# Oracle Financial Services Balance Sheet Planning User Guide

Release 8
Part Number E55820-01

**ORACLE**®
FINANCIAL SERVICES

# Contents

**APPENDIX B**        *Multi Language Support 405*

**APPENDIX C**        *Access Control for Balance Sheet Planning 407*

**APPENDIX D**        *Application Backup and Restoration 413*

# *Preface*

## Intended Audience

Welcome to Release 8 of the Oracle Financial Services Balance Sheet Planning (OFSBSP) User Guide.

### Foreword

This user guide documents OFSAA Balance Sheet Planning for all versions of release 8. Some functional improvements have been introduced in various service packs and point releases within release 8.

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

## Documentation Accessibility

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## Access to Oracle Support

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Welcome to Release 8 of the Oracle Financial Services Balance Sheet Planning User Guide.

The Oracle Financial Services Balance Sheet Planning User Guide provides useful guidance and assistance to:

- Technical end users
- Functional end users
- Data Administrators
- Consultants
- Systems Analysts
- System Administrators
- Other MIS professionals

See Related Information Sources for more Oracle Applications product information.

## Structure

This user guide is structured as follows:

| Chapter Number | Chapter Name | Description |
|---|---|---|
| 1 | Introduction to Oracle Financial Services Balance Sheet Planning | This chapter provides an overview of Balance Sheet Planning and discusses its integration with Hyperion Planning and other OFSAA applications. |
| 2 | Master Maintenance Overview | This chapter discusses the Master Maintenance functions, its pre-requisites and Form details. |
| 3 | Configuration UI | This chapter lists out the Instructions for updating the Configuration parameters. |
| 4 | Rate Management | This chapter contains an overview of the Rate Management Utility and its workings. |
| 5 | Defining Cash Flow Engine Preferences | This chapter discusses the procedure for defining and maintaining the Cash Flow Engine Preferences. |
| 6 | Time Bucket Definitions | This chapter describes the procedure for creating and working with Time Bucket Definitions. |
| 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. |
| 8 | Defining Custom Payment Patterns | This chapter describes the procedure for creating and working with Custom Payment patterns. |
| 9 | Defining Custom Repricing Patterns | This chapter describes the procedure for creating and working with Custom Repricing patterns. |
| 10 | Defining Behavior Patterns | This chapter describes the procedure for creating and working with Behavior patterns. |
| 11 | Forecast Rates | This chapter describes the procedure for defining payment or principal amortization flows through Behavior Patterns, for instruments that do not have contractual amortization schedules. |
| 12 | Defining Prepayments | This chapter provides an overview of Prepayment methodologies supported and describes its working. |
| 13 | Prepayment Scenarios | This chapter describes the procedure for creating and working with Prepayment scenarios. |
| 14 | Prepayment Models | This chapter describes the procedure for creating and working with Prepayment models. |
| 15 | Funds Transfer Pricing | This chapter provides an overview of the Funds Transfer Pricing Utility and TP Adjustment Rules supported. |
| 16 | Rollovers | This chapter describes the procedure for generating automatic re-booking of Asset / Liability run-off amounts. |
| 17 | Metadata Synchronization | This chapter provides an overview of the Metadata Synchronization process that is run to keep the Hyperion Planning and RDBMS data synchronized. |
| 18 | Defining Process Attributes | This chapter describes the dynamics of modeling data configuration using Assumptions defined in the Application. |
| 19 | Defining Chart of Account Characteristics | This chapter describes the usage of Chart of Account Characteristics and includes sections covering the pre-requisites, workings and Form details. |

| Chapter Number | Chapter Name | Description |
|---|---|---|
| 20 | Maturity Assumptions | This chapter describes the procedure for creating and working with Maturity Mix Scenarios and Assumptions. |
| 21 | Pricing Margin | This chapter describes the procedure for creating and working with Pricing Margin Scenarios. |
| 22 | Additional Admin Data Forms and Functions | This chapter contains an overview of the Administrator Data Forms and functions apart from the Master Maintenance Activities. |
| 23 | Analyst Data Forms and Functions | This chapter contains an overview of the Forms and functions related to Analyst Activities. |
| A | Predefined Business Rules and Sequences | This appendix lists the business rules, sequences, descriptions and definitions for each rule delivered with the application. |
| B | Multi-Language Support | This appendix lists the languages supported by the Application. |

## Related Information Sources

### Related Documents

For more information about using Oracle Financial Services Analytical Applications (OFSAA), see the following related documents:

- Oracle Financial Services Analytical Applications Data Model Utilities User Guide.
- Oracle Financial Services Asset Liability Management (OFSALM) User Guide.
- Oracle Financial Services Cash Flow Engine Reference Guide.

**CHAPTER 1**

# *Balance Sheet Planning Overview*

This chapter provides an overview of Balance Sheet Planning and discusses its integration with Hyperion Planning and other OFSAA applications.

This chapter focuses on the following topics:

- About Oracle Financial Services Balance Sheet Planning
- Integration with Hyperion Planning
- Data Model Highlights
- Integration with Oracle Financial Services Analytics Applications
- Balance Sheet Planning and Hyperion Planning Data Model Synchronization
- Plan Types and Usage
- Predefined Dimensions

## *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 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.
- 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*

Balance Sheet Planning release 8 is certified for use with Hyperion Planning version 11.1.2.4.0 with ADF mode support.

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. OFSAA Balance Sheet Planning is fully integrated with OFSAA Asset Liability Management & OFSAA Funds Transfer Pricing. All of the OFSAA cash-flow applications share the same cash flow engine and are capable of sharing dimensions, hierarchies, interest rate curve definitions, interest rate history, currencies and currency exchange rate history, transfer pricing rules, prepayment models, and more.

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 17-1 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.

> **Note:** From BSP 8.0.0.0.0 release onwards , special characters like comma (,) are not allowed in creating members of dimensions .
>
> From BSP 8.0.1.0.0 release onwards, special characters like comma (,), tilde (~) are not allowed and length is restrict to 20 characters in creating the members of Hierarchical dimensions.
>
> In standalone setup, When you are creating a member in Dimension window, you can add any number of alias which are created in Alias table, but entry should match for default alias table. In integrated setup, only default alias is allowed.

## 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.

The seeded Attributes for the Chart of Account, which represent its Account type are -

100 - Earning Assets

200 - Other Asset

300 - Interest-Bearing Liabilities

400 - Other Liabilities

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**Note:** Note: Account Types '100' and '300' are for 'Detail Cash flow' processing and Account Types '200' and '400' are used only for 'Balance Only' processing.   Cash Flow Engine also supports some additional Account types that BSP does not support.  BSP may support some of these account types in a future release.

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**Note:** Note: Users are advised to supply a valid 'Account Type' to each Chart of Account member defined to ensure output of relevant Financial Elements.

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For more information on Account Type and Cash Flow Category, refer to *OFSAA Cash Flow Engine Reference Guide*.

## 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.

> **Important:** Maturity Mix Scenario dimension members must not exceed 5-digits in length.

## 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 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.

**CHAPTER 2**

# *Master Maintenance Overview*

This chapter discusses the Master Maintenance functions, its pre-requisites and Form details.

This chapter focuses on the following topics:

- Overview
- Prerequisites
- Logging Into Balance Sheet Planning
- Accessing the Master Maintenance Form and Menu Items
- Master Maintenance Form Details

## *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:
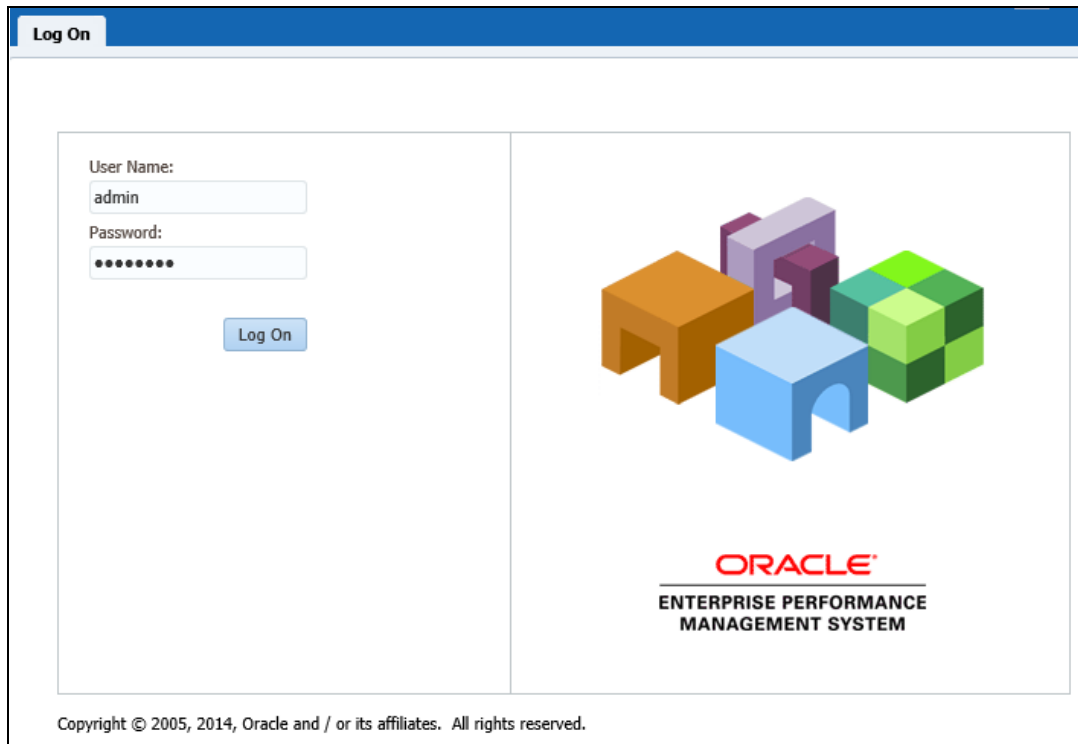
- Logging into the application.
- Accessing the Master Maintenance data form and the following menu items:
  - Assumption Forms
  - Metadata Synchronization
    - Smart List
    - Hierarchical Dimensions
    - Flat-Standard Dimensions
    - Flat-Custom Dimensions
  - Populate Product-Instrument Table Mapping

## *Prerequisites*

Chart of Account, Entity, Custom 1, and Custom 2 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 17-1.

## *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. Under BSP folder, the Administrative and Analyst Activities folders will appear. On clicking Administrator activities, one set of forms to be displayed, then select **Master Maintenance**.
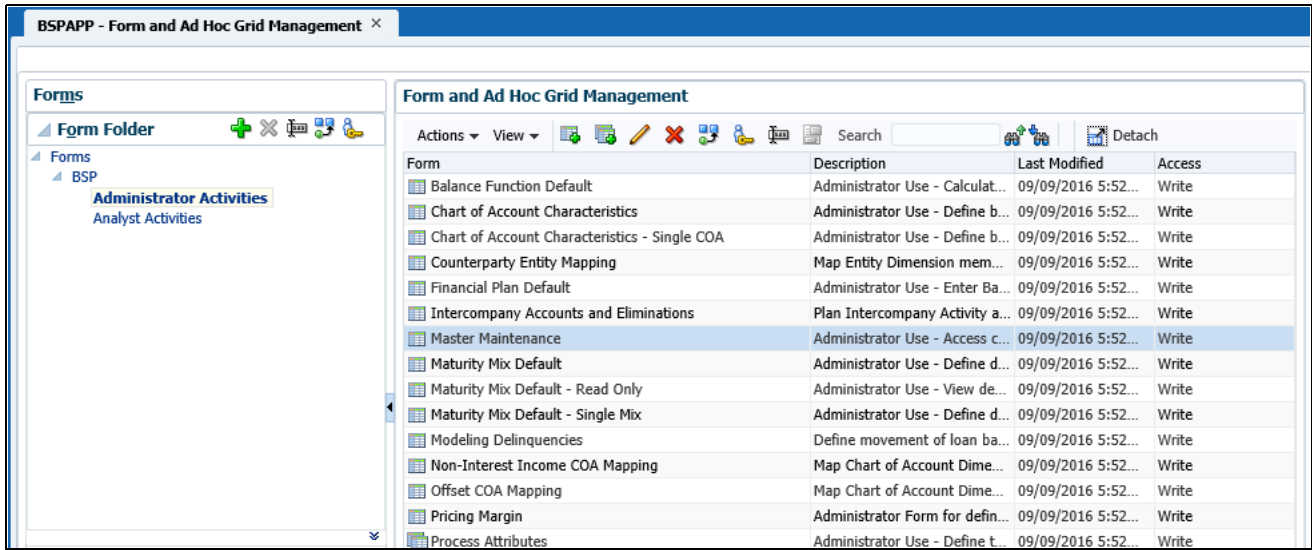
Master Maintenance Data Form
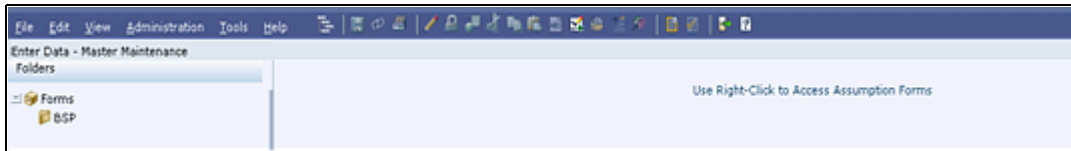


2. Right Click on the data form just preceding the Use ''Right-Click to Access Assumptions Forms'' message to display the list of available menu items.
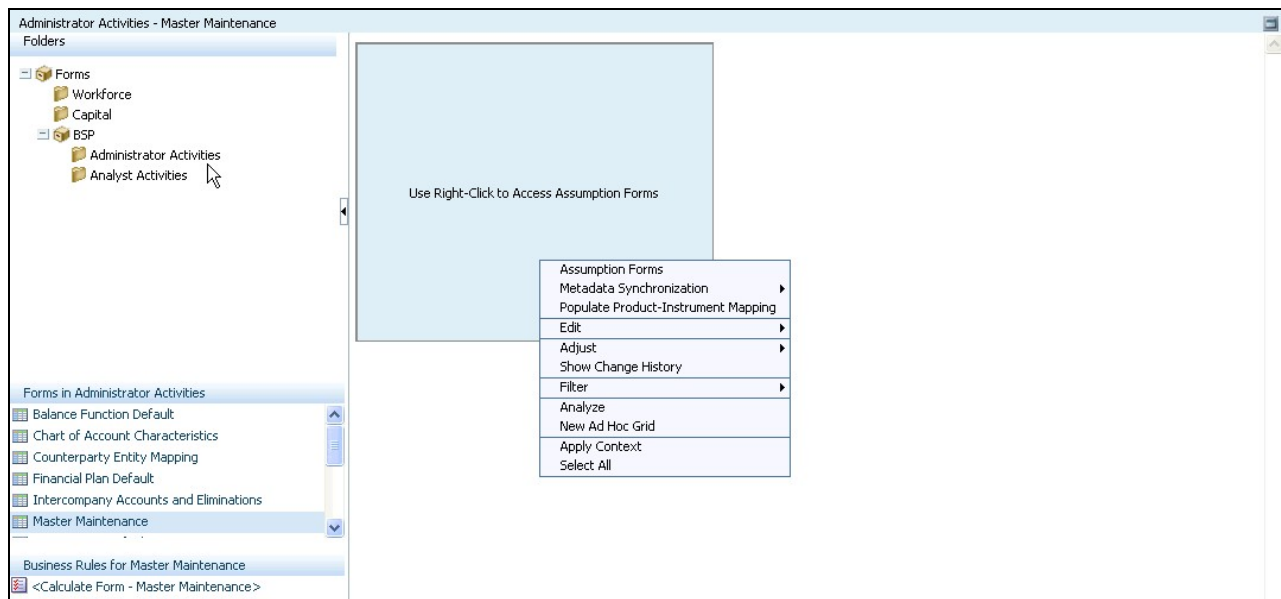


3. To access the list of available custom forms, select the **Assumption Forms** menu item. The following screen is displayed.

| Data Form | Description | Instructions |
|---|---|---|
| 1. Configuration | | View |
| 2. Rate Management | | |
|    Interest Rates | | View |
|    Currencies | | View |
|    Currency Rates | | View |
|    Economic Indicators | | View |
| 3. Cash Flow Engine Preferences | | View |
| 4. Time Bucket Definition | | View |
| 5. Cash Flow Edits | | View |
| 6. Patterns | | |
|    Payment Patterns | | View |
|    Repricing Patterns | | View |
|    Behavior Patterns | | View |
| 7. Forecast Rates | | |
|    Interest Rate Scenario | | View |
|    Currency Rate Scenario | | View |
|    Economic Indicator Scenario | | View |
| 8. Prepayment for Current Position | | View |
| 9. Prepayment Models | | View |
| 10. Transfer Pricing Rule | | View |
| 11. Adjustment Rule | | View |

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:

- Configuration UI

- Rate Management: Including sections on Interest Rates, Currencies, Currency Rates and Economic Indicators

- Defining Cash Flow Engine Preferences

- Time Bucket Definitions

- Running Cash Flow Edits

- Patterns:

    - Defining Custom Payment Patterns

    - Defining Custom Repricing Patterns

    - Defining Behavior Patterns

- Forecast Rates: Including sections on Interest Rate Scenarios, Currency Rate Scenarios and Economic Indicator Scenarios

- Prepayment Scenarios

- Prepayment Models

- Funds Transfer Pricing

- Transfer Pricing Adjustments Overview

**Note:** From BSP 8.0.0.0.0 release onwards, special characters like comma (,) are not allowed in creating assumption definitions.

> **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 Oracle Financial Services Balance Sheet Planning Product Configuration Guide.

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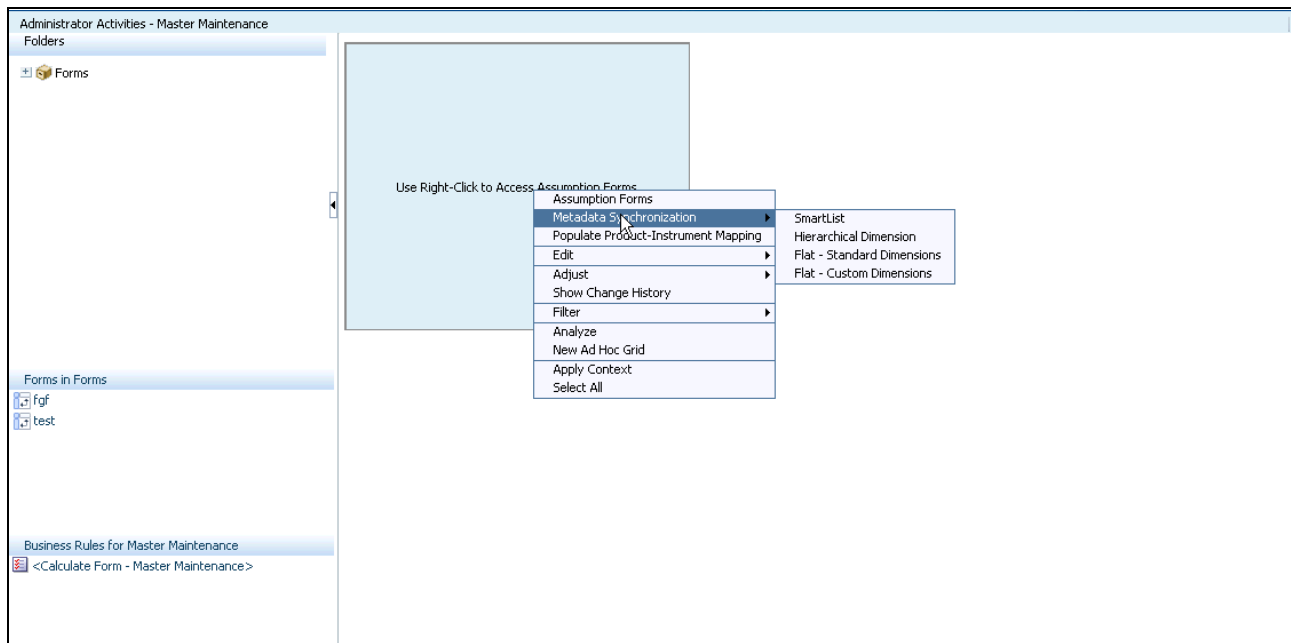


A business rule is associated with each of the following menu items that will modify Smart List and Dimension XML files created during the Metadata Synchronization process.

- **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 17-1.

6. To access additional Setup Tasks delivered with Balance Sheet Planning, select the **Populate Product-Instrument Mapping** menu item.
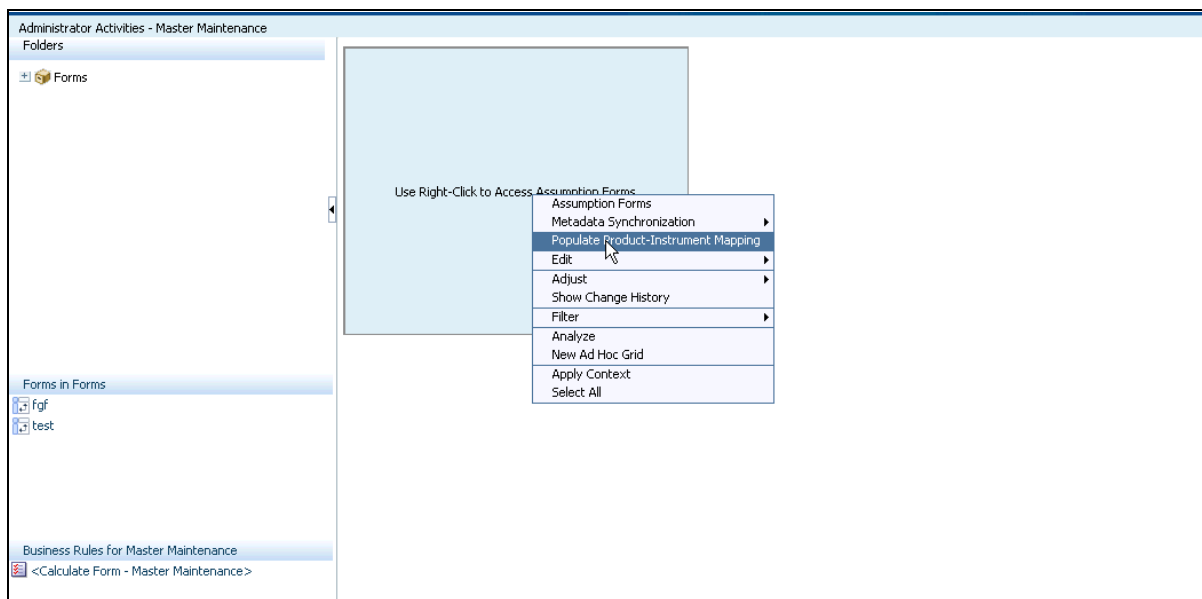
■  Populate Product- Instrument Mapping

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.

## *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.

**Table 1.**

| 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 |

**Table 1.**

| Dimension View | Dimension Name | Description |
|---|---|---|
| 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 |
| Point of View | Custom 1 | No Custom1 |
| Point of View | Custom 2 | No Custom2 |

# CHAPTER 3  *Configuration UI*

This Chapter lists out the Instructions for updating the Configuration parameters.

This chapter focuses on the following topics:

- **Instructions for Configuration**
- **Configuring Fiscal Year**

## 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.

- TABLESPACE - Name of database Tablespace, if the schema is created in specific Table.

- 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 first month of the Active Time Bucket.

- StartPeriod - Value should be starting month of the Active Time Bucket.

- EndPeriod - Value should be ending month of the Active Time Bucket.

## *Configuring Fiscal Year*

BSP supports fiscal Application from version 8.0.2.0.7 onwards.  The following procedure gives you the step-by-step instructions to initialize an application with Fiscal year starting with month other than January:

1. Create a fresh BSP Hyperion Planning Application with 'Start Month' as the <Fiscal Start Month> (for e.g. April)

2. Initialize BSP as per the process.

3. In 'Configuration' screen, select the Fiscal Start Year and Fiscal End Year against FirstYr and EndYr fields respectively. Similarly, select Fiscal Start Month and Fiscal End Month against StartPeriod and EndPeriod fields respectively. For e.g. , if Fiscal Year is Apr-Mar, select 'Apr' as   StartPeriod and 'Mar' as EndPeriod. Here, the 'Start Month' should match the 'Start Month' defined at the time of BSP Hyperion Planning Application creation. Select other fields values in the form as per process and save the form.

4. In 'CFE Preferences' screen (launched through Assumptions Form), select 'Year Type' as 'Financial Year' and 'Start Month' as the <Fiscal Start Month>. Here, the 'Start Month' should match the 'Start Month' defined at the time of BSP Hyperion Planning Application creation. Select other fields values in the form as per process and save the form. Hyperion Planning Standard forms will depict the years based on this selection.

5. Ensure that the StartPeriod and EndPeriod Substitution variable values for the BSP Application in Hyperion Planning are reflecting <Fiscal Start Month> and <Fiscal End Month> (first 3 characters of the month). For example, if Fiscal Year is Apr-Mar, StartPeriod value should be set to 'Apr' and EndPeriod value should be set to 'Mar'.

6. Hyperion Standard forms will be reflecting Year as Fiscal Year while  the Year in Custom UI will be mostly reflecting Calendar Year. In Custom UI, Year name has been prefixed with CY (for e.g. CY16) where it is used to mean Calendar Year. Similarly,  Year name has been prefixed with FY (for e.g. FY16) where it is used to mean Fiscal Year. Hyperion Standard Forms will continue to prefix Year name with FY (for e.g FY16) and will always used to mean Fiscal Year.

7. Fiscal Year to Calendar Year mapping is illustrated below (Start Month is taken as 'April' and Fiscal Year is taken as FY16 in the illustration below):

| Fiscal Year | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 | FY16 |
| Calendar Year | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar |
| | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 | CY16 |

**Important:** Start month of a BSP Application cannot be changed after application creation.

# *Rate Management*

This chapter contains an overview of the Rate Management Utility and its workings.

This chapter focuses on the following topics:

- Overview
- Working With Interest Rate Codes
- Interest Rate Details Screen
- Working With Currencies
- Currency Rates
- Working With Economic Indicators
- Economic Indicators Detail Screen

## *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*

Navigate to BSP-> Administrator Activities-> Master Maintenance -> Assumption Forms and select Interest Rates from the list of forms displayed.



When you first navigate to the Interest Rates form, an empty screen will be displayed. After you have constructed one or more interest rate curves, navigation to the form will display a summary window showing each of the Interest Rate definitions that you have previously built.

The Interest Rates Summary page lists all the existing Interest Rate definitions created within Balance Sheet Planning.



Known Limitation for integrated installations that share interest rate curves with OFSAA Rate Management:

OFSAA Rate Management allows yield curves to be defined and saved where one or more yield curve term points have no data. BSP's Rate Management module does not support yield curves that include term points that have no associated data. If you wish to share yield curves between BSP and other OFSAA applications (Funds Transfer Pricing, Pricing Management, Asset Liability Management), you must populate each yield curve term point with rate history.

### 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).

## Search Control

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

## Advanced Search Control

You can also search for Interest Rate 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. Click the **Advanced Search** control to open the advanced search dialog.
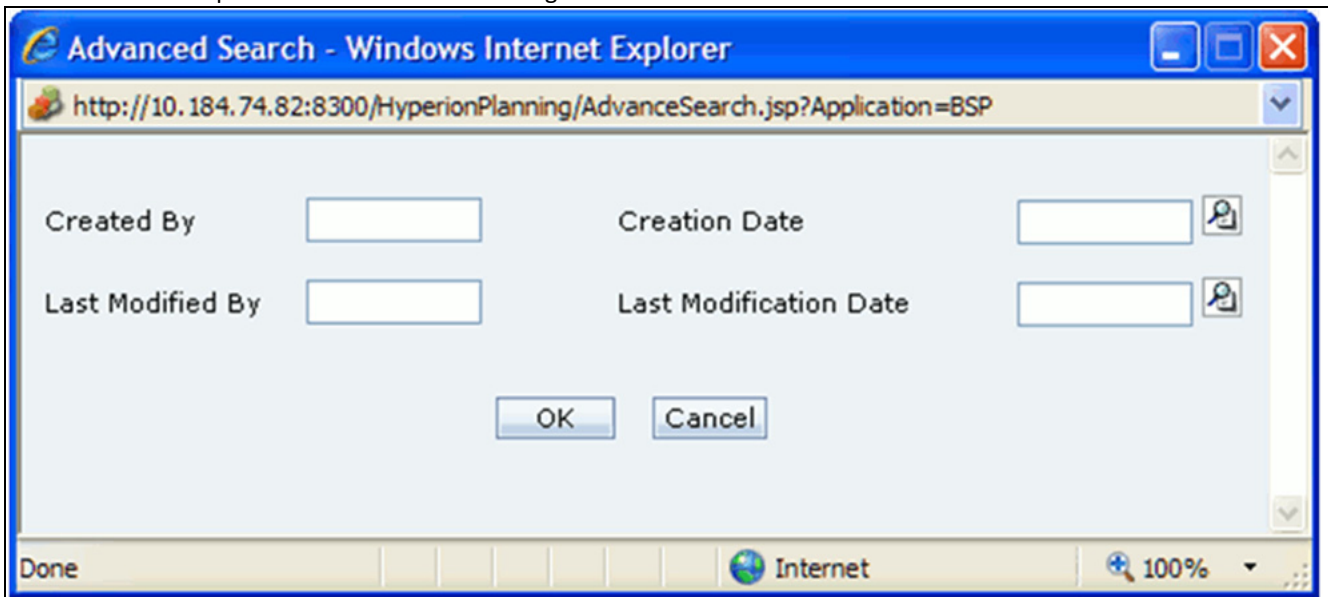


To search by Created By or Last Modified By, enter a user name and click **OK**.

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**.
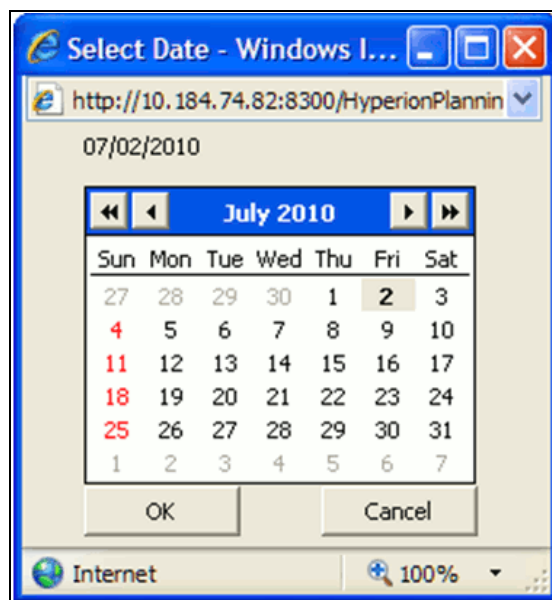


After selecting a date and clicking **OK**, the date is populated in the Advanced Search dialog. Click **OK** to perform the search using the date selected.

### Reset Control

Clicking on the **Reset** control removes any code, Interest Rate Type, or Reference 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.
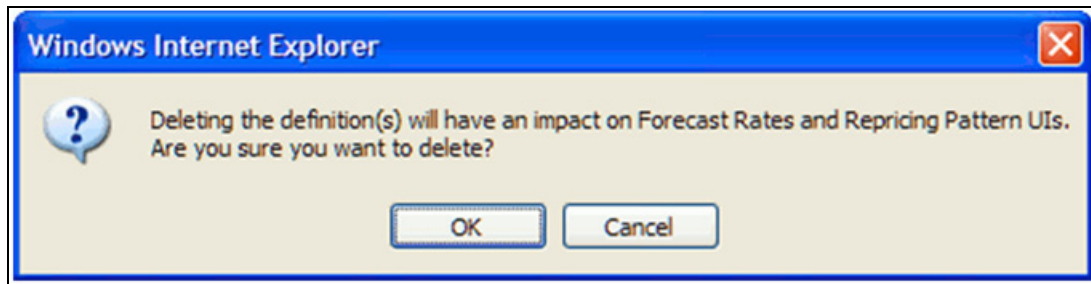
## Check Dependency

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.
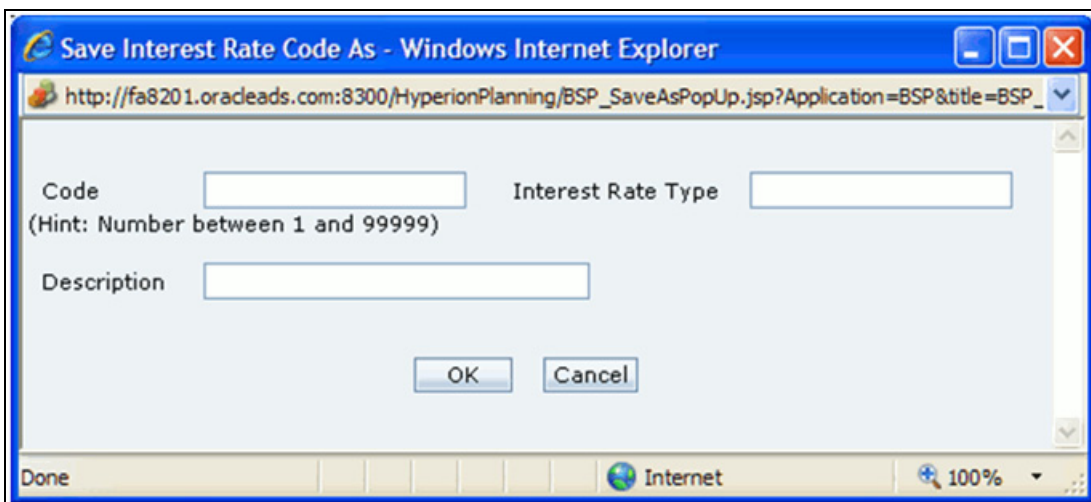


## Interest Rate Codes Summary Grid

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 column within your instrument data is 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, .

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.

## Volatile Flag

You can select the Volatile curve option to indicate that the curve selected will contain volatility rates. If you select this option, all other attributes become disabled and the curve is used exclusively for managing volatility details.

## Display for all Currencies

During defining an Interest Rate Code, if this option is selected, then that Interest Rate code will be automatically associated with all the available currencies.

## 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).
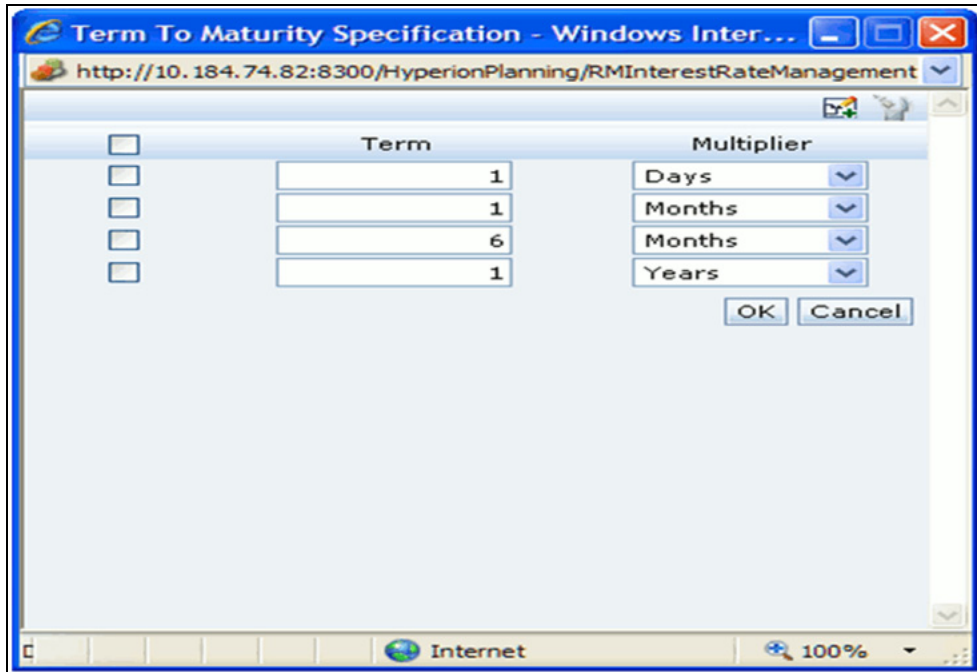
## Deleting Existing Term Points

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.
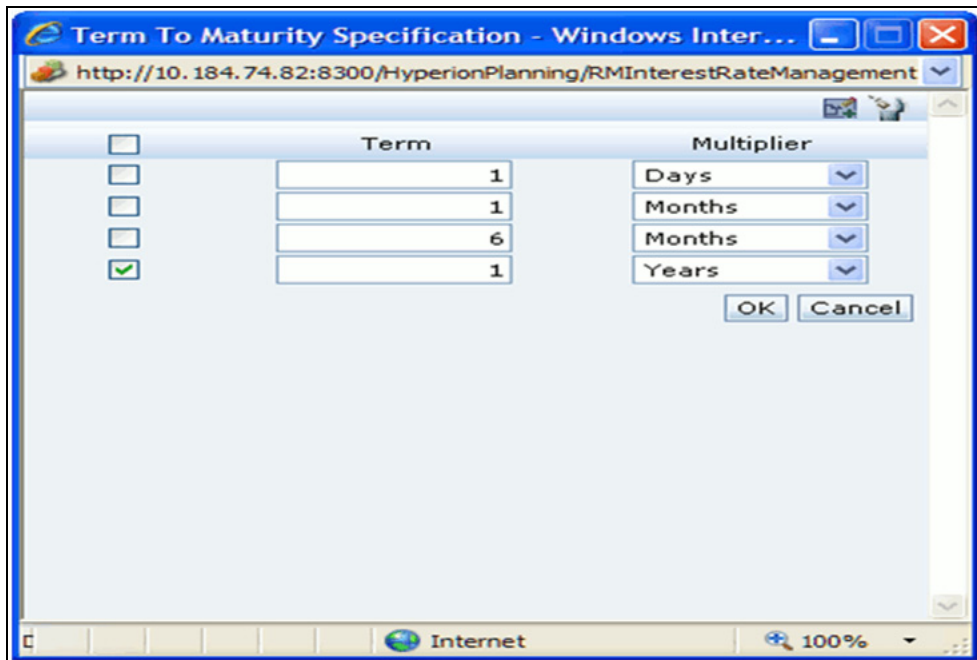


After defining the above information, click **Go** for the Attributes container and Rate Values container to appear.

## 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*

Navigate to BSP-> Administrator Activities-> Master Maintenance -> Assumption Forms and select Currencies from the list of forms displayed.



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 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 (custom 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 (custom 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).

## Seeded 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.

### Editing Currencies

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 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.

### Instructions Control

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

## Custom Currencies Container

The Customer Currencies Container allows you to add new currencies.

### 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.

### Editing Currencies

You can 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) in Custom Currencies Container.

