valid". Then click **Launch** to run the routine and copy the data.

Note: Several of the run time prompts are hidden and do not show up on the screen, including prompts for the Entity, Strategy, Currency, Scenario and Version dimensions. The values for these dimensions are automatically populated from the members selected on the Financial Plan form when the rule is run.

The routine will copy data for non-interest expense Chart of Account dimension members that have corresponding data in the Workforce Planning module, based on the Account to Chart of Account dimension member mapping defined by the Budget Administrator. After the routine is run, you will be returned to the Financial Plan data form and a message stating "BSP_Sync_WrkForce was successful" will be displayed at the top of the form.

Automated Fee and Expense Calculations

When creating a budget or a forecast, certain types of fees and expenses bear a relationship with projected outstanding balance sheet account balances. Balance Sheet Planning provides pre-defined data forms and business rules that can be used to calculate budget or forecast amounts for the following types of fees and expenses:

- Loan Fees
- Deposit Service Charges
- Delinquency Related Expenses

The functionality provided for planning or forecasting amounts for each of these categories of fees and expenses is described in this chapter.

Prerequisites

- Balance sheet account average balances have been entered or calculated by the cash flow engine for accounts that will be used in the calculations.
- The Interest Accrual Method must be defined for the corresponding balance sheet accounts. The method specified for the account is used to annualize period amounts to derive annualized percentages, and to de-annualize annualized percentages to derive period amounts.
- Chart of Account dimension members representing loans for which fees will be planned must have the Fee Classification attribute of **Loan Fees** assigned in dimension administration. Chart of Account dimension members representing deposits for which fees will be planned must have the Fee Classification attribute of **Deposit Service Charges** assigned in dimension administration. Chart of Account dimension members representing non performing assets must have one of the

following Asset Class attribute values assigned in dimension administration:

- OREO Expense
- Repossession Expense
- Debt Workout Expense
- Debt Collection Expense

- Non interest income and non interest expense dimension members must be defined in the Chart of Accounts dimension. These members will store projected fee and expense amounts.

  Note: Loan origination fees do not require definition of separate members in the chart of accounts dimension. These fees are stored under the balance sheet account dimension member, in financial element F900 – Fee Income on Int. Bearing Acct.

Loan Fees

There are three types of loan fees that a financial institution typically includes in creation of a plan or forecast:

- Loan Origination Fees - Accounting practices on certain financial instruments (most commonly mortgage loans) require that loan fees paid by the customer are recognized in the same way as interest on the loan. In other words, while the customer pays cash **points** when the loan is originated, the financial institution must recognize these points over the life of the loan.

- Other Loan Fees – Other types of fees charged do not relate to loan origination activities and are planned for as non-interest income amounts that are not included in interest income, such as late charges that are assessed when a customer is late making a payment.

- Loan Fee Waivers – Financial institutions may often refund or **waive** other loan fees such as late charges when a customer requests that the fee be waived, in recognition that the client is a good customer who usually makes required payments on a timely basis. Such waivers are usually recorded in a separate waiver account so that waiver activity can be easily monitored by management.

Loan origination fees and other loan fees can be reasonably projected using an approach where users enter annualized fee percentages that are multiplied by corresponding balance sheet average balances produced by the Balance Sheet Planning cash flow engine. Annualized fee percentages entered by users are de-annualized to a period basis to calculate the period amounts. Alternatively, users can enter dollar amounts directly.

If users enter data in this manner, Balance Sheet Planning will calculate and store resulting annualized fee percentages in the database.

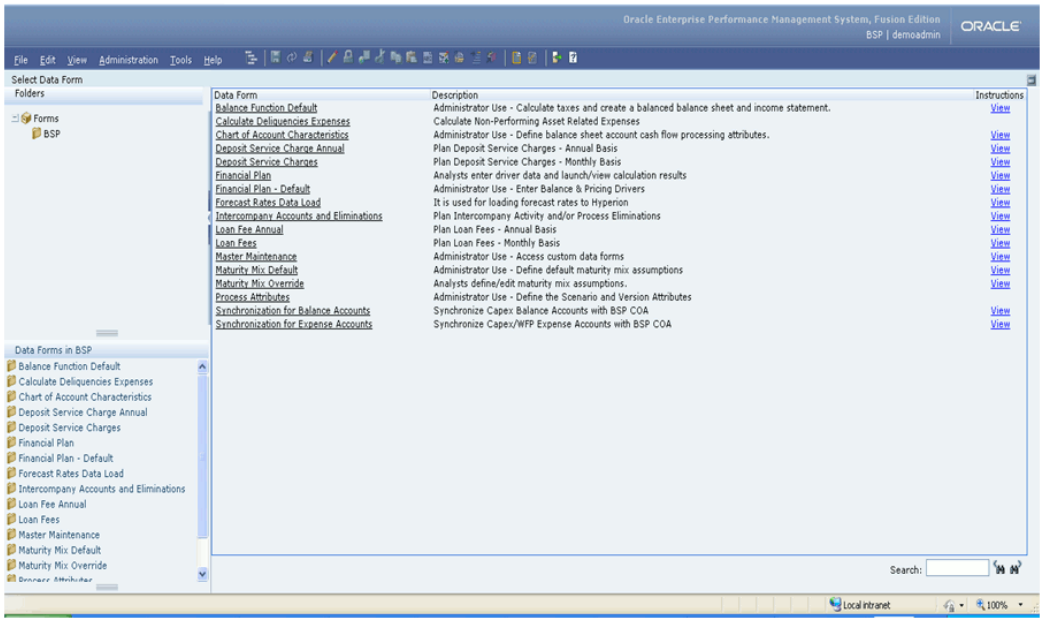
Loan fee waivers can be planned for by entering a planned percentage of other loan fee income amounts that will be refunded or waived. The calculated amounts for other loan fees are multiplied by percentages entered for each future period and multiplied by minus one to derive loan fee waiver amounts.

Working With the Loan Fee Data Forms

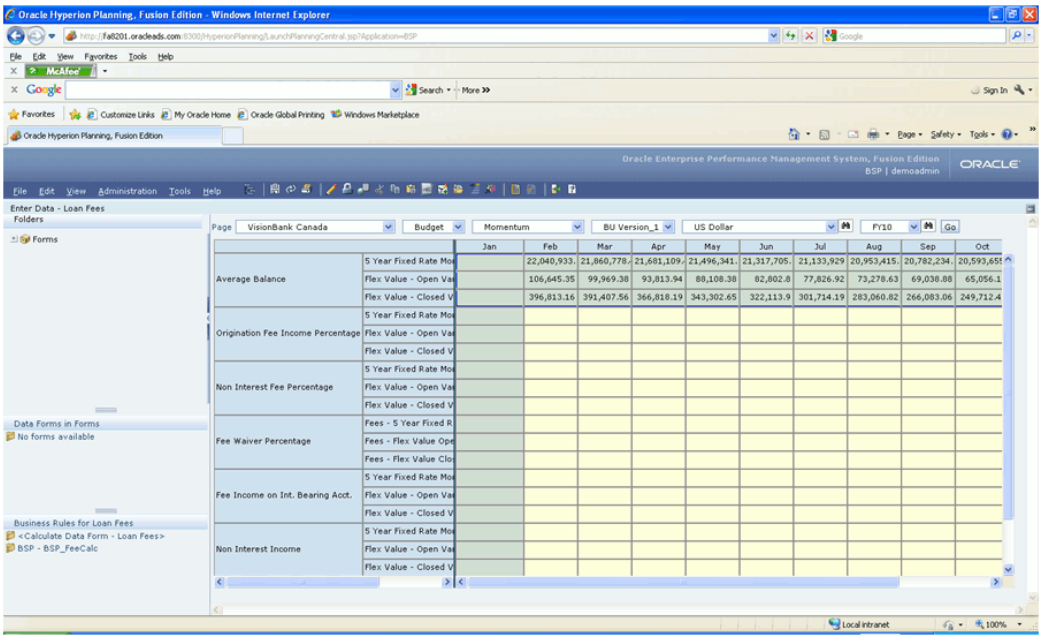
There are two predefined data forms provided with the Balance Sheet Planning application for use in planning for loan fees:

- Loan Fees – This data form is used to plan for loan fees on a monthly basis.
- Loan Fee Annual – This data form is used to plan for loan fees on an annual basis.

To access the data form used to plan loan fees on a monthly basis, go to the **BSP** Folder on the left pane, click **Loan Fees**.



This will open the **Enter Data – Loan Fees** data form.



Select the Entity, Currency, Scenario, Version, Strategy and Year dimension members you want to work with and click **Go**, and the screen will refresh.

You can generate loan fee projections by entering percentages in the data form and letting the system calculate the corresponding amounts:

- Loan Origination Fees – Enter annualized percentages in the Origination Fee Income Percentage section of the data form. The percentages will be de-annualized to a period basis using the accrual basis defined for the balance sheet product, which is then used to calculate fee amounts.

- Non Interest Income Fees – Enter annualized percentages in the Non Interest Fee Percentage section of the data form. The percentages will be de-annualized to a period basis using the accrual basis defined for the balance sheet product, which is then used to calculate fee amounts.

- Fee Waivers – Enter percentages in the Fee Waiver Percentage section of the data form. The percentages entered will be multiplied by the period non interest income fee amounts to calculate waiver amounts. Percentages are applied as entered in the data form.

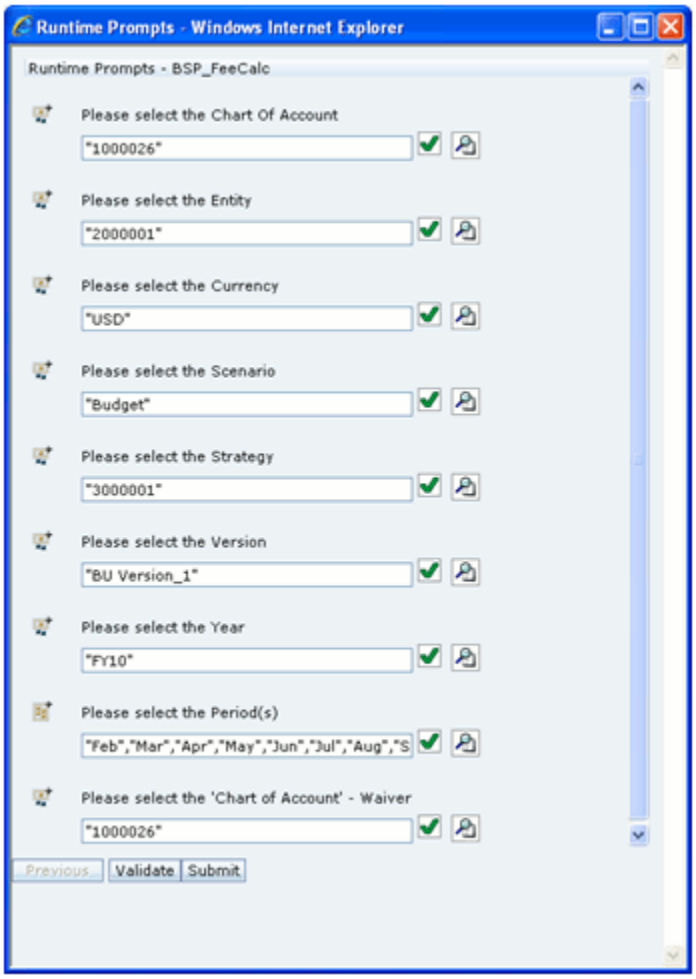
Note

- Percentages must be entered and fees and fee waivers calculated for one balance sheet chart of account dimension member at a time.

- Alternatively, you can enter loan fee and fee waiver amounts

directly in the data form, and let the application calculate the associated fee and waiver percentages.

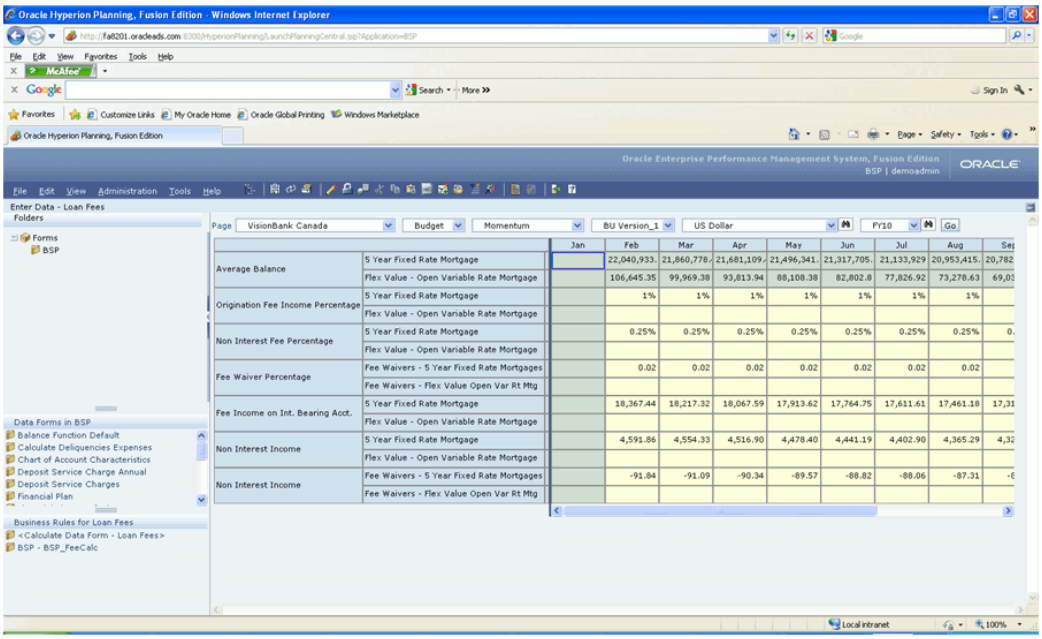
Click **Save**, and a runtime prompts window will open:



Select the appropriate dimension members to be processed using the selector control next to each dimension.