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

### 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, ).

## *Currency Rates*

Navigate to BSP-> Administrator Activities-> Master Maintenance -> Assumption Forms and select Currency Rates from the list of forms displayed.
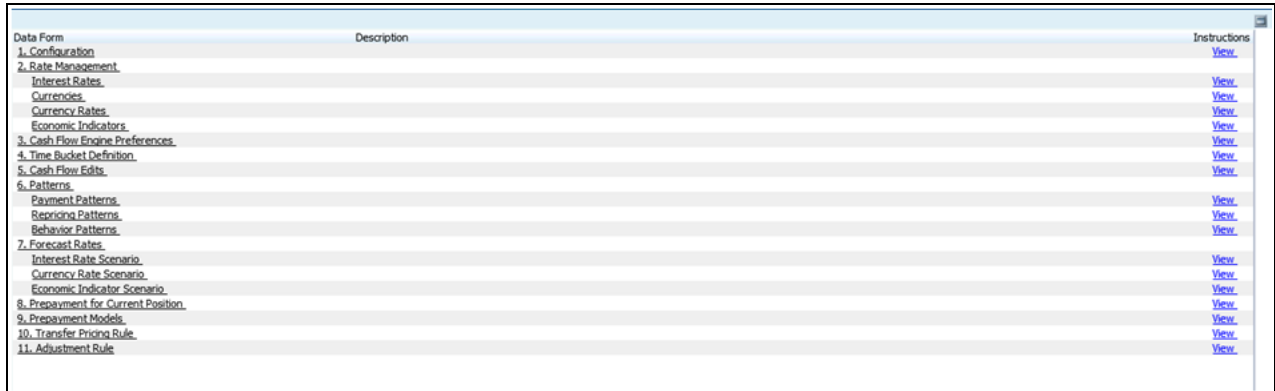


The Currency Rate window will be displayed. Within this screen, you may manage historical exchange rates between currencies.
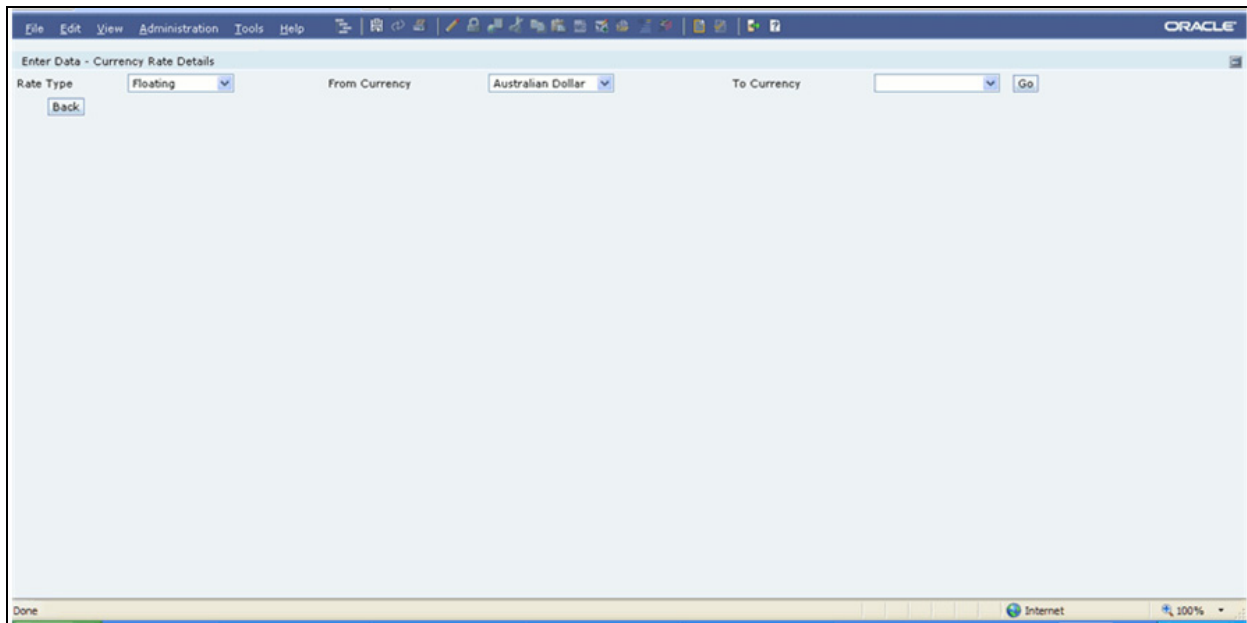


Initially, this screen will only display a Currency Selection container in which the **From Currency** is defaulted to your first Active currency. You may select another From Currency, but the From Currency list box displays only currencies that are Active.

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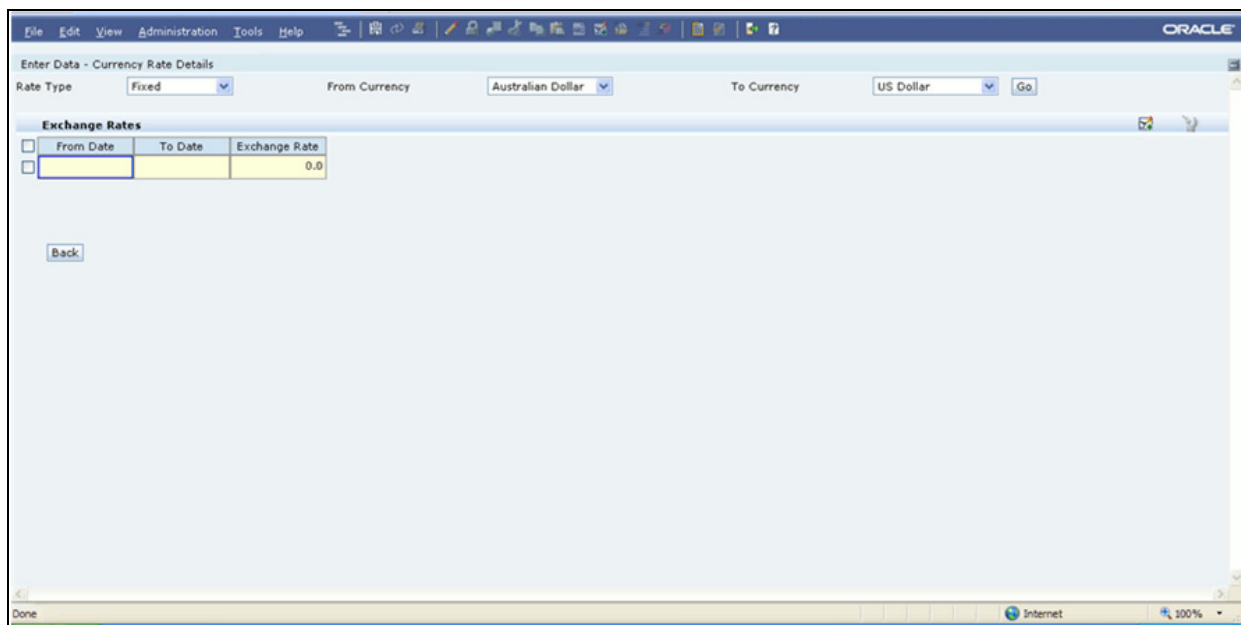
If Floating is selected as the Rate Type, you will need to specify an Effective Date and the Exchange Rate for that Effective Date in the Exchange Rates container. Future dates are not allowed. Exchange rate values should be between 0 and 99999999.999999.
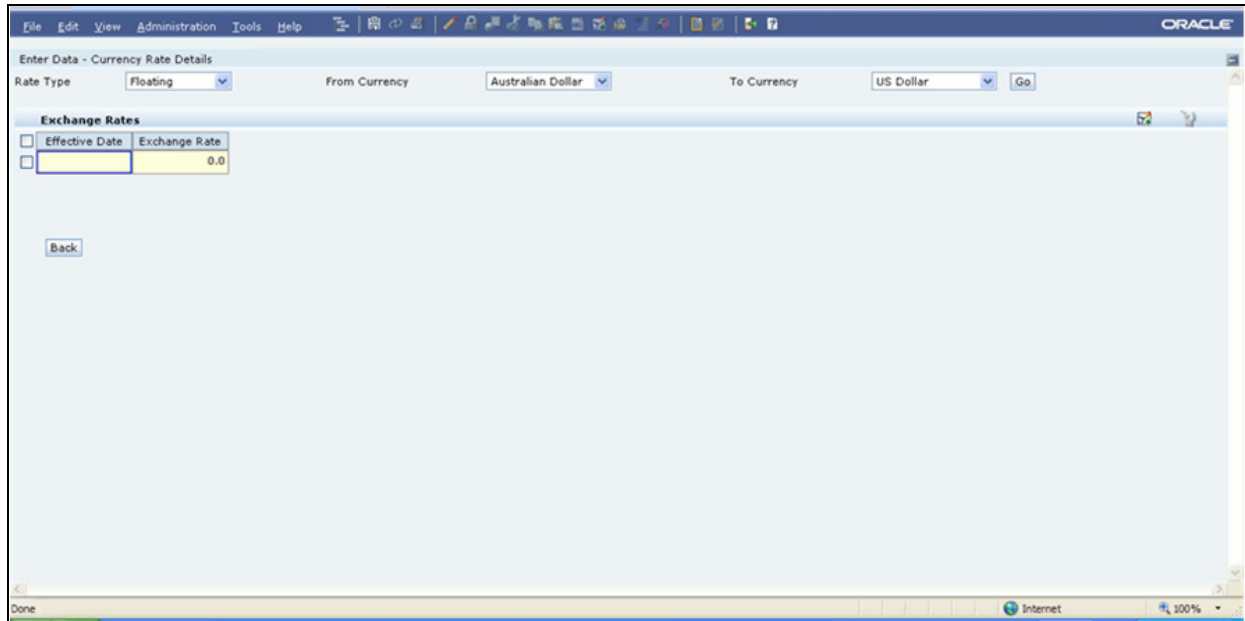


Both Currency Rates containers initially display a single blank row. When historical exchange rates have been entered into the system, the historical rates are displayed on the screen.

**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:

**Table 2.**

| 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*

Navigate to BSP-> Administrator Activities-> Master Maintenance -> Assumption Forms and select Economic Indicators from the list of forms displayed.

An empty Economic Indicator Summary screen will be displayed. After you have constructed one or more Economic Indicators, the Economic Indicators will display a summary screen showing each of the Economic Indicators that you have previously built.
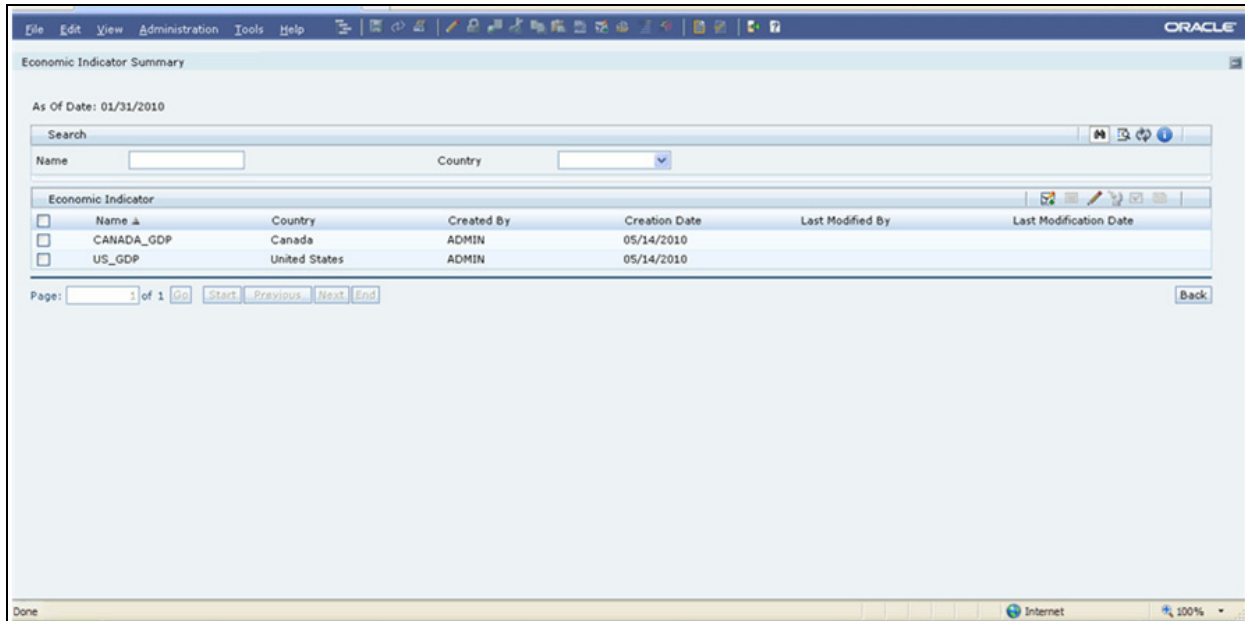


## Search Container

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 check-box 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.
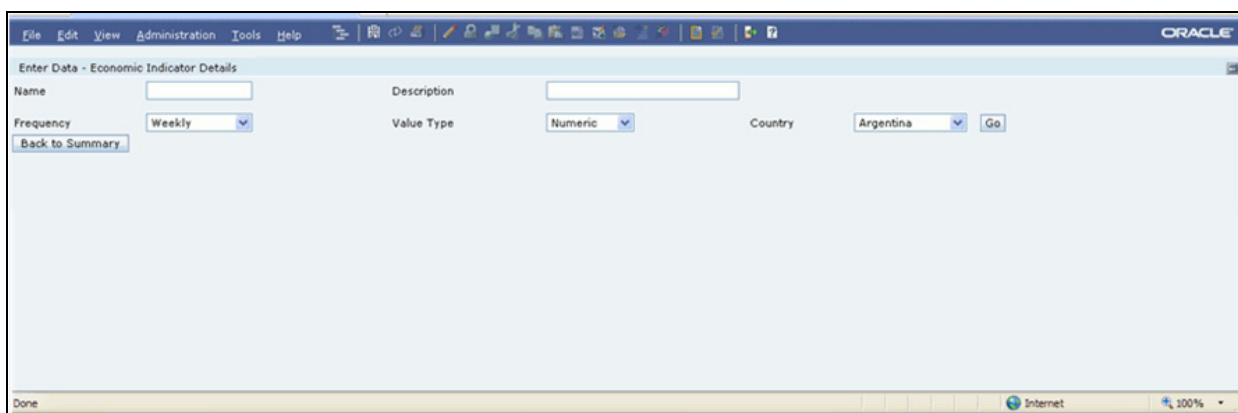
## Name

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.

# CHAPTER 5 *Defining Cash Flow Engine Preferences*

This chapter discusses the procedure for defining and maintaining the Cash Flow Engine Preferences.

This chapter focuses on the following topics:

- Overview of Cash Flow Engine Preferences
- Updating BSP Application 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.

**Table 3. Selected Terminology**

| Term | Description |
|---|---|
| Year Type | The Values field is a drop down list with the following options:<br><br>● 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.<br><br>● 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 'Active' and reporting currencies. Select the functional currency for your organization. The default selection is USD. |
| Chart of Account Dimension | The Chart of Account dimension is used to categorize both current position volumes and new business forecasts, and is used extensively in defining the cash flow characteristics of your products. This preference items maps the Hyperion Planning Chart of Account dimension to the OFSAA product dimension you select. The Chart of Account dimension in Hyperion Planning is kept in synch with your selected product dimension in the OFSAA relational data model via a Metadata Synchronization process (see Chapter 17: Metadata Synchronization). When installed on a stand-alone basis, Balance Sheet Planning allows you to select one of three seeded product-type dimensions in the OFSAA relational model: Common Chart of Accounts, General Ledger Account, or Product.<br><br>**Note:** Stand-alone implementations do not support any modifications to Balance Sheet Planning's relational data model.<br><br>When installed on an integrated basis, you may select one of the seeded product-type dimensions or you may use OFSAA Infrastructure to add additional product modeling dimensions to your relational data model. Some reasons why you might want to add additional product-type dimensions would to enable the usage of independent modeling dimensions for funds transfer pricing, ALM, budgeting, or profitability. For details, see Adding Dimension Tables and Key Dimension (Leaf) Registration in the OFSAA Data Model Utilities Guide. |

**Table 3. Selected Terminology**

| Term | Description |
|---|---|
| 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 | This preference items maps the Hyperion Planning Entity dimension to the OFSAA organizational dimension you select. The Entity dimension in Hyperion Planning is kept in synch with your selected |
| | organizational dimension in OFSAA relational data model via a Metadata Synchronization process (see Chapter 17: Metadata Synchronization). Only one organizational-type dimension is provided in the standard OFSAA relational data model: Organizational Unit. In most OFSAA implementations, |
| | Organizational Unit is designed to replicate the lowest level of organization found in a customer's General Ledger system, i.e., Cost Center, Responsibility Center, Department, Branch, etc. Most OFSAA implementations use a combination of the GL Account and Organizational Unit to reconcile OFSAA instrument level data to balances found in the General Ledger. When installed on a |
| | stand-alone basis, you may wish to populate your instrument Organizational Unit with members representing Planning Centers which may or may not represent a roll up of cost centers. Some customers may prefer populate their budget models with Planning Centers because of the impracticality of budgeting by Cost Center. |
| | **Note:** Stand-alone implementations do not support any modifications to Balance Sheet Planning's relational data model. |
| | When installed on an integrated basis, you may use OFSAA Infrastructure to add additional organizational dimensions to your relational data model. Some reasons you might want to configure an additional organizational dimension in your relational data model would be to independently capture Cost center as well as Planning Center, Source Center, or other organizational-type dimensions. For details, see Adding Dimension Tables and Key Dimension (Leaf) Registration in the OFSAA Data Model Utilities Guide. |
| 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. |

**Table 3. Selected Terminology**

| Term | Description |
|------|-------------|
| Maximum Number of Instrument records to include in detail cash flow output | This is a feature to enable auditability. This parameter allows administrators to define the maximum number of instrument records that any user can select within a process for outputting detailed cash flows for audit purposes. The Values field is a text box accepting only a positive integer between 0 and 999. The detailed cash flows are output to the table FSI_O_PROCESS_CASH_FLOWS. One Instrument record could have hundreds or thousands of rows of data depending on the forecast output. Hence, Users are advised to exercise caution while deciding on the number of instrument records for which they need to have detailed cash flow output. |
| 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. |
| 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. |
| Currency Factor | This option allows user to deal with Bulky data (containing 10+ digits), when data loaded into Essbase exceeds the display capacity of the cell. This feature will be applicable to data loaded into Essbase from Ledger Stat and Vice versa, and to data processed by the Cash Flow Engine and then imported into Essbase. This drop-down has following options:<br><br>● None<br>● Hundreds<br>● Thousands<br>● Millions |
| Strategy Dimension | The Values field is a drop down list of dimensions available for use in Balance Sheet Planning as the Strategy Dimension. Available dimensions are those which are tagged as Strategy Name and whose Key Dimension Flag is set as Y in the dimension table. |
| Strategy 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 Strategy Dimension. |
| Custom1 Dimension | The Values field is a drop down list of dimensions available for use in Balance Sheet Planning as the Custom1 Dimension. Available dimensions are those which are tagged as Custom1 Name and whose Key Dimension Flag is set as Y in the dimension table. |
| Custom1 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 Custom1 Dimension. |

**Table 3. Selected Terminology**

| Term | Description |
|---|---|
| Custom2 Dimension | The Values field is a drop down list of dimensions available for use in Balance Sheet Planning as the Custom2 Dimension. Available dimensions are those which are tagged as Custom2 Name and whose Key Dimension Flag is set as Y in the dimension table. |
| Custom2 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 Custom2 Dimension. |
| | |

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.

# CHAPTER 6    *Time Bucket Definitions*

This chapter describes the procedure for creating and working with Time Bucket Definitions.

This chapter covers the following topics:

- Overview of Time Bucket Definitions
- Working With Time Bucket Definitions
- Time Bucket Definition Summary
- 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 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.

If you have created a time bucket definition for more than 2 years (for example 3 years) and the Forms (for example: Financial Plan Default, Maturity Mix Default, Pricing margin) only display the first two years, then you will have to modify the Forms manually to add additional years.

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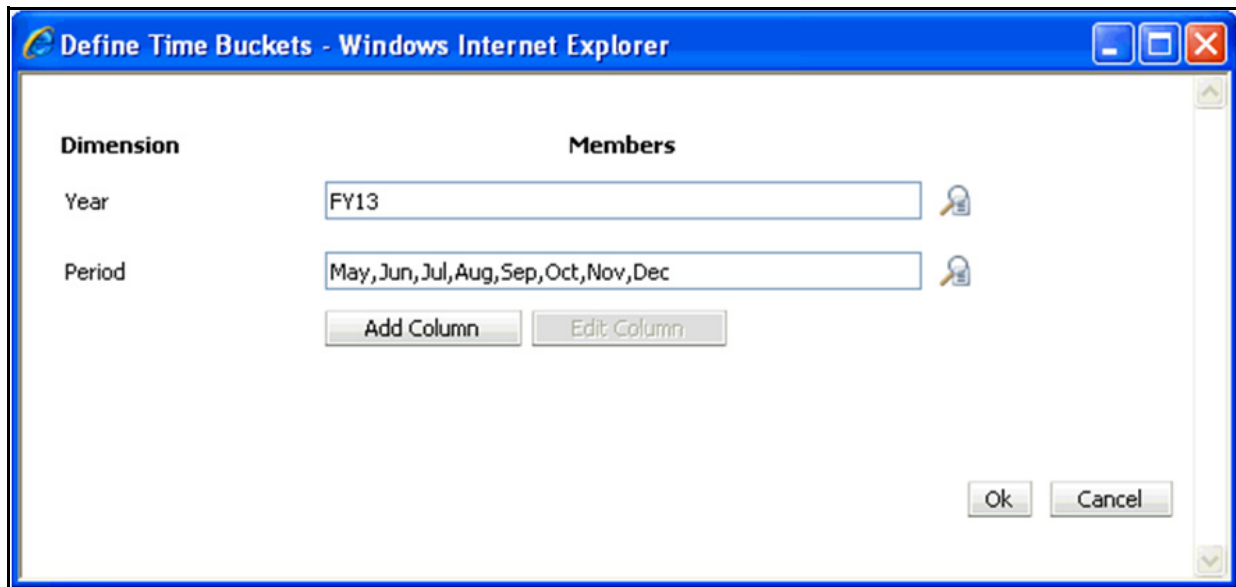
In the Define Time Buckets pop-up, click the **lookup** controls next to the Year and Period fields to select the Year and Periods for the first year of your Time Bucket Definition.

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.
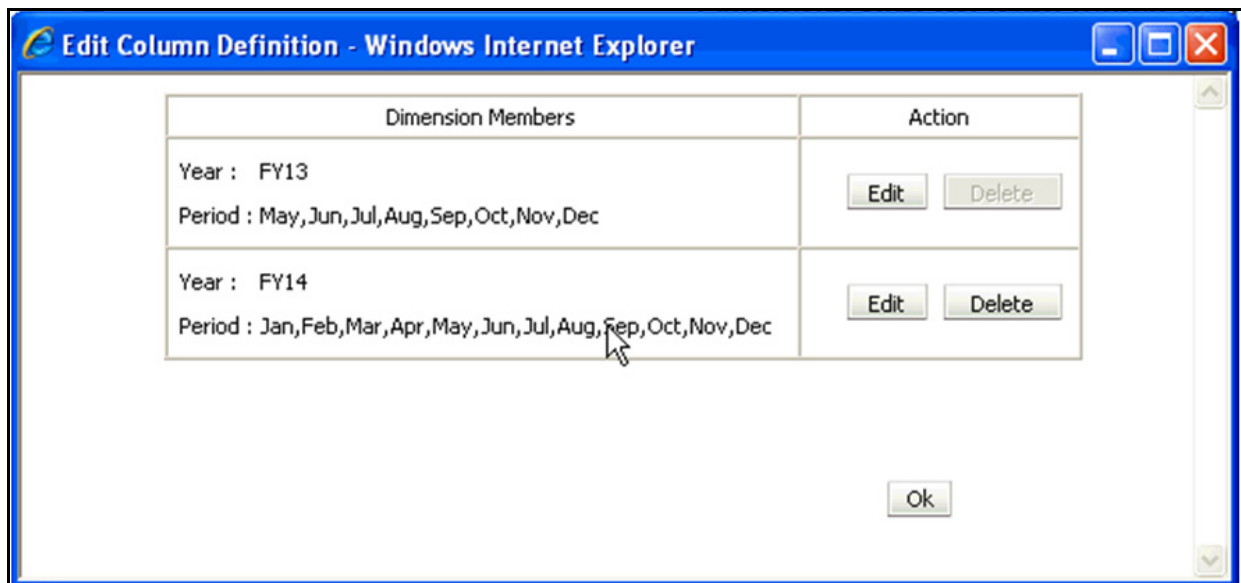


Once you have finished defining and/or editing the column definitions, click **OK** to return to the Define Time Buckets interface. Then click **OK** in the Define Time Buckets interface. On doing so the pop-up closes and the buckets selected get displayed in the Income Simulation Buckets container.

Ensure that you 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: 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.

# CHAPTER 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 Cash Flow Edit Processes
- Executing Cash Flow Edit Processes
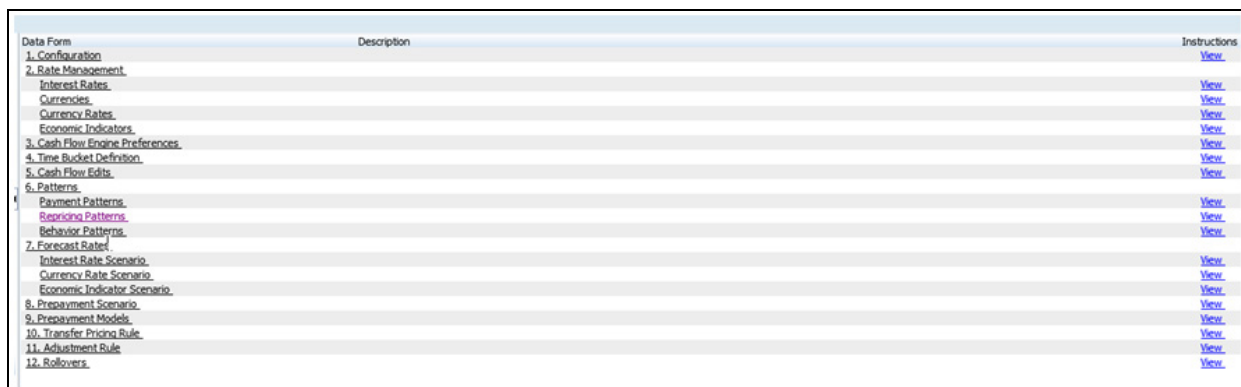
## *Overview of Cash Flow Edits*

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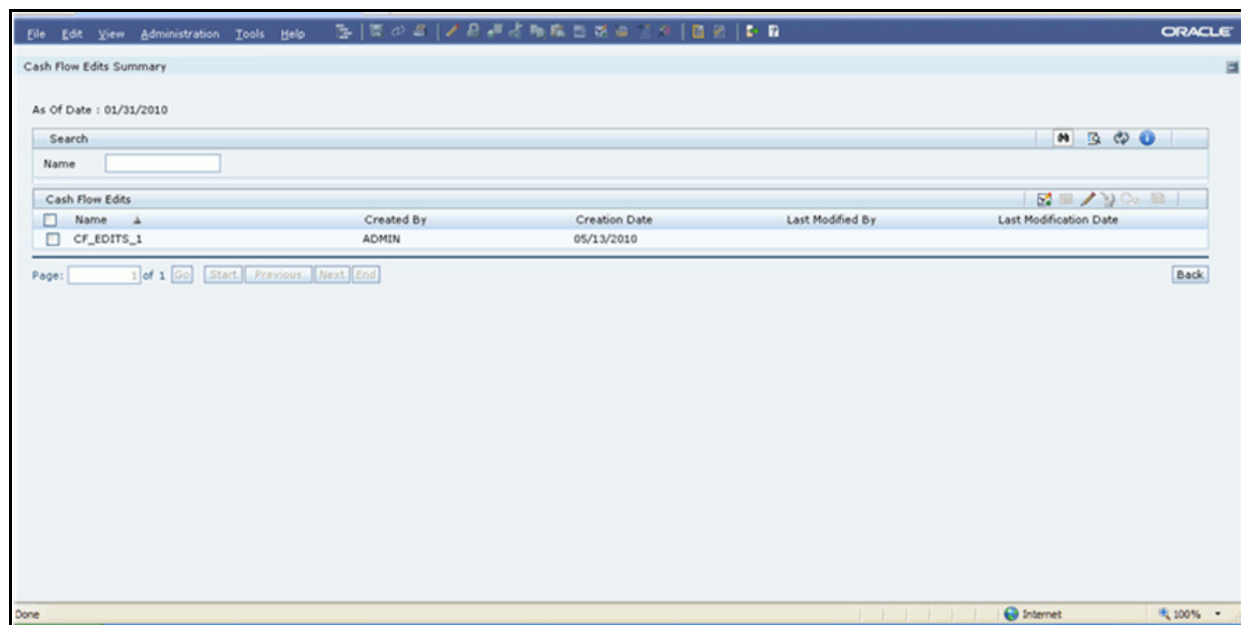
You create Cash Flow Edits process definitions and then execute those definitions to cleanse your data.

Navigate to the BSP-> Administrator Activities-> 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 Cash Flow Edit Processes*

Creating a Cash Flow Edit process is a one-step process. You define both the attributes that uniquely describe a particular Cash Flow Edit process and the data to be validated or cleansed by that process on the Create Cash Flow Edit process page.

### *Procedure*

This table describes key terms used for this procedure.

**Table 4. Selected Terminology**

| Term | Description |
|------|-------------|
| Name | Enter the name of Cash Flow Edit process. |
| Description | Enter the description of Cash Flow Edit process. |
| Chart of Account | This field allows you to select the chart of account member that needs to be included in a Cash Flow Edit process. |
| Preview Mode | Selecting this check box allows you to view the results of running a Cash Flow Edit process before the system updates the underlying records in the Instrument tables. The default value is checked. If checked, the data in the instrument tables will not be updated.<br><br>**Note:** There is currently no option to view the results of the Cash Flow Edit from the UI. You can view the results of the Cash Flow Edit by querying directly against the FSI_PROCESS_ERRORS table. |

1. Navigate to the Cash Flow Edits summary page.

2. Click Add.

   The Create Cash Flow Edits Process page is displayed.



3. Enter the name and description of the Cash Flow Edit process.

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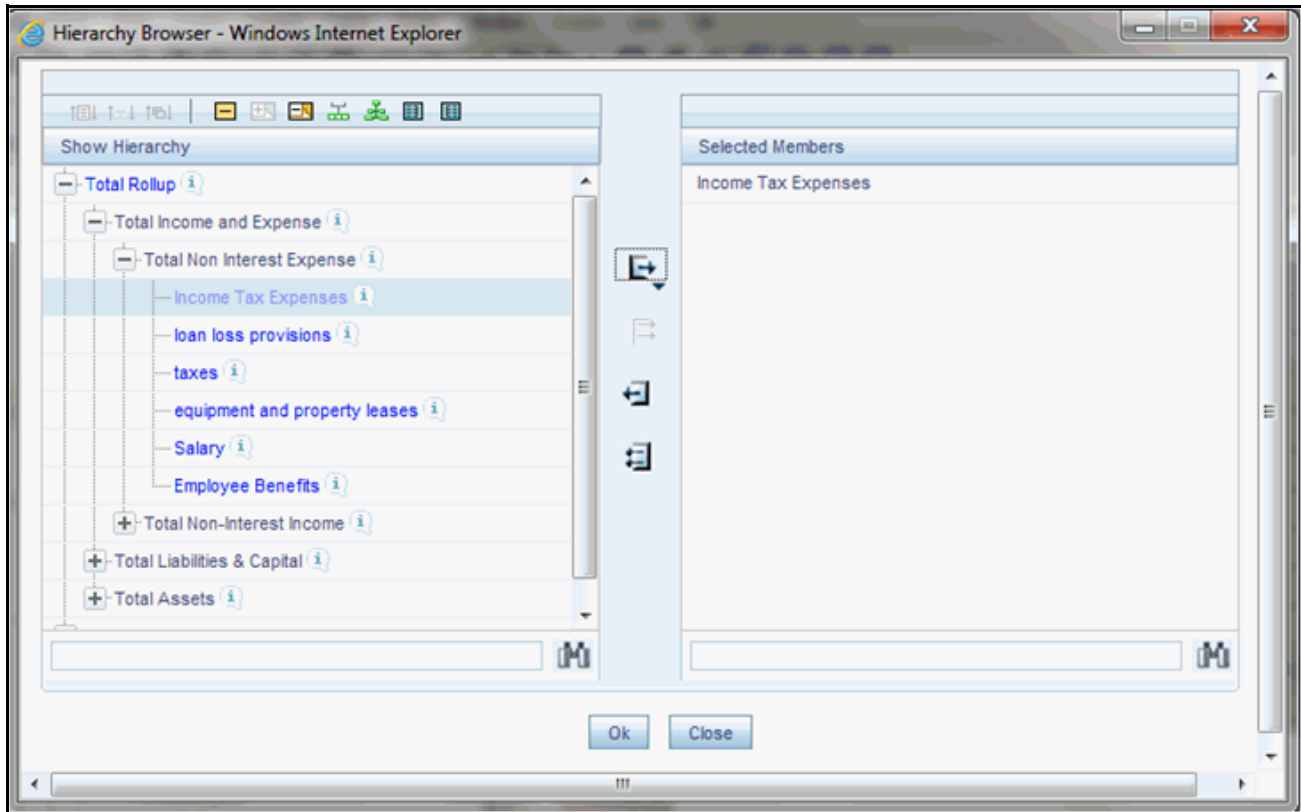
5. Once you have defined the information required, you can click the Go button to view a list of the cash flow edit rules that will be run when the definition is processed.

   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.

6. Click Save.

   The Cash Flow Edits process is saved and the summary page is displayed.

   **Note:** In order to run the Cash Flow edits process successfully, you need to run a business rule called populate product instrument mapping which is accessible through master maintenance data form.
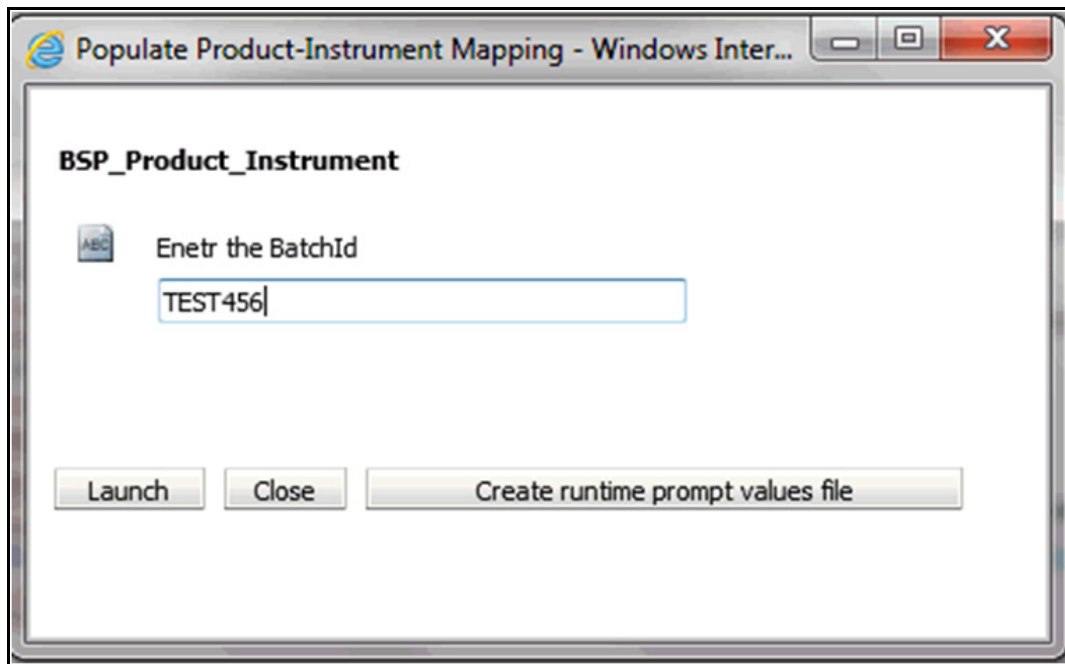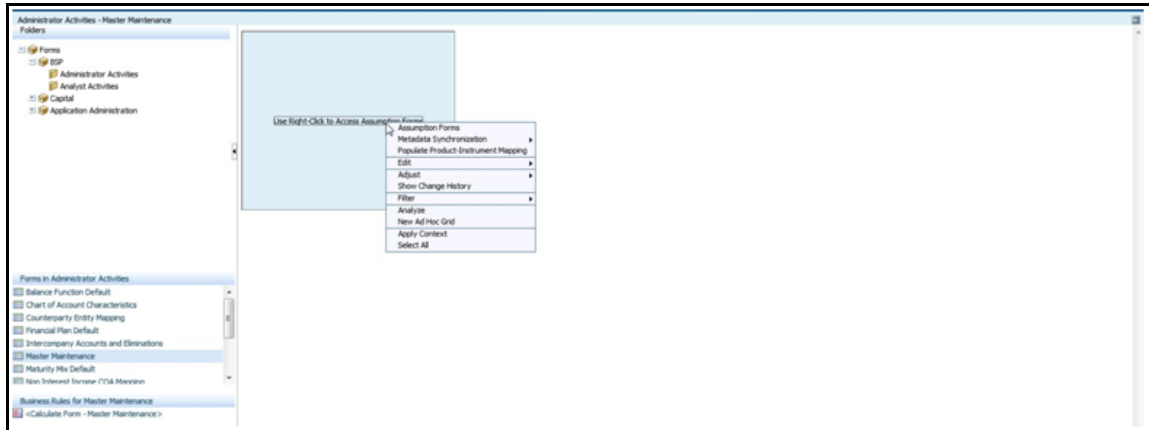
## Related Topics
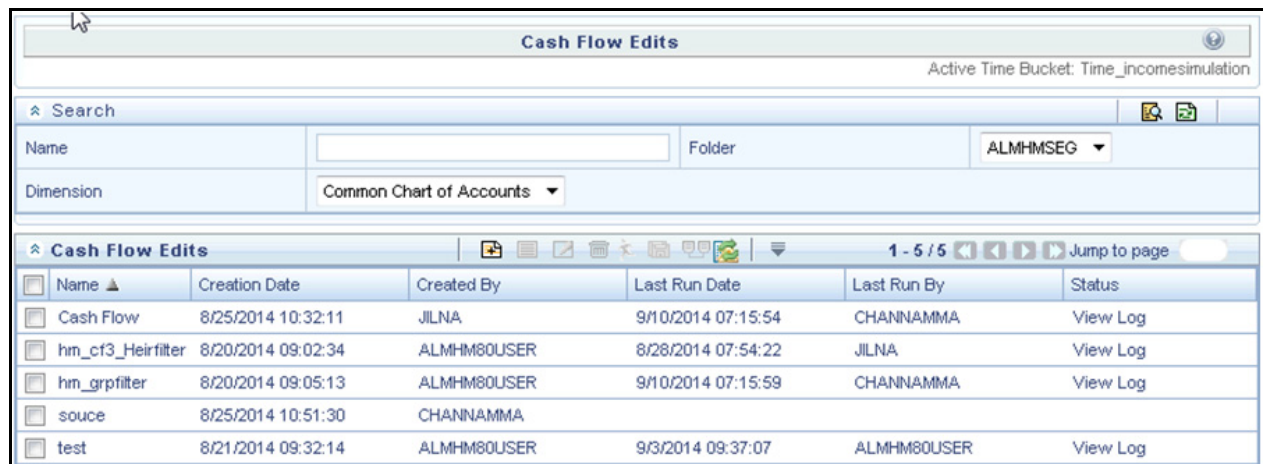
Overview of Cash Flow Edits Rules,

## *Executing Cash Flow Edit Processes*

You execute a Cash Flow Edit process to check the accuracy and the completeness of your Instrument table data. When you run in Preview mode, you can view the results of running a Cash Flow Edits process by querying the FSI_PROCESS_ERRORS table for generated errors before the system updates the underlying records in the Instrument tables.

### Prerequisites

- Predefined Rules



### Procedure:

1. Navigate to the Cash Flow Edits summary page.

2. Search for a rule,

3. Select a rule and Click the **Run** icon to execute the selected process. The Cash Flow Edits run confirmation page is displayed.

> **Note:** You can view the results of running a Cash Flow Edits rule before the system updates the underlying records in the Instrument tables, provided you selected Preview Mode while defining it. If run in Preview Mode, query the FSI_PROCESS_ERRORS table for any generated errors.

# CHAPTER 8

# *Defining Custom Payment Patterns*

This chapter describes the procedure for creating and working with Custom Payment patterns.

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 BSP-> Administrator Activities-> 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.
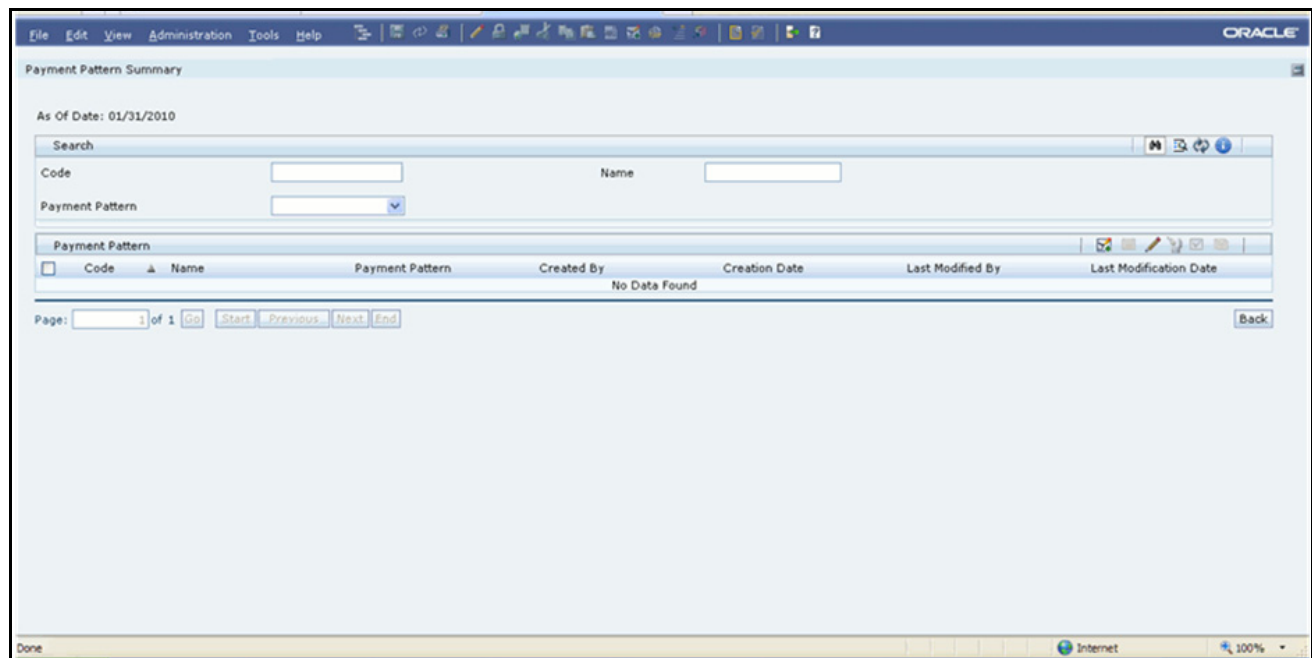


## Search Container

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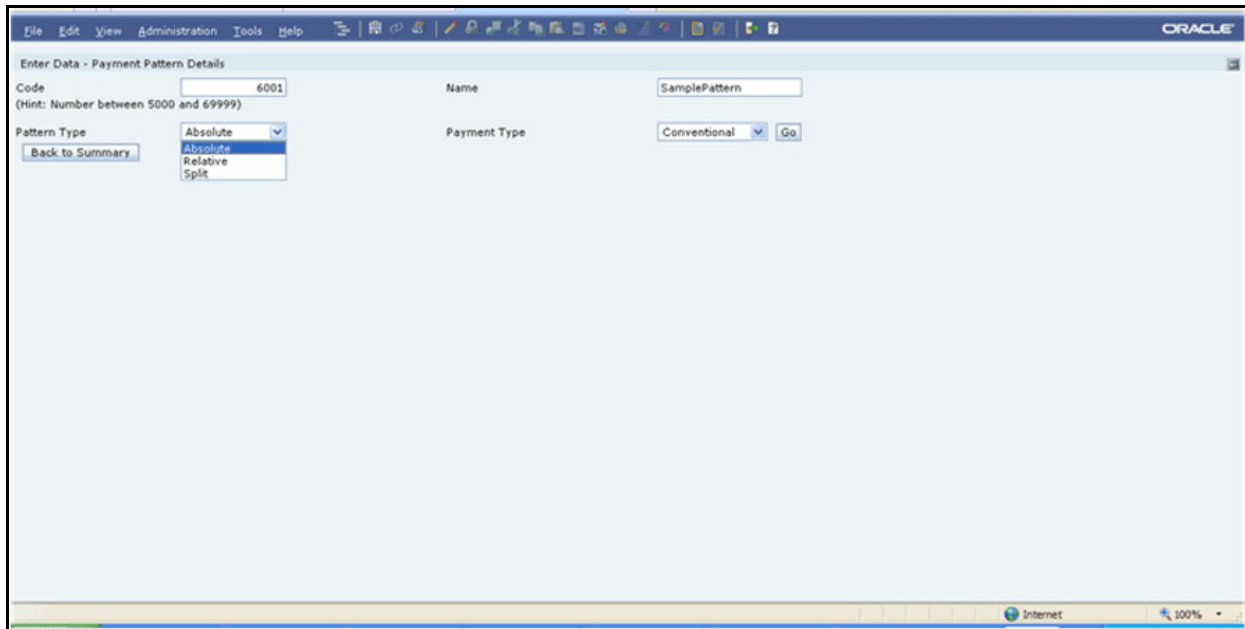
Displays the date and time at which the payment pattern was last modified.

## 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 1000 and 69999.

> **Important: 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**

| Methods | 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. |
| % 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.<br><br>**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. |

| Methods | Description |
|---|---|
| % 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. |
| 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.<br><br>**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.

**CHAPTER 9**

# Defining Custom Repricing Patterns

This chapter describes the procedure for creating and working with Custom Repricing patterns.

This chapter covers the following topics:

- Overview of Repricing Patterns
- Repricing Pattern Definition
- 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**

| Chacteristic | 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.
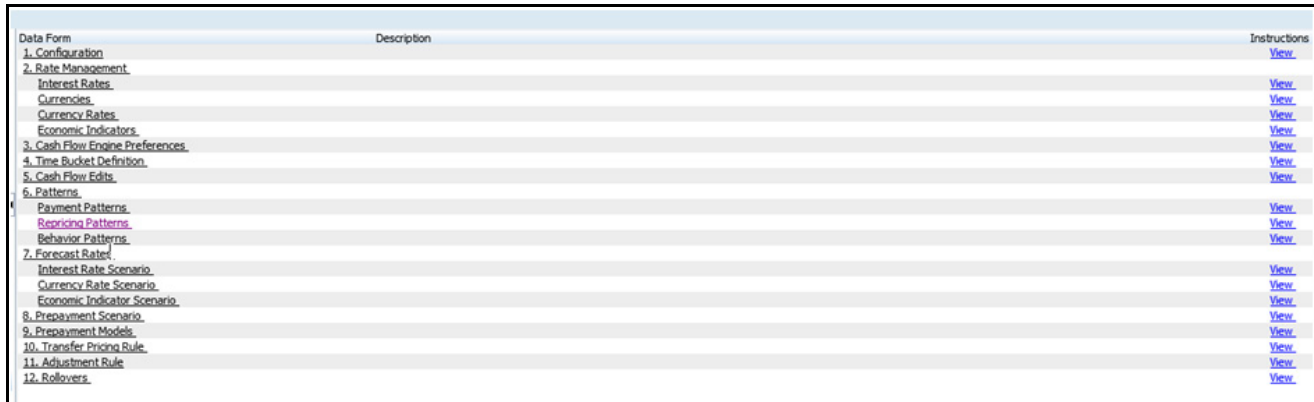
## Indexed Rate

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:

| 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. |
| 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. |
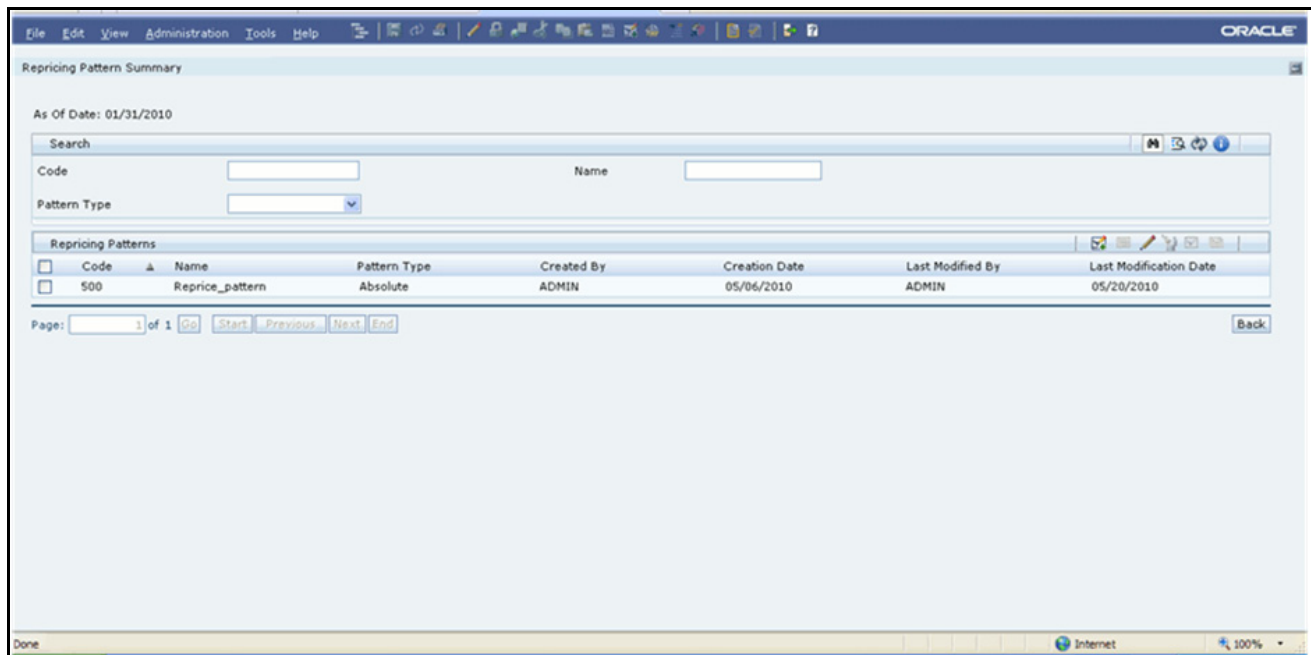
# *Working with Repricing Patterns*

Navigate to the BSP-> Administrator Activities-> Master Maintenance > Assumption Forms and select **Repricing Patterns** from the list of forms displayed.



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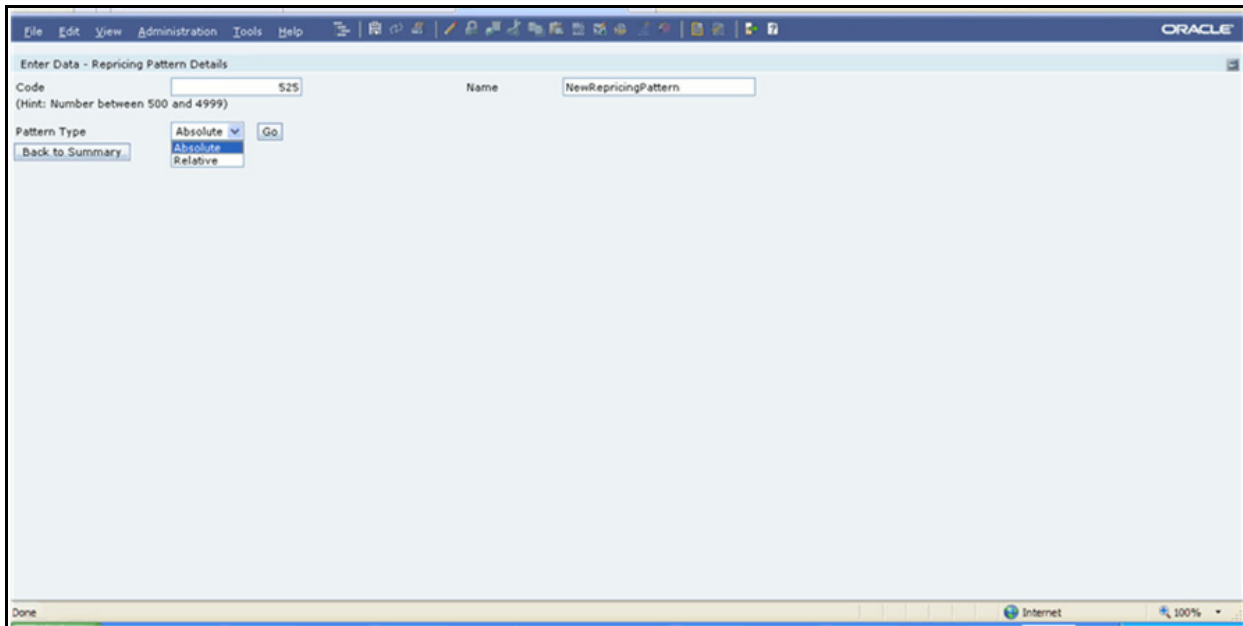
Displays the date and time at which the repricing pattern was last modified.

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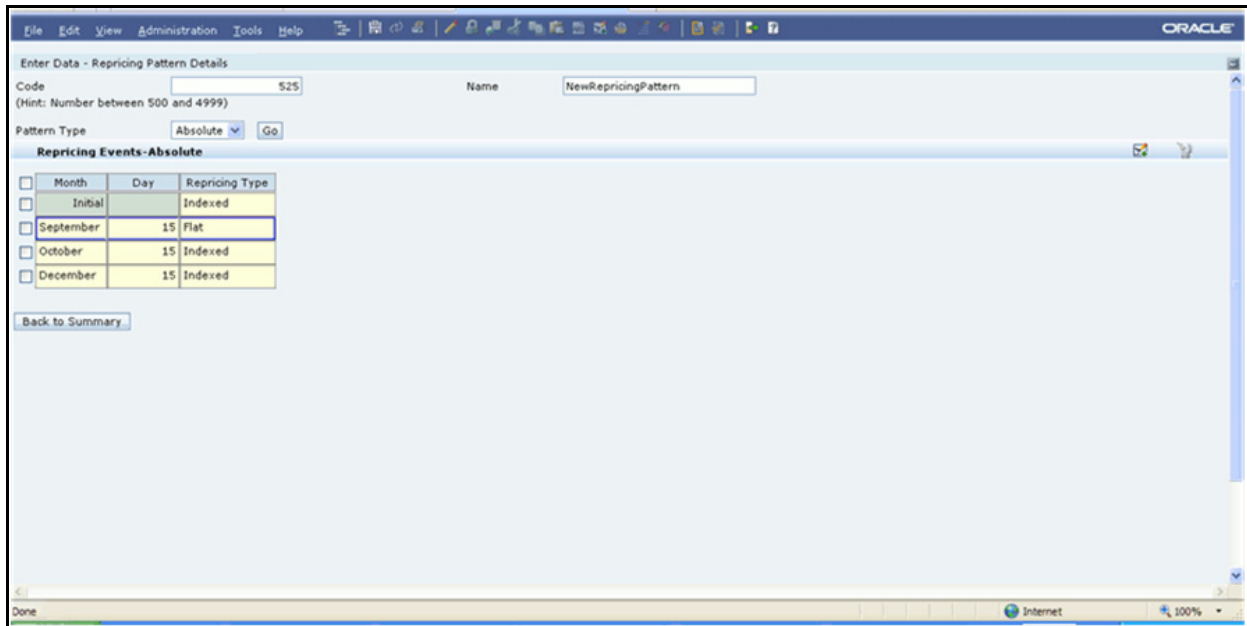
Descriptions for each of these terms are described in the table below:

| 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. |
| 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.
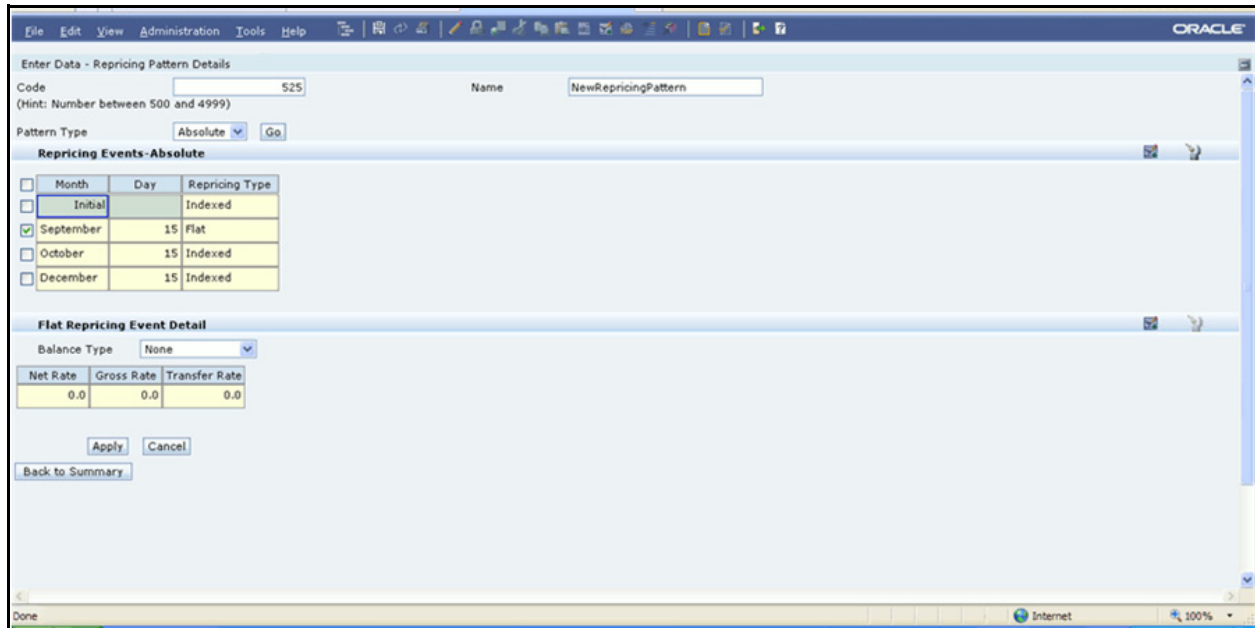
- Select Balance Type option:

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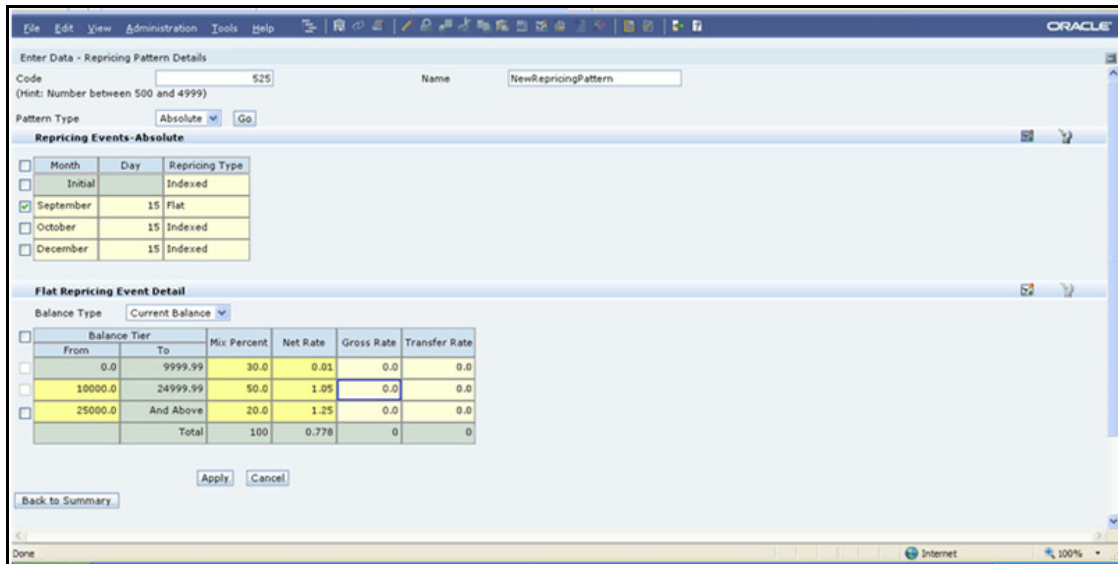
User also has to enter the mix percent applicable to each tier.

**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.
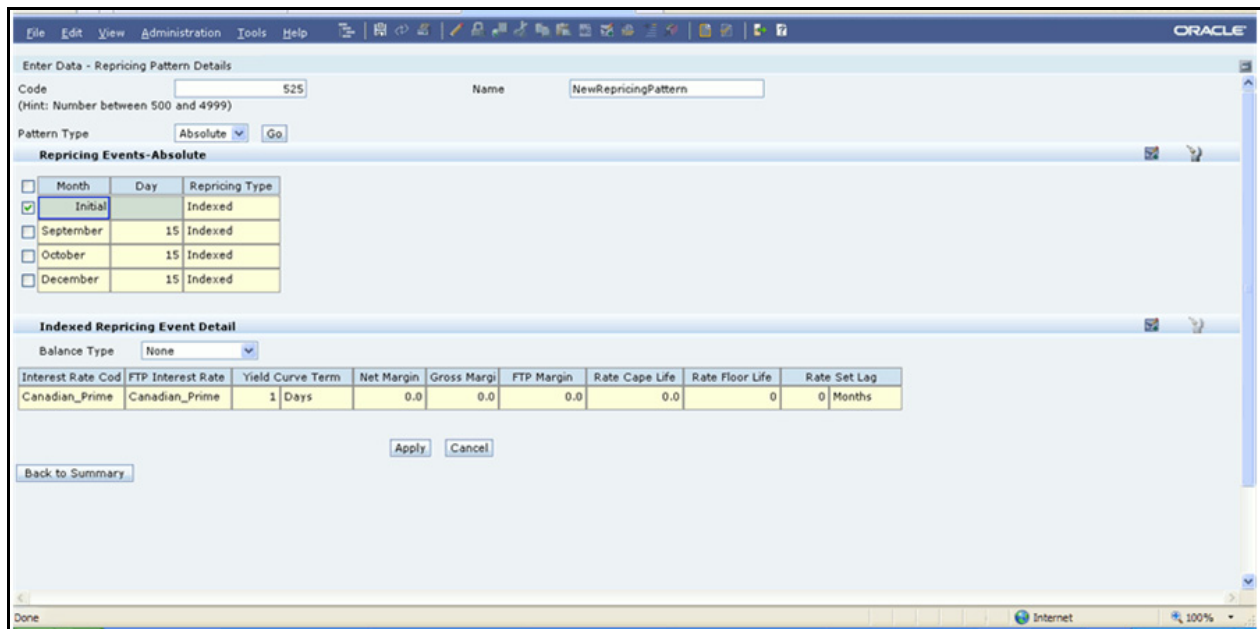


Select or enter values for the following items:

■ 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:

| 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: <br><br>• Days<br><br>• Months<br><br>• Years |
| Repeat | Allows you to specify the number of times a repricing event should be repeated. Enter a value between 1 and 9999. |
| 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, click **Back to Summary** button to go back to the Summary Page.

**CHAPTER 10**

# *Defining Behavior Patterns*

This chapter describes the procedure for creating and working with Behavior patterns.

This chapter covers the following topics:
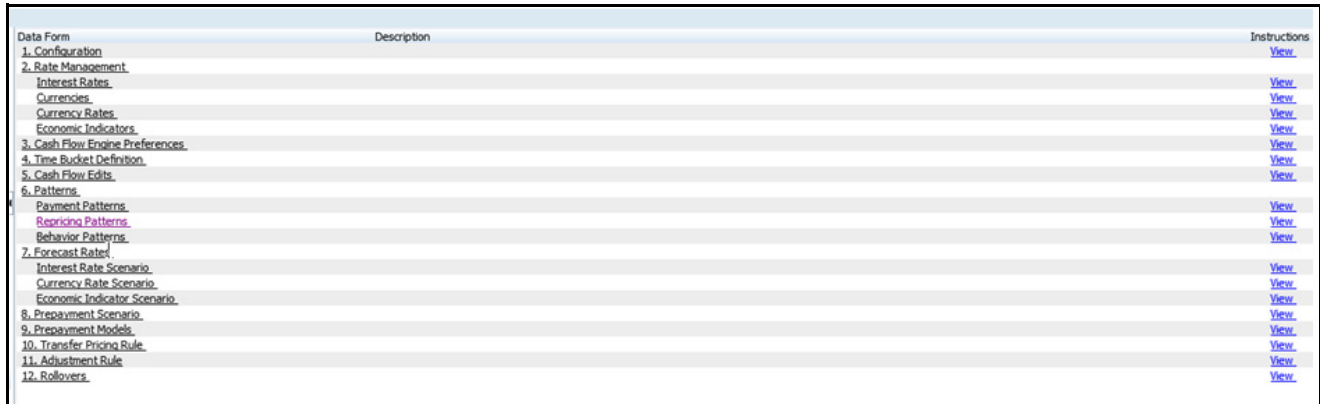
- Overview of User Defined Behavior Patterns
- Working With Behavior Patterns

## *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 BSP-> Administrator Activities-> 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.
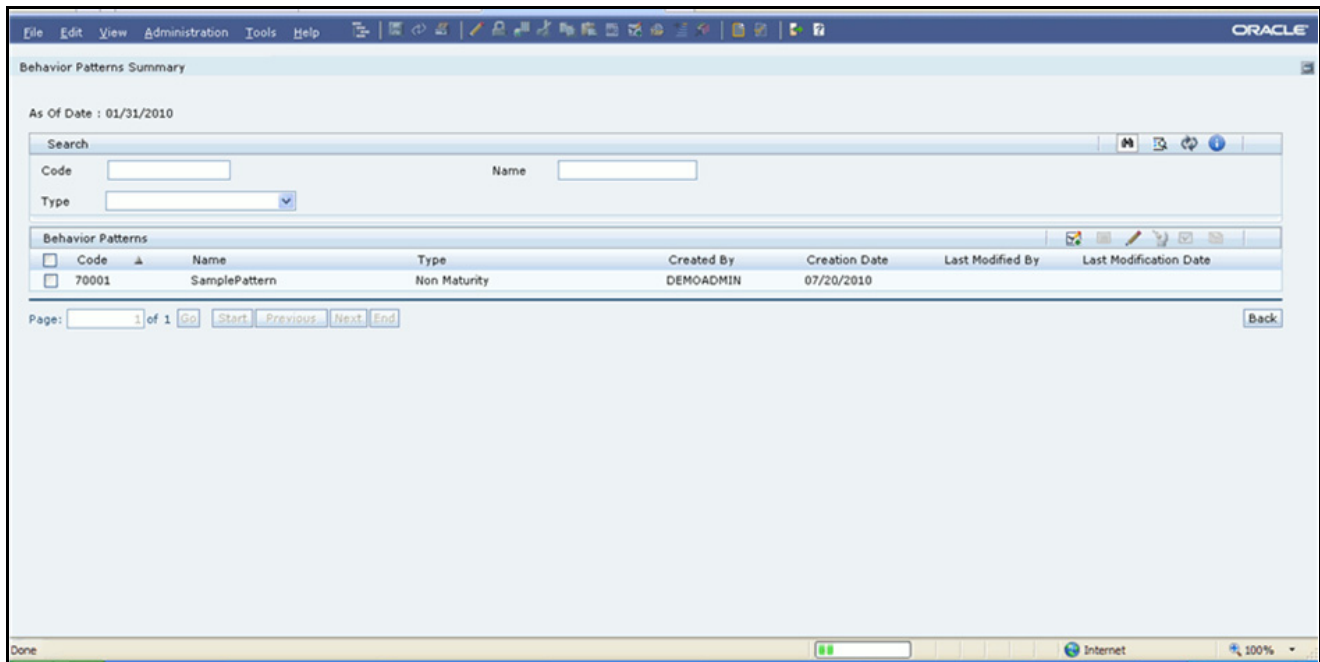


## Search Container

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 10-6

   - Defining Non Performing Behavior Patterns, page 10-8

   - Defining Devolvement and Recovery Behavior Patterns, page 10-10

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> **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.

| 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: <ul><li>Days</li><li>Months</li><li>Years</li></ul> |
| 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. |
| 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 four categories including **Sight Devolvement**, **Usance Devolvement**, **Usance Recovery** and **Sight Recovery**.

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.
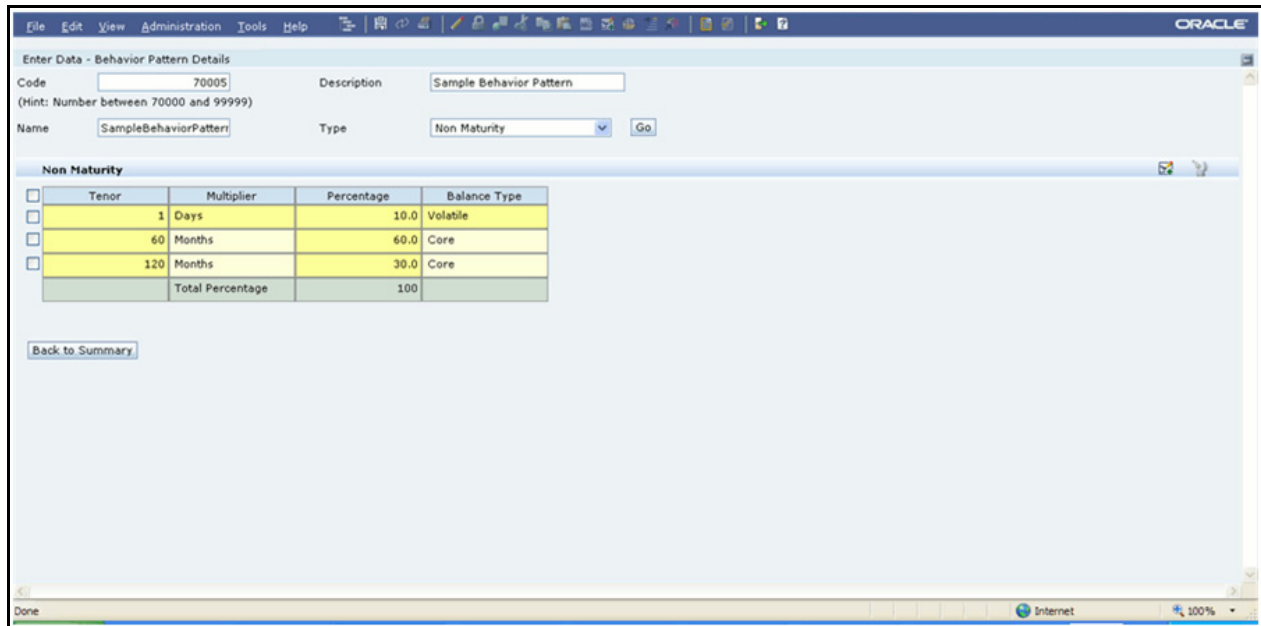


7.  Click on the Back to Summary button to return to the Behavior Pattern summary page.

## 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.

| 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 |

| Term | Description |
|---|---|
| Percentage | The relative amount of the principal balance that will mature on the date specified by the Tenor + Multiplier.<br><br>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 four categories including **Sight Devolvement**, **Usance Devolvement**, **Usance Recovery** and **Sight Recovery**.

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.
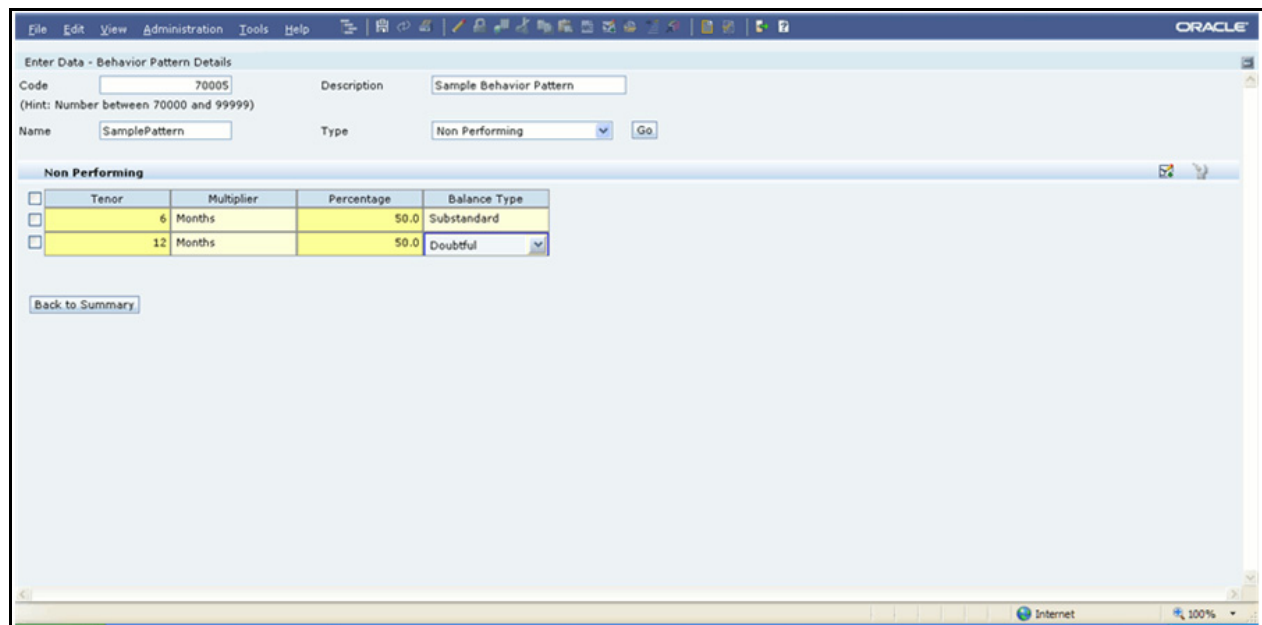


7. Click on Back to Summary to return to the Behavior Pattern summary page.

## 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.

| 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.<br><br>Tenor should be a value between 1 and 999. |
| Multiplier | The unit of time applied to the Tenor. The choices are:<br><br>● Days<br>● Months<br>● Years |
| Percentage | The relative amount of the principal balance that will mature on the date specified by the Tenor + Multiplier.<br><br>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.<br><br>**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.<br><br>**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.

# CHAPTER 11 *Forecast Rates*

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
- Interest Rate Scenario
- Enter Data - Interest Rate Scenario Details
- Working With Currency Rate Scenarios
- Enter Data - Currency Rate Scenario Details
- Working With Economic Indicator Scenarios
- Enter Data - Economic Indicator Scenario Details
- Loading Forecast Rates Data to 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.

### Import

Selecting a single row out of the grid enables the Import Control. Clicking on Import control allows you to import the interest rates into Essbase. This control is only enabled when a single Interest rate scenario has been selected. A message box will appear after completion.

> **Note:** Before clicking on import, it is necessary to perform metadata synchronization for custom flat dimensions so that the definition created in RDBMS (Forecast Rates) is available in Essbase as well.

### 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.
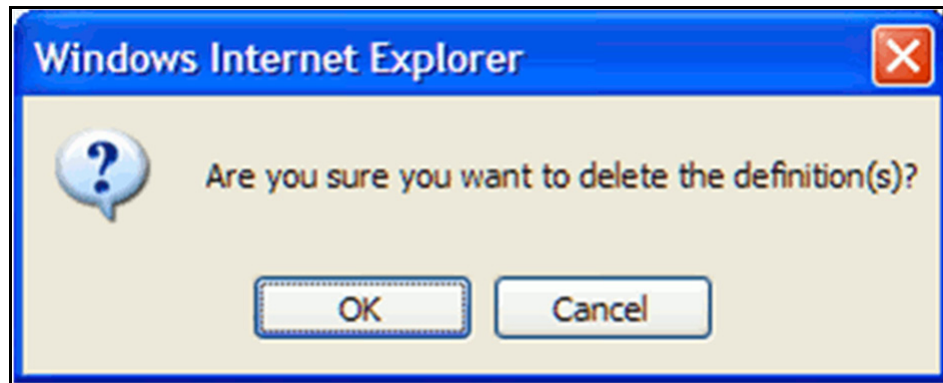


## Check Dependency

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.
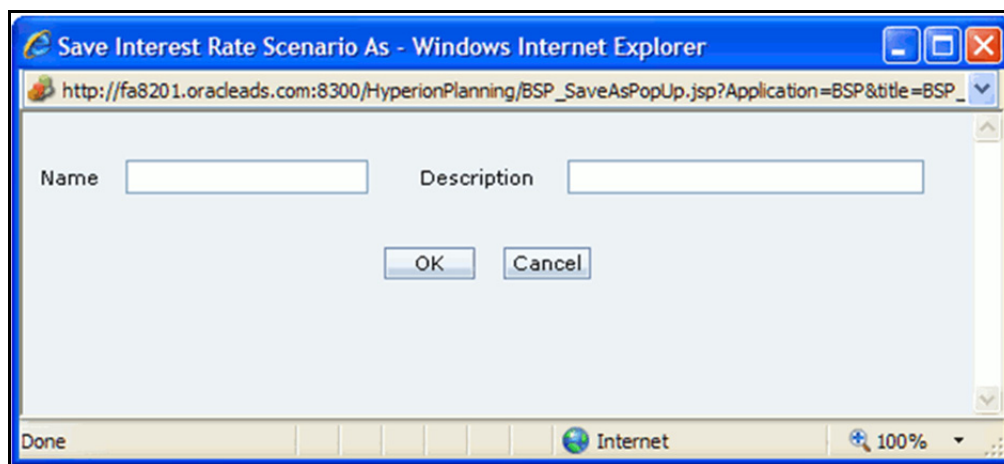


The following columns categorize each interest rate scenario in the Interest Rate Scenario container summary grid:

- 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.

### Interest Rate Type

The Interest Rate Type field is a drop list of interest rate codes 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 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.

- Implied Forward - Forecast interest rates based on the yield-curve interest rates in effect at the as-of date and consistent with the modeling bucket definitions.

- Yield Curve Twist - The user can define the short point, anchor point and long point and related shock amounts for each tenor.

  Flatten or steepen the yield curve around a specific point on the curve.

### 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.

If no historical values (such as, values on or before as of date) are available, then 1 is taken as the value for 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.

Those buckets for which values have not been entered will take the historical values closest to the as of date. If no historical values such as, values on or before as of date) are available, then 1 is taken as the value for the future time buckets for which no values have been entered. To view the final rates, click on the icon at the top right corner of the block.

## 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 increases by 0.25% for April, July, October and January and is unchanged (from the value equal to or closest to the as-of-date in rate management) for the rest of the months of the forecast. As reflected in the screenshot below, enter .25 for April, July, October and January as the structured change amount.

After entering the structured change amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

## Using the Implied Forward Forecast Method

The interest rates will be derived from the term structure of the IRC. This method is available only for yield curves, which are IRCs that consist of multiple terms. If the selected IRC is a single point index, this option is disabled.

When Implied Forward is selected as the Forecast Method and you click on Go control, the Interest Rate - Implied Forward grid is displayed on an editable basis with Shock drop-down list. Here, Shock Type represents to change. Select the Shock Type as Rate or Percentage. 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.

---

> **Note:** The interpolation method for Implied Forward will have only Cubic Spline of yields.

---

For example, if you want to view the U. S. dollar interest rates forecasted from the Treasury Index rates and terms in effect at the as-of date and consistent with the modeling buckets. Here, Reporting currency is U. S. dollars, Local currency is Australian dollars (converting from Australian dollars (AUD) to USD), Exchange rate loaded from Rate Manager is 1.108 AUD to 1 USD, and Modeling period is 07/01/2009 to 06/30/2010.

After entering the Implied Forward amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

## Using the Yield Curve Twist Forecast Method

The user inputs the tenors representing the Short Point, Anchor Point and Long Point. For each of these tenor points, the you can additionally add the required shock amounts for each tenor. At runtime and display time, the rate changes are added to the as-of-date rates to create the future scenario.