Click **Validate**, and then click **Submit** to generate the fee and fee waiver amounts.

Repeat the process for each balance sheet account that will have related fee income and fee waiver activity. The following screen shot shows sample calculation results after running the business rule for one balance sheet account.



You can generate and work with loan fees on an annual basis instead of a period basis by using the Loan Fee Annual data form. Access the data form by clicking on it in the list of available data forms.

The data form supports collection of origination fees, non interest loan fee income and fee waiver percentages on an annual basis, and will calculate annual amounts and distribute those values across underlying periods based on the accrual basis defined for each balance sheet account.

Working With the Deposit Service Charge Data Forms

There are two predefined data forms provided with the Balance Sheet Planning application for use in planning for deposit service charges:

- Deposit Service Charges – This data form is used to plan for deposit service charges and waivers on a monthly basis.

- Deposit Service Charge Annual – This data form is used to plan for deposit service charges and waivers on an annual basis.

The data forms provided for generation of service charges on deposit accounts generally function in the same way as the loan fee data forms. However, whereas the loan fee data forms provide the ability to calculate loan origination fees that are included in net interest margin, the data forms provided for generation of deposit service charges will only calculate amounts recorded as non-interest income in the profit and loss statement. This is the only difference between the deposit service charge data forms and the loan fee data forms. Follow the earlier instructions for working with the loan fee data forms to generate results for deposit service charges.

Planning for Non Performing Asset Rated Expenses

Balance Sheet Planning also provides a data form that can be used to generate projected non-interest expense amounts for costs associated with projected average non-performing asset balances.

To access the data form, click **Calculate Delinquencies Expenses** in the list of data forms available under the BSP folder. The Calculate Delinquencies Expenses data form is a composite Hyperion data form consisting of **Delinquencies Expense**, **Financial Plan Average Bal** and **Financial Plan Delinquency Expense** sections.

The first block on the composite data form, **Delinquencies Expenses**, allows entry of delinquency expense percentages. The percentages will be applied to projected average balances to generate associated expense amounts. Percentages are entered in the following predefined members of the Account dimension:

- OREO Percentage
- Repossession Percentage
- Debt Collection Percentage
- Debt Workout Percentage

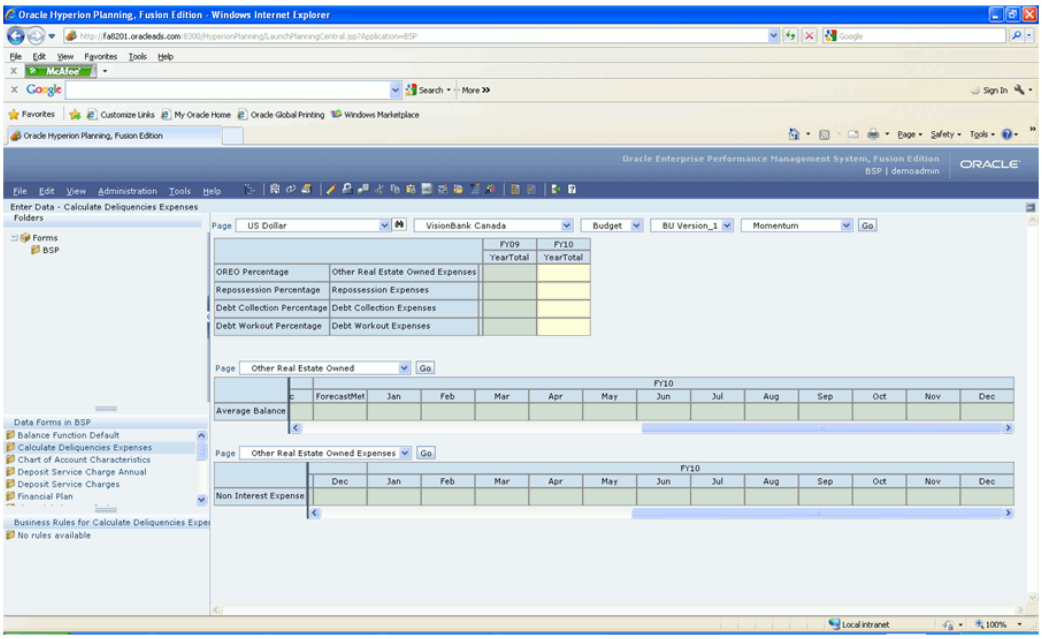
The second block on the composite data form, **Financial Plan Average Bal**, displays average balances generated for balance sheet accounts which are assigned with the following Asset Class attribute values:

- OREO Expenses
- Repossession Expenses
- Debt Collection Expenses
- Debt Workout Expenses

The third block on the composite data form displays calculated non interest expense amounts after entry of percentages is completed and the business rule is run on save.

Working With the Calculate Delinquency Expenses Data Form

To access the data form used to plan delinquency expenses on a monthly basis, go to the **BSP** Folder on the left pane, click **Calculate Delinquency Expenses**. This will open the **Enter Data – Calculate Delinquency Expenses** form.

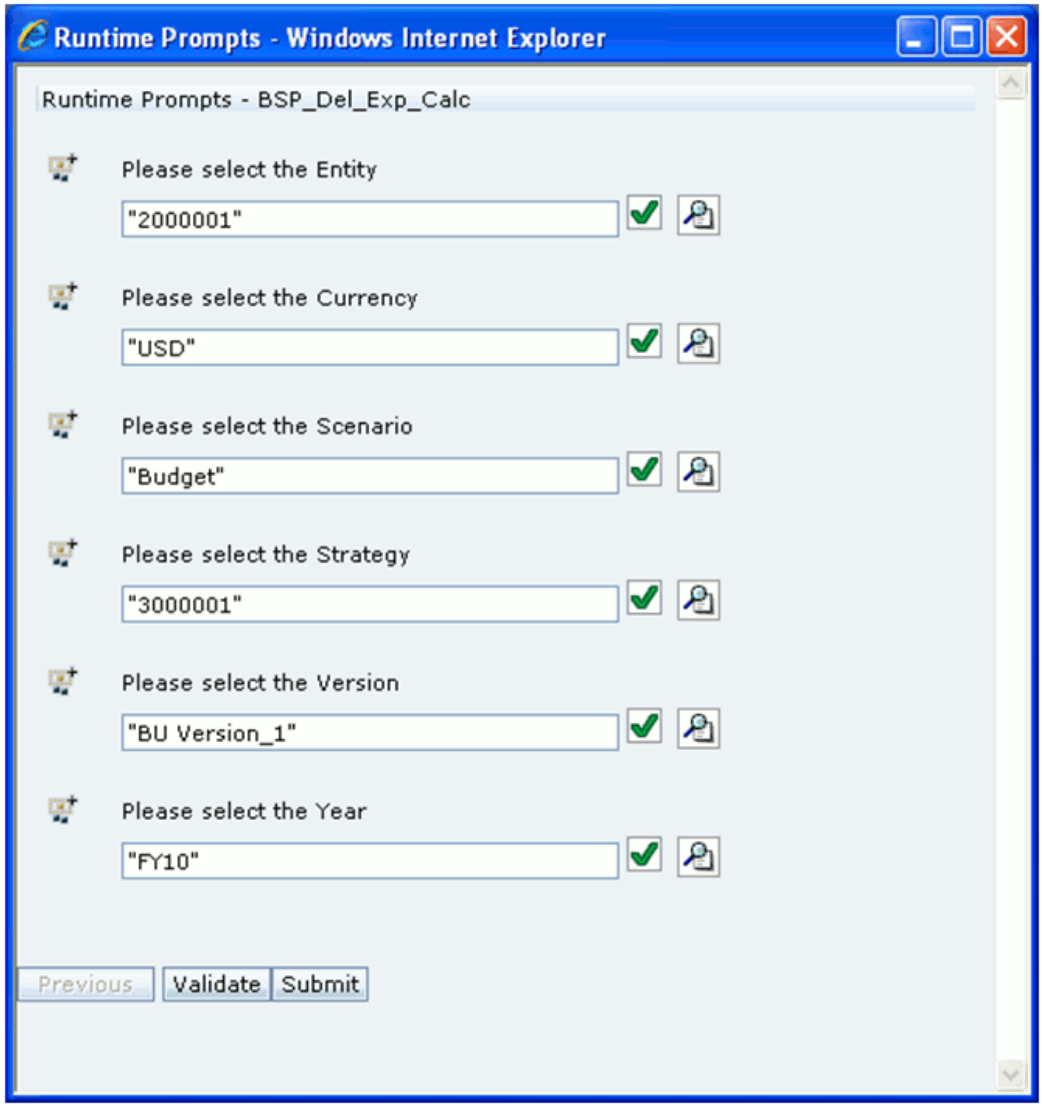


Select the Entity, Currency, Scenario, Version and Strategy dimension members you want to work with and click **Go**, and the screen will refresh.

Select the balance sheet account for which projected average balances should be displayed and click **Go**.

Select the associated non interest expense account for which expenses will be calculated and click **Go**.

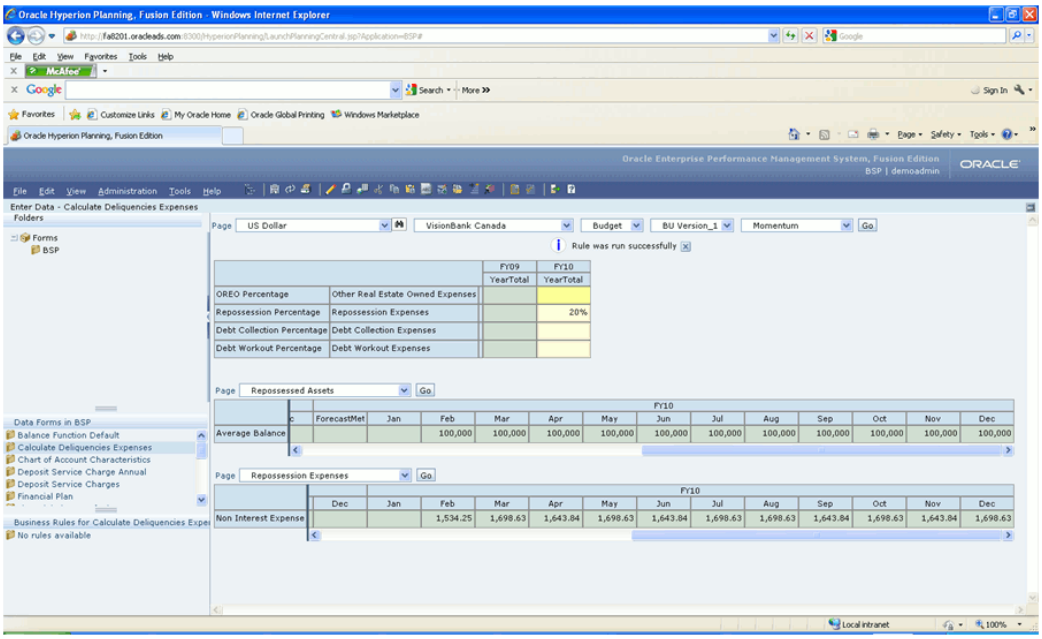
Once the balance sheet account and non interest expense accounts have been selected, enter an annual expense percentage for the type of expense being generated in the top section of the data form, and click **Save**. A run time prompt screen will be displayed. Confirm or select the dimension members on the run time prompt screen using the dimension member selector displayed next to each dimension:



If any of the dimension selections have a red **X** displayed next to them, click **Validate**.

Then click **Submit** to generate the expenses. Annual expense amounts are then calculated and de-annualized to generate period amounts. The calculation uses an Actual/Actual accrual basis to de-annualize annual expense amounts and writes the resulting period amounts to the expense account displayed on the screen.

The following screen illustrates the results when calculating Repossession Expenses related to a Repossessed Assets balance sheet account, assuming a 20% annual amount is entered for FY10:



Repeat the earlier process to calculate expense amounts related to other types of non-performing asset balance sheet accounts until you have finished.

A

Predefined Business Rules & Sequences

Overview

The Balance Sheet Planning application includes business rules and sequences (groupings of business rules) that have been predefined and are included at installation. The business rules perform various calculations and functions available within the application. This appendix lists the business rules, sequences, descriptions and definitions for each rule delivered with the application.

Business Rules

1. BSP_Product_Instrument

   Description – This business rule executes a database function which populates product instrument mappings into a database table.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value = @JFunc_3("FSI_PROD_INST_MAPPING",&DBSERVERNAME,
@NumToStr(&PORTNO),&SID,&USERNAME,&PASSWORD,[BatchID]);
)
ENDFIX;
```

2. BSP_SmartList_Sync

   Description – This business rule executes a java function which updates SmartList xmls.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value =
@JSmartList_Sync(&DBSERVERNAME,@NumToStr(&PORTNO),&SID,&USERNAME,&PA
SSWORD,&ESSUSER,&LCMDirName);
)
ENDFIX;
```

3. BSP_HierDim_Sync

   Description – This business rule executes a java function which populates Hierarchical dimensions into FSDM.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value =
@JHierDim_Sync(&DBSERVERNAME,@NumToStr(&PORTNO),&SID,&USERNAME,&PASS
WORD,&ESSUSER,&LCMDirName);
)
ENDFIX;
```

4. BSP_Flat_StdDim_Sync

   Description – This business rule executes a java function which populates standard dimensions into FSDM.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value =
@JFlatHier(&DBSERVERNAME,@NumToStr(&PORTNO),&SID,&USERNAME,&PASSWORD
,&ESSUSER,&LCMDirName,@NumToStr(0),"Plan Type");
)
ENDFIX;
```

5. BSP_Flat_CustDim_Sync

   Description – This business rule executes a java function which updates custom dimension xmls.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value =
@JFlatHier(&DBSERVERNAME,@NumToStr(&PORTNO),&SID,&USERNAME,&PASSWORD
,&ESSUSER,&LCMDirName,@NumToStr(1),"Plan Type");
)
ENDFIX;
```

6. BSP_FR_IRS_DataImport

   Description – This business rule imports forecasted interest rates into Essbase.