For Yield Curve Twist example, set up a scenario for flatten a given yield curve. Select the Currency Codes as USD: US Dollar, US Treasury Curve as Interest Rate Codes, Yield Curve Twist as Rate Forecast Method. When Yield Curve Twist is selected as the Forecast Method and you click on Go control, the Interest Rate - Yield Curve Twist grid is displayed with Term points. Here, you cannot edit the Term Points. Enter the following interest rate changes (flattening the curve around the 3 month term points):



| Field | Description |
| --- | --- |
| Start Bucket | Start Bucket is a drop-down list that shows all the bucket numbers of the active time bucket. |
| End Bucket | End Bucket is a drop-down list that shows all the bucket numbers of the active time bucket. |
| Anchor Point term | The anchor point is typically the point on the yield curve where the pivot occurs. It typically does not change in a twist scenario. Enter the Anchor Point Term. This is a numeric field that accepts the values between 1 to 9999. Decimal values are not allowed. |
| Multiplier | The unit of time applied to the Term. The choices are: Days, Months, Years. |
| Shock Amount | Enter the Shock Amount for Anchor Point Term. This is a numeric field that accepts the values between -999.99999 and 9999.99999. |

| Field | Description |
|---|---|
| Short Point term | This can be the first tenor from the yield curve, but can also be an intermediate point. Enter the Short Point Term. This is a numeric field that accepts the values between 1 to 9999. Decimal values are not allowed. |
| Multiplier | The unit of time applied to the Term. The choices are: Days, Months, Years. |
| Shock Amount | Enter the Shock Amount for Short point Term. This is a numeric field that accepts the values between -999.99999 and 9999.99999. |
| Long Point term | The long point can be the last tenor in the yield curve or an intermediate point. Enter the Long Point Term. This is a numeric field that accepts the values between 1 to 9999. Decimal values are not allowed. |
| Multiplier | The unit of time applied to the Term. The choices are: Days, Months, Years. |
| Shock Amount | Enter the Shock Amount for Long point Term. This is a numeric field that accepts the values between -999.99999 and 9999.99999. |

**Note:** The anchor point, short point and long point values should be one of the term points which are displayed for the selected IRC.

If you enter a value which is not shown under term points field, then an error message is displayed "*The specified term point does not exist for the selected IRC*".

If you select an IRC which has less than 3 term points, an error message is displayed "*Selected Interest Rate Code should have minimum 3 term points to define Yield Curve Twist Method*".

The Anchor Point should be greater than the Short Point, but less than the Long Point. The Short Point should be less than the Anchor and Long Point. The Long point should be greater than Anchor and Short Point.

# 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.

## Import

Selecting a single row out of the grid enables the Import Control. Clicking on Import control allows you to import the currency rates into Essbase. This control is only enabled when a single Currency rate scenario has been selected. A message box will appear after completion.

> **Note:** Before clicking on import, it is necessary to perform metadata synchronization for custom flat dimensions so that the definition created in RDBMS (Forecast Rates) is available in Essbase as well.

## 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.
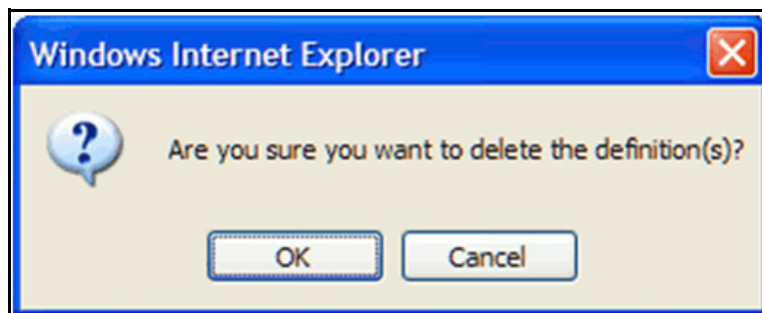
## Check Dependency

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.
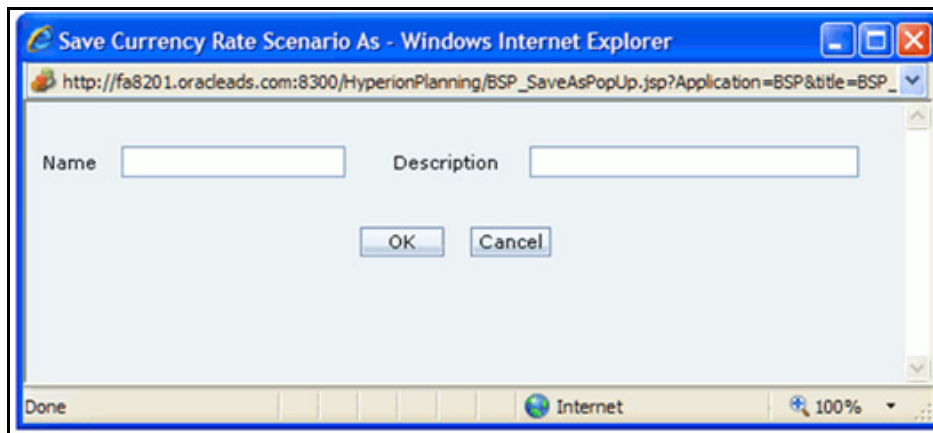


The following columns categorize each currency rate scenario in the Currency Rate Scenarios container summary grid:

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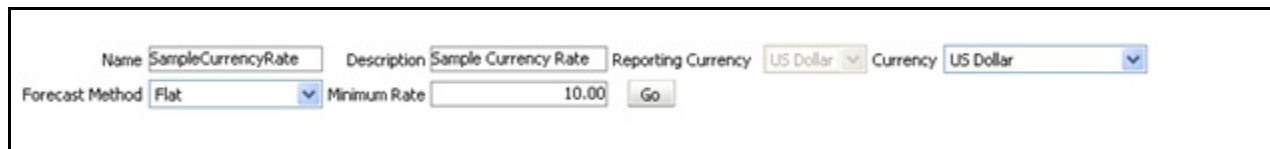
Displays the date and time at which a currency rate scenario was last modified.

## 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
- Parity - The exchange rate between the selected currency and the reporting currency is based on interest rate forecasts for the Reference IRC associated with each of the two currencies.
- No Arbitrage - The exchange rate between the selected currency and the reporting currency depends on the interest rates in effect on the As-of-Date for the Reference IRCs of the two currencies.

  The Parity and No Arbitrage methods are available when the selected currency has an associated reference IRC as defined in Rate Management.

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.

If no historical values (i.e values on or before as of date) are available, then 1 is taken as the value for 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.

Those buckets for which values have not been entered will take the historical values closest to the as of date. If no historical values (i.e values on or before as of date) are available, then 1 is taken as the value for the future time buckets for which no values have been entered. To view the final rates, click on the icon at the top right corner of the block.

## 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.

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

After entering the structured change amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

## Using Parity Forecast Method

When Parity is selected as the Forecast Method and you click Go control, the Currency Rate - Parity 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.

For example, model a period of rising interest rates for the U. S. and Australian dollars. Use the parity method to forecast the exchange rate of Australian dollars to $1 U. S. Parity is calculated based on the forecast interest rates of the reference IRCs of the Australian dollar and the U. S. dollar.

In the Forecast Rates window, forecast changes in the U. S. dollar interest rate: Select USD: US Dollar from Currency Codes, Treasury Index from Interest Rate Codes, Direct Input from Rate Forecast Method, and Click go. Type interest rate changes for 02/01/2010 through 04/30/2010 as follows:

In the Forecast Rates window, forecast changes in the Australian dollar reference Interest rate: Select AUD: Australian Dollar from Currency Codes, IRC AUD from Interest Rate Codes, Direct Input from Rate Forecast Method, and click go. Type interest rate changes for 02/01/2010 through 04/30/2010 as follows: After entering the Parity amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

After entering the Parity amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

---

**Note:** The View button is not available for the parity feature. If you want to view results, execute the CFE to view the rates in this UI. If data is available in fsi_fcast_xrates_flat table then the data will be visible in the UI for viewing.

---

## Using No Arbitrage Forecast Method

Forecast the exchange rates required to maintain equilibrium between the U. S. and Australian dollars. The forecast is based on the historical interest rates from the reference IRC of each currency. This example assumes that the following reference IRCs have been assigned in Rate Management:

- U. S. dollar: Treasury Index
- Australian dollar: IRC AUD

In the Forecast Rates ID window, select AUD: Australian Dollar from Currency Codes, No Arbitrage from Currency Forecast Method, and click go.

When No Arbitrage is selected as the Forecast Method and you click Go control, the Currency Rate - No Arbitrage grid is displayed. Click Save. Then, click on the icon at the top right corner of the block to view the final forecasted rate.

---

**Note:** The View button is not available for the No Arbitrage feature. If you want to view results, execute the CFE to view the rates in this UI. If data is available in fsi_fcast_xrates_flat table then the data will be visible in the UI for viewing.

---

# *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.

### Import

Selecting a single row out of the grid enables the Import Control. Clicking on Import control allows you to import the economic indicator scenarios into Essbase. This control is only enabled when a single economic indicator scenario has been selected. A message box will appear after completion.

> **Note:** Before clicking on import, it is necessary to perform metadata synchronization for custom flat dimensions so that the definition created in RDBMS (Forecast Rates) is available in Essbase as well.

### 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.
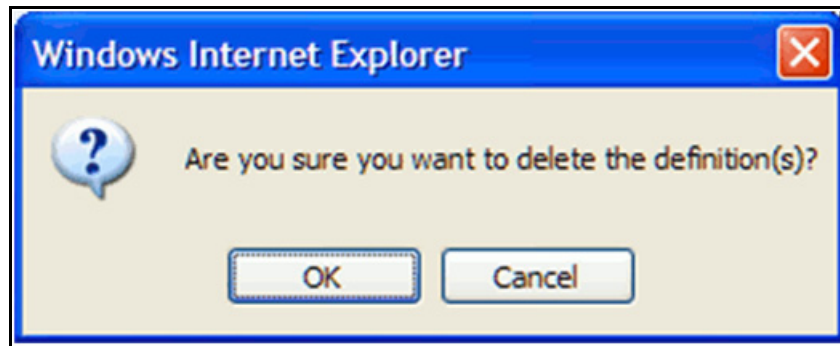


## Check Dependency

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.
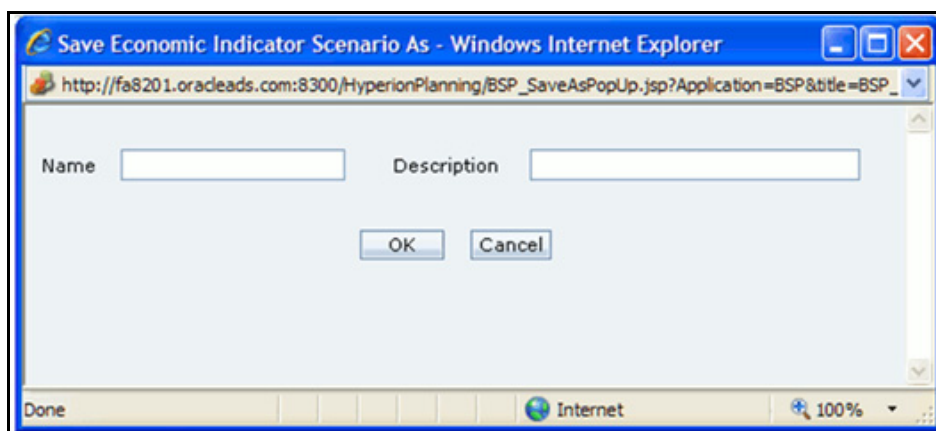


The following columns categorize each economic indicator scenario in the Economic Indicator Scenarios Container summary grid:

- 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.

If no historical values (such as, values on or before as of date) are available, then 1 is taken as the value for 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.

Those buckets for which values have not been entered will take the historical values closest to the as of date. If no historical values (such as, values on or before as of date) are available, then 1 is taken as the value for the future time buckets for which no values have been entered. To view the final rates, click on the icon at the top right corner of the block.

## 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.

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

After entering the structured change amounts, click on the Save. Then click on the icon at the top right corner of the block to view the final forecasted rate.

## *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.

> **Note:** The existing Essbase data for the Entity/COA, and so on combination that is being processed is not cleared after running the cash flow process. This issue is for both Current business as well as New Business. Clear the Essbase data before re-running cash flow process. This feature will be available in next release.

### Prerequisites

● Interest Rate, Currency Rate and Economic Indicator Scenarios have been created in the Balance Sheet Planning application using the Custom User Interface Forecast Rates accessed from Master Maintenance Application.

● Interest Rate, Currency Rate and Economic Indicator Scenarios created through Custom User Interface 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 for Custom Flat Dimensions.

● IRCs, Currencies, and Economic Indicators have been created as members of Rate Element Dimension under Interest Rate Codes, To Currency, and Economic Indicators by running Metadata Synchronization for Custom Flat Dimensions.

- IRC term points have been created as members of Term Point dimension by running Metadata Synchrnozation for Custom Flat Dimensions.

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-mouse-click and select 'View Assumptions'.

When this menu item is selected, 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** - Click this menu item to view data for the rollover scenario being used for the budget or forecast scenario.

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.

# CHAPTER 12    *Defining Prepayments*

This chapter provides an overview of Prepayment methodologies supported and describes its workings.

This chapter covers the following topics:

- Overview of Prepayments
- Prepayment Methodologies

## *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 20-1 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 rules (they are invoked within Prepayment rules).

> **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.
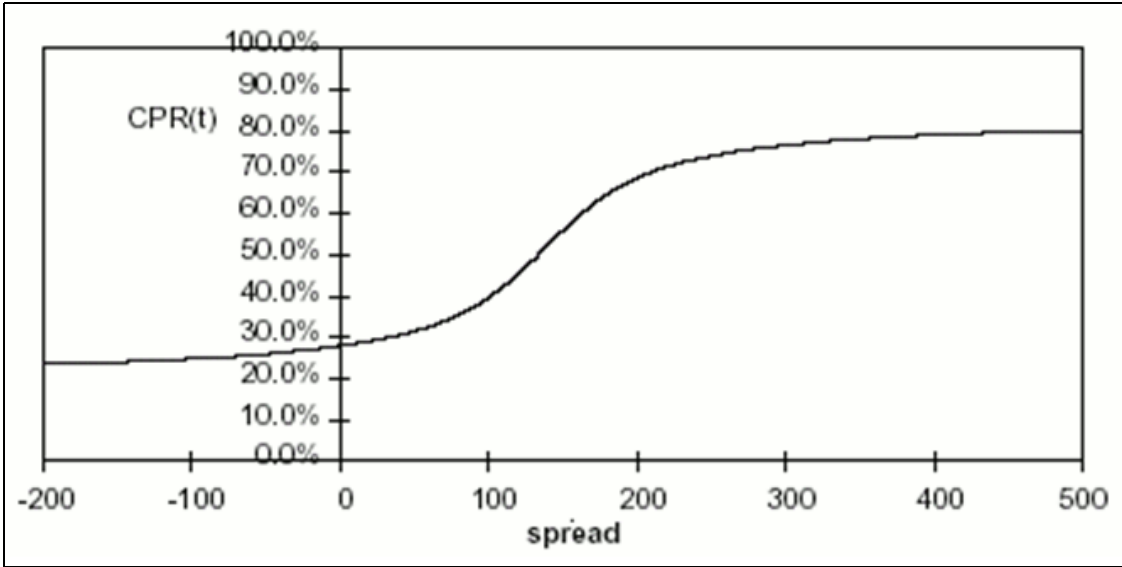
The following diagram shows the impact of K1 on the prepayment curve. K1 defines the midpoint of the prepayment curve, affecting the absolute level of prepayments. Adjusting the value creates a parallel shift of the curve up or down.
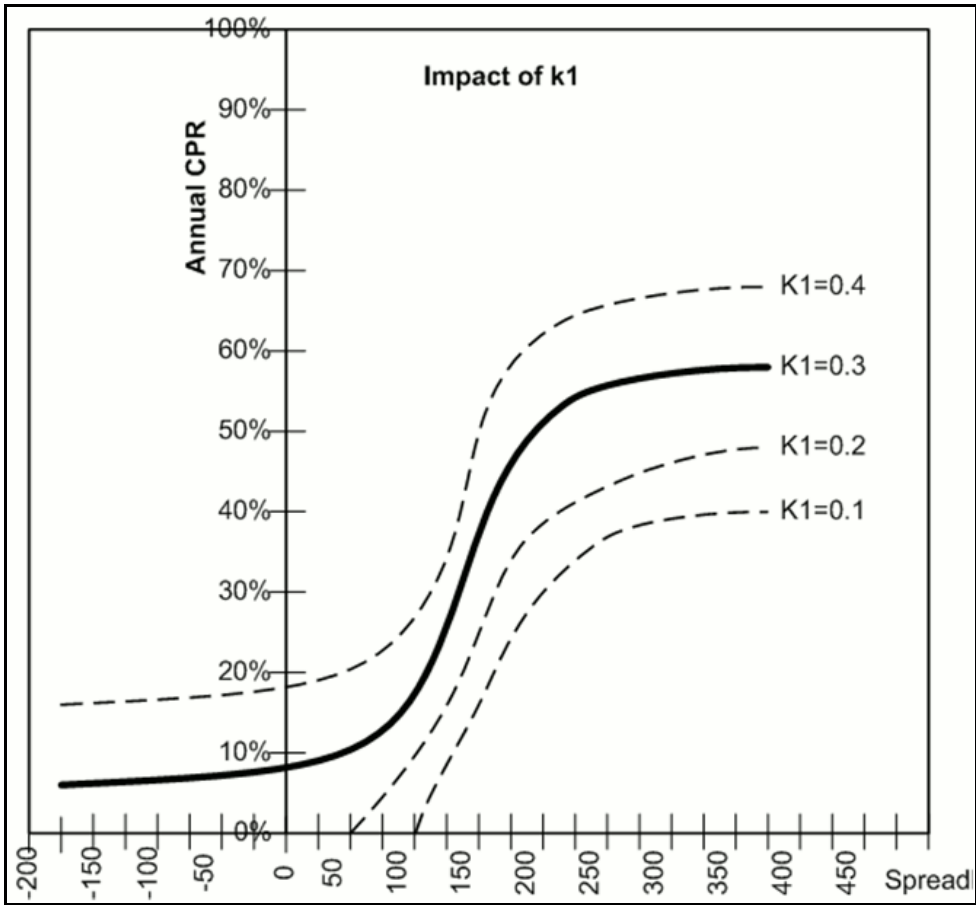
The following diagram shows the impact of K2 on the prepayment curve. K2 impacts the slope of the curve, defining the change in prepayments given a change in market rates. A larger value implies greater overall customer reaction to changes in market rates.
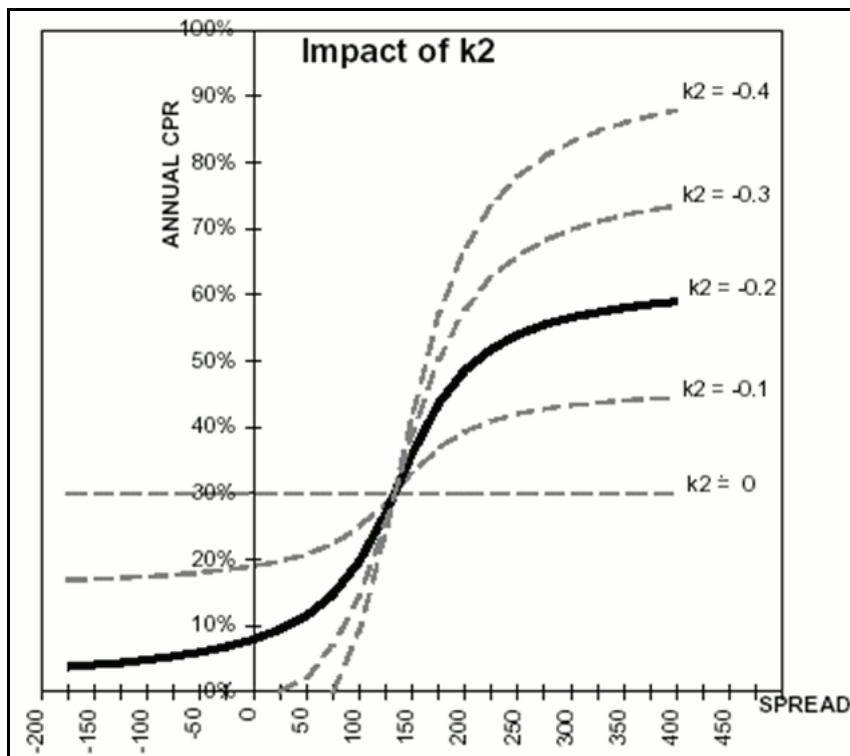


The following diagram shows the impact of K3 on the prepayment curve. K3 impacts the amount of torque in the prepayment curve. A larger K3 increases the amount of acceleration, implying that customers react more sharply when spreads reach the hurdle rate.
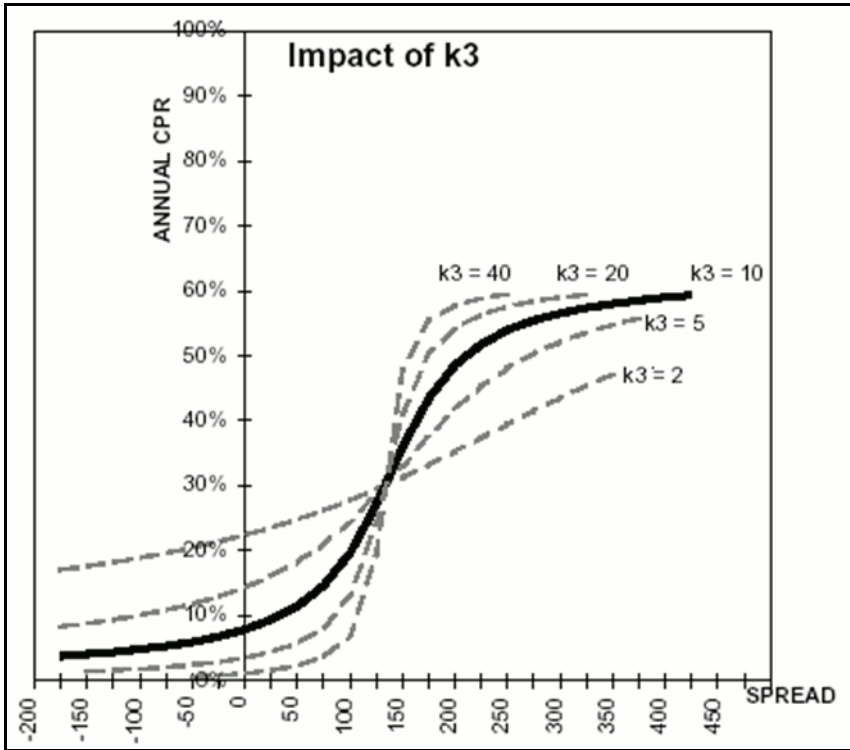
The following diagram shows the impact of K4 on the prepayment curve. K4 defines the hurdle spread: the spread at which prepayments start to accelerate. When the spread ratio = k4, prepayments = k1.
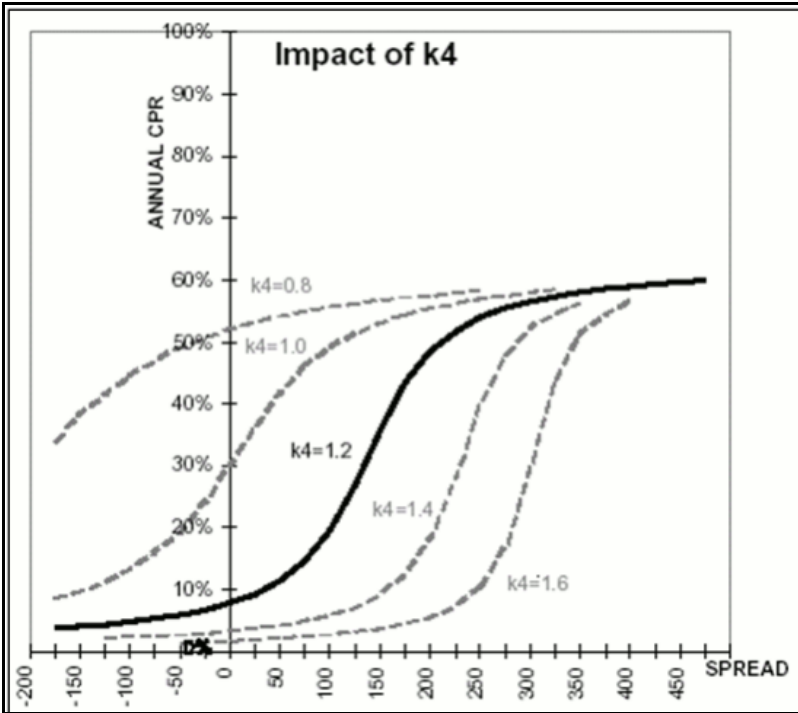
CHAPTER 13 *Prepayment Scenarios*

This chapter describes the procedure for creating and working with Prepayment scenarios.

This chapter covers the following topics:

- Overview of Prepayment Scenarios
- Working With Prepayments Scenarios
- Creating a New Prepayment Scenario Definition
- Early Redemption Assumptions

## Overview of Prepayment Scenarios

Prepayment Scenario rules allow you to specify methods to be used in modeling the prepayment behavior, if any, for each of your budgeting products.  Prepayment Scenarios apply both to current position data as well as to forecast new business.

## Working With Prepayments Scenarios

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



| Data Form | Description | Instructions |
|---|---|---|
| 1. Configuration | | View |
| 2. Rate Management | | |
|     Interest Rates | | View |
|     Currencies | | View |
|     Currency Rates | | View |
|     Economic Indicators | | View |
| 3. Cash Flow Engine Preferences | | View |
| 4. Time Bucket Definition | | View |
| 5. Cash Flow Edits | | View |
| 6. Patterns | | |
|     Payment Patterns | | View |
|     Repricing Patterns | | View |
|     Behavior Patterns | | View |
| 7. Forecast Rates | | |
|     Interest Rate Scenario | | View |
|     Currency Rate Scenario | | View |
|     Economic Indicator Scenario | | View |
| 8. Prepayment Scenario | | View |
| 9. Prepayment Models | | View |
| 10. Transfer Pricing Rule | | View |
| 11. Adjustment Rule | | View |
| 12. Rollovers | | View |

After you have constructed one or more Prepayment Scenario definitions, navigating to Master Maintenance > Prepayment Scenario will display a summary screen showing each of the Prepayment Scenario definitions that you have previously built.

## Search Container

A Search container is provided in which you may search for Prepayment Scenario 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 Scenario 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 Scenario definitions.

### Page Navigation Controls

If more than 10 Prepayment Scenario 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 Scenario definitions that meet your search criteria. The Prepayments grid offers several controls that allow you to perform different functions when a Prepayment Scenario definition is selected.

To select a Prepayment Scenario 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 Scenario definition.

You may select or deselect all of the Prepayment Scenario 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 Scenario 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 Scenario 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 Scenario 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 Scenario definitions you have selected.

Deleting a Prepayment Scenario 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.
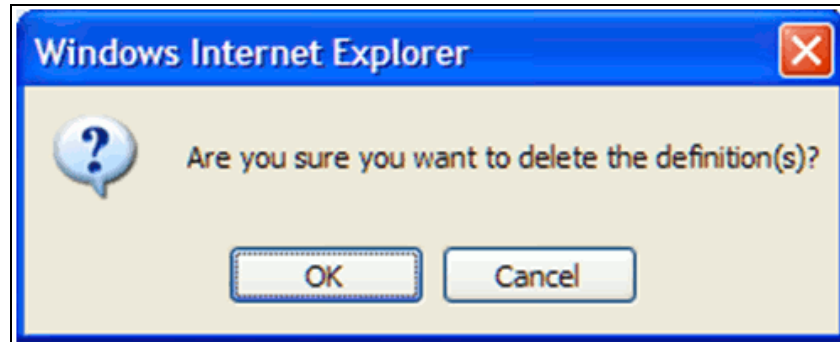


## Check Dependency

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 Scenario definition. To use the feature, click the checkbox next to an existing definition and click on the Save As control. The Save Prepayment Scenario As dialog will open. Enter a Name and Description for the new Prepayment Scenario definition and click OK. A new Prepayment Scenario 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 Scenario 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 Scenario definition.

## Created By

Displays the name of the user who created a Prepayment Scenario definition.

**Creation Date**

Displays the date and time at which a Prepayment Scenario definition was created.
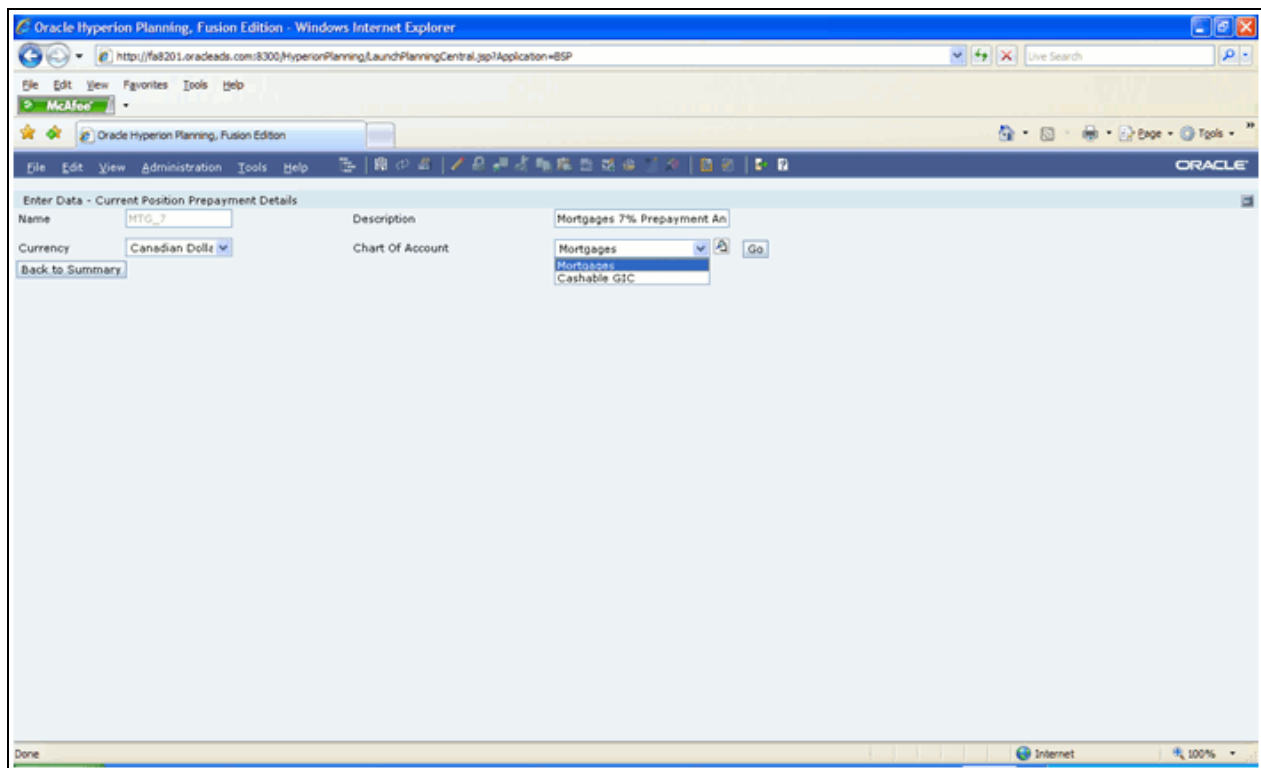
**Last Modified By**

Displays the name of the user who last modified a Prepayment Scenario definition.

**Last Modification Date**

Displays the date and time at which a Prepayment Scenario definition was last modified.

## *Creating a New Prepayment Scenario Definition*

1. Click on the New icon to create a new Prepayment Scenario definition.

2. The Enter Data - Prepayment Details page is displayed.



3. Enter a Name for the Prepayment Scenario 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 drop-down list 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. Click Ok. This will close the browser and return to the Enter Data - Current Position Prepayment Details screen.
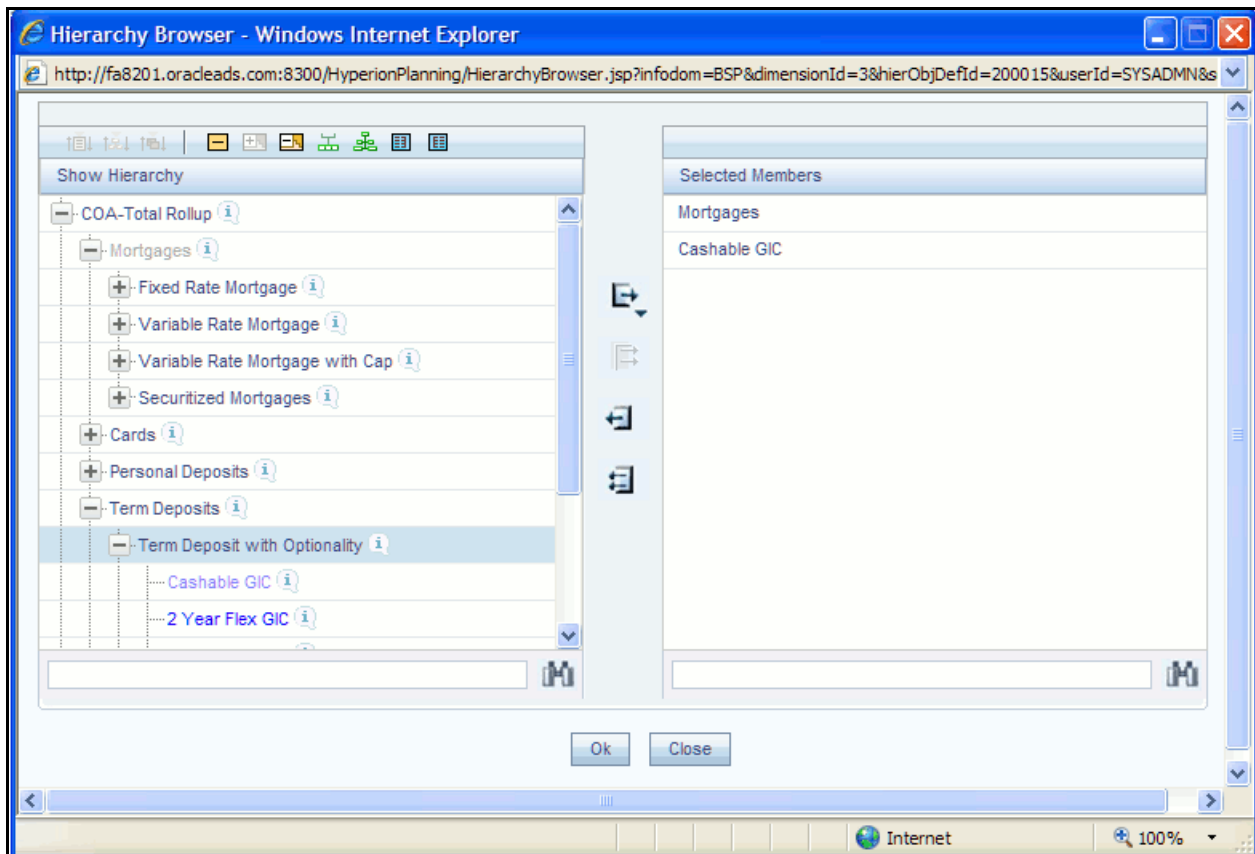


7. Select the Chart of Account dimension member from the drop down list, which should now be populated with the dimension members selected in the Hierarchy Browser.

---

> **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:

| 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.<br><br>● **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.<br><br>● **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.<br><br>● **Remaining Term**: The number of months remaining until the instrument matures.<br><br>● **Reprice Frequency**: The frequency with which the instrument reprices. This defaults to the original term for a fixed rate instrument or new add volume.<br><br>● **Original Term**: The number of months that was the originally scheduled life of the instrument or new add volume. |
| Market Rate Definition | The Market rate is defined as the sum of the Index (the yield curve rate as described by the Interest Rate Code) and the Spread (the difference between the customer rate and market rate). |
| 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.<br><br>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.<br><br>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.<br><br>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.
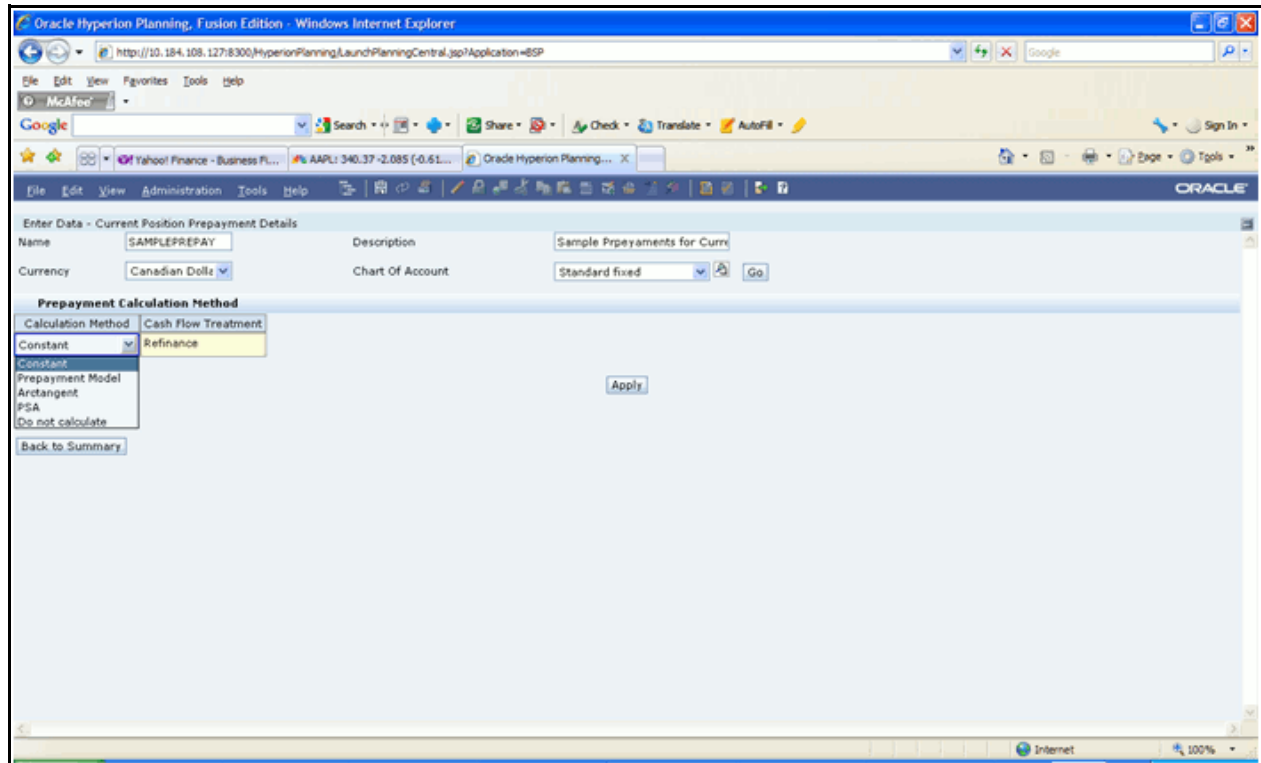
10. Select a Cash Flow Treatment type, Refinance or Curtailment. Click on Apply to open the Prepayment Specification container.

**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. Select Interest Rate Code.

6.  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.

7.  Select an Associated Term: Remaining Term, Reprice Frequency, or Original Term.

8.  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.

9.  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.

# *Early Redemption Assumptions*

If you are working with deposit products, it is possible to define Early Redemption assumptions within the Prepayment Rule. Early withdrawal could be anything earlier than the account owner's attainment of a prescribed minimum age requirement, or the maturity of a fixed-term investment, such as a certificate of deposit (CD).

## Prerequisites

- Performing basic steps for creating or updating a Prepayment rule
- To define Early Redemption assumptions, the Calculation Method for the selected COA must be Constant or Prepayment Model

## Procedure

The procedure for defining Early Redemptions is the same as noted above for prepayments, with two exceptions:

- The list of Calculation Methods is limited to Constant and Prepayment Models
- The range definitions are based on Maturity Date ranges of the instruments rather than Origination Date ranges

# CHAPTER 14 *Prepayment Models*

This chapter describes the procedure for creating and working with 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 rules (they are invoked within Prepayment rules).