```
SET CREATENONMISSINGBLK ON;

FIX("No Scenario","No Version","No Entity","No Strategy","No
Currency","No Chart of Account","No Mix Breakout")
VAR return_value = 100;
"No FE - Rates"
(
return_value =
@JRule(&ESSUSER,&ESSPWD,&SERVERNAME,&APPLICATION,"Rates",&USERNAME,&
PASSWORD,"ImpFRIRS","impFRIRS.msh");
)
ENDFIX
```

7. BSP_FR_CRS_DataImport

   Description – This business rule imports forecasted currency rates into Essbase.

```
SET CREATENONMISSINGBLK ON;

FIX("No Scenario","No Version","No Entity","No Strategy","No
Currency","No Chart of Account","No Mix Breakout")
VAR return_value = 100;
"No FE - Rates"
(
return_value =
@JRule(&ESSUSER,&ESSPWD,&SERVERNAME,&APPLICATION,"Rates",&USERNAME,&
PASSWORD,"ImpFRCRS","impFRCRS.msh");
)
ENDFIX;
```

8. BSP_FR_EIS_DataImport

   Description – This business rule imports forecasted economic indicators into Essbase.

```
SET CREATENONMISSINGBLK ON;

FIX("No Scenario","No Version","No Entity","No Strategy","No
Currency","No Chart of Account","No Mix Breakout")
VAR return_value = 100;
"No FE - Rates"
(
@JRule(&ESSUSER,&ESSPWD,&SERVERNAME,&APPLICATION,"Rates",&USERNAME,&
PASSWORD,"ImpFREIS","ImpFREIS.msh");
)
ENDFIX
```

9. BSP_Adjust_by_Amt

   Description – This business rule is an input tool used to increase or decrease existing values by the value input.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
@LIST([BSP_Period_Start]:[BSP_Period_End]),"No Attribute Value")

/* Selected Account Member from Run-Time Prompt*/
[BSP_Account_TE]
(

/* Calculate Values for Ending Balance, Average Balance and New Add
Balance */
  IF(@ISMBR("F100","F140","F340"))
   [BSP_Account_TE] + [BSP_Input_Value];
  ENDIF;

/* Calculate Values for New Add Market Rate and Net New Market Rate
Spread */
  IF (@ISMBR("F360","F376"))
   [BSP_Account_TE] + ([BSP_Input_Value]/100);
  ENDIF;

/*Populate the selected method to the ForecastMethod member of
Period Dimension*/
"ForecastMethod" = 6;
)
ENDFIX

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
"No Attribute Value")
CALC DIM(Period);
ENDFIX
```

10. BSP_Adjust_by_Percent

    Description – This business rule is an input tool used to increase or decrease current values on a percentage basis by the value input.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
@LIST([BSP_Period_Start]:[BSP_Period_End]),"No Attribute Value")

/* Selected Account Member from Run-Time Prompt*/
[BSP_Account_TE]
(
/*Calculate values for Ending Balance, Average Balance, New Add
Balance, New Add Net Rate and Net New Market Rate Spread*/

[BSP_Account_TE] * (1 + ([BSP_Prct_Inc]));

/*Populate the selected method to the ForecastMethod member of
Period Dimension*/
"ForecastMethod" = 7;
)
ENDFIX

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
"No Attribute Value")
CALC DIM(Period);
ENDFIX
```

11. BSP_Annualize_YTD

    Description – This business rule is an input tool that annualizes year-to-date values for future time periods remaining in the current year, as designated by the Forecast as-of-date.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

FIX([BSP_COA_S], [BSP_Entity_S], [BSP_Currency_S], [BSP_Scenario_S],
[BSP_Version_S], [BSP_Strategy_S], [BSP_Year_S],
@LIST(@NextMnth([BSP_Period_Annualize]):&EndPeriod),"No Attribute
Value")

/*These local variables are used in further calculations.
Note:Global Variables cannot be used directly in calculations*/
VAR Period_Diff;
VAR Period_31;
VAR Period_30;
VAR Period_28;
VAR Period_Sum;
VAR YTD_Sum;
VAR pp;

/* Selected Account Member from Run-Time Prompt*/
[BSP_Acct_Annual]
(
/*Calculate Values for Ending Balance*/
 IF(@ISMBR("F100"))
    @PRIOR([BSP_Acct_Annual]);
 ENDIF;

/*Calculate Values for Average Balance*/
 IF (@ISMBR("F140"))
  @AVGRANGE(SKIPNONE,[BSP_Acct_Annual], @LIST(&StartPeriod:
[BSP_Period_Annualize]));
 ENDIF;

/*Calculate Values for New Add Balance, New Add Net Rate and Net New
Market Rate Spread*/
 IF(@ISMBR("F340","F360","F376"))

/*Count Number of Periods having 31, 30 and 28 days with Actual
data*/

Period_31=@COUNT(SKIPNONE,@REMOVE(@UDA(Period,"31"),@LIST(@NextMnth(
[BSP_Period_Annualize]): &EndPeriod)));

Period_30=@COUNT(SKIPNONE,@REMOVE(@UDA(Period,"30"),@LIST(@NextMnth(
[BSP_Period_Annualize]): &EndPeriod)));

Period_28=@COUNT(SKIPNONE,@REMOVE(@UDA(Period,"28"),@LIST(@NextMnth(
[BSP_Period_Annualize]): &EndPeriod)));

/*Count Number of Forecast Periods*/

Period_Diff=@COUNT(SKIPNONE,@LIST(@NextMnth([BSP_Period_Annualize]):
&EndPeriod));

/*Calculate Number of Days in monthly Actual Periods*/
   Period_Sum = Period_31*31 + Period_30*30 + Period_28*28;

/*Calculate Sum of monthly Actual Period Values*/
   YTD_Sum=@SUMRANGE([BSP_Acct_Annual], @LIST(&StartPeriod:
[BSP_Period_Annualize]));

/*Calculate Final Value to be populated for each Forecast Period*/
```

```
(((YTD_Sum/Period_Sum)*365)-YTD_Sum)/Period_Diff;

 ENDIF;

/*Populate the selected method to the ForecastMethod member of
Period Dimension*/
"ForecastMethod" = 3;
)
ENDFIX

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
"No Attribute Value")
CALC DIM(Period);
ENDFIX
```

12. BSP_Calculate_Current_Business

    Description – This business rule executes a java function to call cash flow engine for Current Business data processing.

```
FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Curren
cy_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Version_S]
,[BSP_Year_CB],[BSP_Period_All]);

VAR Return_Status = 100;

"No Attribute Value"
(
Return_Status =  @JCFE(
     "PR_FINANCIAL_PLAN",
     "FN_BSP_PROCESSING",
     &DBSERVERNAME,
     @NumToStr(&PORTNO),
     &SID,
     &USERNAME,
     &PASSWORD,
     @NAME([BSP_COA_S]),
     @NAME([BSP_Entity_S]),
     @NAME([BSP_Currency_S]),
     @NAME([BSP_Strategy_S]),
     @NAME([BSP_Scenario_S]),
     @NAME([BSP_Version_S]),
     "C",
     @NAME("F340"),
     @NAME("F376"),
     "ofsrm",
     "OFSRM",
     "TASK1",
     "ADMIN",
     "BSP",
     "PR_RES_DET_IMPORT",
     &ESSUSER,
     &ESSPWD,
     &SERVERNAME,
     &APPLICATION,
     &CubeName,
     "impCBCF",
     "impCBCF.msh"
     );
)

ENDFIX;
```

13. BSP_CFE_Security_File_Gen

    Description – This business rule executes a java function to generate Security file required for Cash Flow Engine.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value = @JGenSecFile(&USERNAME,&SID,&PASSWORD,&APPLICATION);
)
ENDFIX;
```

14. BSP_Consolidate

    Description – This business rule is used to run consolidation on the Hierarchical

Dimensions, Chart of Account, Entity and Strategy.

```
SET CREATENONMISSINGBLK ON;
FIX([BSP_Currency_S],[BSP_Scenario_S],[BSP_Version_S],[BSP_Year],"No
Attribute Value","F340","F100","F140","F360","F376")
 @IDESCENDANTS([BSP_COA_S]);
 @IDESCENDANTS([BSP_Entity_S]);
 @IDESCENDANTS([BSP_Strategy_S]);
 @IDESCENDANTS("Period");
ENDFIX
```

15. BSP_CopyAcross

Description – This business rule is used to copy Maturity Mix data to the defined Target Dimension members.

```
/*
FIX([Rates_Strategy_S],[Rates_Version_S],[Rates_Assumption_S],[Rates
_Scenario_S],"No Term Points","No FE - Rates",@Descendants("Mix
Breakout"),@Descendants("RateElement"))
*/
FIX([Rates_Strategy_S],[Rates_Version_S],[Rates_Assumption_S],"No FE
- Rates","No Term Points",@Descendants("Mix
Breakout"),@Descendants("RateElement"),[Rates_Year_Targ],[Rates_Peri
od_Targ],[Rates_Entity_Targ],[Rates_Currency_Targ],[Rates_COA_Targ])
/*
DATACOPY
[Rates_Year_S]->[Rates_Period_S]->[Rates_COA_S]->[Rates_Entity_S]->[
Rates_Currency_S] TO
[Rates_Year_Targ]->[Rates_Period_Targ]->[Rates_COA_Targ]->[Rates_Ent
ity_Targ]->[Rates_Currency_Targ];
*/
[Rates_Scenario_S]=[Rates_Year_S]->[Rates_Period_S]->[Rates_COA_S]->
[Rates_Entity_S]->[Rates_Currency_S]->[Rates_Scenario_S];
ENDFIX
```

16. BSP_Replace_Target_Input

Description – This business rule is an input tool used to copy the value input to selected target destinations.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
@LIST([BSP_Period_Start]:[BSP_Period_End]),"No Attribute Value")

/* Selected Account Member from Run-Time Prompt*/
[BSP_Account_TE]
(

/* Replace Target Value with Input Value for Ending Balance, Average
Balance and New Add Balance */
  IF(@ISMBR("F100","F140","F340"))
   [BSP_Input_Value];
  ENDIF;

/* Replace Target Value with Input Value for New Add Market Rate and
Net New Market Rate Spread */
  IF (@ISMBR("F360","F376"))
  ([BSP_Input_Value]/100);
  ENDIF;

/*Populate the selected method to the ForecastMethod member of
Period Dimension*/
"ForecastMethod" = 10;
)
ENDFIX

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
"No Attribute Value")

CALC DIM(Period);

ENDFIX
```