> **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.
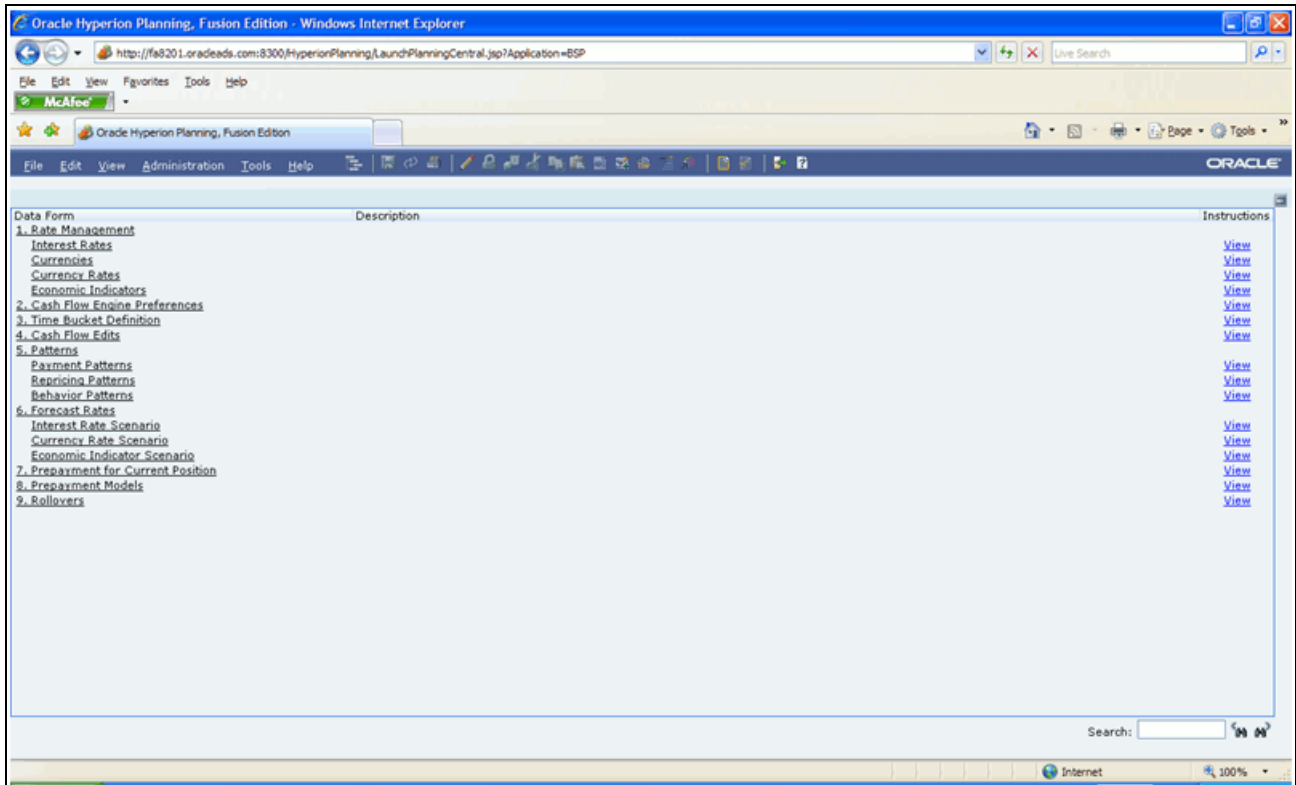
When you first navigate to Master Maintenance > Prepayment Models, an empty screen will be displayed. After you have constructed one or more Prepayment Models, navigating to Master Maintenance > Prepayment Models will display a summary screen showing each of the prepayment models that you have previously 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.
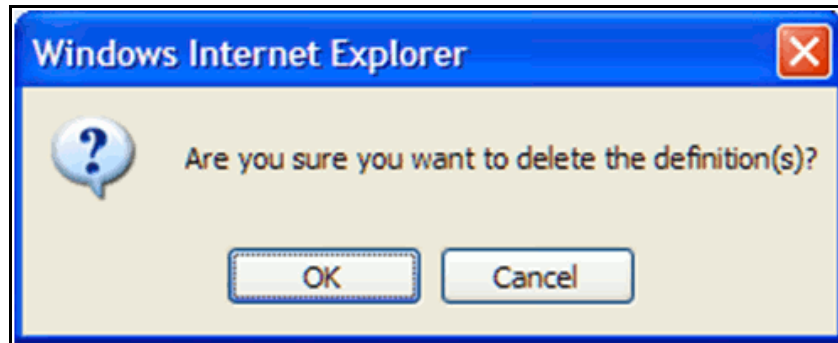
## Check Dependency

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 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.
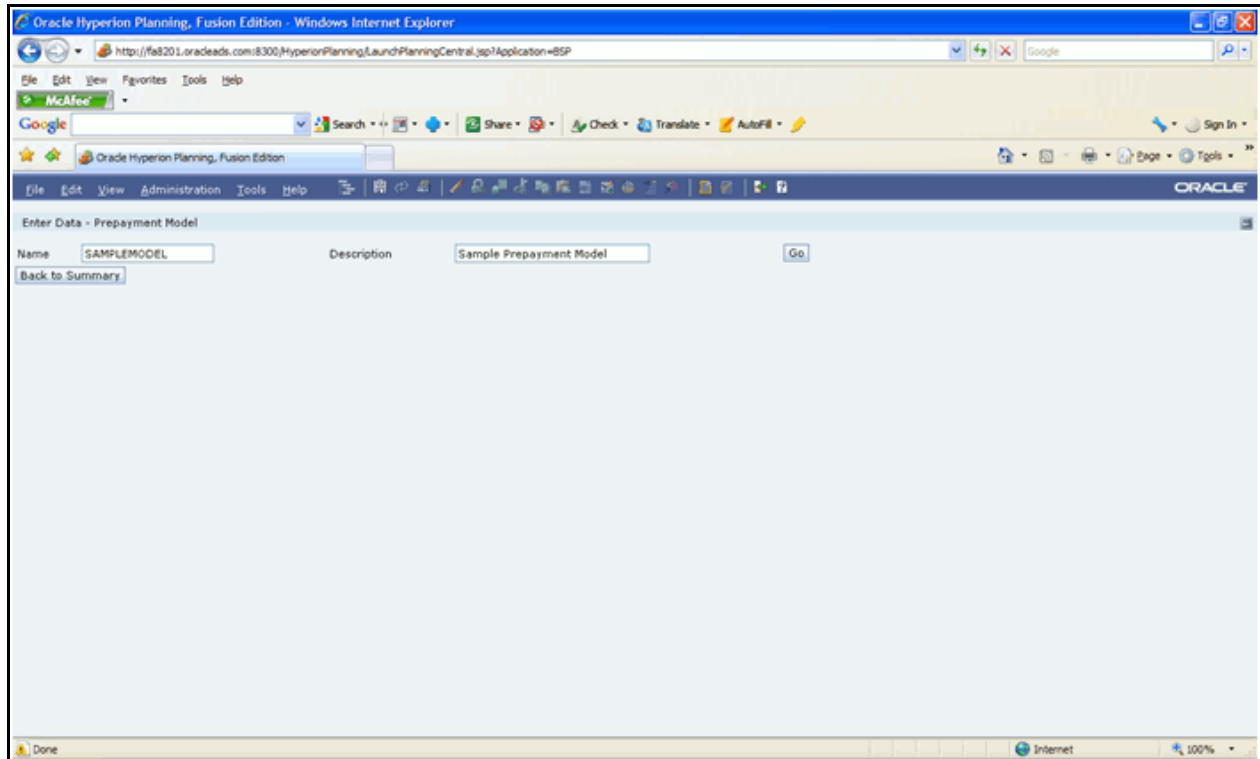


3. Enter a Name for the Prepayment Model. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore and space, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

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.
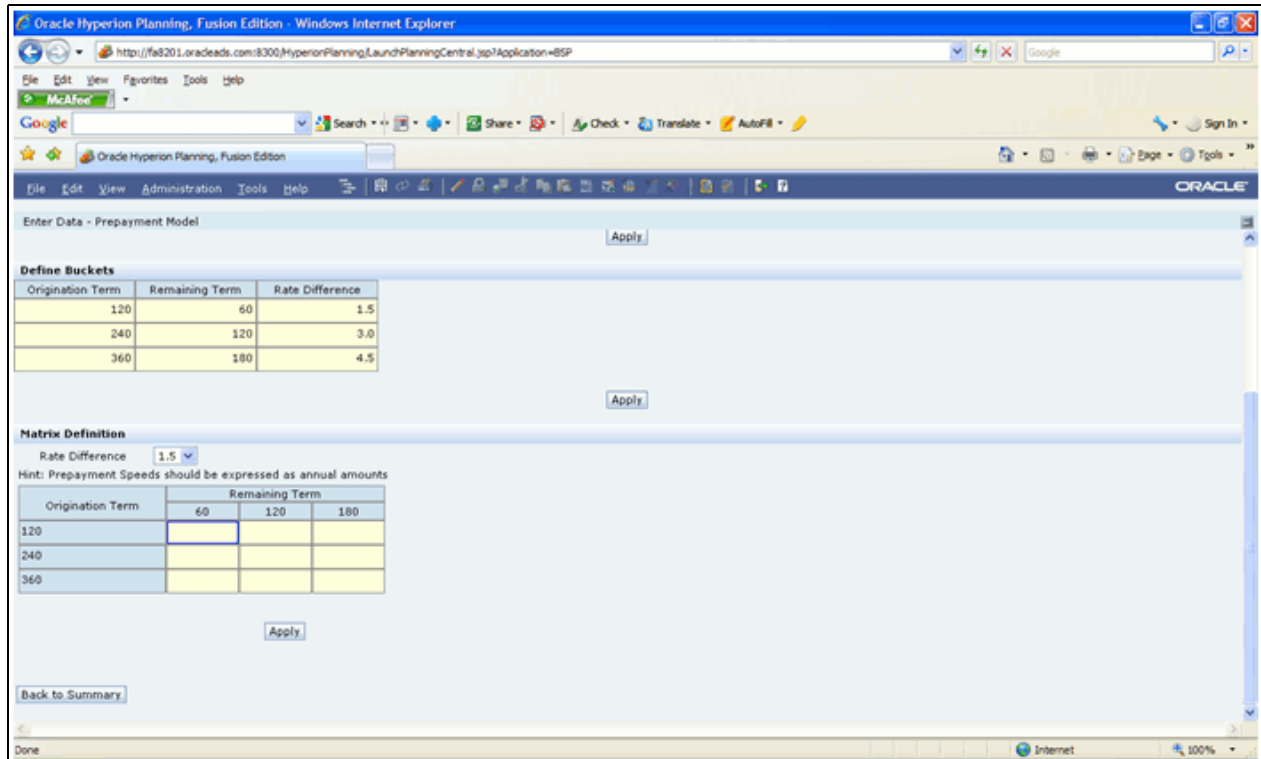
If you are using the Page dimension and more than one value is entered in the Define Buckets container, be sure to enter values for each page dimension member. Enter data for the first page dimension member, then click Apply, then change the page dimension member and enter data for the second member, 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.

**CHAPTER 15**

# *Funds Transfer Pricing*

This chapter provides an overview of the Funds Transfer Pricing Utility and TP Adjustment Rules supported.

This chapter covers the following topics:

- Overview
- Transfer Pricing Methodologies
- Working With Transfer Pricing Rules
- Creating a New Transfer Pricing Rule Definition
- Transfer Pricing Adjustments Overview
- Adjustment Methods
- Working With Adjustment Rules
- Creating a New Adjustment Rule Definition

## *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.

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**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.

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- 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, page 15-2

- Defining Transfer Pricing Methods Using Node Level Assumptions,

- Working with Transfer Pricing Rules, page 15-15

- Creating a New Transfer Pricing Rule, page 15-19

- Transfer Pricing Adjustments Overview, page 15-21

- Adjustment Methods, page 15-22

- Working With Adjustment Rules, page 15-23

- Creating a New Adjustment Rule, page 15-26

## *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 are generally used to transfer price balances that amortize over time. Cash flow transfer pricing methods generate transfer rates based on the cash flow characteristics of instruments records (for current position data) or product-level characteristics (for new business data).

  In order to generate cash flows, the system requires a detailed set of transaction-level data attributes, such as origination date, outstanding balance, note rate, repricing characteristics, caps & floors, maturity date, etc. 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, BSP uses the product-level attributes that you define in Chart of Account Characteristics (see chapter 19).

  The cash flow methods are also unique in that Prepayment rules are used only with these methods.

  You may build one or many Prepayment rules. Prepayment rules are assigned in the Process Attributes data form.

  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

Pi is the principal repayment in coupon i, hence,

$$\frac{P_i}{P}$$

is the fraction of the principal repaid in coupon i and ti 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, yn, 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:

$$\text{Weighted- Average} = \bar{Y} = \frac{\sum_{n=1}^{N}\left[y_n \times \frac{CF_n}{(1+r)^m} \times t_n\right]}{\sum_{n=1}^{N}\left[\frac{CF_n}{(1+r)^m} \times t_n\right]}$$

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 (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.
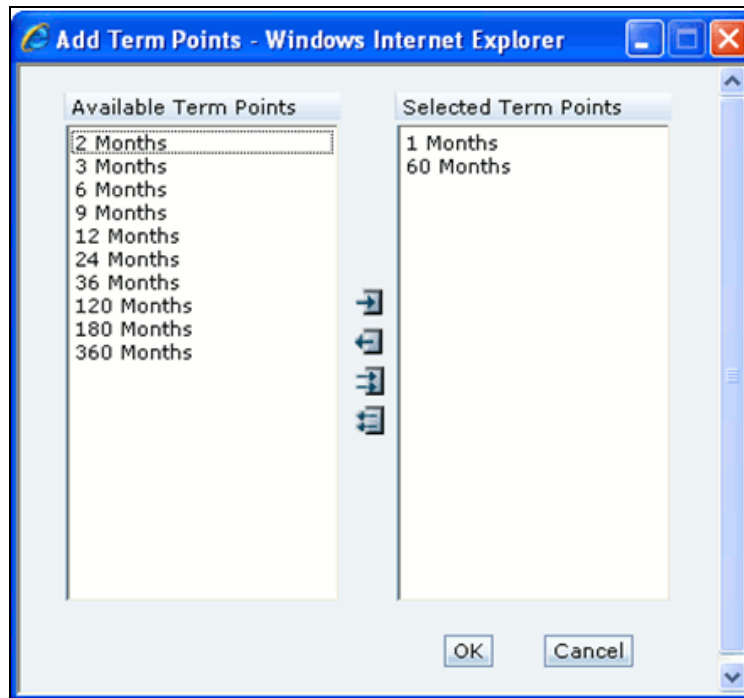
Certain processing options available in Oracle Funds Transfer Pricing are not available in Oracle Balance Sheet Planning for transfer pricing forecasting purposes. These options are disabled in the Balance Sheet Planning interface and include:

- **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.

---

**Important:** The Unpriced Account method applies only to accounts that use the Ledger Table as their data source.

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.
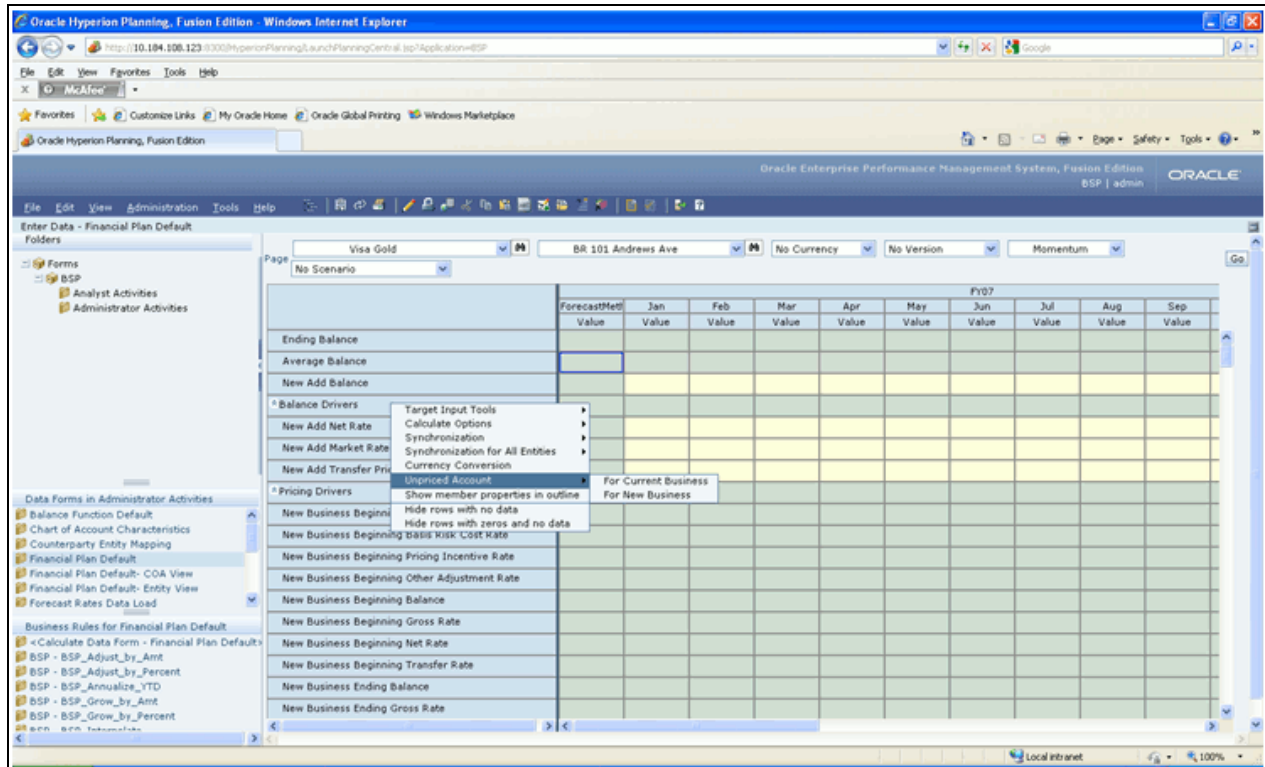


## *Working With Transfer Pricing Rules*

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.
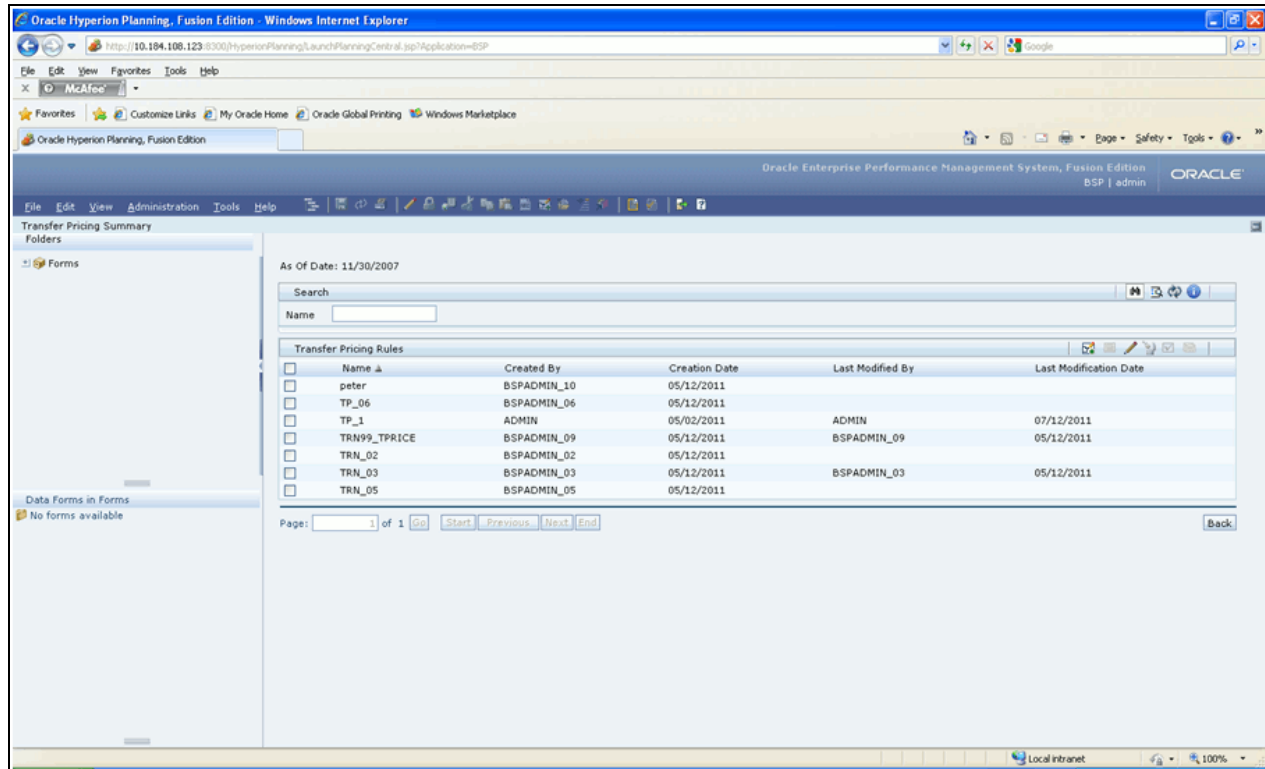


## Search Container

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.
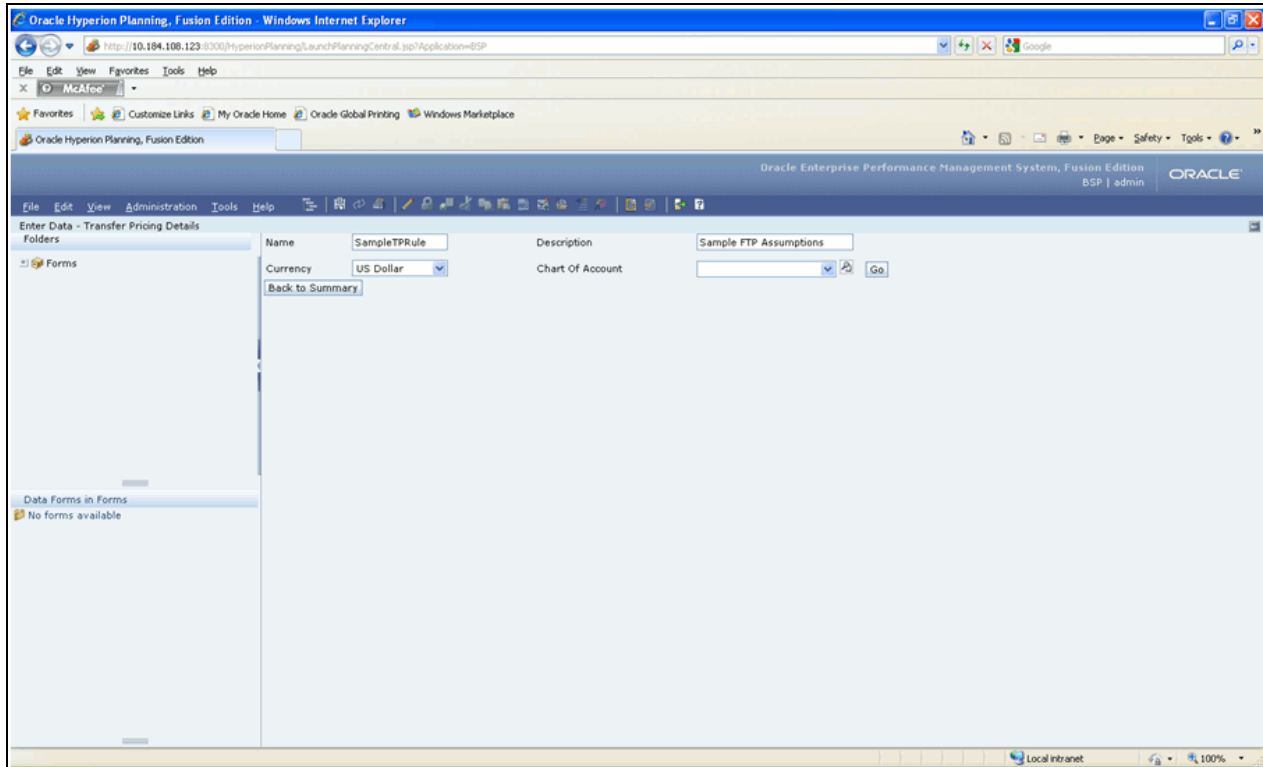


3. Enter a Name for the Transfer Pricing Rule definition. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

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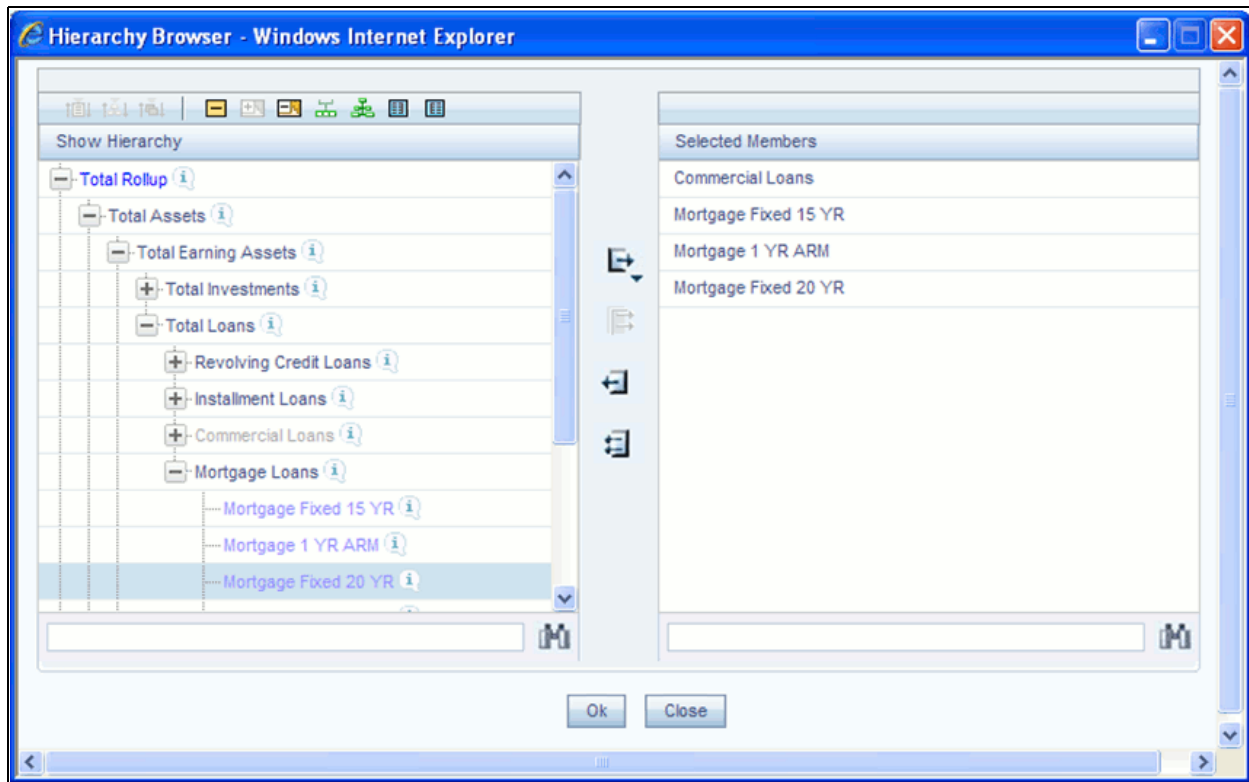
7.  Select the Chart of Account dimension member from the list, which should now be populated with the dimension members selected in the Hierarchy Browser.

    > **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.
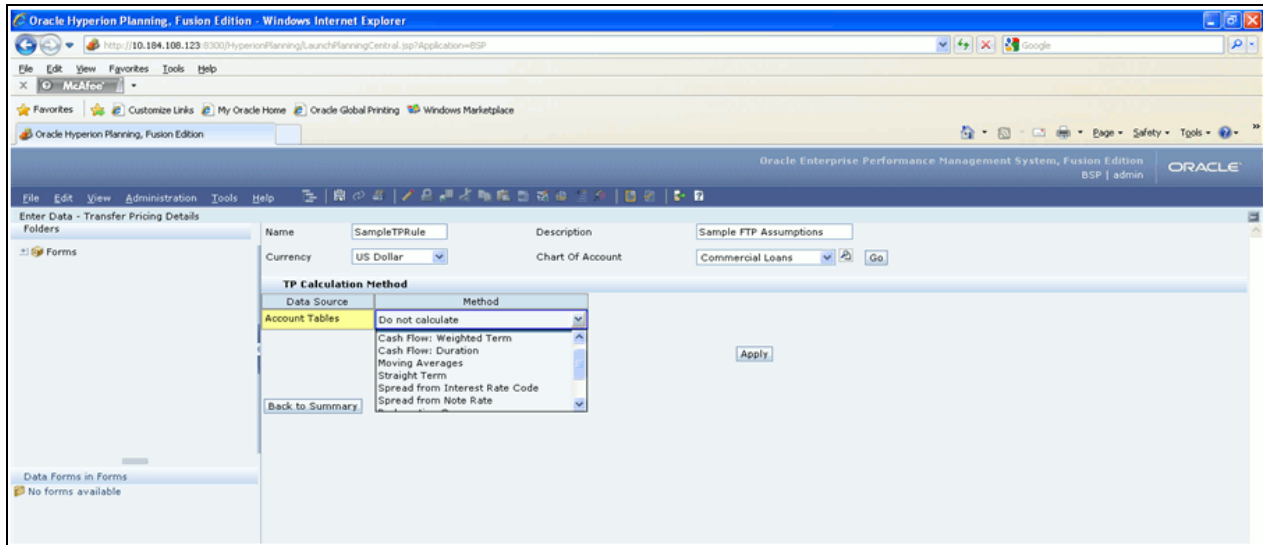
10. Specify the transfer pricing method options in the TP Method Mapping container. For the Redemption Curve method, select the Term points and enter percentages in the Term Point Selection container.
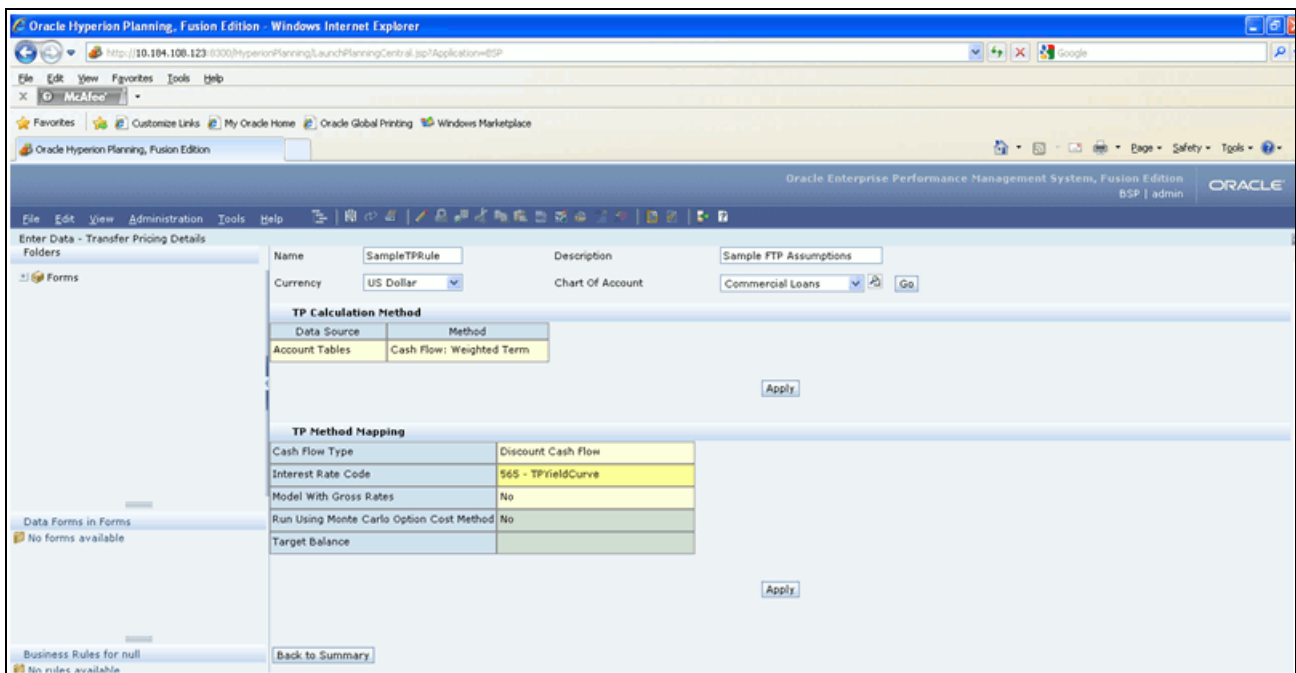


11. Click **Apply**. Select the next chart of account dimension member and repeat steps 9 and 10 until you are finished.

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

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

  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.
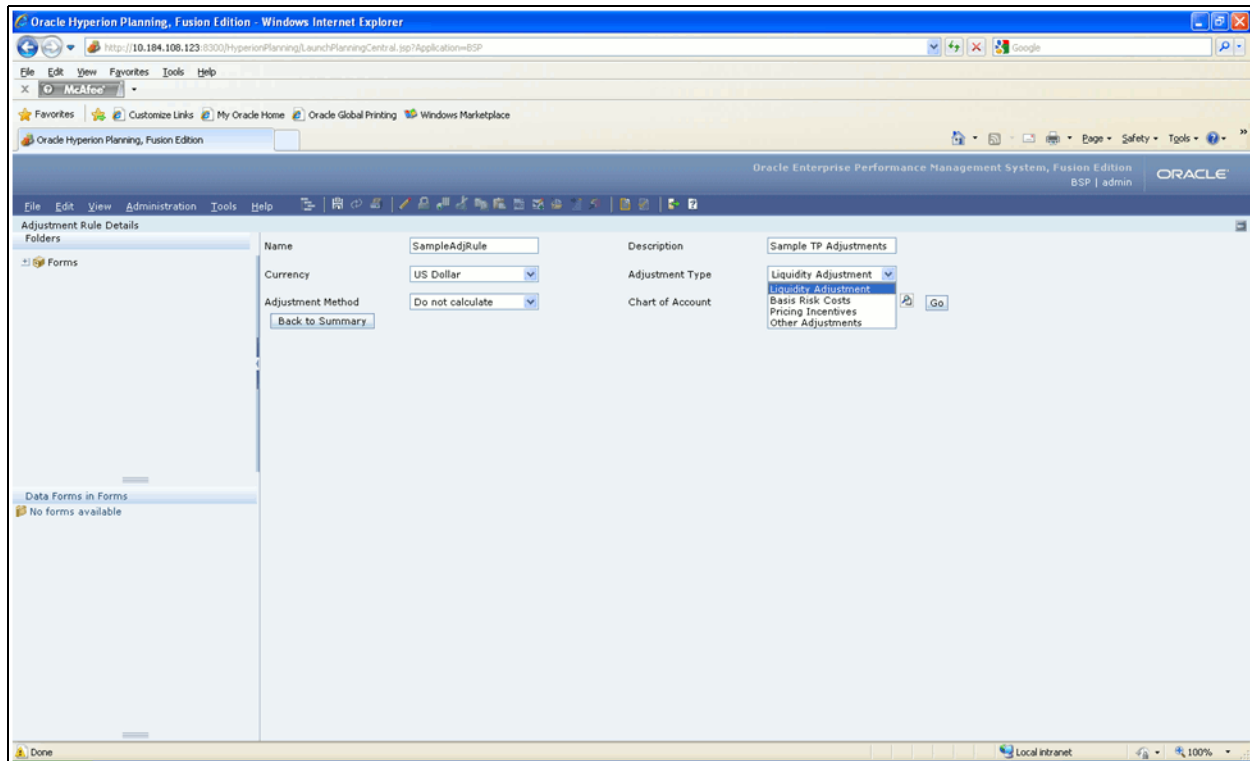


3. Enter a Name for the Adjustment Rule definition. The Name field will accept alphanumeric inputs. No special characters are allowed except underscore, and the name must not start with a number. It must start with an alpha character or underscore. A maximum of 80 characters is accepted.

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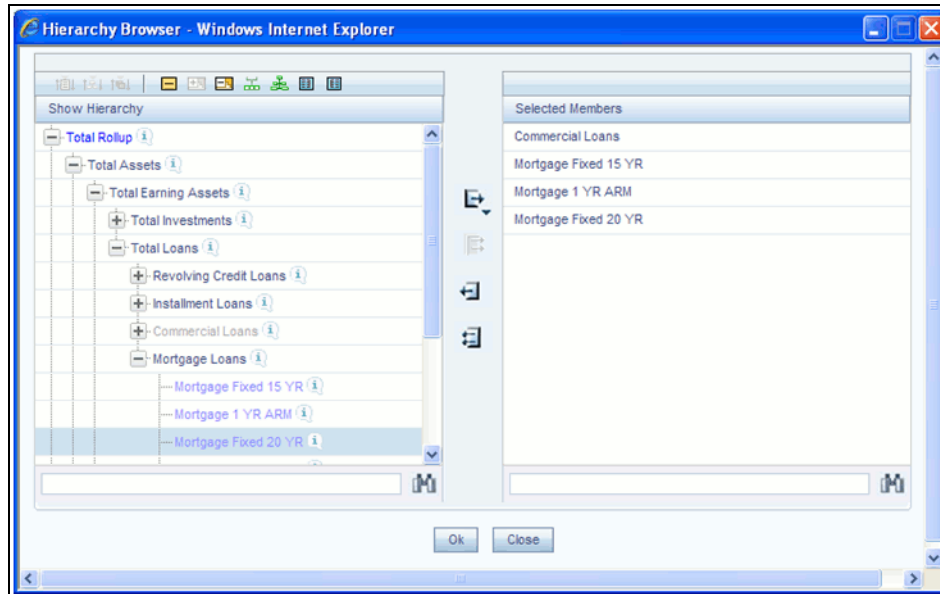
9. Select the Chart of Account dimension member from the list, which should now be populated with the dimension members selected in the Hierarchy Browser.

> **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.
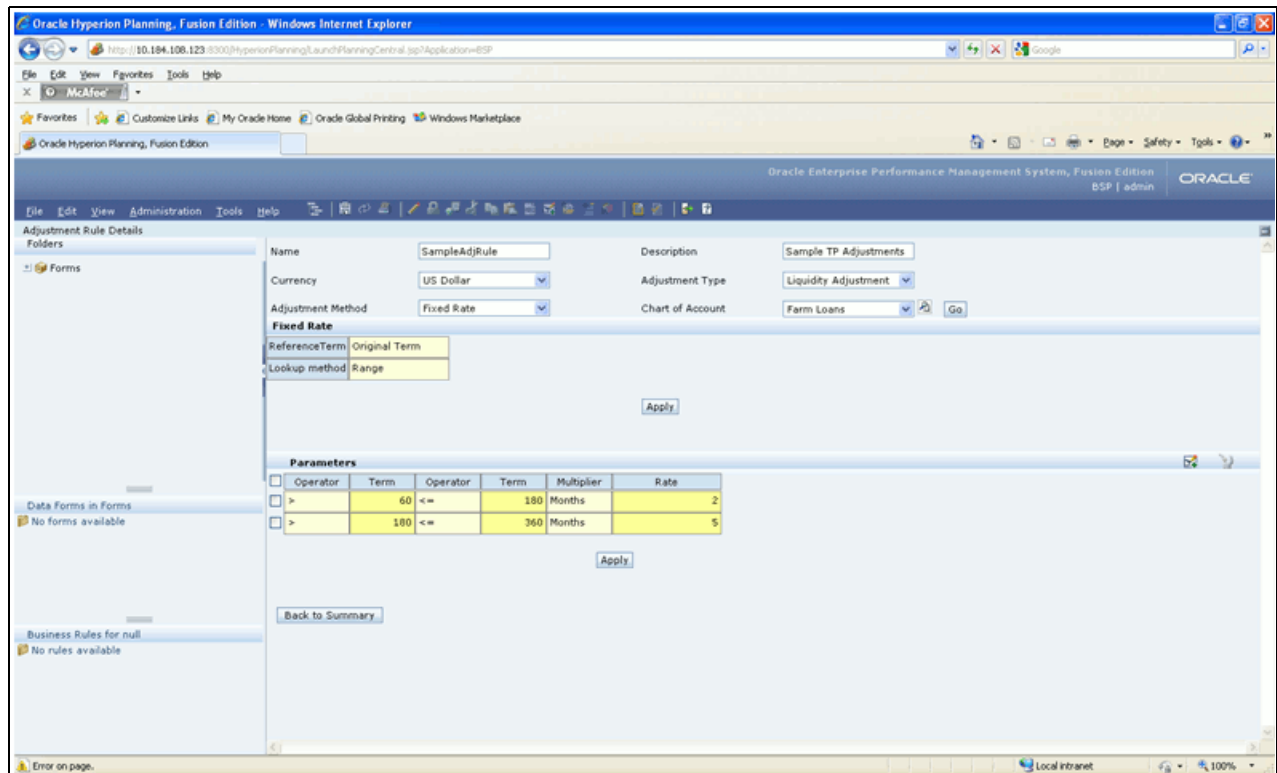
◆ Define the Term and Rate parameters in the Parameters container. If you wish to define more than one range, click the **Add Row** button at the top right of the Parameters container to add as many rows as wanted. If you add too many rows, click the box next to the row you wish to remove and then click 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.
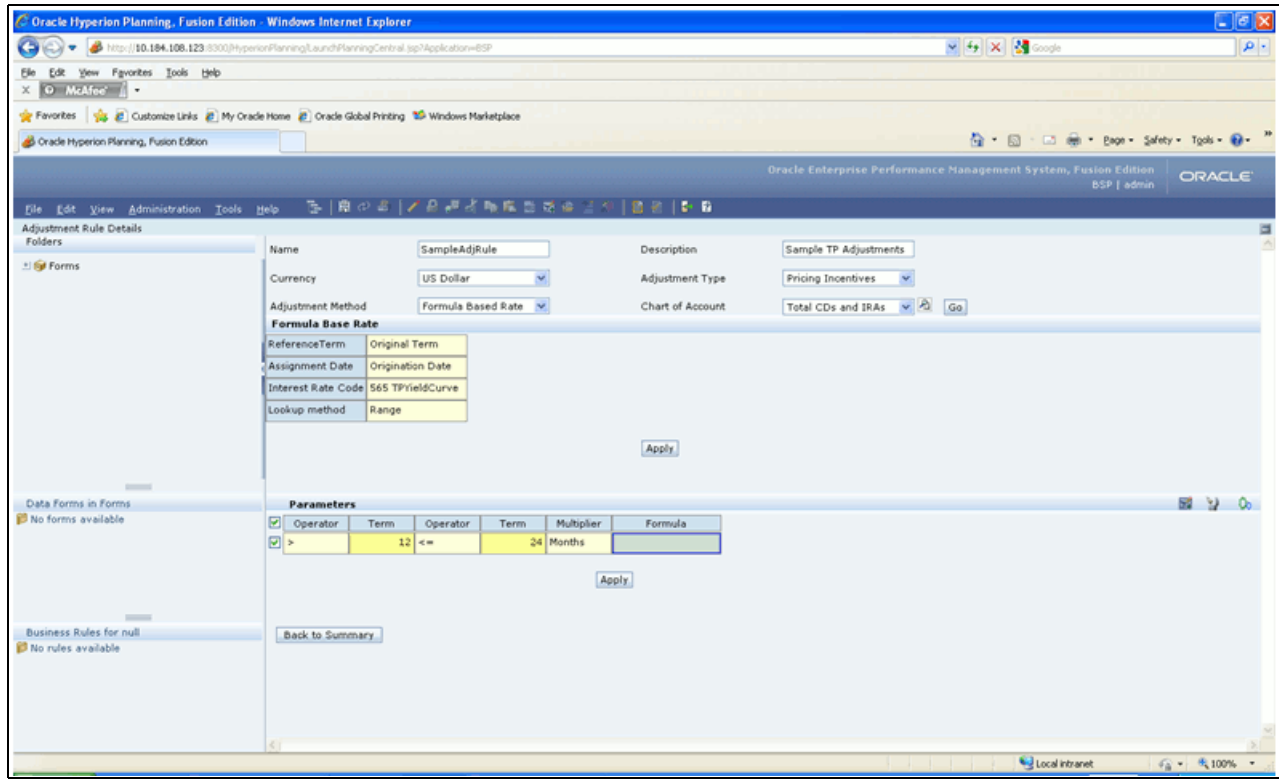
◆ Define the Term parameters in the Parameters container. If you wish to define more than one range, click the **Add Row** button at the top right of the Parameters container to add as many rows as wanted. If you add too many rows, click the box next to the row you wish to remove and then click the **Delete 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.
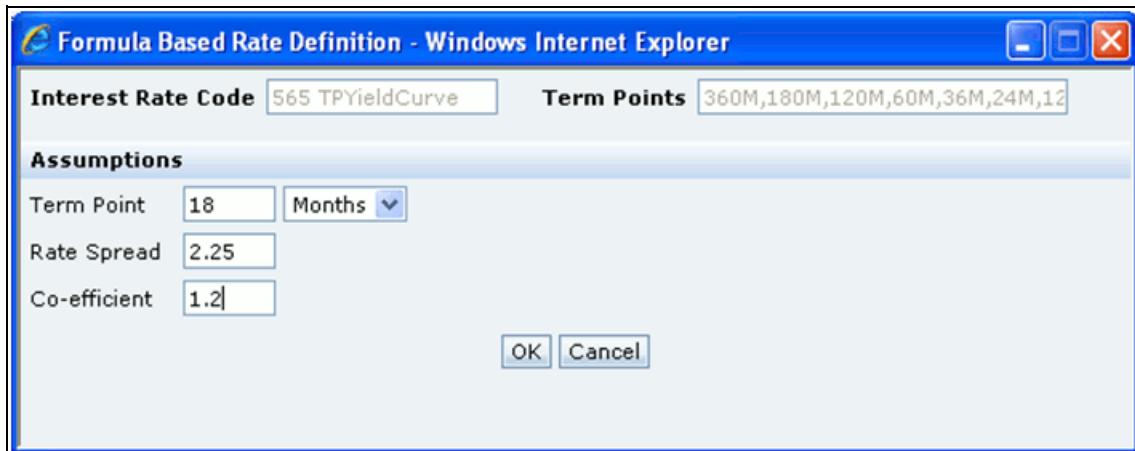


◆ The Term Points available for selection are displayed in the Term Points cell on the popup. Enter the appropriate Term Point, Rate Spread and Co-efficient in the screen and click **OK**.

◆ 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.
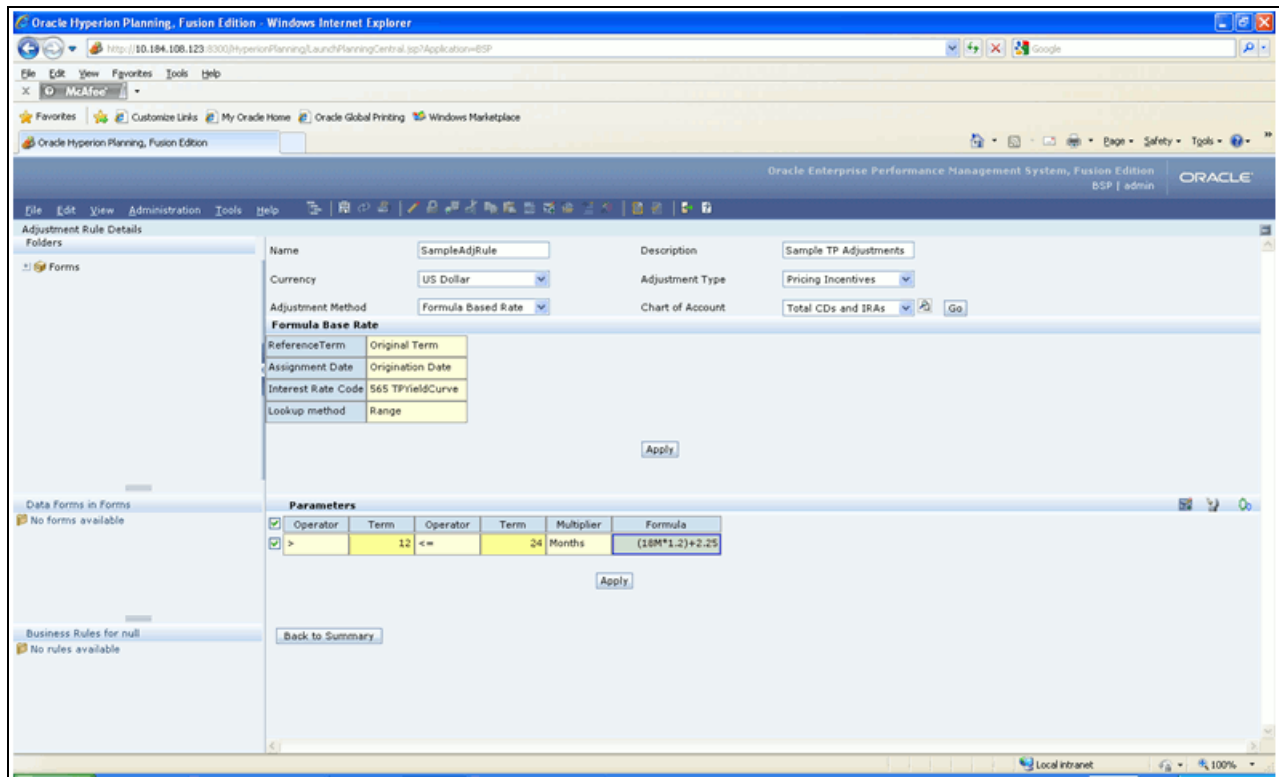


12. When finished defining the Adjustment Rule, click the **Save** control to save the definition.

# CHAPTER 16     *Rollovers*

This chapter describes the procedure for generating automatic re-booking of Asset / Liability run-off amounts.

This chapter covers the following topics:

- Overview
- Prerequisites
- Working with the Rollover Data Form
- Creating Rollover Definition

## *Overview*

Rollovers provide an efficient mechanism for generating automatic re-booking of asset and liability runoff amounts to the same account or different accounts as principal balance runoff occurs.

Use the Rollover method to base the amount of new business on the rollover (reinvestment of principal on a given or like accounts) of existing business. You can roll any combination of prepayments, maturing balances, and principal runoff from an account into itself or into another account.

For example, rollover of runoff balances to the same account is useful for modeling automatic renewals of maturing certificates of deposit. Alternatively, specifying rollovers of runoff balances to different accounts allows for modeling of customer balance movement between different types of asset and liability accounts that are an anticipated result of changing economic conditions and/or market interest rate scenarios.

In Balance Sheet Planning, rollover functionality is available for all accounts that generate results on a cash flow basis. This will include accounts generating contractual and prepayment runoff amounts through a forecast horizon, as well as accounts defined to use behavior pattern type functionality where an assumed tenor is defined and modeled but for which there are no contractual payment and maturity characteristics.

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**Note:** In order to use Rollovers in BSP, you must use either **New Add** or **Target Growth Forecast Balance Method** in your planning. For products defined with rollovers, BSP does not support the Target Average or Target End Forecast Balance Methods.

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## Runoff Types

For a single source leaf within a single currency, the new origination amount depends on the rollover sources, which are account leaves of the same currency whose runoff drives the amount of new business generated into the target leaf. For each rollover source, you must also define the components of principal runoff you would like to roll over. Your choices are:

- **Total**: Total runoff includes runoff from all three categories of run-off: scheduled principal payments, prepayments, and maturing balances.

- **Prepayment**: Prepay includes runoff from prepayments, early repayment of principal balances.

- **Maturity**: Maturity incorporates payment of principal on the maturity date, above that incorporated in the scheduled principal payment. Balloon payments and final principal repayment of non-amortizing instruments are included in this category.

- **Payment**: Payment runoff includes scheduled principal payment on an amortizing instrument. For each combination of source leaf and runoff type, you can input a different rollover percent. The new origination amount within a modeling bucket equals the runoff amounts multiplied by the percentage rollover for all source leaves.

  - NPA - This runoff type corresponds to FE208

  - Core- This runoff type corresponds to FE200

  - Volatile - This runoff type corresponds to FE202

  - Devolvement- This runoff type corresponds to FE204

  - Recovery - This runoff type corresponds to FE206

### Timing of Rollover

All runoff from sources are added as new business into the target account with the proper currency at the average time of runoff. The average time of runoff is calculated by taking an average of the runoff date weighted by the amount of runoff for all instruments which make principal payments during the modeling bucket.

## *Prerequisites*

- Rollover Attributes are created.
- Metadata Synchronization has been processed.

## *Working with the Rollover Data Form*

Navigate to the BSP-> Administrator Activities-> Master Maintenance > Assumption Forms and select Rollover from the list of forms displayed.

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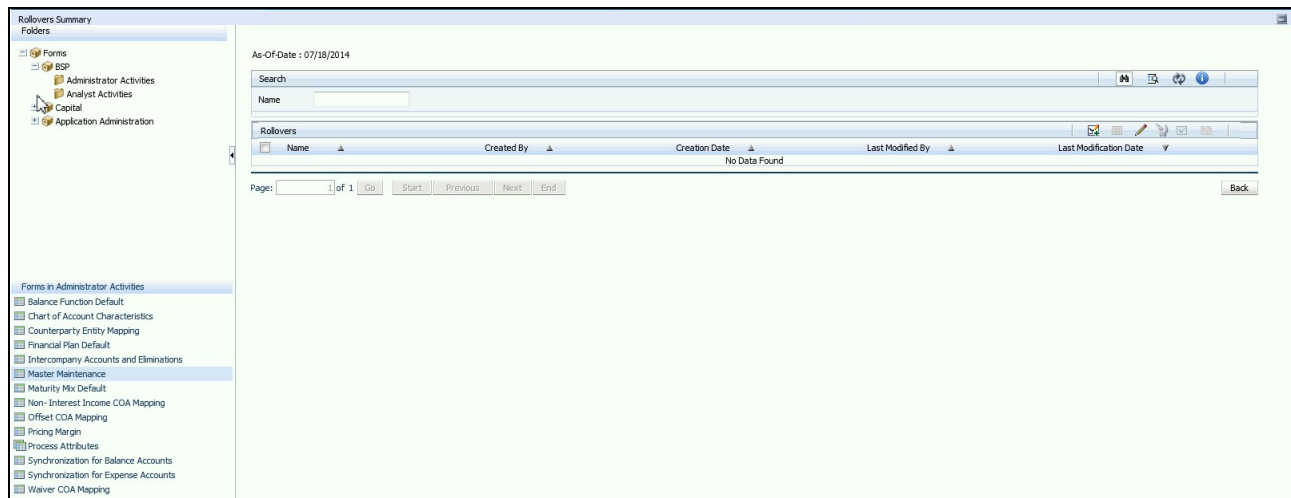


The Rollover Definition Summary page lists all the existing Rollover definitions created within Balance Sheet Planning.

## Search Container

A Search container is provided in which you may search for Rollover 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 Rollover 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 Rollover Definitions.

## Page Navigation Controls

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

# Rollover Definition Summary

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

To select a Rollover Definition, select a check box in the first column of the grid. More than one Rollover 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 Rollover 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 Rollover 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 Rollover 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 Rollover 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 Rollover 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 Rollover 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 Rollover Definition. Once the existing definition is copied to a new Rollover Definition, select the checkbox next to its Name and click the Edit control to edit the definition.

## Rollover Definition Summary Grid

The following columns categorize each Rollover Definition in the summary grid:

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

### Name

Displays the Rollover Definition's short name.

### As Of Date

Displays the as of date defined for the Rollover Definition.

### Creation Date

Displays the date when a Rollover Definition was created.

### Created By

Displays the name of the user who created a Rollover Definition.

### Last Modification Date

Displays the date when a Rollover Definition was last modified.

### Last Modified By

Displays the name of the user who last modified a Rollover Definition.

## *Creating Rollover Definition*

The Enter Data - Rollover Details page captures all the information required for a particular definition. When creating a new Rollover Definition, you must supply a Rollover Scenario Name, Currency and the Roll From Account details. You may optionally provide a Description.
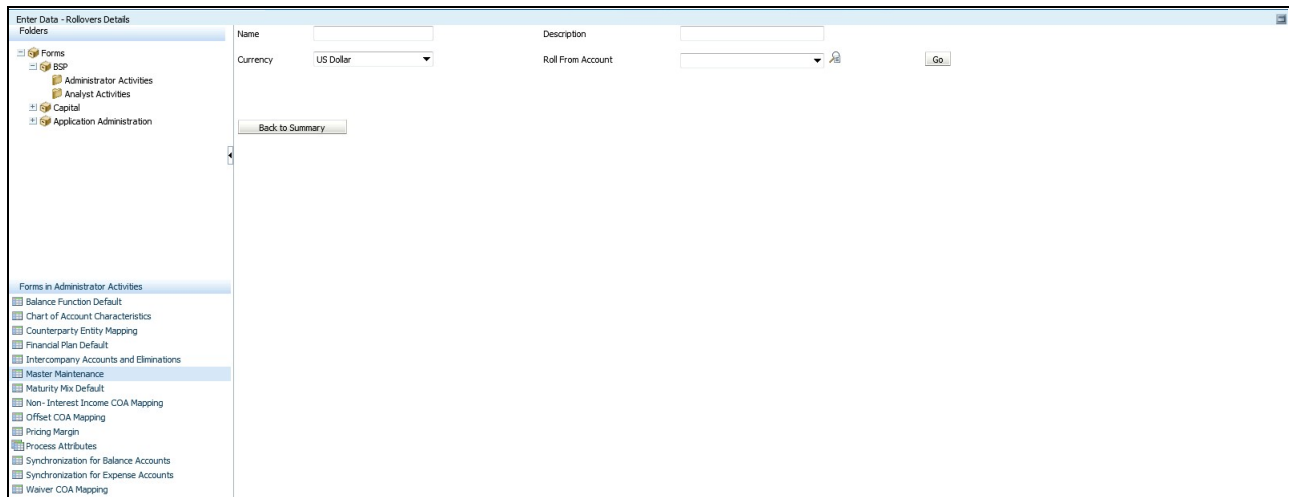
**Name**: The name you give to your Rollover Definition is the means by which you will subsequently refer to the definition elsewhere within Balance Sheet Planning. You may not rename existing Rollover Definitions. The Name field will accept all alphanumeric and special characters up to a maximum of 80 characters.

**Description**: Enter a description up to a maximum of 255 characters for your Rollover Definition in this field. All alphanumeric and special characters can be used.

**Currency**: Enter the rollover currency.

**Roll From Account**: Select the Account details from which you want to perform the rollover using the look up control next to Roll From Account option. You can select more than one product through the lookup icon. On clicking the look up control, the list of all products will display in hierarchy browser. Those products that are selected through the selector will appear in the drop-down list.
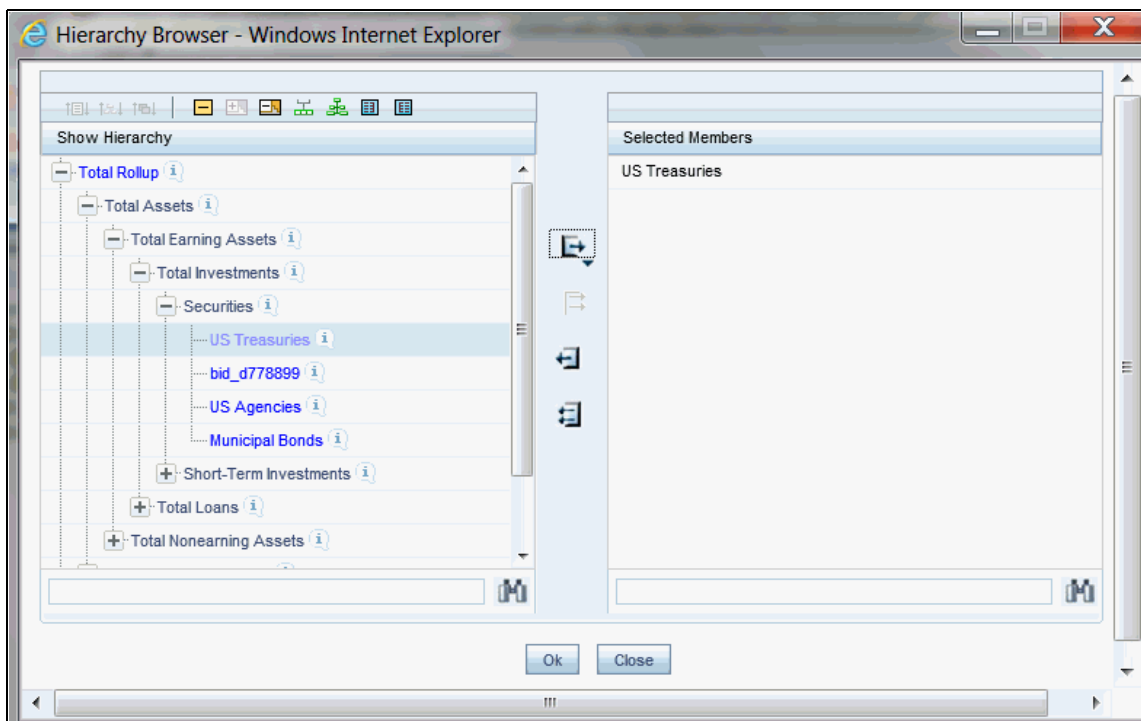
Once you have made your selections in the Enter Data - Rollover Details container, click the Go control to display the Specify Rollover container on the form.

---

**Note:** If you select a currency for which products are already defined, then those products will get listed in COA drop down. You can edit data for the already defined products or select new products using look up icon.

---



Click the look up control at the top right of the **Specify Rollover** container to define the Rollover definition. The Lookup icon is used to select which products will the amount get rolled over into. It can be the same product as the one selected in 'Roll From' Chart of Account or a different one. User can select more than one product through the lookup icon.

On clicking the look up control, the list of all products will display in hierarchy browser. Those products that are selected through the selector will appear in the drop-down list.
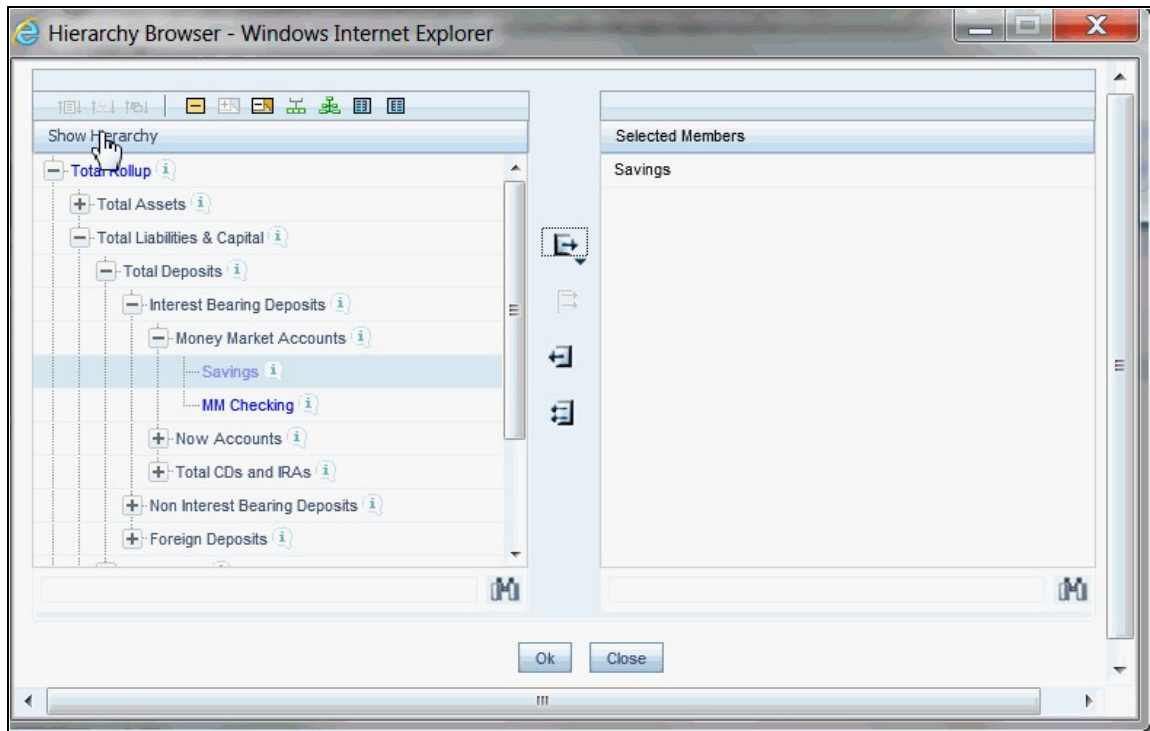
When you select the products from the lookup control, the number of products selected, will display in **Specify Rollover** section. You can select or deselect the product using the corresponding check-box.
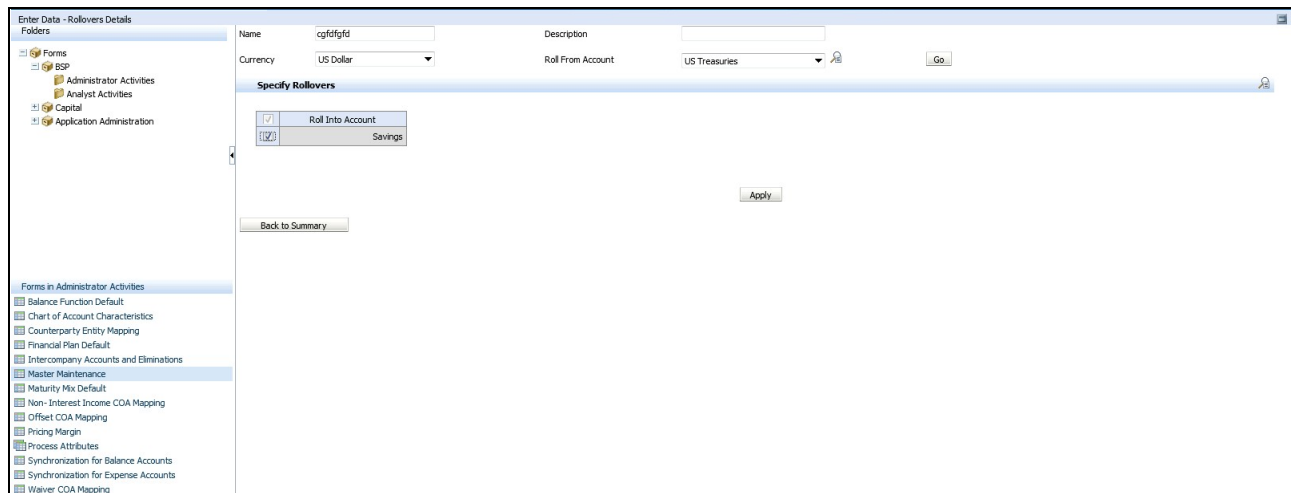


To define the run off type and the rollover percentage, you need to select the account using the corresponding check-box.

Once you select the account, the **Specify Runoff Types and Rollover Percentages** section lists the different runoff types like Maturity, Prepayment, Payment, Total, NPA, Core, Volatile, Devolvement and Recovery. Enter the rollover percentage in Runoff Type - Time matrix. It is a numeric input and accepts up to 4 decimal places.

Click Apply.

# CHAPTER 17 *Metadata Synchronization*

This chapter provides an overview of the Metadata Synchronization process that is run to keep the Hyperion Planning and RDBMS data synchronized.

This chapter covers the following topics:

- Overview
- Detailed Instructions

## *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, Custom 1 and Custom 2 dimensions.

■    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 |
| SmartList | v_Rollover_Scenario | /Global Artifacts/Smart Lists |
| SmartList | FP_Forecast_Bal | /Global Artifacts/Smart Lists |
| SmartList | FP_Pricing_Method | /Global Artifacts/Smart Lists |

| Program | SmartList/Dimension(s) | Artifact Selection Path |
|---|---|---|
| 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 |
| 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.
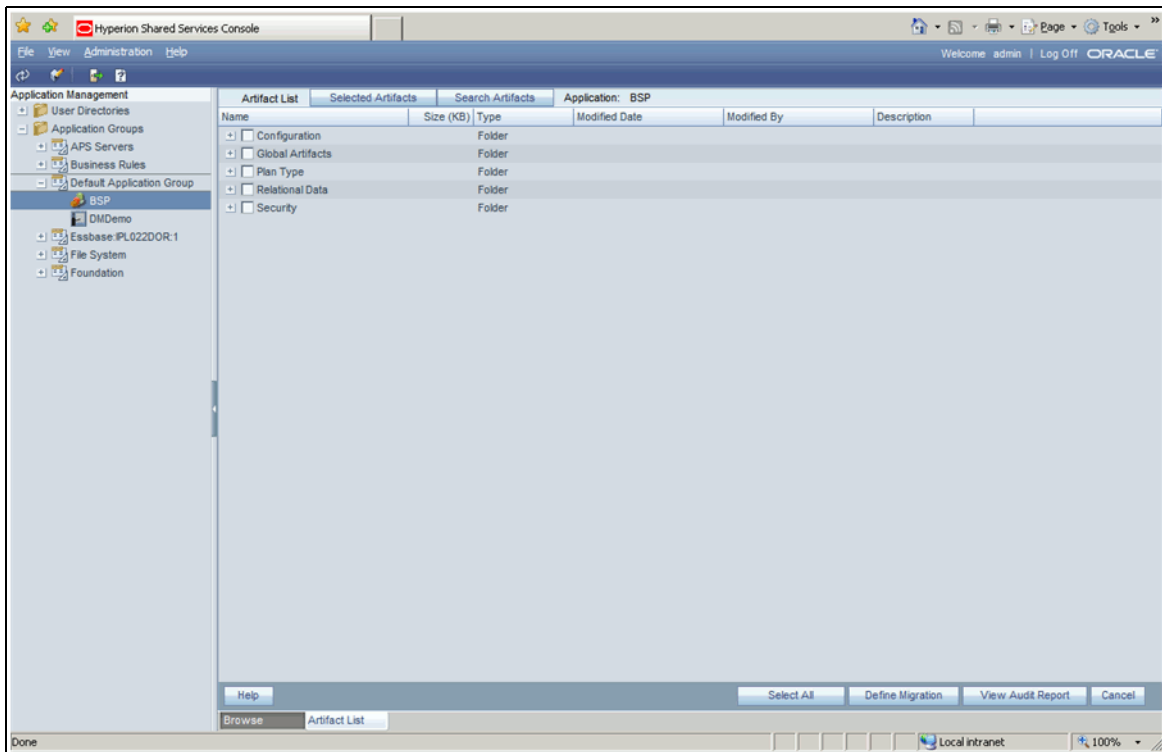
3.  On the Artifacts List tab, select the necessary artifacts for defining the Migration. This will export the Hyperion Metadata in form of XMLs. If desired, you can click the **Select All** button at the bottom to select everything, and then click **Define Migration** to open the Migration Wizard.

    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.
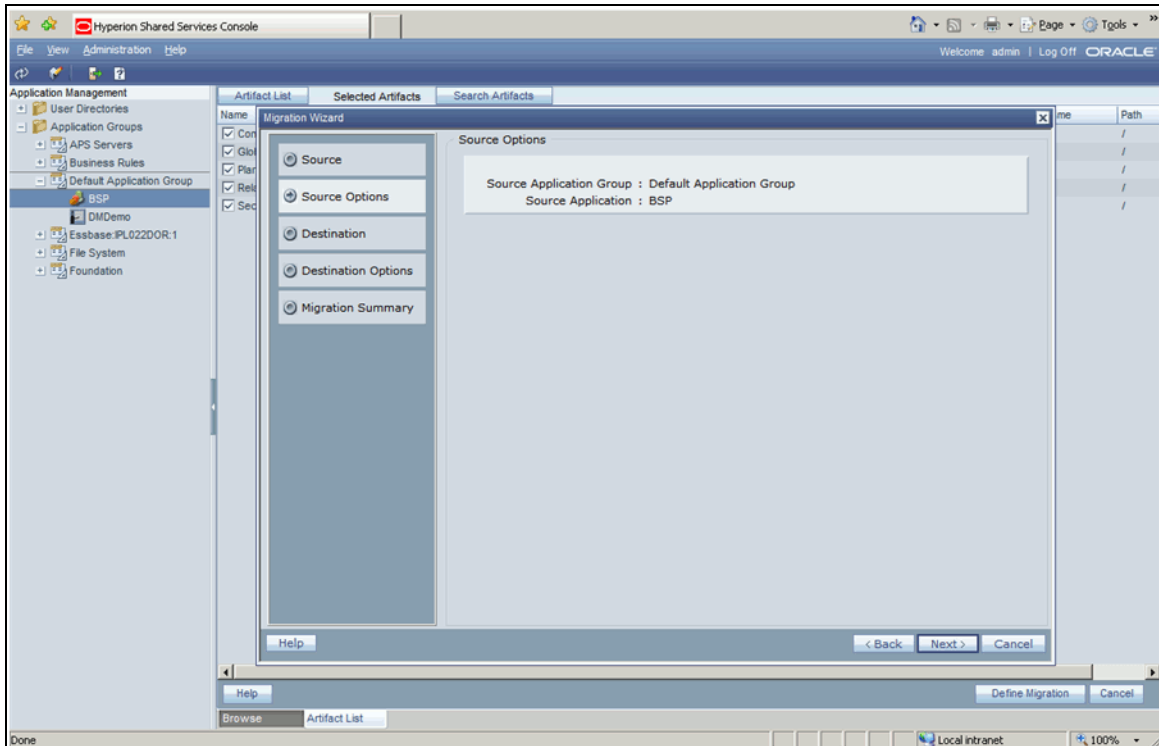
4. Click the **Next** button to specify the destination and assign the file system folder name where requested.
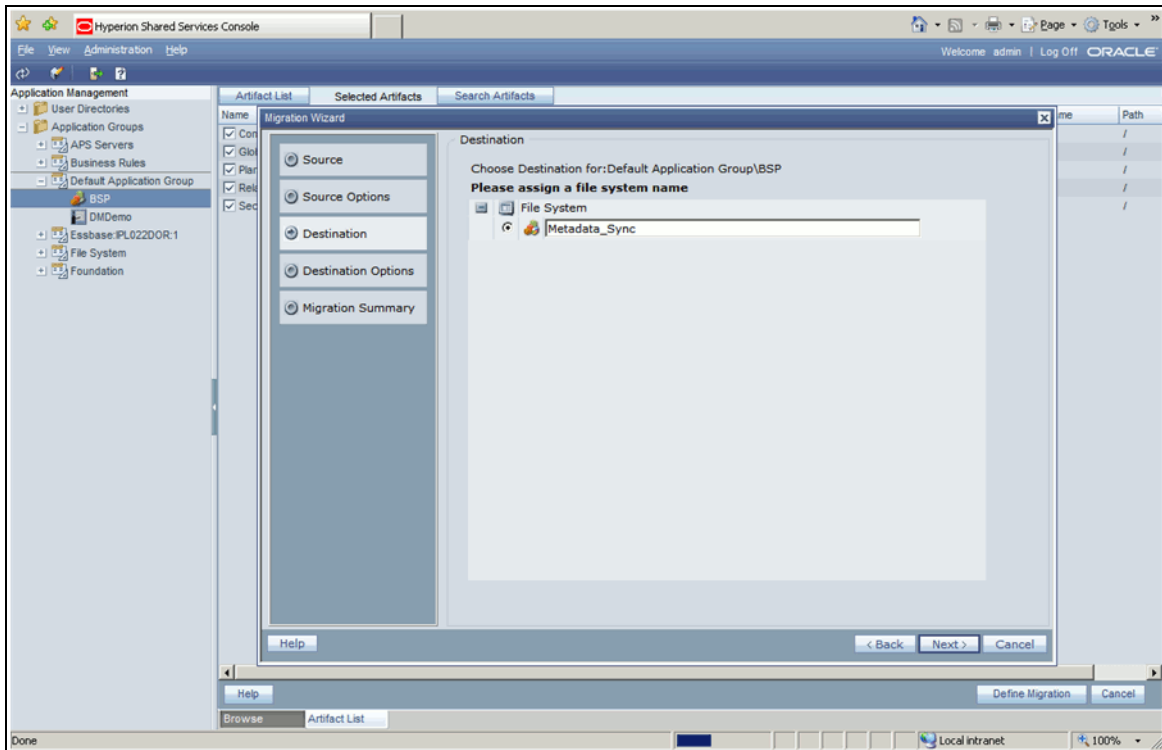


5. Click the **Next** button to open the Destination Options screen and review and confirm the displayed information. If correct, click theNext button on the Destination Options screen to open the Migration Summary screen.
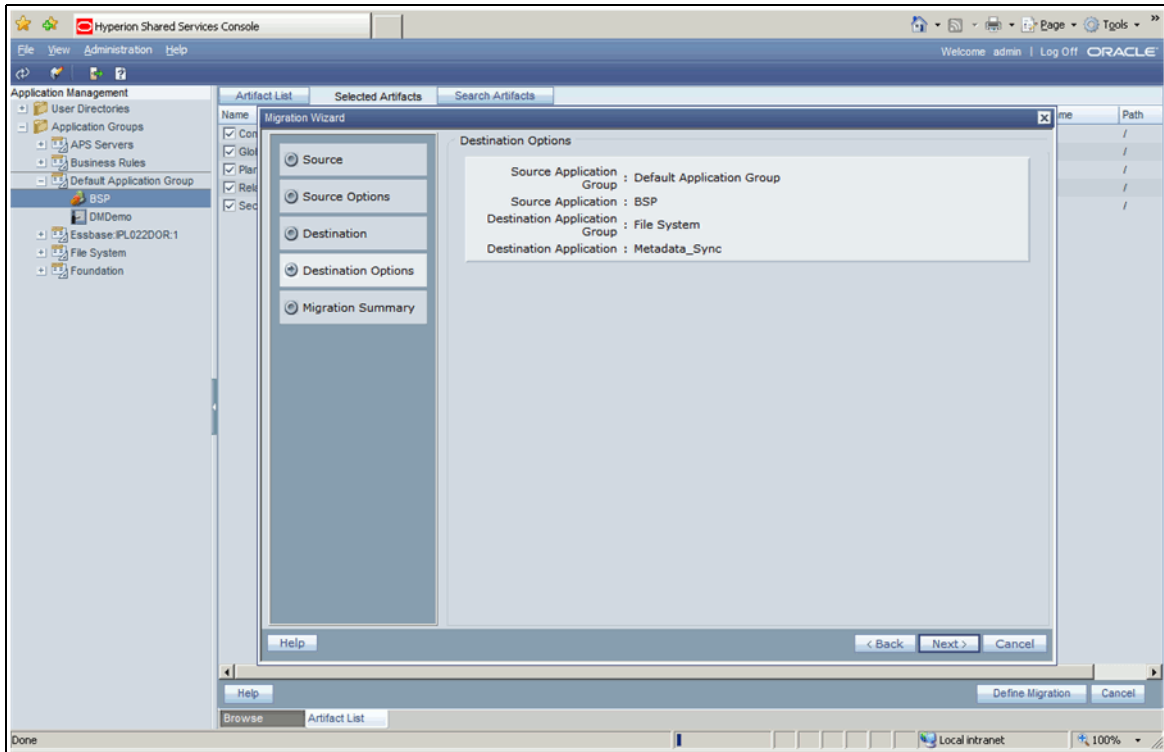
6.  Click the **Execute Migration** button to initiate the migration. A confirmation message will popup stating that migration has started.
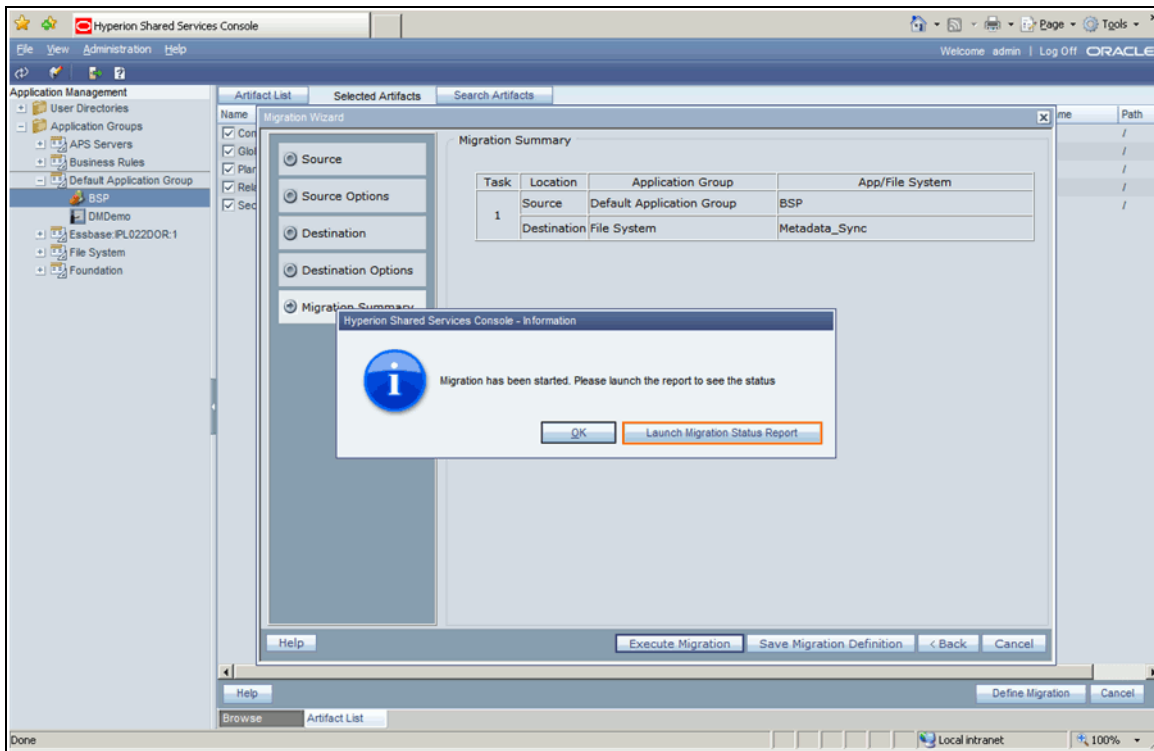
7. On the confirmation message popup screen, click the **Launch Migration Status Report** button to monitor the progress of the migration. This will open a window displaying the status of the migration.
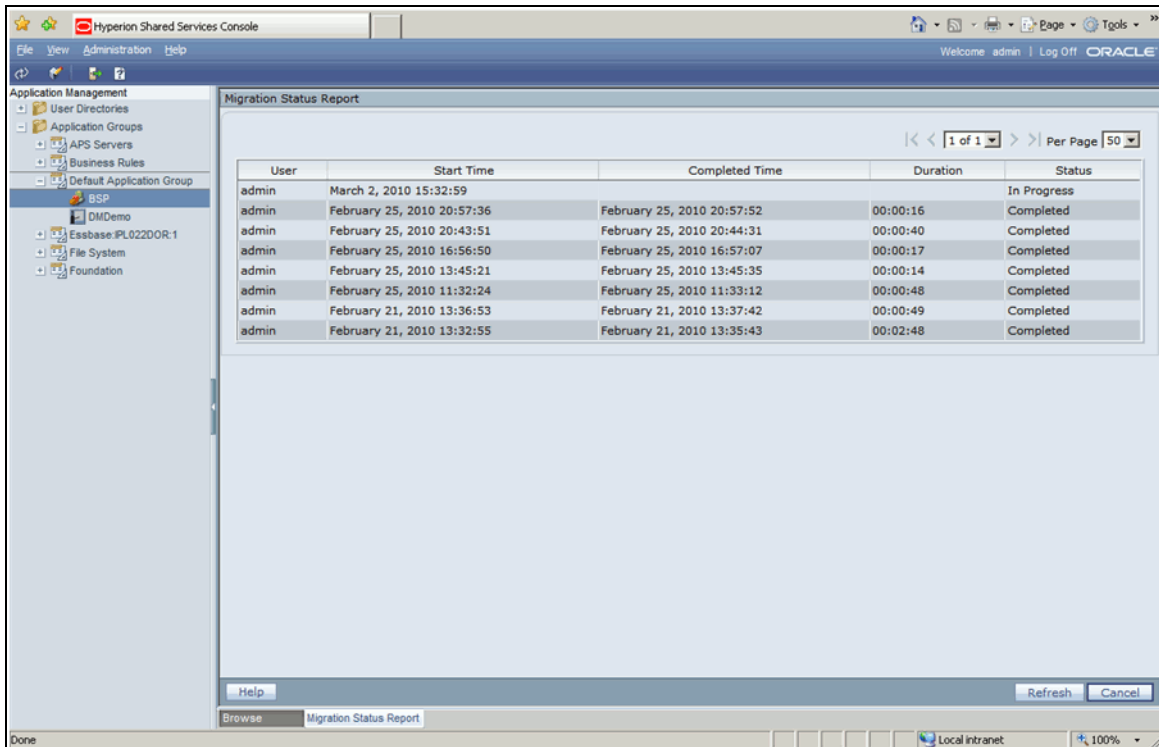


8. Click the **Refresh** button at the bottom of the screen to monitor the status of the migration. A "Completed" status indicates that the migration process is finished.