17. BSP_RunBalancing

    Description – This business rule is used to run the Balance Function.

```
SET UpdateCALC Off;
SET CREATENONMISSINGBLK ON;

VAR IR_RE_Var;
VAR IR_Assump_Var;
VAR Rate_Var;
VAR Yearpart,Numdays;
Array
Accr_day[Period]={1,31,28,31,1,30,31,30,1,31,31,30,1,31,30,31};
Array Accr_lp[Period]={1,31,29,31,1,30,31,30,1,31,31,30,1,31,30,31};

/*Variable to capture Accrual Basis Entry Number in the Smart List
selected against each Chart of Account*/
VAR Accr_Var;
/*Variable to capture Accrual value associated to Entry Number in
the Smart List selected against each Chart of Account*/
VAR Accr_Val;


FIX([BSP_Year_S],@LIST([BSP_Period_Start]:[BSP_Period_End]),[BSP_Str
ategy_S],[BSP_Currency_S],[BSP_Scenario_S],[BSP_Version_S],[BSP_Enti
ty_S],[BSP_COA_S])

/* The following Balance Financial Elements are aggregated from the
BSP Plan Type*/

/*Calculate B5305: Interest Income*/
"B5305" =
@SUMRANGE("F420",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_Asset]));

/*Calculate B5307: Fee Interest on Interest Bearing Accounts*/
"B5307" =
@SUMRANGE("F900",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_Asset]));

/*Calculate B5160: Tax Exempt Adjustment*/
"B5160" =
@SUMRANGE("F910",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_TaxExAdj]));

/*Calculate B5308: Other Income Adjustment*/
"B5308" =
@SUMRANGE("F920",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_Asset]));

/*Calculate B5400: Ending Assets*/
"B5400" =
@SUMRANGE("F100",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_Asset]));

/*Calculate B5300: Average Asset:Pre-balancing*/
"B5300" =
@SUMRANGE("F140",@REMOVE(@ATTRIBUTE("Assets"),[Core_COA_Asset]));

/*Calculate B5315: Interest Expense*/
"B5315" =
@SUMRANGE("F420",@REMOVE(@ATTRIBUTE("Liability"),[Core_COA_Liability
]));

/*Calculate B5317: Other Interest Expense Adjustments*/
"B5317" =
@SUMRANGE("F920",@REMOVE(@ATTRIBUTE("Liability"),[Core_COA_Liability
]));

/*Calculate B5410: Ending Liability*/
```

```
"B5410" =
@SUMRANGE("F100",@REMOVE(@ATTRIBUTE("Liability"),[Core_COA_Liability
]));

/*Calculate B5310: Average Liability:Pre-balancing*/
"B5310" =
@SUMRANGE("F140",@REMOVE(@ATTRIBUTE("Liability"),[Core_COA_Liability
]));

/*Calculate B5420: Ending Equity*/
"B5420" =
@SUMRANGE("F100",@REMOVE(@ATTRIBUTE("Equity"),[Core_COA_Equity]));

/*Calculate B5320: Average Equity:Pre-balancing*/
"B5320" =
@SUMRANGE("F140",@REMOVE(@ATTRIBUTE("Equity"),[Core_COA_Equity]));

/*Calculate B5500: Direct Non Interest Income*/
"B5500" = @SUMRANGE("F455",@REMOVE(@ATTRIBUTE("Direct Non Interest
Income"),[Core_COA_Asset]));

/*Calculate B5520: Allocated Non Interest Income*/
"B5520" = @SUMRANGE("F455",@REMOVE(@ATTRIBUTE("Allocated Non
Interest Income"),[Core_COA_Asset]));

/*Calculate B5510: Direct Non Interest Expense*/
"B5510" = @SUMRANGE("F457",@REMOVE(@ATTRIBUTE("Direct Non Interest
Expense"),[Core_COA_Liability]));

/*Calculate B5530: Allocated Non Interest Expense*/
"B5530" = @SUMRANGE("F457",@REMOVE(@ATTRIBUTE("Allocated Non
Interest Expense"),[Core_COA_Liability]));

/*Calculate the following Balance Financial Element in the Core Plan
Type*/
/*Calculate B5540: Total Income(Allocated and Direct)*/
B5540 = @SUM( "B5305", "B5307", "B5308", "B5500", "B5520");

/*Calculate B5550: Total Expense(Allocated and Direct)*/
B5550 =B5315 + B5317 + B5510 + B5530;

/*Calculate B5560: Net Income Before Taxes*/
B5560 = B5540 - B5550;

/*Calculate B5100: State Tax: Pre-balancing*/
B5100 = (B5560 * B5200) / 100;

/*Calculate B5250: Net Tax Rate*/
B5250 = ((B5210 / 100) + (B5200 / 100) - ((B5210 / 100) * (B5200
/100))) * 100;

/*Calculate B5140: IT:Pre-balancing,Pre-State Taxes*/
B5140 = ((B5560 * B5250) + (B5210 * B5160)) / 100;

/*Calculate B5120: Federal Taxes: Pre-balancing*/
B5120 = B5140 - B5100;

/*Calculate B5570: Net Income After Taxes: Pre-balancing*/
B5570 = B5560 - B5100 - B5120;

/*Calculate B5580: Balancing Equity :Pre-balancing*/
```

```
/*Note: For first period, the value is taken as zero*/
"B5580"
(
IF (@CURRMBR(PERIOD)==&StartPeriod) 0;
ELSE
/*
@PRIOR(B5850) + (0.5 * (B5570 - B5230));
*/
("B5850"->"Feb") + (0.5 * (B5570 - B5230));
ENDIF;
)

/*Calculate B5590: Balancing Amount*/
B5590=B5300-B5310-B5320- B5580;

/*Pick Asset/Liability Transfer Rate based on Balancing Amount */
"B5610"
(
IF ("B5590" < 0)

IR_RE_Var = @XREF(_RevCube_,"Transfer Rate Int Rate
Code",[Core_COA_Asset],"No Financial Element","No Currency","No
Entity","BegBalance","No Scenario","No Strategy","No Version","No
Year");
IR_Assump_Var=@XREF(_RevCube_,"IR Scenario","No Financial
Element","No Currency","No Entity","BegBalance","No Strategy","No
Version","No Year");
Rate_Var = @XREF(_PnlCube_,"No FE - Rates","No Mix
Breakout",@NumtoStr(IR_Assump_Var),@NumtoStr(IR_RE_Var),"1 M","No
Currency","100000","No Entity");
"B5610" = Rate_Var;
ELSE

IR_RE_Var = @XREF(_RevCube_,"Transfer Rate Int Rate
Code",[Core_COA_Liability],"No Financial Element","No Currency","No
Entity","BegBalance","No Scenario","No Strategy","No Version","No
Year");
IR_Assump_Var=@XREF(_RevCube_,"IR Scenario","No Financial
Element","No Currency","No Entity","BegBalance","No Strategy","No
Version","No Year");
Rate_Var = @XREF(_PnlCube_,"No FE - Rates","No Mix
Breakout",@NumtoStr(IR_Assump_Var),@NumtoStr(IR_RE_Var),"1 M","No
Currency","100000","No Entity");
"B5610" = Rate_Var;
ENDIF;

)

/*Pick Asset/Liability Market Rate based on Balancing Amount */
"B5615"
(
IF ("B5590" < 0)

IR_RE_Var = @XREF(_RevCube_,"Market Rate Int Rate
Code",[Core_COA_Asset],"No Financial Element","No Currency","No
Entity","BegBalance","No Scenario","No Strategy","No Version","No
Year");
IR_Assump_Var=@XREF(_RevCube_,"IR Scenario","No Financial
Element","No Currency","No Entity","BegBalance","No Strategy","No
Version","No Year");
Rate_Var = @XREF(_PnlCube_,"No FE - Rates","No Mix
```

```
Breakout",@NumtoStr(IR_Assump_Var),@NumtoStr(IR_RE_Var),"1 M","No
Currency","100000","No Entity");
"B5615" = Rate_Var;
ELSE

IR_RE_Var = @XREF(_RevCube_,"Market Rate Int Rate
Code",[Core_COA_Liability],"No Financial Element","No Currency","No
Entity","BegBalance","No Scenario","No Strategy","No Version","No
Year");
IR_Assump_Var=@XREF(_RevCube_,"IR Scenario","No Financial
Element","No Currency","No Entity","BegBalance","No Strategy","No
Version","No Year");
Rate_Var = @XREF(_PnlCube_,"No FE - Rates","No Mix
Breakout",@NumtoStr(IR_Assump_Var),@NumtoStr(IR_RE_Var),"1 M","No
Currency","100000","No Entity");
"B5615" = Rate_Var;
ENDIF;

)

/* Spread */
"B5600"
(
IF("B5590" < 0)
"B5600" = "No FE - Core" -> [Core_Entity_Asset] ->[Core_COA_Asset];
ELSE
"B5600" = "No FE - Core" -> [Core_Entity_Liability]
->[Core_COA_Liability];
ENDIF;
)
/*Pick Equity Spot Transfer Rate*/
"B5787"
(
IR_RE_Var = @XREF(_RevCube_,"Transfer Rate Int Rate
Code",[Core_COA_Equity],"No Financial Element","No Currency","No
Entity","BegBalance","No Scenario","No Strategy","No Version","No
Year");
IR_Assump_Var=@XREF(_RevCube_,"IR Scenario","No Financial
Element","No Currency","No Entity","BegBalance","No Strategy","No
Version","No Year");
Rate_Var = @XREF(_PnlCube_,"No FE - Rates","No Mix
Breakout",@NumtoStr(IR_Assump_Var),@NumtoStr(IR_RE_Var),"1 M","No
Currency","100000","No Entity");
"B5787" = Rate_Var;
)

/* Calculate B5620: Interest Rate*/
B5620 = B5615 + B5600;

/*Calculate B5700: Balancing Asset Average*/
"B5700"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Asset]);

/* Incorporate leap year logic to identify number of days in the
year */
```

```
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

IF ("B5590" >= 0)
0;
ELSE
B5590 / (1- (0.5 * ((B5620 / 100) * Accr_Val) * (1-(B5250 / 100))))
* -1;
ENDIF;
)

/*Calculate B5710: Balancing Asset Charge*/
"B5710"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Asset]);

/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
```

```
ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

B5700 * (B5610 / 100) * Accr_Val;
)

/*Calculate B5720: Balancing Asset Interest*/
"B5720"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Asset]);

/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

IF ("B5590" >0)
0;
ELSE
```

```
B5700 * (B5620 / 100) * Accr_Val;
ENDIF;
)

/*Calculate B5730: Balancing Liability Average*/
"B5730"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Asset]);

/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

IF ("B5590" < 0)
0;
ELSE
B5590 / (1 - (0.5 * ((B5620 / 100) * Accr_Val) * (1 -(B5250/100))));
ENDIF;
)

/*Calculate B5740: Balancing Liability Charge*/
"B5740"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Liability]);
```

```
/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;
B5730 * (B5610 / 100) * Accr_Val;
)

/*Calculate B5750: Balancing Liability Interest*/
"B5750"
(
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Liability]);

/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
```

```
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

IF ("B5590" <= 0)
0;
ELSE
B5730 * (B5620 / 100)* Accr_Val;
ENDIF;
)

/*Calculate B5110: State Tax*/
B5110 = B5100 + ((B5720 - B5750) * (B5200 / 100));

/*Calculate B5130: Federal Tax*/
B5130 = B5120 + (((B5720 - B5750) - ((B5720 - B5750) * (B5200
/100))) * (B5210 / 100));

/*Calculate B5150: Income Tax*/
B5150 = B5110+B5130;

/*Calculate B5760: Funding*/
B5760= (B5720 - B5750) * (1 - (B5250 / 100));

/*Calculate B5770: Net Income After Taxes*/
B5770 = B5570 + B5760;

/*Calculate B5780: Balancing Equity */
B5780= B5580 + (0.5 * B5760);

/*Calculate B5790: Charge on Equity */
/*Accr_Var is used to capture value selected in the Chart of Account
Characteristics Form for the Attribute Value Dimension Member named
Interest Accrual Method*/
"B5790"
(
Accr_Var=@XREF(_RevCube_,"Interest Accrual Method","No Financial
Element","No Strategy","No Scenario","No Version","No Entity","No
Currency","BegBalance","No Year",[Core_COA_Asset]);

/* Incorporate leap year logic to identify number of days in the
year */
Yearpart=@StringToNum(@SubString(@NAME([BSP_Year_S]),2));
if (@REMAINDER(Yearpart/4)==0) Numdays=366;
else Numdays=365;
endif;

/*Based on the Interest Accrual Method entry number/ name selected
in the Chart of Account Characteristics Data form, the Annualization
Factor is calculated in Accr_Val Variable*/
IF (Numdays==365)
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_day/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_day/Numdays;
```

```
ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_day/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ELSE
 IF (Accr_Var==1) Accr_Val=30/360;
 ELSEIF (Accr_Var==2) Accr_Val=Accr_lp/360;
 ELSEIF (Accr_Var==3) Accr_Val=Accr_lp/Numdays;
 ELSEIF (Accr_Var==4) Accr_Val=30/365;
 ELSEIF (Accr_Var==5) Accr_Val=30/Numdays;
 ELSEIF (Accr_Var==6) Accr_Val=Accr_lp/365;
 ELSEIF (Accr_Var==7) Accr_Val=22/252;
 ENDIF;
ENDIF;

B5780 * ((B5787 / 100) * Accr_Val);
)

/*Calculate B5850: Ending Balancing Equity*/
/*Note: For first period, the value is taken as zero*/

"B5850"
(
IF (@CURRMBR(PERIOD)==&StartPeriod) 0;
ELSE @PRIOR(B5850) + B5770 - B5230;
ENDIF;
)

/* All of these need to calculated on Run Balancing as aggregation
over Entity*/
/*Calculate B5225: Aggregated Tax Adjustments*/
"B5225" =
@SUMRANGE("B5220",@REMOVE(@ATTRIBUTE("Tax"),[Core_Entity_Asset]));

/*Calculate B5595: Aggregated Balancing Amount
If Balancing Amount: B5590>=0 then Liability Entity Exclusion else
if Balancing Amount < 0 then Entity Asset exclusion */

"B5595"
(
IF ("B5590" >= 0)
"B5595" =
@SUMRANGE("B5590",@REMOVE(@ATTRIBUTE("Liability"),[Core_Entity_Liabi
lity]));
ELSE
"B5595" =
@SUMRANGE("B5590",@REMOVE(@ATTRIBUTE("Assets"),[Core_Entity_Asset]))
;
ENDIF;
)

/*Calculate B5705: Aggregated Asset Average*/
"B5705" =
@SUMRANGE("B5700",@REMOVE(@ATTRIBUTE("Assets"),[Core_Entity_Asset]))
;

/*Calculate B5715: Aggregated Balancing Asset Charge*/
"B5715" =
@SUMRANGE("B5710",@REMOVE(@ATTRIBUTE("Assets"),[Core_Entity_Asset]))
;
```

```
/*Calculate B5725: Aggregated Balancing Asset Interest*/
"B5725" =
@SUMRANGE("B5720",@REMOVE(@ATTRIBUTE("Assets"),[Core_Entity_Asset]))
;

/*Calculate B5735: Aggregated Liability Average*/
"B5735" =
@SUMRANGE("B5730",@REMOVE(@ATTRIBUTE("Liability"),[Core_Entity_Liabi
lity]));

/*Calculate B5745: Aggregated Balancing Liability Charge*/
"B5745" =
@SUMRANGE("B5740",@REMOVE(@ATTRIBUTE("Liability"),[Core_Entity_Liabi
lity]));

/*Calculate B5755: Aggregated Balancing Liability Interest*/
"B5755" =
@SUMRANGE("B5750",@REMOVE(@ATTRIBUTE("Liability"),[Core_Entity_Liabi
lity]));

/*Calculate B5115: Aggregated State Tax*/
"B5115" =
@SUMRANGE("B5110",@REMOVE(@ATTRIBUTE("Tax"),[Core_Entity_TaxExp]));

/*Calculate B5135: Aggregated Federal Tax*/
"B5135" =
@SUMRANGE("B5130",@REMOVE(@ATTRIBUTE("Tax"),[Core_Entity_TaxExp]));

/*Calculate B5785: Aggregated Balancing Equity*/
"B5785" =
@SUMRANGE("B5780",@REMOVE(@ATTRIBUTE("Equity"),[Core_Entity_Equity])
);

/*Calculate B5795: Aggregated Charge on Equity*/
"B5795" =
@SUMRANGE("B5790",@REMOVE(@ATTRIBUTE("Equity"),[Core_Entity_Equity])
);

/*Calculate Balance Financial Elements after aggregations*/
/*Calculate B5800: Average Asset*/
B5800 = B5300 + B5700 + B5705;

/*Calculate B5810: Average Liability */
B5810 = B5310 + B5730 + B5735;

/*Calculate B5820: Average Equity*/
B5820 = B5320 + B5780 + B5785;

/*Calculate B5900: Balance Result Average*/
B5900 = B5800 - B5810 - B5820;

ENDFIX

CALC DIM("Account");
```

18. BSP_Sync_Capex_Bal

    Description – This business rule is used to synchronize data defined in CAPEX module for Balance Account Dimension members with Chart of Account Dimension members of the BSP module.

```
SET CREATENONMISSINGBLK ON;

FIX
([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Versio
n_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute(Assets),@Attribute(Liability))
var cpx_bal_acc;

"F100"
(
cpx_bal_acc="Capex Balance Accounts"->@CurrMbr("Chart of
Account")->"No Version"->"No Scenario"->"No Strategy"->"No Attribute
Value"->"BegBalance"->"No Year"->"No Entity"->"No Currency";
if (cpx_bal_acc==1)
 @XREF(_CXCube_,"Property, Plant and Equipment (Net)","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==2)
 @XREF(_CXCube_,"Property, Plant and Equipment Gross","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==3)
 @XREF(_CXCube_,"Accumulated depreciation","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==4)
 @XREF(_CXCube_,"Intangible Asset, Net","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==5)
 @XREF(_CXCube_,"Intangible Assets- indefinite","Total All","Total
Fixed Assets");
elseif (cpx_bal_acc==6)
 @XREF(_CXCube_,"Intangible Assets- definite, Net","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==7)
 @XREF(_CXCube_,"Infinite Assets Finite, Gross","Total All","Total
Fixed Assets");
elseif (cpx_bal_acc==8)
 @XREF(_CXCube_,"Accumulated Amortization","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==9)
 @XREF(_CXCube_,"Long Term debt","Total All","No Asset");
elseif (cpx_bal_acc==10)
 @XREF(_CXCube_,"Asset Retirement Liability","Total All","No
Asset");
elseif (cpx_bal_acc==11)
 @XREF(_CXCube_,"Capital Reserve","Total All","No Asset");
endif;
)
ENDFIX
```

19. BSP_Sync_Capex_Bal_All

    Description – This business rule is used to synchronize data defined in CAPEX module for Balance Account Dimension members with Chart of Account Dimension members of the BSP module at all Entity level.

```
SET CREATENONMISSINGBLK ON;

FIX
([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Versio
n_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute(Assets),@Attribute(Liability))
var cpx_bal_acc;

"F100"
(
cpx_bal_acc="Capex Balance Accounts"->@CurrMbr("Chart of
Account")->"No Version"->"No Scenario"->"No Strategy"->"No Attribute
Value"->"BegBalance"->"No Year"->"No Entity"->"No Currency";
if (cpx_bal_acc==1)
 @XREF(_CXCube_,"Property, Plant and Equipment (Net)","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==2)
 @XREF(_CXCube_,"Property, Plant and Equipment Gross","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==3)
 @XREF(_CXCube_,"Accumulated depreciation","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==4)
 @XREF(_CXCube_,"Intangible Asset, Net","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==5)
 @XREF(_CXCube_,"Intangible Assets- indefinite","Total All","Total
Fixed Assets");
elseif (cpx_bal_acc==6)
 @XREF(_CXCube_,"Intangible Assets- definite, Net","Total
All","Total Fixed Assets");
elseif (cpx_bal_acc==7)
 @XREF(_CXCube_,"Infinite Assets Finite, Gross","Total All","Total
Fixed Assets");
elseif (cpx_bal_acc==8)
 @XREF(_CXCube_,"Accumulated Amortization","Total All","Total Fixed
Assets");
elseif (cpx_bal_acc==9)
 @XREF(_CXCube_,"Long Term debt","Total All","No Asset");
elseif (cpx_bal_acc==10)
 @XREF(_CXCube_,"Asset Retirement Liability","Total All","No
Asset");
elseif (cpx_bal_acc==11)
 @XREF(_CXCube_,"Capital Reserve","Total All","No Asset");
endif;
)
ENDFIX
```

20. BSP_Sync_WrkForce_Bal

    Description – This business rule is used to synchronize data defined in Workforce module for Expense Account Dimension members with Chart of Account Dimension members of the BSP module.

```
SET CREATENONMISSINGBLK ON;
/*
 DATACOPY "Workforce Expenses"->"Total Employees" TO "No Attribute
Value"->"F457"->[BSP_COA_WFP]->[BSP_Currency_S];
*/
FIX
([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Versio
n_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute("Direct Non Interest Expense"))

var wfp_exp_acc;

"F457"
(
wfp_exp_acc="Workforce Accounts"->@CurrMbr("Chart of Account")->"No
Version"->"No Scenario"->"No Strategy"->"No Attribute
Value"->"BegBalance"->"No Year"->"No Entity"->"No Currency";

if (wfp_exp_acc==1)
 @XREF(_WFCube_,"Employee Expenses","Total Employees");
elseif (wfp_exp_acc==2)
 @XREF(_WFCube_,"Total Compensation","Total Employees");
elseif (wfp_exp_acc==3)
 @XREF(_WFCube_,"Total Salary","Total Employees");
elseif (wfp_exp_acc==4)
 @XREF(_WFCube_,"Adjusted Salary","Total Employees");
elseif (wfp_exp_acc==5)
 @XREF(_WFCube_,"Bonus","Total Employees");
elseif (wfp_exp_acc==6)
 @XREF(_WFCube_,"Sign On Bonus","Total Employees");
elseif (wfp_exp_acc==7)
 @XREF(_WFCube_,"Commissions","Total Employees");

elseif (wfp_exp_acc==8)
 @XREF(_WFCube_,"Health Care Costs","Total Employees");
elseif (wfp_exp_acc==9)
 @XREF(_WFCube_,"Severance","Total Employees");
elseif (wfp_exp_acc==10)
 @XREF(_WFCube_,"Other Compensation","Total Employees");
elseif (wfp_exp_acc==11)
 @XREF(_WFCube_,"Turnover Adjustment","Total Employees");
elseif (wfp_exp_acc==12)
 @XREF(_WFCube_,"Taxes","Total Employees");

elseif (wfp_exp_acc==13)
 @XREF(_WFCube_,"Social Security Tax","Total Employees");
elseif (wfp_exp_acc==14)
 @XREF(_WFCube_,"Medicare","Total Employees");
elseif (wfp_exp_acc==15)
 @XREF(_WFCube_,"SUI","Total Employees");
elseif (wfp_exp_acc==16)
 @XREF(_WFCube_,"FUTA","Total Employees");
elseif (wfp_exp_acc==17)
 @XREF(_WFCube_,"Employee Related Expenses","Total Employees");

elseif (wfp_exp_acc==18)
 @XREF(_WFCube_,"Training","Total Employees");
elseif (wfp_exp_acc==19)
 @XREF(_WFCube_,"Travel","Total Employees");
elseif (wfp_exp_acc==20)
 @XREF(_WFCube_,"Telephone","Total Employees");
```

```
elseif (wfp_exp_acc==21)
 @XREF(_WFCube_,"Office Supplies","Total Employees");
elseif (wfp_exp_acc==22)
 @XREF(_WFCube_,"Department Costs","Total Employees");

elseif (wfp_exp_acc==23)
 @XREF(_WFCube_,"Miscellaneous","Total Employees");
elseif (wfp_exp_acc==24)
 @XREF(_WFCube_,"New Hire Related Expenses","Total Employees");
elseif (wfp_exp_acc==25)
 @XREF(_WFCube_,"Recruiting","Total Employees");
elseif (wfp_exp_acc==26)
 @XREF(_WFCube_,"Relocation","Total Employees");
elseif (wfp_exp_acc==27)
 @XREF(_WFCube_,"Total Employee Capital Purchases","Total
Employees");

elseif (wfp_exp_acc==28)
 @XREF(_WFCube_,"Hardware","Total Employees");
elseif (wfp_exp_acc==29)
 @XREF(_WFCube_,"Software","Total Employees");
elseif (wfp_exp_acc==30)
 @XREF(_WFCube_,"Furniture","Total Employees");
endif;
)
ENDFIX
```

21. BSP_Sync_WrkForce_Bal_All

    Description – This business rule is used to synchronize data defined in Workforce module for Expense Account Dimension members with Chart of Account Dimension members of the BSP module at all Entity Level.

```
SET CREATENONMISSINGBLK ON;

FIX
([BSP_Year],[BSP_Period],@DESCENDANTS("BSP_Entity"),[BSP_Strategy_S]
,[BSP_Version_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute("Direct Non Interest Expense"))

var wfp_exp_acc;

"F457"
(
wfp_exp_acc="Workforce Accounts"->@CurrMbr("Chart of Account")->"No
Version"->"No Scenario"->"No Strategy"->"No Attribute
Value"->"BegBalance"->"No Year"->"No Entity"->"No Currency";

if (wfp_exp_acc==1)
 @XREF(_WFCube_,"Employee Expenses","Total Employees");
elseif (wfp_exp_acc==2)
 @XREF(_WFCube_,"Total Compensation","Total Employees");
elseif (wfp_exp_acc==3)
 @XREF(_WFCube_,"Total Salary","Total Employees");
elseif (wfp_exp_acc==4)
 @XREF(_WFCube_,"Adjusted Salary","Total Employees");
elseif (wfp_exp_acc==5)
 @XREF(_WFCube_,"Bonus","Total Employees");
elseif (wfp_exp_acc==6)
 @XREF(_WFCube_,"Sign On Bonus","Total Employees");
elseif (wfp_exp_acc==7)
 @XREF(_WFCube_,"Commissions","Total Employees");

elseif (wfp_exp_acc==8)
 @XREF(_WFCube_,"Health Care Costs","Total Employees");
elseif (wfp_exp_acc==9)
 @XREF(_WFCube_,"Severance","Total Employees");
elseif (wfp_exp_acc==10)
 @XREF(_WFCube_,"Other Compensation","Total Employees");
elseif (wfp_exp_acc==11)
 @XREF(_WFCube_,"Turnover Adjustment","Total Employees");
elseif (wfp_exp_acc==12)
 @XREF(_WFCube_,"Taxes","Total Employees");

elseif (wfp_exp_acc==13)
 @XREF(_WFCube_,"Social Security Tax","Total Employees");
elseif (wfp_exp_acc==14)
 @XREF(_WFCube_,"Medicare","Total Employees");
elseif (wfp_exp_acc==15)
 @XREF(_WFCube_,"SUI","Total Employees");
elseif (wfp_exp_acc==16)
 @XREF(_WFCube_,"FUTA","Total Employees");
elseif (wfp_exp_acc==17)
 @XREF(_WFCube_,"Employee Related Expenses","Total Employees");

elseif (wfp_exp_acc==18)
 @XREF(_WFCube_,"Training","Total Employees");
elseif (wfp_exp_acc==19)
 @XREF(_WFCube_,"Travel","Total Employees");
elseif (wfp_exp_acc==20)
 @XREF(_WFCube_,"Telephone","Total Employees");
elseif (wfp_exp_acc==21)
 @XREF(_WFCube_,"Office Supplies","Total Employees");
elseif (wfp_exp_acc==22)
```

```
@XREF(_WFCube_,"Department Costs","Total Employees");

elseif (wfp_exp_acc==23)
 @XREF(_WFCube_,"Miscellaneous","Total Employees");
elseif (wfp_exp_acc==24)
 @XREF(_WFCube_,"New Hire Related Expenses","Total Employees");
elseif (wfp_exp_acc==25)
 @XREF(_WFCube_,"Recruiting","Total Employees");
elseif (wfp_exp_acc==26)
 @XREF(_WFCube_,"Relocation","Total Employees");
elseif (wfp_exp_acc==27)
 @XREF(_WFCube_,"Total Employee Capital Purchases","Total
Employees");

elseif (wfp_exp_acc==28)
 @XREF(_WFCube_,"Hardware","Total Employees");
elseif (wfp_exp_acc==29)
 @XREF(_WFCube_,"Software","Total Employees");
elseif (wfp_exp_acc==30)
 @XREF(_WFCube_,"Furniture","Total Employees");
endif;
)
ENDFIX
```

22. BSP_Target_End_Value

    Description – This business rule is an input tool used to generate interim values between the start month and end month currently selected as the target time dimension value, with the goal of achieving a target value by the end month.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

/*Fiscal Year Validation is yet to be done though rule accomodates
the same*/
/*These local variables are used in further calculations.
Note:Global Variables cannot be used directly in calculations.*/
Var Target_Value = [BSP_Target_Value];
Var Period_Diff;
Var Year_Diff;
Var Incr;

FIX([BSP_COA_S],[BSP_Entity_S],[BSP_Currency_S],[BSP_Scenario_S],[BS
P_Version_S],[BSP_Strategy_S],[BSP_Year_S],"No Attribute
Value",@LIST([BSP_Period_Start]:[BSP_Period_End]))