   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.
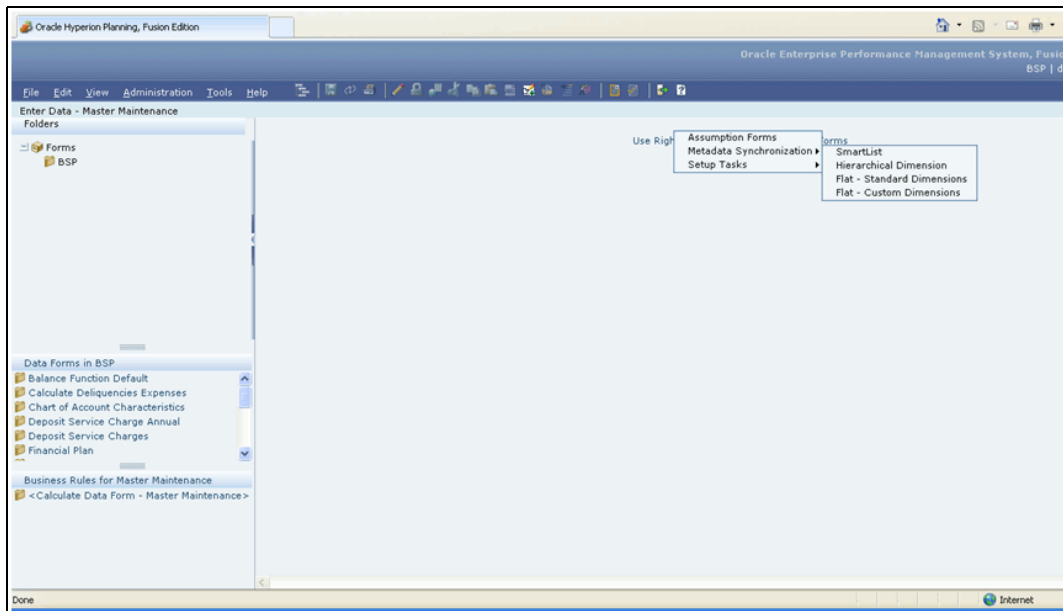


Launch the appropriate synchronization routine(s) from the Metadata Synchronization menu:

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**.
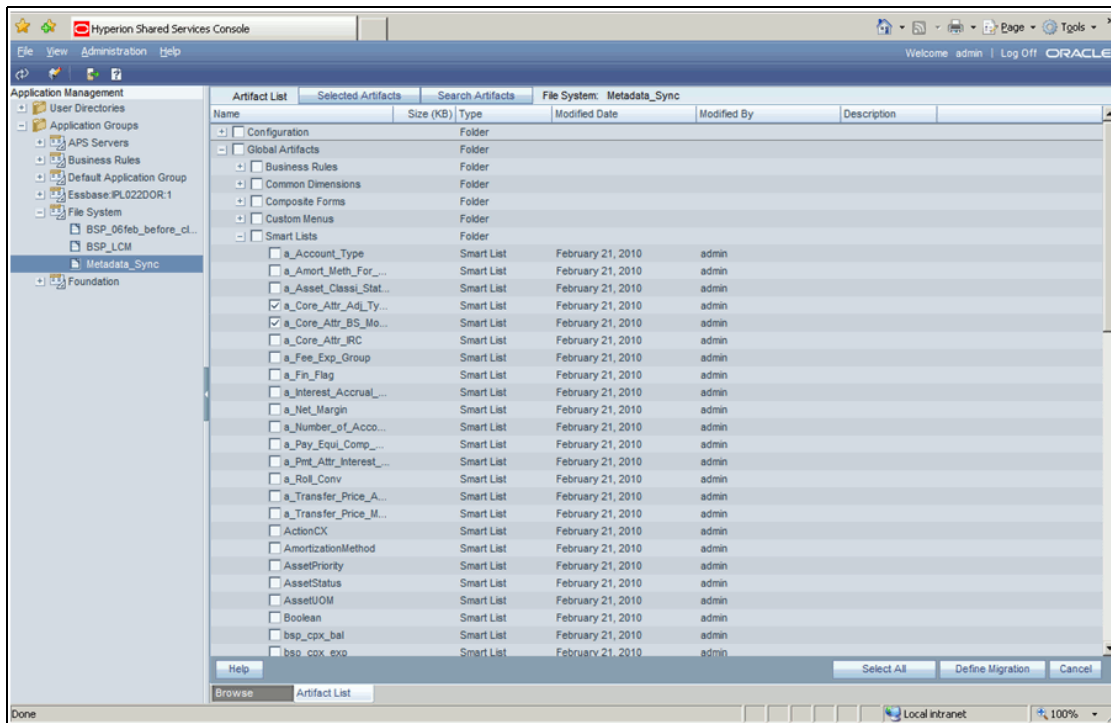
3.  On the Artifact List tab, select the artifacts under the Global Artifacts folder that you wish to import. You should select the same artifacts you selected earlier in the Lifecycle Management - Export Metadata section of these instructions. After selecting the artifacts, click the **Define Migration** button to open the Migration Wizard.
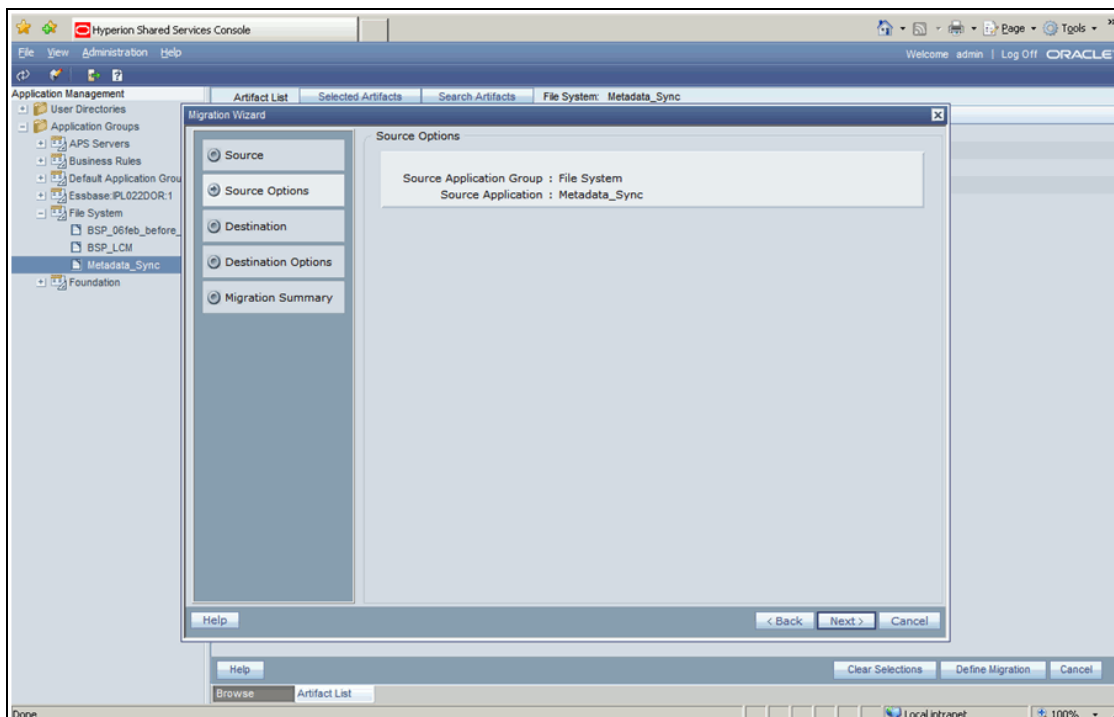


4.  Click the **Next** button to choose the destination where the metadata should be imported. Select the **Default Application Group: BSP** as the destination.

> **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.
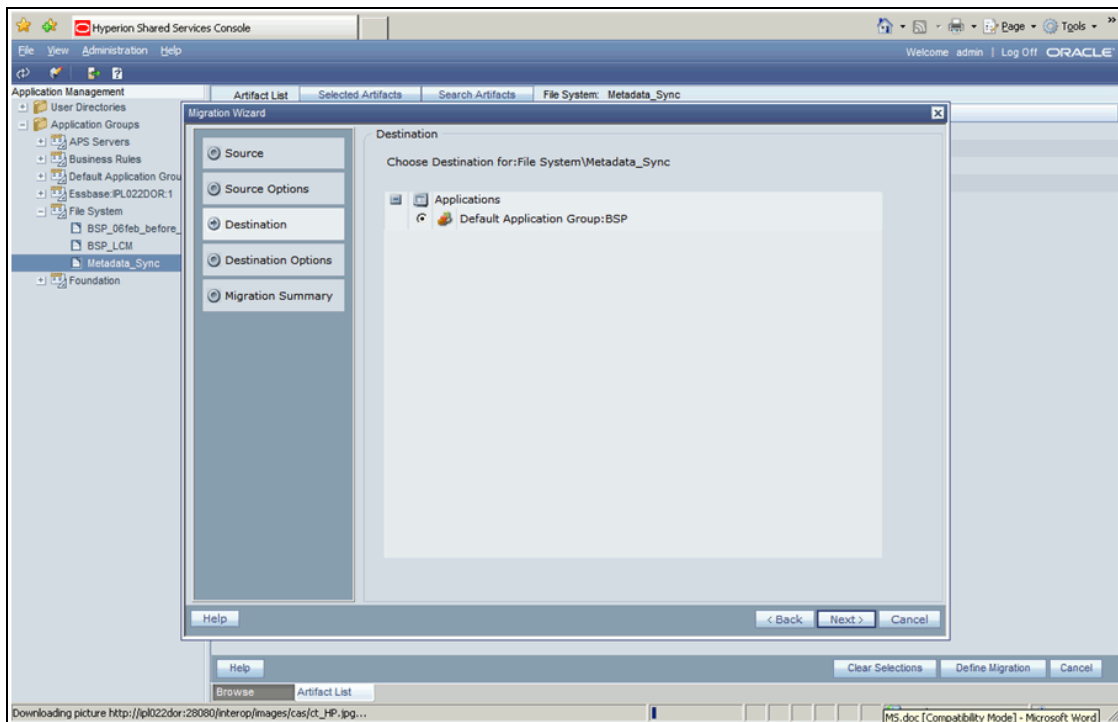


5. Click the **Next** button to open the Destination Options screen and review and confirm the displayed information. If correct, click the Next button on the Destination Options screen to open the Migration Summary screen.
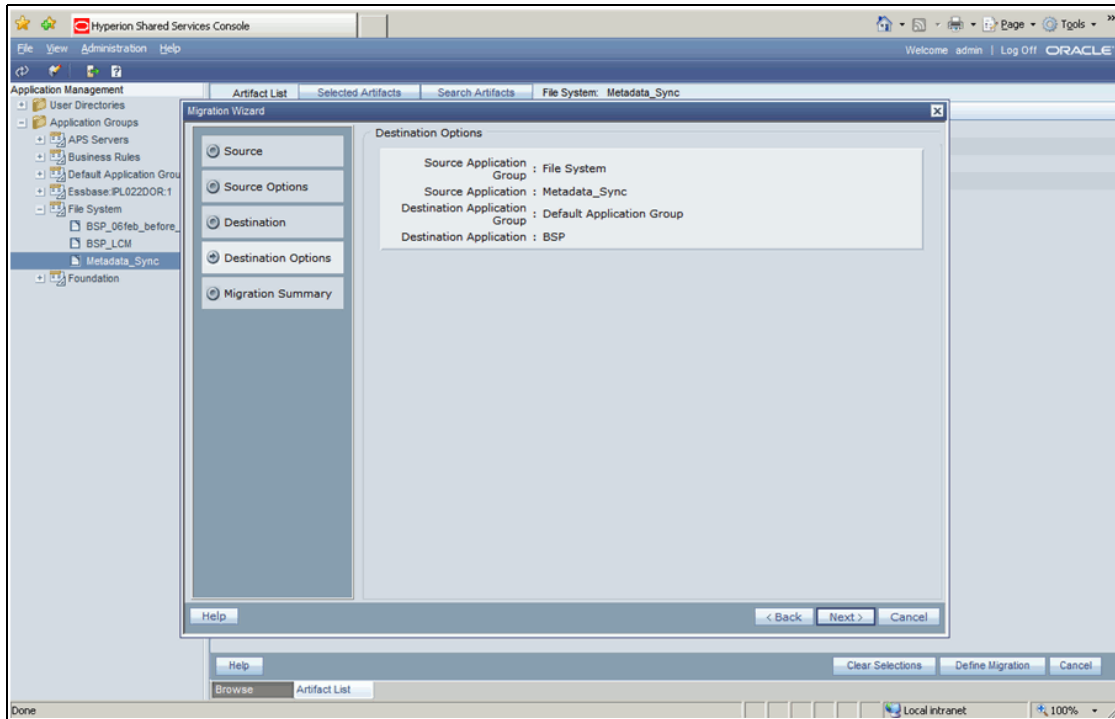
6. Click the **Execute Migration** button to initiate the migration. A confirmation message will popup stating that migration has started.
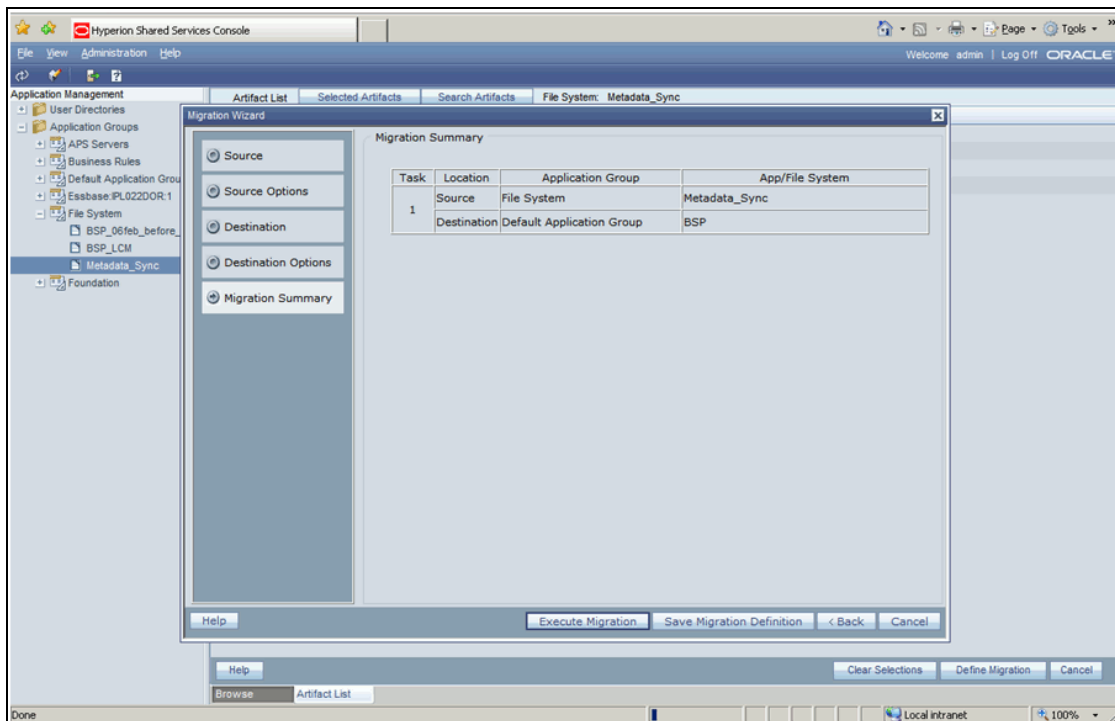


7. On the confirmation message popup screen, click the **Launch Migration Status Report** button to monitor the progress of the migration. When the Status changes to 'Completed' the metadata import is finished.

# CHAPTER 18 *Defining Process Attributes*

This Chapter describes the dynamics of modeling data configuration using Assumptions defined in the Application.

This chapter covers the following topics:

- Overview
- Working with the Process Attributes Data Form
- Process Attributes Data Form Details

## *Overview*

Balance Sheet Planning requires many different kinds of modeling data to simulate the cash flow dynamics of your balance sheet. The Balance Sheet Planning Administrator configures this modeling data prior to submitting any cash flow calculation requests. Examples of this kind of modeling data include:

- A forecast Interest Rate Scenario used in generating interest rates on future cash flows
- A Currency Rate Scenario used to calculate currency translations in multi-currency installations (optional)
- An Economic Indicator Scenario that can provide other useful information serving as a backdrop for forecasted interest and exchange rates (optional)
    - See Chapter 11 - Forecast Rates - Creating Interest Rate, Exchange Rate and Economic Indicator Scenarios
- A Maturity Mix scenario that describes product terms to maturity and amortization terms for new business processing (see Chapter 20 - Maturity Mix Assumptions)
- A Rollover Scenario for processing of rollovers (optional; see Chapter 16 - Rollovers)
- A Prepayment Scenario to generate payment cash flows (optional; see Chapter 13 - Prepayments Scenario)
- Rules for Funds Transfer Pricing including FTP adjustments such as Liquidity, Basis Risk, etc. (optional; see Chapter 15 - Funds Transfer Pricing)

Balance Sheet Planning generally supports your ability to build and maintain multiple sets of these kinds of modeling rules. For example, you may want to use one set of forecast rate assumptions for your Budget, but later may want to use a newer set of forecast rate assumptions for your Forecast; or you may want to refine your Funds Transfer Pricing rule or your Prepayment assumptions from Version to Version.

Process Attributes are used to inform the system as to which of your modeling rules will be used by the cash flow engine for a given combination Scenario and Version. For example, the Baseline 1Q2015 Interest Rate forecast might be assigned to the Scenario called 2015 Budget, and the Baseline Prepayment Scenario might be assigned to the Version called

Bottom-Up Version 1. In this sense, the rules you want to use become " attributes" of the Version and Scenario dimensions. 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 the 'BSP'-> Administrator Activities on the left panel and select Process Attributes in the Data Form list.

### Assigning Scenario Dimension Attributes

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.



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.

- **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.

> **Note:** For any subsequent changes made to the 'IR Scenario' or 'CR Scenario' to be consumed by the Cash-flow Engine, Users have to run the 'Export Scenario Definition' from the 'Scenario Attributes Definition' form as explained above.

## Assigning Version Dimension Attributes

The Budget Administrator assigns additional processing attributes at the Version dimension member level.

| | MM Scenario | Rollover Scenario | Prepayment Scenario | Output by Reporting Currency | Transfer Pricing Rule | Adjustment Rule | PM Scenario |
|---|---|---|---|---|---|---|---|
| BU Version_1 | | | | | | | |
| No Version | | | | | | | |
| First Pass | | | | | | | |
| Approved | | | | | | | |
| Reviewed | | | | | | | |

*Scenario Attribute Definition / Version Attribute Definition*

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.

- **Prepayment Scenario** - This attribute specifies the prepayment scenario to be used in processing.

- **Output By Reporting Currency** - This attribute is reserved for future use and should be set to No.

- **Transfer Pricing Rule** - This attribute specifies the Transfer Pricing rule to be used in processing. In Balance Sheet Planning, Transfer Pricing rules contain the methodologies to be used in generating forward transfer rates. All new business is transfer priced at origination. For variable rate business, both new business and current book of business are re-priced at each rate reset event.

- **Adjustment Rule**- This attribute specifies the Adjustment rule to be used in processing. In Balance Sheet Planning, Adjustment Rules contain the methodologies to be used in generating forward transfer pricing adjustments (Liquidity, Basis Risk, etc).

- **PM Scenario** - This attribute specifies the Default Pricing Margin Scenario to be used in processing

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.

> **Note:** Set the Evaluation Order for BSP cube, so Smartlists will be seen.

# 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 'Forms and Ad Hoc Grids' option available in Manage in the BSP Folder.
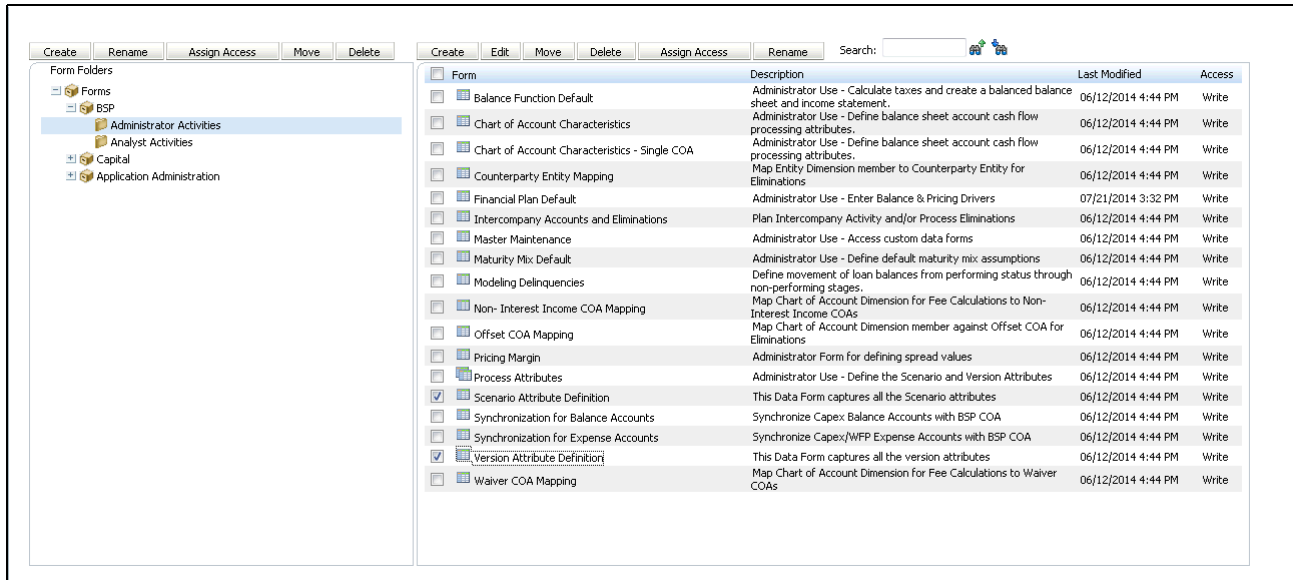


## Scenario Attribute Definition Data Form

The layout of Scenario Attribute Definition Data form is displayed. This block of the Process Attributes Data form is the Scenario Attribute Definition Data Form. This Form is designed on the 'BSP' Plan Type.
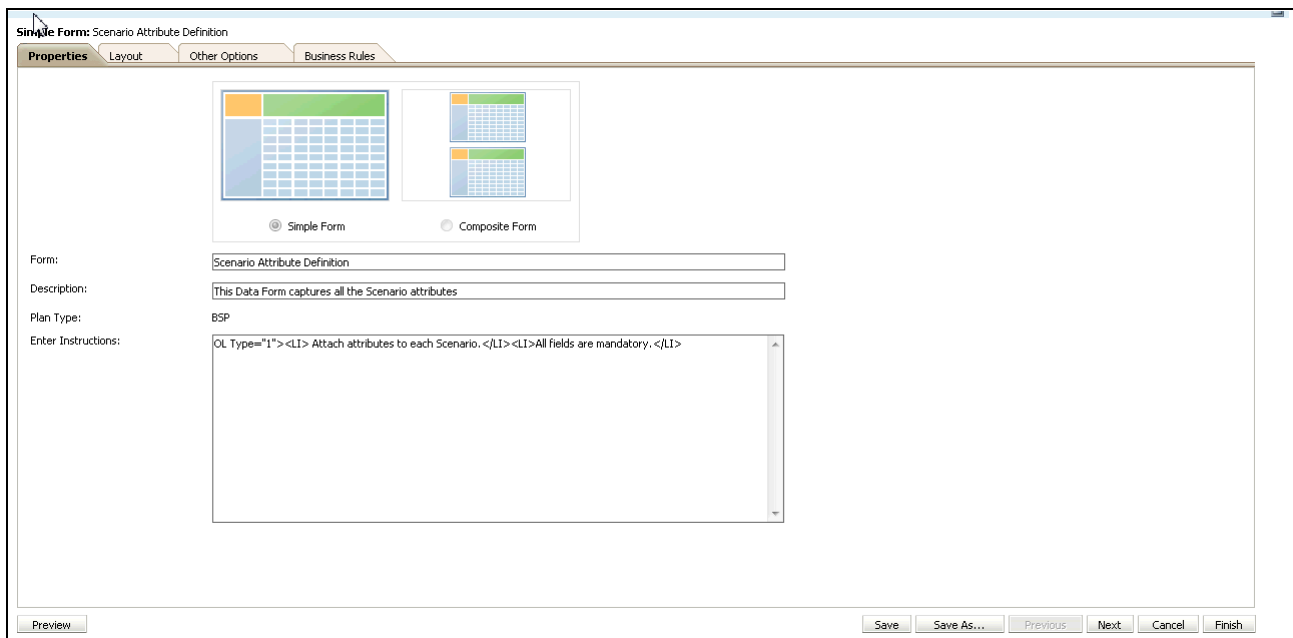
# Scenario Attribute Definition Details

The Point of View Dimensions are displayed on the form.
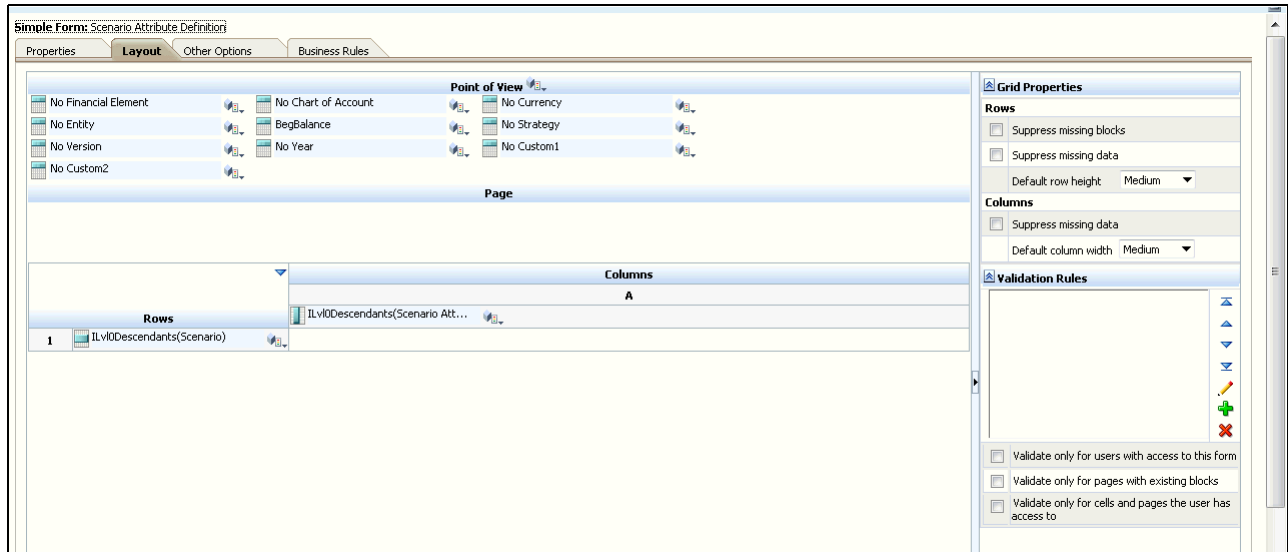


## Seeded Dimension Member Selection on the Data Form

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 |
| Point of View | Custom 1 | No Custom1 |
| Point of View | Custom 2 | No Custom2 |

# Display Properties selection on the Data Form

This section contains the view, display properties, Printing, and context menu options.



# Business Rule Details

The Business Rules section allows you to define the business rules for Scenario Attribute Definition form.

## 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:
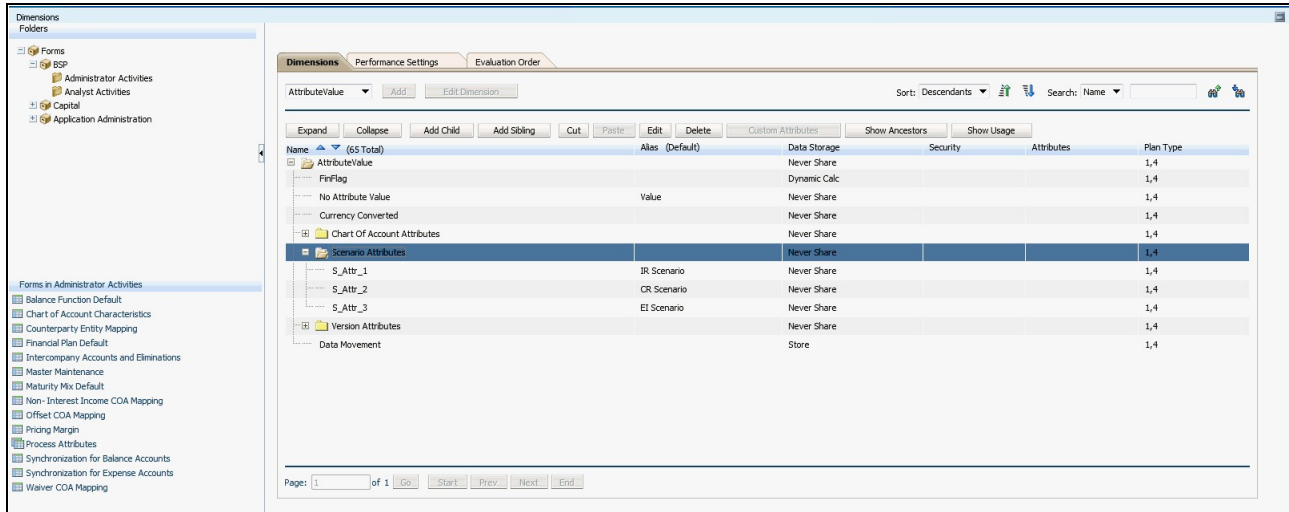


## 'AttributeValue' Dimension Members and Smart List Association

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.
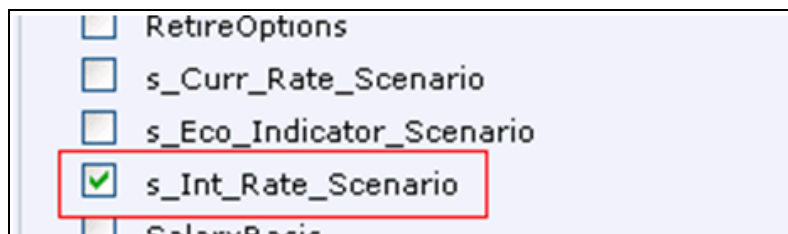
On Click of 'Edit' button (to view/modify the details), the following pop up appears:
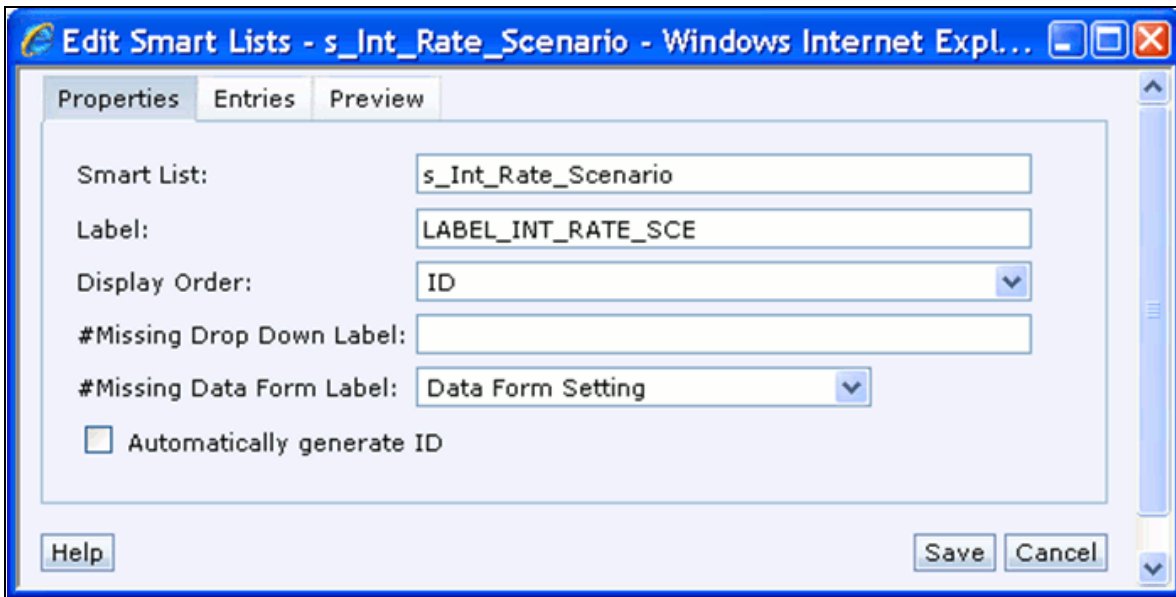


The Entries in the Smart List will appear as shown in the Screenshot below:
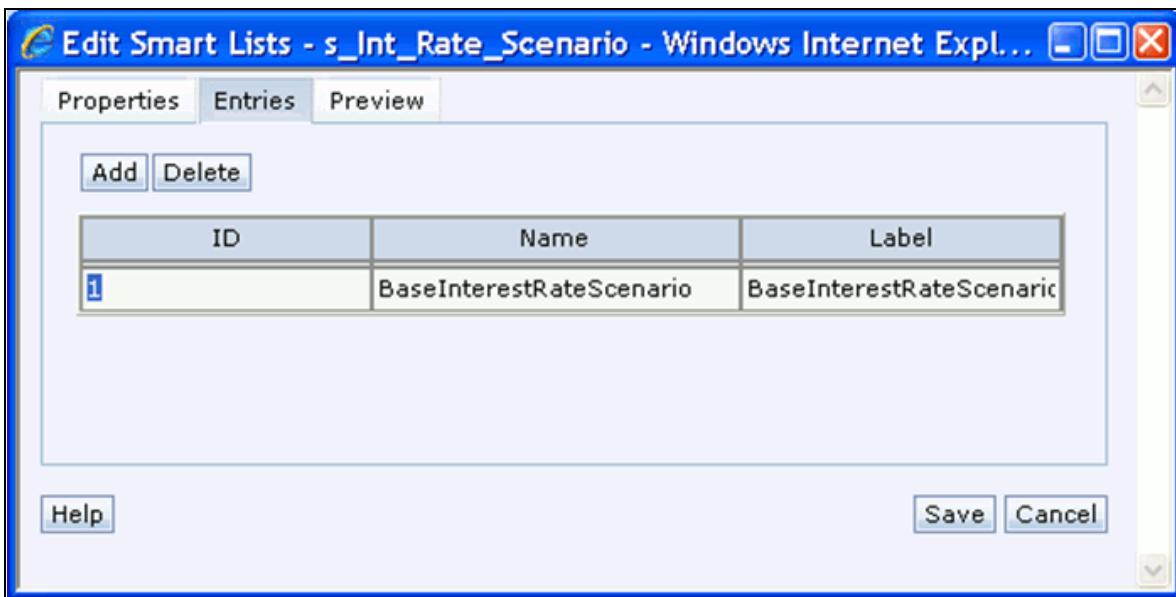


The created smart list is associated with the AttributeValue dimension member IR Scenario. This is highlighted in the following Screenshot. The Data Type Property is set to Smart List and the s_Int_Rate_Scenario Smart List is selected from the drop down against the Smart Lists to attach the Smart List with the dimension member.