/* Selected Account Member from Run-Time Prompt*/
[BSP_Account_TE]
(
/*
Year_Diff=@COUNT(SKIPNONE,@LIST([Start_Year]:[Target_Year]));
*/

/* Calculate values for Ending Balance, Average Balance and New Add
Balance*/
IF (@ISMBR("F100","F140","F340"))
 /*Year_Diff counts the Number of Forecast Years and Period Diff
counts the Number of Periods
 Incr calculates the Increment Value*/
  Year_Diff=1;

Period_Diff=@COUNT(SKIPNONE,@LIST([BSP_Period_Start]:[BSP_Period_End
]));
    IF (Year_Diff <1)
     Period_Diff=0;
    Incr=0;
  ELSEIF (Year_Diff > 1)
     Period_Diff = Period_Diff + ((Year_Diff-1) * 12);
     Incr=(Target_Value -
@Prior([BSP_Year_S]->[BSP_Period_Start]->[BSP_Account_TE]))
/(Period_Diff);
   ELSEIF (Year_Diff==1 AND Period_Diff <1)
    Period_Diff=0;
     Incr=0;
  /* PrevYr is used to handle special case: Pick value of Previous
Year for calculation. It determines the Last Year of the Selected
Start Year in Runtime Prompt*/
   ELSEIF (Year_Diff==1 AND Period_Diff >=1)
      IF ([BSP_Period_Start] == &StartPeriod)
         Incr=(Target_Value -
@PrevYr([BSP_Year_S])->&EndPeriod->[BSP_Account_TE]) /(Period_Diff);

        ELSE Incr=(Target_Value -
@Prior([BSP_Year_S]->[BSP_Period_Start]->[BSP_Account_TE]))
/(Period_Diff);
        ENDIF;
  ENDIF;

 /*Calculate and populate values.Handles special case: Pick value of
Previous Year for calculation*/
  IF ([BSP_Account_TE]==#MISSING) [BSP_Account_TE]=0;
```

```
ENDIF;
       IF (@CURRMBR(Period) == &StartPeriod)
@Round(@PrevYr([BSP_Year_S])->&EndPeriod->[BSP_Account_TE] +
(Incr),2);
       ELSE @Round(@Prior([BSP_Account_TE]) + (Incr),2);
       ENDIF;

ENDIF;

/* Calculate values for New Add Net Rate and Net New Market Rate
Spread*/
IF (@ISMBR("F360","F376"))
  Year_Diff=1;

Period_Diff=@COUNT(SKIPNONE,@LIST([BSP_Period_Start]:[BSP_Period_End
]));
  IF (Year_Diff <1)
     Period_Diff=0;
     Incr=0;
  ELSEIF (Year_Diff > 1)
     Period_Diff = Period_Diff + ((Year_Diff-1) * 12);
     Incr=(Target_Value -
@Prior([BSP_Year_S]->[BSP_Period_Start]->[BSP_Account_TE]))
/(Period_Diff);
  ELSEIF (Year_Diff==1 AND Period_Diff <1)
     Period_Diff=0;
     Incr=0;
  ELSEIF (Year_Diff==1 AND Period_Diff >=1)
        IF ([BSP_Period_Start] == &StartPeriod)
           Incr=((Target_Value/100) -
@PrevYr([BSP_Year_S])->&EndPeriod->[BSP_Account_TE]) /(Period_Diff);

        ELSE
        Incr=((Target_Value/100) -
@Prior([BSP_Year_S]->[BSP_Period_Start]->[BSP_Account_TE]))
/(Period_Diff);
        ENDIF;
  ENDIF;

  IF ([BSP_Account_TE]==#MISSING) [BSP_Account_TE]=0;
  ENDIF;
  IF (@CURRMBR(Period) == &StartPeriod)
@Round(@PrevYr([BSP_Year_S])->&EndPeriod->[BSP_Account_TE] +
(Incr),6);
  ELSE
     IF (@Prior([BSP_Account_TE])==#MISSING) Incr;
   ELSE @Round((@Prior([BSP_Account_TE]) + Incr),6);
     ENDIF;
  ENDIF;
ENDIF;
/*Populate the selected method to the ForecastMethod member of
Period Dimension*/
"ForecastMethod" = 2;
)
ENDFIX

FIX([BSP_COA_S],[BSP_Entity_S],[BSP_Currency_S],[BSP_Scenario_S],[BS
P_Version_S],[BSP_Strategy_S],[BSP_Year_S],"No Attribute Value")
CALC DIM(Period);

ENDFIX
```

23. BSP_TransResult

Description – This business rule is used to Transfer results after the balance function from the 'Core' Plan Type to 'BSP' Plan Type

```
SET CREATENONMISSINGBLK ON;
SET UpdateCALC Off;

FIX([BSP_Year_S],@LIST([BSP_Period_Start]:[BSP_Period_End]),[BSP_Str
ategy_S],[BSP_Currency_S],[BSP_Scenario_S],[BSP_Version_S],"No
Attribute Value")

 FIX([Core_COA_Asset],[Core_Entity_Asset])
 "F140"=@XREF(_BsCube_,"B5700",[BSP_COA_S],[BSP_Entity_S]);
 "F450"=@XREF(_BsCube_,"B5710",[BSP_COA_S],[BSP_Entity_S]);
 "F420"=@XREF(_BsCube_,"B5720",[BSP_COA_S],[BSP_Entity_S]);
 ENDFIX

 FIX([Core_COA_Liability],[Core_Entity_Liability])
 "F140"=@XREF(_BsCube_,"B5730",[BSP_COA_S],[BSP_Entity_S]);
 "F450"=@XREF(_BsCube_,"B5740",[BSP_COA_S],[BSP_Entity_S]);
 "F420"=@XREF(_BsCube_,"B5750",[BSP_COA_S],[BSP_Entity_S]);
 ENDFIX

 FIX([Core_COA_Equity],[Core_Entity_Equity])
 "F140"=@XREF(_BsCube_,"B5780",[BSP_COA_S],[BSP_Entity_S]);
 "F450"=@XREF(_BsCube_,"B5790",[BSP_COA_S],[BSP_Entity_S]);
 "F100"=@XREF(_BsCube_,"B5850",[BSP_COA_S],[BSP_Entity_S]);
 ENDFIX

 FIX([Core_COA_TaxExp],[Core_Entity_TaxExp])
 "F457"=@XREF(_BsCube_,"B5110",[BSP_COA_S],[BSP_Entity_S]) +
@XREF(_BsCube_,"B5130",[BSP_COA_S],[BSP_Entity_S]) +
@XREF(_BsCube_,"B5220",[BSP_COA_S],[BSP_Entity_S]);
 ENDFIX

ENDFIX
```

24. BSP_Percent_Growth_Over_Prior_Yr

Description – This business rule is an input tool used to calculate target values by multiplying the value in the same month of the prior year by one plus the value input.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S],
@LIST([BSP_Period_Start]:[BSP_Period_End]),[BSP_Year_S])

/* Selected Account Member from Run-Time Prompt*/
[BSP_Account_TE]
(

/*Calculate values for Ending Balance, Average Balance, New Add
Balance, New Add Net Rate and Net New Market Rate Spread*/

@Member(@PrevYr([BSP_Year_S])) * (1 + ([BSP_Prct_Inc]));

/*Populate the selected method to the ForecastMethod member of
Period Dimension for the Year selected in the Runtime Prompt*/

"ForecastMethod" = 4;
)
ENDFIX

FIX ([BSP_Entity_S], [BSP_Currency_S], [BSP_COA_S],
[BSP_Scenario_S], [BSP_Strategy_S], [BSP_Version_S], [BSP_Year_S],
"No Attribute Value")

CALC DIM(Period);

ENDFIX
```

Sequences

1. BSP_COA_Seq

   Description – This sequence is being used to export Chart of Account Characteristics data from Essbase to FSDM. There are two business rules included in this sequence.

   1. BSP_COA_Export

      Description – This business rule exports Chart of Account Characteristics into FSI_BSP_COA_T intermediate table of FSDM.

```
SET DATAEXPORTOPTIONS
  {
  DataExportLevel "LEVEL0";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial
Element",@DESCENDANTS("Chart Of Account Attributes"));

DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_COA_T" "&USERNAME"
"&PASSWORD";

ENDFIX;
```

2. BSP_COA_ProcCall

   Description – This business rule executes a stored procedure called PR_COA_ATTRIBUTE which reads data from FSI_BSP_COA_T table and populates FSI_M_PROD_CHARACTERISTICS table.

```
FIX("No Year","No Scenario","No Version","No Entity","No
Strategy","BegBalance","No Currency","No Financial Element");
VAR return_value;
"No Attribute Value"
(
return_value =
@JProc("PR_COA_ATTRIBUTE",&DBSERVERNAME,@NumToStr(&PORTNO),&SID,&
USERNAME,&PASSWORD);
)
ENDFIX;
```

2. BSP_Scenario_Export_Seq

   Description – This sequence is being used to export scenario attributes from Essbase to FSDM. There are two business rules included in this sequence.

   1. BSP_ScenarioAttr_DataExport

      Description – This business rule exports scenario attributes into FSI_BSP_SCENARIO_ATTRIBUTE_T intermediate table of FSDM.

```
SET CREATENONMISSINGBLK ON;
SET DATAEXPORTOPTIONS
  {
  DataExportLevel "LEVEL0";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };
FIX("No Year","No Currency","No Entity","No
Strategy","BegBalance","No Financial Element","No Version","No
Chart of Account",@DESCENDANTS("Scenario Attributes"));

DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_SCENARIO_ATTRIBUTE_T"
"&USERNAME" "&PASSWORD";
 ENDFIX;
```

2. BSP_ScenarioAttr_ProcCall

   Description – This business rule executes a stored procedure called PR_SCENARIO_ATTRIBUTE which reads data from FSI_BSP_SCENARIO_ATTRIBUTE_T table and populates FSI_SCENARIO_ATTRIBUTE table.

```
FIX("No Year","No Currency","No Entity","No
Strategy","BegBalance","No Financial Element","No Version","No
Chart of Account");
VAR return_value;
"No Attribute Value"
(
return_value =
@JProc("PR_SCENARIO_ATTRIBUTE",&DBSERVERNAME,@NumToStr(&PORTNO),&
SID,&USERNAME,&PASSWORD);
)
ENDFIX;
```

3. BSP_Version_Export_Seq

   Description – This sequence is being used to export version attributes from Essbase to FSDM. There are two business rules included in this sequence.

   1. BSP_VersionAttr_DataExport

      Description – This business rule exports scenario attributes into FSI_BSP_VERSION_ATTRIBUTE_T intermediate table of FSDM.

```
SET CREATENONMISSINGBLK ON;
SET DATAEXPORTOPTIONS
  {
  DataExportLevel "LEVEL0";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };
FIX("No Year","No Currency","No Entity","No Strategy","No
Scenario","BegBalance","No Financial Element","No Chart of
Account",@DESCENDANTS("Version Attributes"));

DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_VERSION_ATTRIBUTE_T"
"&USERNAME" "&PASSWORD";

ENDFIX;
```

   2. BSP_VersionAttr_ProcCall

      Description – This business rule executes a stored procedure called PR_VERSION_ATTRIBUTE which reads data from FSI_BSP_VERSION_ATTRIBUTE_T table and populates FSI_VERSION_ATTRIBUTE table.

```
FIX("No Year","No Currency","No Entity","No Strategy","No
Scenario","BegBalance","No Financial Element","No Chart of
Account");
VAR return_value;
"No Attribute Value"
(
return_value =
@JProc("PR_VERSION_ATTRIBUTE",&DBSERVERNAME,@NumToStr(&PORTNO),&S
ID,&USERNAME,&PASSWORD);
)
ENDFIX;
```

4. BSP_MMexport_Seq

   Description – This sequence is being used to export maturity mix data from Essbase to FSDM. There are two business rules included in this sequence.

   1. BSP_MM_DataExport

      Description – This business rule exports maturity mix data into FSI_BSP_MATURITY_MIX_T intermediate table of FSDM.

```
SET DATAEXPORTOPTIONS
  {
  DataExportLevel "ALL";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };

FIX(@RELATIVE([BSP_COA_S],0),[BSP_Currency_S],@RELATIVE([BSP_Enti
ty_S],0),@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[Rates_Assumption_S],[BSP_Year],[BSP_Period_All],"No FE -
Rates","No Term Points");

FIX([Rates_MixElements],[Rates_MixElements_Rest])
 DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_MATURITY_MIX_T" "&USERNAME"
"&PASSWORD";
ENDFIX

ENDFIX;
```

   2. BSP_MM_ProcCall

      Description – This business rule executes a stored procedure called PR_MATURITY_MIX which reads data from FSI_BSP_MATURITY_MIX_T table and populates FSI_MATURITY_MIX table.

```
FIX(@RELATIVE([BSP_COA_S],0),[BSP_Currency_S],@RELATIVE([BSP_Enti
ty_S],0),@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[Rates_Assumption_S],[BSP_Year],[BSP_Period_All],[Rates_Mi
xElements],[Rates_MixElements_Rest],"No FE - Rates");

VAR return_value = 100;
"No Term Points"
(
return_value =
@JProcStr_7("PR_MATURITY_MIX_OVERRIDE",&DBSERVERNAME,@NumToStr(&P
ORTNO),&SID,&USERNAME,&PASSWORD,@NAME([BSP_COA_S]),@NAME([BSP_Ent
ity_S]),@NAME([BSP_Currency_S]),@NAME([BSP_Strategy_S]),@NAME([BS
P_Scenario_S]),@NAME([BSP_Version_S]),@NAME([Rates_Assumption_S])
);
)

ENDFIX;
```

5. BSP_FP_Seq

   Description – This sequence is being used to export financial plan data from Essbase to FSDM and call cash flow engine. There are two business rules included in this sequence.

   1. BSP_FP_DataExport

      Description – This business rule exports financial plan data into FSI_BSP_FIN_PLAN_T intermediate table of FSDM.

```
SET CREATENONMISSINGBLK ON;
SET DATAEXPORTOPTIONS
  {
  DataExportLevel "ALL";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };

FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"No Attribute Value")

"F340"
(
if ([BSP_Balance_Driver]=="F100") "F100"+"C100";
elseif  ([BSP_Balance_Driver]=="F140") 2*("F140"+"C140");
endif;
)

FIX("F340",[BSP_Pricing_Driver])
DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_FIN_PLAN_T" "&USERNAME"
"&PASSWORD";
ENDFIX

ENDFIX
```

   2. BSP_Calculation

Description – This business rule executes a stored procedure called PR_FINANCIAL_PLAN which reads data from FSI_BSP_FIN_PLAN_T table and populates FSI_FINANCIAL_PLAN table. A function called FN_BSP_PROCESSING to populate Process table and call Cash flow engine. A procedure called PR_RES_DET_IMPORT imports results back to Essbase.

```
FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"F340",[BSP_Pricing_Driver])

VAR Return_Status = 100;

"No Attribute Value"
(
Return_Status =  @JCFE(
     "PR_FINANCIAL_PLAN",
     "FN_BSP_PROCESSING",
     &DBSERVERNAME,
     @NumToStr(&PORTNO),
     &SID,
     &USERNAME,
     &PASSWORD,
     @NAME([BSP_COA_S]),
     @NAME([BSP_Entity_S]),
     @NAME([BSP_Currency_S]),
     @NAME([BSP_Strategy_S]),
     @NAME([BSP_Scenario_S]),
     @NAME([BSP_Version_S]),
     "N",
     @NAME([BSP_Balance_Driver]),
     @NAME([BSP_Pricing_Driver]),
     "ofsrm",
     "OFSRM",
     "TASK1",
     "ADMIN",
     "BSP",
     "PR_RES_DET_IMPORT",
     &ESSUSER,
     &ESSPWD,
     &SERVERNAME,
     &APPLICATION,
     &CubeName,
     "impNBCF",
     "impNBCF.msh"
     );
)

ENDFIX


FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"No Attribute Value");

"F100" = C100+N100;
"F140"=C140+N140;
"F360"
(
if ("F340"<>#MISSING AND "F340"<>0)
 "AN360"/"F340";
endif;
)

ENDFIX;

FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
```

```
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],"No Attribute
Value","F340",[BSP_Pricing_Driver],"F100","F140")
CALC DIM(Period);
ENDFIX
```

6. BSP_FP_Partial_Seq

   Description – This sequence is being used to export financial plan data from Essbase to FSDM, call cash flow engine and aggregate data of Hierarchical Dimension member selection. There are two business rules included in this sequence.

   1. BSP_FP_DataExport

      Description – This business rule exports financial plan data into FSI_BSP_FIN_PLAN_T intermediate table of FSDM.

```
SET CREATENONMISSINGBLK ON;

SET DATAEXPORTOPTIONS
  {
  DataExportLevel "ALL";
  DataExportRelationalFile ON;
  DataExportDimHeader ON;
  DataExportOverwriteFile ON;
  };

FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"No Attribute Value")

"F340"
(
if ([BSP_Balance_Driver]=="F100") "F100"+"C100";
elseif  ([BSP_Balance_Driver]=="F140") 2*("F140"+"C140");
endif;
)

FIX("F340",[BSP_Pricing_Driver])
DATAEXPORT "DSN" "&DSNNAME" "FSI_BSP_FIN_PLAN_T" "&USERNAME"
"&PASSWORD";
ENDFIX

ENDFIX
```

   2. BSP_Calc_Partial

      Description – This business rule executes a stored procedure called PR_FINANCIAL_PLAN which reads data from FSI_BSP_FIN_PLAN_T table and populates FSI_FINANCIAL_PLAN table. A function called FN_BSP_PROCESSING to populate Process table and call Cash flow engine. A procedure called PR_RES_DET_IMPORT imports results back to Essbase, aggregated at the Hierarchical Dimension member selection.

```
FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"F340",[BSP_Pricing_Driver])

VAR Return_Status = 100;

"No Attribute Value"
(
Return_Status =  @JCFE(
     "PR_FINANCIAL_PLAN",
     "FN_BSP_PROCESSING",
     &DBSERVERNAME,
     @NumToStr(&PORTNO),
     &SID,
     &USERNAME,
     &PASSWORD,
     @NAME([BSP_COA_S]),
     @NAME([BSP_Entity_S]),
     @NAME([BSP_Currency_S]),
     @NAME([BSP_Strategy_S]),
     @NAME([BSP_Scenario_S]),
     @NAME([BSP_Version_S]),
     "N",
     @NAME([BSP_Balance_Driver]),
     @NAME([BSP_Pricing_Driver]),
     "ofsrm",
     "OFSRM",
     "TASK1",
     "ADMIN",
     "BSP",
     "PR_RES_DET_IMPORT",
     &ESSUSER,
     &ESSPWD,
     &SERVERNAME,
     &APPLICATION,
     &CubeName,
     "impNBCF",
     "impNBCF.msh"
     );
)

ENDFIX


FIX(@RELATIVE([BSP_COA_S],0),@RELATIVE([BSP_Entity_S],0),[BSP_Cur
rency_S],@RELATIVE([BSP_Strategy_S],0),[BSP_Scenario_S],[BSP_Vers
ion_S],[BSP_Year],[BSP_Period_All],"No Attribute Value");

"F100" = C100+N100;
"F140"=C140+N140;
"F360"
(
if ("F340"<>#MISSING AND "F340"<>0)
 "AN360"/"F340";
endif;
)

ENDFIX;

FIX([BSP_Currency_S],[BSP_Scenario_S],[BSP_Version_S],[BSP_Year],
```

```
"No Attribute Value","F340",[BSP_Pricing_Driver],"F100","F140")
@IDESCENDANTS([BSP_COA_S]);
@IDESCENDANTS([BSP_Entity_S]);
@IDESCENDANTS([BSP_Strategy_S]);
@IDESCENDANTS("Period");
ENDFIX
```

7. BSP_FeeCalc_Annual_Seq

   Description – This sequence is used in Fee Calculations on Loan and Deposit Accounts. There are five business rules in the sequence.

   1. BSP_Annual_FeeCalc_P1

      Description – This business rule is used for Fee Calculations based on Scenario Dimension members: Actual YTD, Forecast Rem and Rolling.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;
/*Capture the Dimension in the data form using Global Variables*/

FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],[BSP_COA_S],"No Attribute Value","YearTotal")

FIX("Forecast Rem")

"F900"
(
/*
if (("Forecast Rem"->"F900"==#MISSING) And ("Rolling"->"F900" <>
#MISSING)) "F900" = "Rolling"->"F900" - "Actual YTD"->"F900";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F900" <>
#MISSING)) "F900" = "Rolling"->"F900"  - "Actual YTD"->"F900" ;
endif;
*/
if ("Rolling"->"F900" <> #MISSING) "F900" = "Rolling"->"F900" -
"Actual YTD"->"F900";
endif;
)

"F455"
(
/*
if (("Forecast Rem"->"F455"==#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455" - "Actual YTD"->"F455";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455"  - "Actual YTD"->"F455" ;
endif;
*/
if ("Rolling"->"F455" <> #MISSING) "F455" = "Rolling"->"F455" -
"Actual YTD"->"F455";
endif;
)

ENDFIX


FIX("Rolling")
"F900"
(

if (("Rolling"==#MISSING) AND ("Forecast Rem"->"F900" <>
#MISSING)) "F900" = "Actual YTD"->"F900" + "Forecast
Rem"->"F900";
endif;

)

"F455"
(
if (("Rolling"==#MISSING) And ("Forecast Rem"->"F455" <>
#MISSING)) "F455" = "Actual YTD"->"F455" + "Forecast
Rem"->"F455";
endif;
)

ENDFIX
```

```
ENDFIX


FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],[BSP_COA_Waiver],"No Attribute
Value","YearTotal")

FIX("Forecast Rem")
"F455"
(
/*
if (("Forecast Rem"->"F455"==#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455" - "Actual YTD"->"F455";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455"  - "Actual YTD"->"F455" ;
endif;
*/

if ("Rolling"->"F455" <> #MISSING) "F455" = "Rolling"->"F455" -
"Actual YTD"->"F455";
endif;
)
ENDFIX


FIX("Rolling")
"F455"
(
if (("Rolling"==#MISSING) And ("Forecast Rem"->"F455" <>
#MISSING)) "F455" = "Actual YTD"->"F455" + "Forecast
Rem"->"F455";
endif;

)
ENDFIX

ENDFIX
```

2. BSP_Annual_FeeCalc_P2

   Description – This business rule is used for Fee Calculations based on percentages entered or amounts specified.

```
SET UpdateCalc Off;
SET CREATENONMISSINGBLK ON;

/*Capture the Dimension in the data form using Global Variables*/

FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],"No Attribute Value","YearTotal")

/*Single Chart of Account selection using the runtime prompt*/
FIX([BSP_COA_S],"Forecast Rem")

/*Calculate F455:Non Interest Income when F906:Non Interest Fee
Percentage is specified*/
"F455"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F455 value is retained in F455
and when F906 is not missing F455 is calculated. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F455"==#MISSING)
 IF ("F906"==#MISSING) "F455"="F455"*1;
 ELSE
 "F140"*"F906"*@CurrRatio(&CurrMonth);
 ENDIF;
ENDIF;
)

/*Calculate F900:Fee Income on Interest Bearing Chart of Account
when F905:Origination Fee Income Percentage is specified*/
"F900"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F900 value is
retained in F900 and when F905 is not missing F900 is calculated.
*/
/*Note: When both F900 and F905 are specified, F900 is calculated
using the value specified in F905*/
IF ("F900"==#MISSING)
 IF ("F905"==#MISSING) "F900"="F900"*1;
 ELSE "F140"*"F905"*@CurrRatio(&CurrMonth);
 ENDIF;
ENDIF;
)

/*Calculate F906:Non Interest Fee Percentage when F455:Non
Interest Income is specified*/
"F906"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F906 is calculated and when F906
is not missing F906 is retained in F906. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
/*
IF ("F906" == #MISSING)
  "F455"/("F140"*@CurrRatio(&CurrMonth));
ELSE  "F906"*1;
ENDIF;
*/
```

```
IF("F455"<>#MISSING) "F455"/("F140"*@CurrRatio(&CurrMonth));
ENDIF;
)

/*Calculate F905:Origination Fee Income Percentage when F900:Fee
Income on Interest Bearing Chart of Account is specified*/
"F905"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F905 is calculated
and when F905 is not missing F905 is retained in F905. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
/*
IF ("F905" == #MISSING) "F900"/("F140"*@CurrRatio(&CurrMonth));
ELSE "F905"*1;
ENDIF;
*/
IF("F900"<>#MISSING) "F900"/("F140"*@CurrRatio(&CurrMonth));
ENDIF;
)

ENDFIX

FIX([BSP_COA_S],"Rolling")

/*Calculate F455:Non Interest Income when F906:Non Interest Fee
Percentage is specified*/
"F455"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F455 value is retained in F455
and when F906 is not missing F455 is calculated. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/

IF ("F906"==#MISSING) "F455"="F455"*1;
ELSE
"F140"*"F906";
ENDIF;
)

/*Calculate F900:Fee Income on Interest Bearing Chart of Account
when F905:Origination Fee Income Percentage is specified*/
"F900"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F900 value is
retained in F900 and when F905 is not missing F900 is calculated.
*/
/*Note: When both F900 and F905 are specified, F900 is calculated
using the value specified in F905*/
IF ("F905"==#MISSING) "F900"="F900"*1;
ELSE "F140"*"F905";
ENDIF;
)

/*Calculate F906:Non Interest Fee Percentage when F455:Non
Interest Income is specified*/
"F906"
```

```
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F906 is calculated and when F906
is not missing F906 is retained in F906. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F906" == #MISSING)
  "F455"/"F140";
ELSE  "F906"*1;
ENDIF;
)

/*Calculate F905:Origination Fee Income Percentage when F900:Fee
Income on Interest Bearing Chart of Account is specified*/
"F905"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F905 is calculated
and when F905 is not missing F905 is retained in F905. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F905" == #MISSING) "F900"/"F140";
ELSE "F905"*1;
ENDIF;
)

ENDFIX


/*BSP_COA_Waiver Variable is used to capture the Chart of Account
Dimension Member to be used against the above selected Chart of
Account Dimension member*/
FIX([BSP_COA_Waiver],"Forecast Rem")

/*Calculate F455:Non Interest Income for Waiver Chart of Account
when F907:Fee Waiver Percentage is specified*/
"F455"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F455 value is retained in F455 and
when F907 is not missing F455 is calculated. The Deposit Service
Charge fee Chart of Account Value is captured using the variable
BSP_COA_S for F455*/
/*Note: When both F455 and F907 are specified, F455 is calculated
using the value specified in F907*/
IF ("F907" == #MISSING) "F455"*1;
ELSE
"F455"=("F455"->[BSP_COA_S])*"F907"*(-1)*@CurrRatio(&CurrMonth);
ENDIF;
)

/*Calculate F907:Fee Waiver Percentage for Waiver Chart of
Account when F455:Non Interest Income is specified*/
"F907"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F907 is calculated and when F907 is
not missing F907 is retained in F907. The Deposit Service Charge
fee Chart of Account Value is captured using the variable
BSP_COA_S for F455 */
```

```
IF ("F907" == #MISSING)
"F907"="F455"/(("F455"->[BSP_COA_S])*100*@CurrRatio(&CurrMonth));
ELSE "F907"*1;
ENDIF;
)

ENDFIX

FIX([BSP_COA_Waiver],"Rolling")

/*Calculate F455:Non Interest Income for Waiver Chart of Account
when F907:Fee Waiver Percentage is specified*/
"F455"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F455 value is retained in F455 and
when F907 is not missing F455 is calculated. The Deposit Service
Charge fee Chart of Account Value is captured using the variable
BSP_COA_S for F455*/
/*Note: When both F455 and F907 are specified, F455 is calculated
using the value specified in F907*/
IF ("F907" == #MISSING) "F455"*1;
ELSE "F455"=("F455"->[BSP_COA_S])*"F907"*(-1);
ENDIF;
)

/*Calculate F907:Fee Waiver Percentage for Waiver Chart of
Account when F455:Non Interest Income is specified*/
"F907"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F907 is calculated and when F907 is
not missing F907 is retained in F907. The Deposit Service Charge
fee Chart of Account Value is captured using the variable
BSP_COA_S for F455 */
IF ("F907" == #MISSING)
"F907"="F455"/(("F455"->[BSP_COA_S])*(-1));
ELSE "F907"*1;
ENDIF;
)

ENDFIX

ENDFIX
```

3. BSP_Annual_FeeCalc_P3

   Description – This business rule is used for Fee calculations, for Scenario Dimension members: Actual YTD, Forecast Rem and Rolling.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;
/*Capture the Dimension in the data form using Global Variables*/

FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],[BSP_COA_S],"No Attribute Value","YearTotal")

FIX("Forecast Rem")

"F900"
(
/*
if (("Forecast Rem"->"F900"==#MISSING) And ("Rolling"->"F900" <>
#MISSING)) "F900" = "Rolling"->"F900" - "Actual YTD"->"F900";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F900" <>
#MISSING)) "F900" = "Rolling"->"F900"  - "Actual YTD"->"F900" ;
endif;
*/
if ("Rolling"->"F900" <> #MISSING) "F900" = "Rolling"->"F900" -
"Actual YTD"->"F900";
endif;
)

"F455"
(
/*
if (("Forecast Rem"->"F455"==#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455" - "Actual YTD"->"F455";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455"  - "Actual YTD"->"F455" ;
endif;
*/
if ("Rolling"->"F455" <> #MISSING) "F455" = "Rolling"->"F455" -
"Actual YTD"->"F455";
endif;
)

ENDFIX


FIX("Rolling")
"F900"
(

if (("Rolling"==#MISSING) AND ("Forecast Rem"->"F900" <>
#MISSING)) "F900" = "Actual YTD"->"F900" + "Forecast
Rem"->"F900";
endif;

)

"F455"
(
if (("Rolling"==#MISSING) And ("Forecast Rem"->"F455" <>
#MISSING)) "F455" = "Actual YTD"->"F455" + "Forecast
Rem"->"F455";
endif;
)

ENDFIX
```

```
ENDFIX


FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],[BSP_COA_Waiver],"No Attribute
Value","YearTotal")

FIX("Forecast Rem")
"F455"
(
/*
if (("Forecast Rem"->"F455"==#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455" - "Actual YTD"->"F455";
elseif (("Forecast Rem"<>#MISSING) And ("Rolling"->"F455" <>
#MISSING)) "F455" = "Rolling"->"F455"  - "Actual YTD"->"F455" ;
endif;
*/

if ("Rolling"->"F455" <> #MISSING) "F455" = "Rolling"->"F455" -
"Actual YTD"->"F455";
endif;
)
ENDFIX


FIX("Rolling")
"F455"
(
if (("Rolling"==#MISSING) And ("Forecast Rem"->"F455" <>
#MISSING)) "F455" = "Actual YTD"->"F455" + "Forecast
Rem"->"F455";
endif;

)
ENDFIX


ENDFIX
```

4. BSP_Annual_FeeCalc_P4

   Description – This business rule is used for Fee Calculations based on the percentages entered or amounts specified.

```
SET UpdateCalc Off;
SET CREATENONMISSINGBLK ON;

/*Capture the Dimension in the data form using Global Variables*/

FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],[BSP_Year_S],"No Attribute Value","YearTotal")

/*Single Chart of Account selection using the runtime prompt*/
FIX([BSP_COA_S],"Forecast Rem")

/*Calculate F455:Non Interest Income when F906:Non Interest Fee
Percentage is specified*/
"F455"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F455 value is retained in F455
and when F906 is not missing F455 is calculated. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F455"==#MISSING)
 IF ("F906"==#MISSING) "F455"="F455"*1;
 ELSE
 "F140"*"F906"*@CurrRatio(&CurrMonth);
 ENDIF;
ENDIF;
)

/*Calculate F900:Fee Income on Interest Bearing Chart of Account
when F905:Origination Fee Income Percentage is specified*/
"F900"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F900 value is
retained in F900 and when F905 is not missing F900 is calculated.
*/
/*Note: When both F900 and F905 are specified, F900 is calculated
using the value specified in F905*/
IF ("F900"==#MISSING)
 IF ("F905"==#MISSING) "F900"="F900"*1;
 ELSE "F140"*"F905"*@CurrRatio(&CurrMonth);
 ENDIF;
ENDIF;
)

/*Calculate F906:Non Interest Fee Percentage when F455:Non
Interest Income is specified*/
"F906"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F906 is calculated and when F906
is not missing F906 is retained in F906. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
/*
IF ("F906" == #MISSING)
  "F455"/("F140"*@CurrRatio(&CurrMonth));
ELSE  "F906"*1;
ENDIF;
*/
```

```
IF("F455"<>#MISSING) "F455"/("F140"*@CurrRatio(&CurrMonth));
ENDIF;
)

/*Calculate F905:Origination Fee Income Percentage when F900:Fee
Income on Interest Bearing Chart of Account is specified*/
"F905"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F905 is calculated
and when F905 is not missing F905 is retained in F905. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
/*
IF ("F905" == #MISSING) "F900"/("F140"*@CurrRatio(&CurrMonth));
ELSE "F905"*1;
ENDIF;
*/
IF("F900"<>#MISSING) "F900"/("F140"*@CurrRatio(&CurrMonth));
ENDIF;
)

ENDFIX

FIX([BSP_COA_S],"Rolling")

/*Calculate F455:Non Interest Income when F906:Non Interest Fee
Percentage is specified*/
"F455"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F455 value is retained in F455
and when F906 is not missing F455 is calculated. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/

IF ("F906"==#MISSING) "F455"="F455"*1;
ELSE
"F140"*"F906";
ENDIF;
)

/*Calculate F900:Fee Income on Interest Bearing Chart of Account
when F905:Origination Fee Income Percentage is specified*/
"F900"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F900 value is
retained in F900 and when F905 is not missing F900 is calculated.
*/
/*Note: When both F900 and F905 are specified, F900 is calculated
using the value specified in F905*/
IF ("F905"==#MISSING)"F900"="F900"*1;
ELSE "F140"*"F905";
ENDIF;
)

/*Calculate F906: Non Interest Fee Percentage when F455:Non
Interest Income is specified*/
"F906"
```

```
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F906 is calculated and when F906
is not missing F906 is retained in F906. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F906" == #MISSING)
  "F455"/"F140";
ELSE  "F906"*1;
ENDIF;
)

/*Calculate F905:Origination Fee Income Percentage when F900:Fee
Income on Interest Bearing Chart of Account is specified*/
"F905"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F905 is calculated
and when F905 is not missing F905 is retained in F905. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F905" == #MISSING) "F900"/"F140";
ELSE "F905"*1;
ENDIF;
)

ENDFIX


/*BSP_COA_Waiver Variable is used to capture the Chart of Account
Dimension Member to be used against the above selected Chart of
Account Dimension member*/
FIX([BSP_COA_Waiver],"Forecast Rem")

/*Calculate F455:Non Interest Income for Waiver Chart of Account
when F907:Fee Waiver Percentage is specified*/
"F455"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F455 value is retained in F455 and
when F907 is not missing F455 is calculated. The Deposit Service
Charge fee Chart of Account Value is captured using the variable
BSP_COA_S for F455*/
/*Note: When both F455 and F907 are specified, F455 is calculated
using the value specified in F907*/
IF ("F907" == #MISSING) "F455"*1;
ELSE
"F455"=("F455"->[BSP_COA_S])*"F907"*(-1)*@CurrRatio(&CurrMonth);
ENDIF;
)

/*Calculate F907:Fee Waiver Percentage for Waiver Chart of
Account when F455:Non Interest Income is specified*/
"F907"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F907 is calculated and when F907 is
not missing F907 is retained in F907. The Deposit Service Charge
fee Chart of Account Value is captured using the variable
BSP_COA_S for F455 */
```

```
IF ("F907" == #MISSING)
"F907"="F455"/(("F455"->[BSP_COA_S])*100*@CurrRatio(&CurrMonth));
ELSE "F907"*1;
ENDIF;
)

ENDFIX

FIX([BSP_COA_Waiver],"Rolling")

/*Calculate F455:Non Interest Income for Waiver Chart of Account
when F907:Fee Waiver Percentage is specified*/
"F455"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F455 value is retained in F455 and
when F907 is not missing F455 is calculated. The Deposit Service
Charge fee Chart of Account Value is captured using the variable
BSP_COA_S for F455*/
/*Note: When both F455 and F907 are specified, F455 is calculated
using the value specified in F907*/
IF ("F907" == #MISSING) "F455"*1;
ELSE "F455"=("F455"->[BSP_COA_S])*"F907"*(-1);
ENDIF;
)

/*Calculate F907:Fee Waiver Percentage for Waiver Chart of
Account when F455:Non Interest Income is specified*/
"F907"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F907 is calculated and when F907 is
not missing F907 is retained in F907. The Deposit Service Charge
fee Chart of Account Value is captured using the variable
BSP_COA_S for F455 */
IF ("F907" == #MISSING)
"F907"="F455"/(("F455"->[BSP_COA_S])*(-1));
ELSE "F907"*1;
ENDIF;
)

ENDFIX

ENDFIX
```

5. BSP_Annual_FeeCalc_P5

   Description – This business rule is used for Fee calculations for 'Budget' Scenario Dimension member.

```
SET UPDATECALC OFF;
SET CREATENONMISSINGBLK ON;
FIX([BSP_Entity_S],[BSP_Strategy_S],[BSP_Version_S],[BSP_Currency
_S],@NextYr([BSP_Year_S]),"No Attribute Value","YearTotal")

FIX([BSP_COA_S],"Budget")

/*Calculate F455:Non Interest Income when F906:Non Interest Fee
Percentage is specified*/
"F455"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F455 value is retained in F455
and when F906 is not missing F455 is calculated. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/

IF ("F906"==#MISSING) "F455"="F455"*1;
ELSE
"F140"*"F906";
ENDIF;
)

/*Calculate F900:Fee Income on Interest Bearing Chart of Account
when F905:Origination Fee Income Percentage is specified*/
"F900"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F900 value is
retained in F900 and when F905 is not missing F900 is calculated.
*/
/*Note: When both F900 and F905 are specified, F900 is calculated
using the value specified in F905*/
IF ("F905"==#MISSING) "F900"="F900"*1;
ELSE "F140"*"F905";
ENDIF;
)

/*Calculate F906:Non Interest Fee Percentage when F455:Non
Interest Income is specified*/
"F906"
(
/*This condition checks whether F906:Non Interest Fee Percentage
is missing. When F906 is missing,F906 is calculated and when F906
is not missing F906 is retained in F906. */
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F906" == #MISSING)
  "F455"/"F140";
ELSE  "F906"*1;
ENDIF;
)

/*Calculate F905:Origination Fee Income Percentage when F900:Fee
Income on Interest Bearing Chart of Account is specified*/
"F905"
(
/*This condition checks whether F905:Origination Fee Income
Percentage is missing. When F905 is missing,F905 is calculated
and when F905 is not missing F905 is retained in F905. */
```

```
/*Note: When both F455 and F906 are specified, F455 is calculated
using the value specified in F906*/
IF ("F905" == #MISSING) "F900"/"F140";
ELSE "F905"*1;
ENDIF;
)

ENDFIX


FIX([BSP_COA_Waiver],"Budget")

/*Calculate F455:Non Interest Income for Waiver Chart of Account
when F907:Fee Waiver Percentage is specified*/
"F455"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F455 value is retained in F455 and
when F907 is not missing F455 is calculated. The Deposit Service
Charge fee Chart of Account Value is captured using the variable
BSP_COA_S for F455*/
/*Note: When both F455 and F907 are specified, F455 is calculated
using the value specified in F907*/
IF ("F907" == #MISSING) "F455"*1;
ELSE "F455"=("F455"->[BSP_COA_S])*"F907"*(-1);
ENDIF;
)

/*Calculate F907:Fee Waiver Percentage for Waiver Chart of
Account when F455:Non Interest Income is specified*/
"F907"
(
/*This condition checks whether F907:Fee Waiver Percentage is
missing. When F907 is missing,F907 is calculated and when F907 is
not missing F907 is retained in F907. The Deposit Service Charge
fee Chart of Account Value is captured using the variable
BSP_COA_S for F455 */
IF ("F907" == #MISSING)
"F907"="F455"/(("F455"->[BSP_COA_S])*(-1));
ELSE "F907"*1;
ENDIF;
)

ENDFIX

ENDFIX
```