# CHAPTER 19

# *Defining Chart of Account Characteristics*

This chapter describes the usage of Chart of Account Characteristics and includes sections covering the pre-requisites, workings and Form details.

This chapter covers the following topics:

- Overview
- Prerequisites
- Working with the Chart of Account Characteristics Data Form
- Chart of Account Characterisitcs - Details
- Chart of Account Characteristics Form Details

## *Overview*

Most Chart of Account Characteristics are used to define payment, pricing, repricing, and other characteristics that are used by the OFSAA cash flow engine in the processing of new business forecasts.  Some characteristics are also used by the OFSAA cash flow engine in the processing of current book of business (detailed instrument-level data).  Other characteristics are not employed by the cash flow engine but are used locally within Balance Sheet Planning.

The Budget Administrator is responsible for defining these characteristics.  This chapter provides details on setting up Chart of Account Characteristics for each of your budgeting products.

This chapter also describes how these characteristics are used in the OFSAA cash flow engine both in processing new business forecasts as well as in processing current position instrument data.  Finally, this chapter also outlines the relationship between Chart of Account Characteristics and instrument-level cash flow columns.

Each Chart of Account Characteristics that applies exclusively to the simulation of new business forecasts has an analogous instrument-level cash flow column.  For example, an instrument record having ADJUSTABLE_TYPE_CD = 50 will be processed as a Floating Rate product.  The equivalent for new business forecasts is the "Adjustable Type" Chart of Account Characteristic.

For details on these relationships, see the section below entitled "Related Instrument Columns".  For additional details on instrument-level columns and their usage in the cash flow engine, see OFSAA Cash Flow Engine Reference Guide, Chapter 6 - Cash Flow Dictionary.

> **Note:** It is important that all the relevant characteristics for each Chart of Account defined are specified. BSP provides default value/s for cash-flow simulation of Chart of Account member/s with partially defined COA characteristics to prevent the Cash Flow Engine from terminating abnormally.    These results may not accurately reflect the underlying balances.

## *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-->Administrator Activities--> and then COA characteristics.
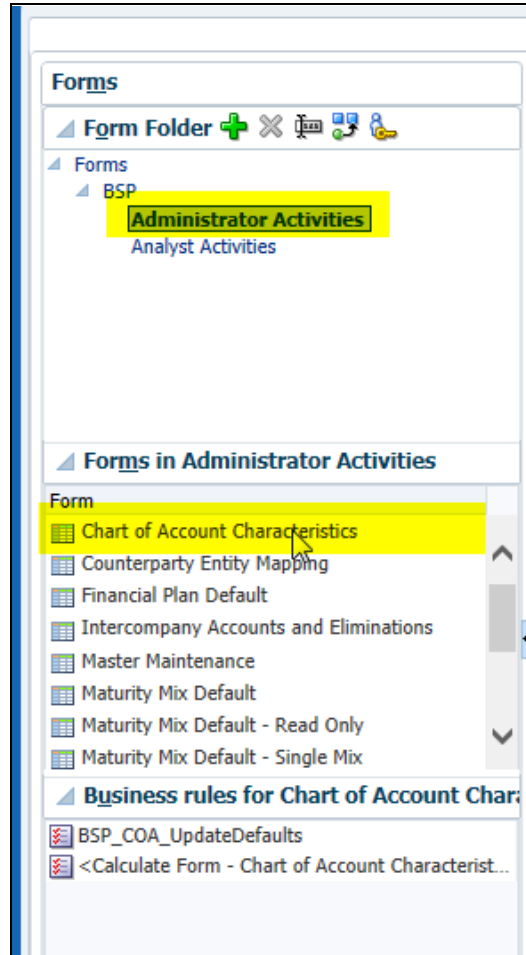


This will open the Enter Data - Chart of Accounts Data Form .



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.

To view the Smart Lists, set the Evaluation Order for BSP cube.

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.

# Chart of Account Characterisitcs - Details

## Classes of Characteristics

The following are the three different classes of characteristics:

- Characteristics Applicable to ALL Business
- Characteristics Applicable to New Business Only
- BSP Only Characteristics

## Characteristics Applicable to ALL Business

The OFSAA cash flow engine uses these characteristics both in the processing current position instrument data (current book of business) as well as in the processing new business forecasts.

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Model with Gross Rate | No & Yes | No (rarely used) | No | Used in conjunction with Net Margin Flag, Modeling with Gross Rates typically applies to loan servicing situations.<br><br>If your institution has sold loan serving rights for some of your assets (most typically mortgages), the rates paid by customers on those assets (gross rates) will be greater than the rates received by your bank (net rates). If you model with Gross Rates, 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 generated. The gross rate will be used for prepayment and amortization calculations, and the net rate will be used for income simulation.<br><br>When Modeling with Gross Rates, the behavior of the net rate at reprice events depends on your selection of Net Margin Flag. |
| COA Interest Credited | No & Yes | No | No | This option allows interest payments to be capitalized as principal on simple/non-amortizing instruments.  Applies only when Balance Sheet Model is Non-Amortizing. |

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Percent Taxable | No predefined values | Zero | N/A | Not used by cash flow engine. Only used in BSP Balancing process (Hyperion business rule) |
| Payment Equivalent Compounding Convention | Do Not Adjust & Semi Annual Quoting Convention | Do Not Adjust | Do Not Adjust | In most cases, interest rates are not adjusted for the differences in pay-basis between the quote basis of the pricing index and the payment frequency of the account to which the index is assigned. Some instruments, notably Canadian Mortgages, follow a convention that the interest rates are adjusted. In this case, the Pay-Equivalent Compounding Convention should be set to Semi-Annual Quoting Convention. For other accounts, the convention should be set to Do Not Adjust. |
| Rolling Convention | No Rolling Convention | No Rolling Convention | No Rolling Convention | Reserved for future use |
| | Following Business Day | | | |
| | Modified Following Business Day | | | |
| | Previous Business Day | | | |
| | Modified Previous Business Day | | | |

## Product Characteristics Applicable to New Business Only

The OFSAA cash flow engine uses these characteristics in processing new business forecasts. Most of these characteristics perform the same role in cash flow engine processing of new business forecasts as their "Related Instrument Columns" perform in cash flow engine processing of detailed current position data (see table below).

Characteristics applicable to new business only can be further subdivided into the following sub-classes:

- Core Product Characteristics
- Payment Characteristics
- Adjustable Rate Characteristics
- Negative Amortization Characteristics

## Core Product Characteristics

Core characteristics include such items as amortization type (conventional, balloon, non-amortizing, etc), adjustable type (fixed, floating, other adjustable, etc), and interest rate codes.

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Balance Sheet Model | Conventional Fixed / Balloon Payment / Conventional Adjustable / Adjustable Negative Amortization / Non-Amortizing / Rule of 78s / Level Principal Payments / Lease / Annuity / Other | N/A | Value is required | Method of amortizing principal and interest. The choices consist of all standard OFSAA codes and all additional user-defined codes created through the Payment Pattern and Behavior Pattern interfaces. The cash flow engine supports 3 types of "scheduled" amortization (Conventional, Level Principal, and Simple), but scheduled amortization applies only to instrument data records (not to new business). Do not select any of the "scheduled" amortization types as a COA Charactristic. They are displayed only because they are in a general sense "valid" amortization types (but they are not valid for new business). 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 | Fixed Rate / Floating Rate / Other Adjustable / User defined Repricing Pattern | None | Value is required | This attribute identifies the repricing method and repricing characteristics of the account. 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. |
| Amortizing Method for Premium, Discounts, Costs, Fees | Straight Line and Level Yield | Level Yield | Straight Line | Used only where deferred balances exist. This attribute is the "new business" equivalent of the instrument level column called AMORT_METH_PDFC_CD. |
| Market Rate Interest Rate Code | No predefined values | None | Value is required | 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. |

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Lease Residual Percent | No predefined values | None | Contingent | When Balance Sheet Model is Lease, this value specifies the residual amount as a percent of the new business balance. Otherwise, this attribute is not used. |
| Original Deferred Amortization Percent | No predefined values | Zero | Zero | The percentage of new business balances to to deferred. |

## *Payment Characteristics*

These characteristics pertain to payment attributes (e.g., payment frequency) but values are required for all characteristics regardless of the amortization type of the product (i.e., even for non-amortizing products).

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Payment Frequency | No predefined values | One | Value is required | The Payment Frequency defines the frequency of payment (P & I, Interest or Principal) in units (days, months or years). Values should be between 1 and 999. Decimals not allowed except .5 and .25 |
| Payment Frequency Multiplier | Days, Months, Years | Month | Value is required | Used in conjunction with Payment Frequency |
| Compounding Basis | Daily | Simple | Value is required | Indicates the compounding used to calculate interest income. The Compounding Basis determines the number of compounding periods per payment period. |
| | Monthly | | | |
| | Quarterly | | | |
| | Semi-Annual | | | |
| | Yearly | | | |
| | Continuous | | | |
| | Simple | | | |
| | At Maturity | | | |
| Interest Accrual Method | Actual/Actual | 30/360 | Value is required | The Interest Accrual Method specifies the accrual basis to be used in calculating interest income or expense for the account. Also used in generating FTP charges & credits. |
| | Actual/365 | | | |
| | Actual/360 | | | |
| | 30/360 | | | |
| | 30/Actual | | | |
| | 30/365 | | | |
| Interest Type | In Advance vs. In Arrears | Interest in arrears | Value is required | Interest in advance is rarely used |

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Net Margin Flag | Floating Net Rate<br><br>Fixed Net Rate | Floating Net Rate | Contingent | Relevant only when Model With Gross Rate = Yes. For Floating Net Rate, the net rate reprices in conjunction with the gross rate, at a value net of fees. For Fixed Net Rate, the net rate equals a fixed fee equal to the net margin. See OFSAA Cash Flow Engine Reference Guide for details. |

## *Adjustable Rate Characteristics*

These characteristics apply to adjustable rate products and are only used by the cash flow engine when the Adjustable Type Code is other than Fixed. Nonetheless, it is good practice to populate each characteristic.

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Repricing Frequency | No predefined values | N/A | Value is required | Repricing Frequency defines the contractual frequency of rate adjustments |
| Repricing Frequency Multiplier | Days, Months, Years | Month | Value is required | Modifies Repricing Frequency |
| Tease Period | No predefined values | Zero | Contingent | The term over which Tease Discount is applied (from origination, e.g. 6 months) |
| Tease Period Multiplier | Days, Months, Years | Month | Contingent | Modifies Tease Period |
| Tease Discount | No predefined values | Zero | Contingent | The tease discount is used in conjunction with the original rate to calculate the tease rate. The tease rate is the original rate less the tease discount. The percentage discount from the contractual rate. |
| Rate Cap Life | No predefined values | None | Contingent | Maximum rate for life of the instrument |
| Rate Set Lag | No predefined values | Zero | Contingent | Period by which the rate lookup lags the repricing event date. |
| Rate Set Lag Multiplier | Days, Months, Years | Month | Contingent | Modifies Rate Set Lag |
| Rate Change Rounding Factor | No predefined values | N/A | Contingent | Rounding precision. Example: 0.01 rounds to the nearest basis point. Used only when Rate Change Rounding Type is other than No Rounding. |
| Rate Change Rounding Type | No Rounding<br><br>Round Up<br><br>Round Down<br><br>Truncate<br><br>Round Nearest | Round Nearest | Contingent | Used in conjunction with Rate Change Rounding Factor. |
| Rate Increase Period | No predefined values | See CFE Ref Guide | Contingent | The maximum rate increase over one repricing cycle |
| Rate Decrease Period | No predefined values | See CFE Ref Guide | Contingent | The minimum rate increase over one repricing cycle |

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Minimum Rate Change | No predefined values | See CFE Ref Guide | Contingent | The minimum required change in rate in a repricing cycle |
| Rate Floor Life | No predefined values | See CFE Ref Guide | Contingent | Minimum rate for life of the instrument |
| Rate Increase Life | No predefined values | See CFE Ref Guide | Contingent | Maximum rate increase for life of a new business balance |
| Rate Decrease Life | No predefined values | See CFE Ref Guide | Contingent | Maximum rate decrease for life of a new business balance |

### *Negative Amortization Characteristics*

These characteristics are only used by the cash flow engine when the Balance Sheet Model (Amortization Type) is Adjustable Negative Amortization.

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Payment Change Frequency | No predefined values | None | Contingent | The frequency at which the payment amount is recalculated for adjustable negative amortization instruments. |
| Payment Change Frequency Multiplier | Days, Months, Years | None | Contingent | Defines the frequency unit, in months or days, at which a product's payment adjusts. |
| NGAM Equalization Frequency | No predefined values | None | Contingent | Frequency at which current payment necessary to fully amortize the instrument is re-computed. |
| NGAM Equalization Frequency Multiplier | Days, Months, Years | None | Contingent | Defines the frequency unit in months or days |
| Payment Decrease Life | No predefined values | None | Contingent | Maximum payment decrease allowed during life of a negative amortization instrument. |
| Payment Decrease Period | No predefined values | None | Contingent | Maximum payment decrease allowed during a payment change cycle of a negative amortization instrument. |
| NGAM Equalization Limit | No predefined values | None | Contingent | Maximum negative amortization allowed, as a percent of original balance. E.g., if principal balance should never exceed 125% of original balance, this column would equal 125.0 |
| Payment Increase Life | No predefined values | None | Contingent | Maximum payment increase allowed during the life of a negative amortization instrument |
| Payment Increase Period | No predefined values | None | Contingent | Maximum payment increase allowed during a payment change cycle on a negative amortization instrument |

## BSP Only Characteristics

These characteristics are utilized by business rules with the Balance Sheet Planning application but are not utilized by the OFSAA cash flow engine.

| Chart of Account Characteristic | Values | Typical or most common value | Default Value used by Cash Flow Engine | Description |
|---|---|---|---|---|
| Transfer Rate Interest Rate Code | No predefined values | #MISSING | N/A | Not used; reserved for future use |
| Transfer Price Accrual Method | Actual/Actual | #MISSING | N/A | Not used; reserved for future use |
|  | Actual/365 | | | |
|  | Actual/360 | | | |
|  | 30/360 | | | |
|  | 30/Actual | | | |
|  | 30/365 | | | |
| Financial Element Flag | Yes & No | #MISSING | N/A | Not used; reserved for future use |
| Number of Accounts Method | Yes & No | #MISSING | N/A | Not used; reserved for future use |
| On Balance Sheet COA | Yes & No | Yes | Yes | Reserved for future use; BSP 8.0 does not support off balance sheet products |

# CoA Characteristics and Instrument Cash Flow Columns

| Class | Chart of Account Characteristic | Related Instrument Column |
|---|---|---|
| Core Product Characteristics | Balance Sheet Model | AMRT_TYPE_CD |
| | Adjustable Type | ADJUSTABLE_TYPE_CD |
| | Amortizing Method for Premium, Discounts, Costs, Fees | AMORT_METH_PDFC_CD |
| | Market Rate Interest Rate Code | INTEREST_RATE_CD |
| | Lease Residual Percent | RESIDUAL_AMOUNT |
| | Original Deferred Amortization Percent | CUR_PAR_BAL, CUR_BOOK_BAL, CUR_DEFERRED_BAL |
| Payment Characteristics | Payment Frequency | PMT_FREQ |
| | Payment Frequency Multiplier | PMT_FREQ_MULT |
| | Compounding Basis | COMPOUND_BASIS_CD |
| | Interest Accrual Method | ACCRUAL_BASIS_CD |
| | Interest Type | INT_TYPE |
| | Net Margin Flag | NET_MARGIN_CD |
| Adjustable Rate Characteristics | Repricing Frequency | REPRICE_FREQ |
| | Repricing Frequency Multiplier | REPRICE_FREQ_MULT |
| | Tease Period | TEASER_END_DATE |
| | Tease Period Multiplier | |
| | Tease Discount | For data records, the teaser discount is embedded in low initial CUR_NET_RATE prior to first rate reset at the end of the teaser period |
| | Rate Cap Life | RATE_CAP_LIFE |
| | Rate Set Lag | RATE_SET_LAG |
| | Rate Set Lag Multiplier | RATE_SET_LAG_MULT |
| | Rate Change Rounding Factor | RATE_CHG_RND_FAC |
| | Rate Change Rounding Type | RATE_CHG_RND_CD |
| | Rate Increase Period | RATE_INCR_CYCLE |
| | Rate Decrease Period | RATE_DECR_CYCLE |
| | Minimum Rate Change | RATE_CHG_MIN |
| | Rate Floor Life | RATE_FLOOR_LIFE |
| | Rate Increase Life | RATE_INCR_YEAR |
| | Rate Decrease Life | RATE_DECR_YEAR |
| Negative Amortization Characteristics | Payment Change Frequency | PMT_CHG_FREQ |
| | Payment Change Frequency Multiplier | PMT_CHG_FREQ_MULT |
| | NGAM Equalization Frequency | NEG_AMRT_EQ_FREQ |
| | NGAM Equalization Frequency Multiplier | NEG_AMRT_EQ_FREQ_MULT |
| | Payment Decrease Life | PMT_DECR_LIFE |
| | Payment Decrease Period | PMT_DECR_CYCLE |
| | NGAM Equalization Limit | NEG_AMRT_LIMIT |

| Class | Chart of Account Characteristic | Related Instrument Column |
|---|---|---|
| | Payment Increase Life | PMT_INCR_LIFE |
| | Payment Increase Period | PMT_INCR_CYCLE |

# *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 | Scenario | No Scenario |
| Point of View | Version | No Version |
| Point of View | Strategy | No Strategy |
| Point of View | Year | No Year |
| Point of View | Custom 1 | No Custom 1 |
| Point of View | Custom 2 | No Custom 2 |

## 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.
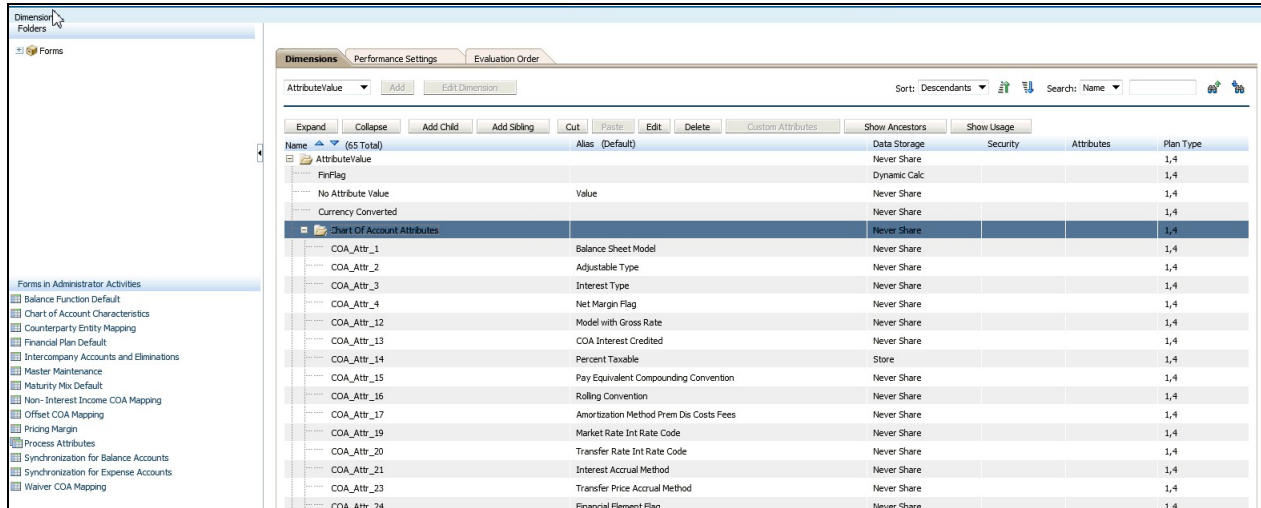


## 'AttributeValue' and Smart List Association

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.
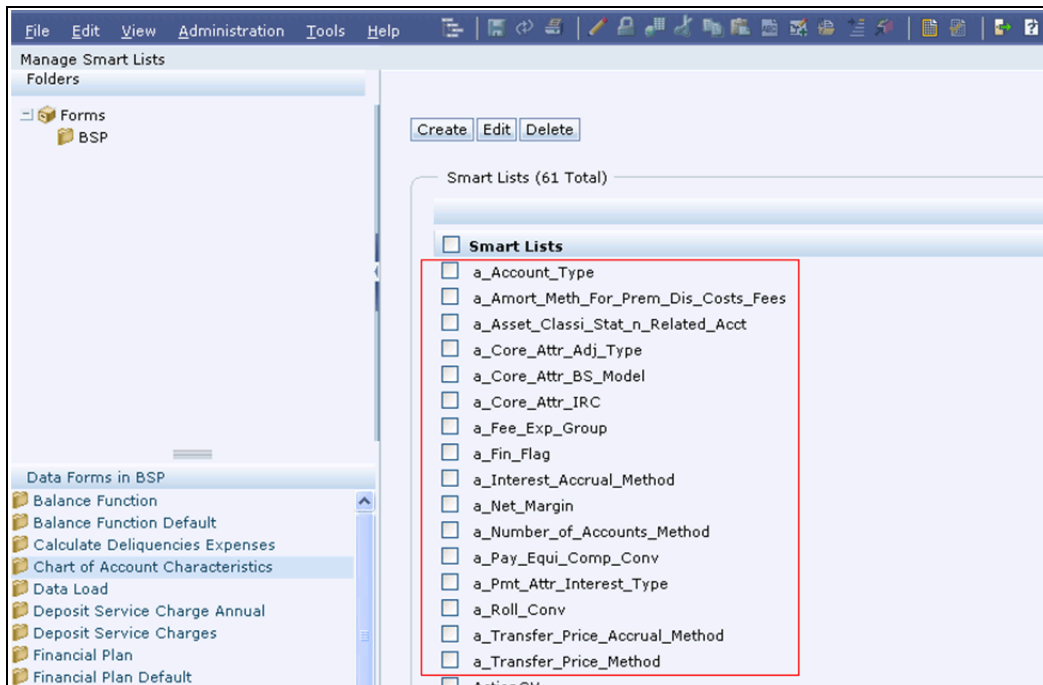
**Illustration**

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.
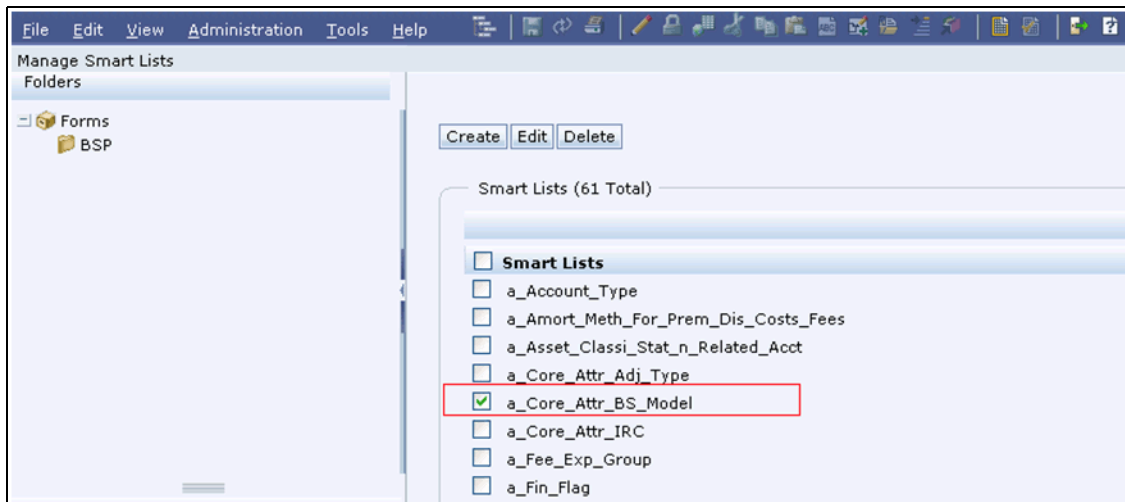


On Click of 'Edit' control, the following pop up appears:
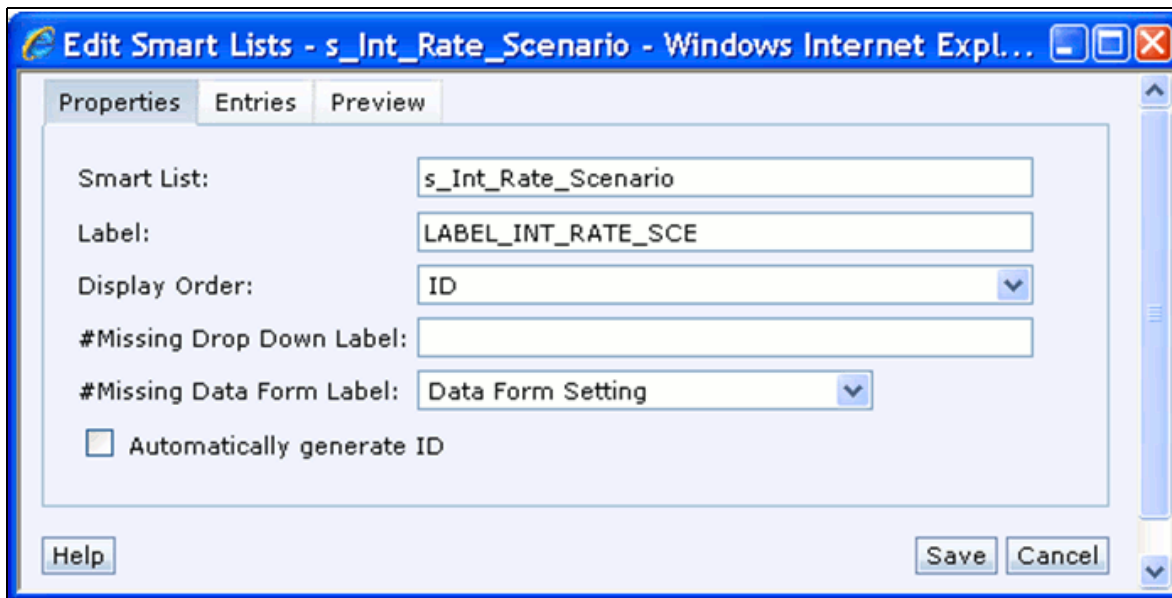


The Entries in the Balance Sheet Model Attribute Smart List will be as shown in the following Screenshot. The Entry IDs in the Smart List will correspond to the Codes in the corresponding MLS table of FS Data Model. For Balance Sheet Model, the IDs used correspond to the codes in the FSI_Amortization_Type_MLS table
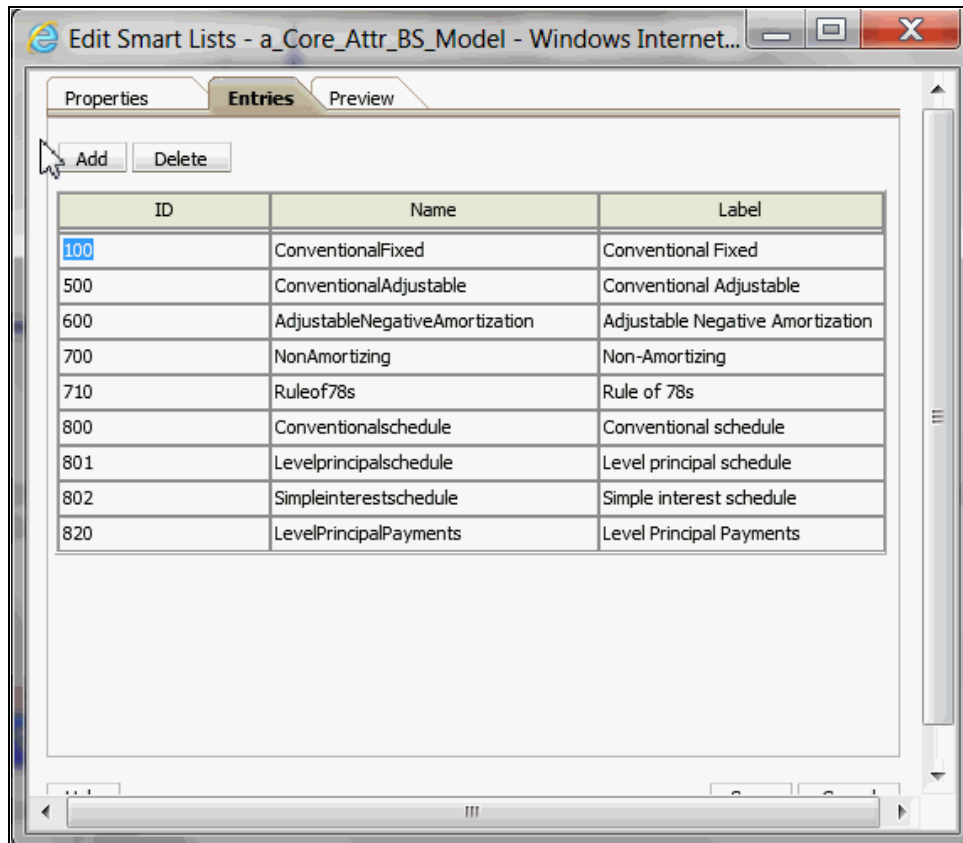
The created smart list is associated with the AttributeValue Dimension Member- Balance Sheet Model. This is highlighted in the following Screenshot.
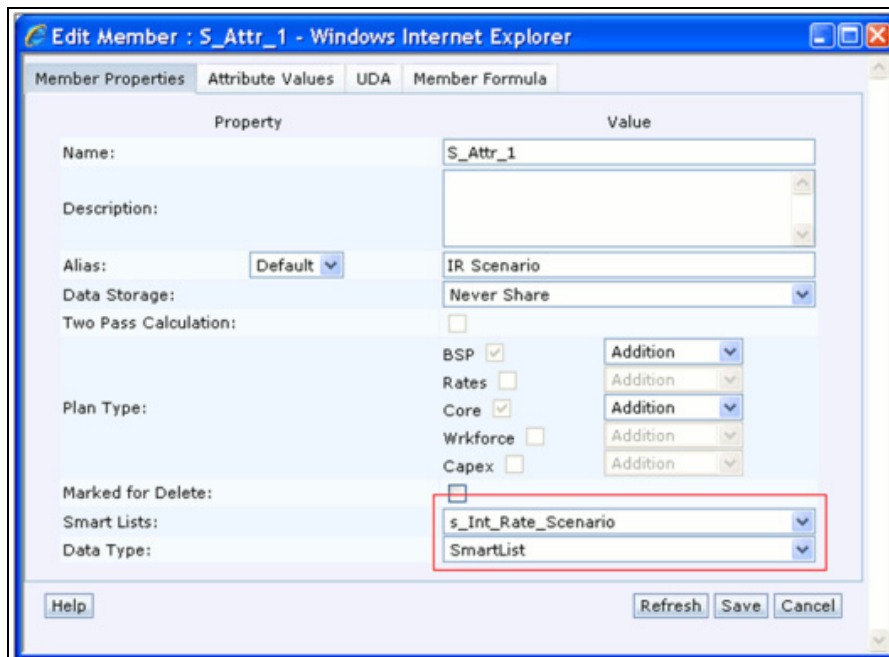
**CHAPTER 20** *Maturity Mix Assumptions*

This chapter describes the procedure for creating and working with Maturity Mix Scenarios and Assumptions.

This chapter covers the following topics:

- Overview
- Prerequisites
- Working with Maturity Mix Default Forms
- Maturity Mix Default Form Details

## Overview

Maturity Mix Assumptions are used to define Term and Amortization Term properties for each of your Chart of Account products in order to support the processing of new business volumes. Your new business forecasts are captured and simulated through the Budget Administrator's Financial Plan Default form or through the Planning Analyst's Financial Plan form.

> **Note:** Term is the original term to maturity; Amortization Term is the term over which a product is amortized. Term and Amortization Term are generally the same. Only balloon products have Term < Amortization Term.

For each of your Chart of Account products, the simplest (and minimally required) Maturity Mix Assumptions are a single value of Term and a single value of Amortization Term where the same values apply to each forecast month. For many and perhaps most of your products, this simple approach will be appropriate.

However, more sophisticated Maturity Mix Assumptions can be used to support specific use cases. The most common use case for a more sophisticated set of Maturity Mix Assumptions is to reduce the number of Chart of Account products that must be collected and modeled without sacrificing the accuracy of your cash flow results. Your selection of a planning Chart of Account is a strategic decision so an understanding of Balance Sheet Planning's Maturity Mix model is essential.

Maturity Mix Assumptions support these use cases using new business volume "mix breakouts" that can vary over the course of your forecast.

**Mix Breakouts**

For each of your Chart of Account products, Maturity Mix Assumptions allow you to subdivide your new business forecasts into smaller components each of which can have its own Term and Amortization Term. For example, you might want to forecast new business volumes for Fixed Mortgages as being composed of 75% fixed 30-year mortgages, 20% fixed 15-year mortgages, and 5% fixed 15-year balloon mortgages (balances that amortize over 30-years but mature in 15-years).

**Mix Breakouts across time**

Maturity Mix Assumptions also allow you to manage the allocation to each subdivision or "mix breakout" over time. For example, continuing with the above example, you may anticipate a change in the blend of new business volumes for 30-year fixed vs. 15-year fixed vs. 15-year fixed balloon within the Fixed Mortgages product. You may want to start with a 75%/20%/5% mix-breakout but move towards a 65%/25%/10% mix-breakout by the end of your forecast.

**Management of the Planning Chart of Accounts**

In the above example, the Chart of Account product was Fixed Mortgages. By employing a maturity mix breakout strategy, Maturity Mix Assumptions allow you to forecast a single new business volume for Fixed Mortgages while the cash flow engine assigns different terms to maturity for separate, pro-rata shares of that new business volume for each mix breakout. Alternatively, instead of planning at the Fixed Mortgages level, you might have established 3 separate Chart of Account products: one for 30-year Fixed Mortgages, one for 15-year Fixed Mortgages, and one 15-year Fixed Balloon Mortgages. In this scenario, it is possible that your 3 separate products might roll up to a Fixed Mortgages node in your Chart of Accounts hierarchy.

In evaluating where it might be appropriate to employ Maturity Mix Assumptions to reduce number of planning products, keep in mind that there are advantages and disadvantages to each approach.

By forecasting at the Fixed Mortgages level, you can reduce the number of separate new business forecasts you are requiring your planning community to collect and process. Your Planning Analysts would have to collect and process 3 times as much data if you choose to forecast at the lower, "3- product" level". However, by choosing to forecast at the Fixed Mortgages level, your final results will be expressed in Planning at the Fixed Mortgages level; if you had chosen to plan at the "3-product" level, then your final results in Planning would be expressed at the more detailed, 3-product level.

In addition, by forecasting at the Fixed Mortgages level, you are assuming that your mix-breakout percentages will accurately represent the actual mix breakout you would have achieved if planning analysts had forecast each of the 3 sub-products independently.

**Other Use Cases**

Since Maturity Mix Assumptions affect the runoff profile of your new business volumes by layering in pro-rata percentage volumes having different terms to maturity, and since Maturity Mix Assumptions also allow you to vary the mix breakout percentages as well as the terms to maturity within each mix breakout, sophisticated Maturity Mix Assumptions can be used to model packages of any kind of product having this blended quality.

> **Note:** If your objective is to generate a customized runoff profile of your new business volumes, it is recommended that you use Behavior Patterns or Prepayment Assumptions instead of Maturity Mix Assumptions.

**Default Maturity Mix vs. Override Maturity Mix Assumptions**

Default Maturity Mix Assumptions for each Chart of Account are set by the Administrator. Optionally, the Administrator can allow analysts to view and/or modify default Maturity Mix Assumptions.

**Maturity Mix Scenarios**

One set of Maturity Mix Assumptions is required for cash flow processing, but you may maintain multiple independent set of Maturity Mix Assumptions. Each complete set of Maturity Mix Assumptions is stored under its own maturity mix scenario (dimension members in the Assumption dimension). This chapter covers the definition of default values for Maturity Mix Assumptions by the Budget Administrator using the Maturity Mix Default data forms.

## *Prerequisites*

- Chart of Account dimension members have been created and metadata synchronization has been processed.

> **Note:** You should define Maturity Mix Assumptions for all level0 COA values under a node even if there is no financial data entered for a COA in Financial Plan Default form.

## *Working with Maturity Mix Default Forms*

To access Maturity Mix Default forms, navigate to BSP > Administrator Activities and select one of the Maturity Mix Default forms.
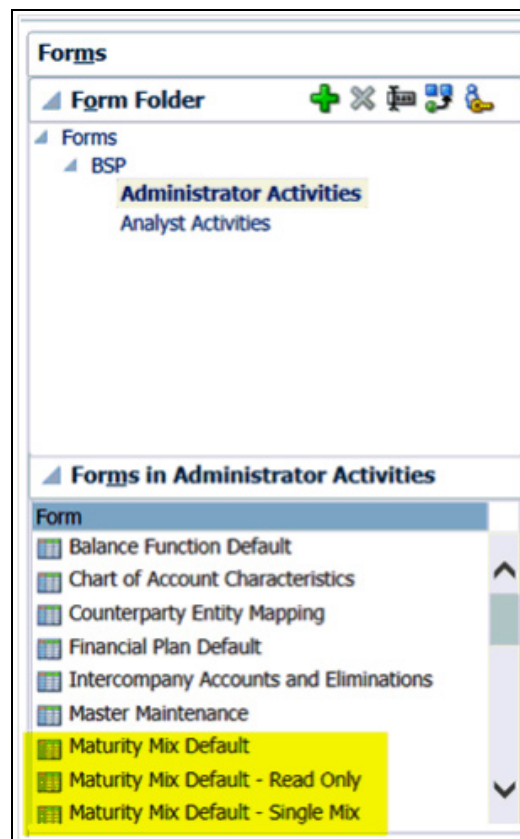


**Maturity Mix Default - Single Mix**

Introduced in release 8.0.2, this form allows Administrators to define a single Term and a single Amortization Term for each Chart of Account product that only requires a single mix maturity mix model. For example, your 5-Year Auto Loan product will probably have a 5-year term to maturity and a 5-year amortization term for every month in your forecast. All of your Chart of Account products conforming to this simple pattern can be defined using the Maturity Mix Default - Single Mix form.

It is likely that a simple maturity mix model will satisfy your needs for the majority of your products. For these products, the Maturity Mix Default - Single Mix form allows you to rapidly establish sets of baseline maturity mix data.

After selecting Maturity Mix Scenario and Currency and clicking 'Go', the form lists all of your defined Chart of Account products.



**Maturity Mix Default - Single Mix**

| | Default Term | Default Amortization Term | Default Mix Percent |
|---|---|---|---|
| US Treasuries | 1 | 1 | 100% |
| US Agencies | 2 | 2 | 100% |
| Municipal Bonds | 3 | 3 | 100% |
| Commercial Paper | 4 | 4 | 100% |
| Fed Funds Sold | 5 | 5 | 100% |
| Reverse Repos | 6 | 6 | 100% |
| Assets Balancing Account | 7 | 7 | 100% |
| Platinum - Intro Rate | 8 | 8 | 100% |
| Visa Gold | 9 | 9 | 100% |
| Preferred Mastercard | 10 | 10 | 100% |
| Farm Loans | 1 | 1 | 100% |
| Student Loans | 2 | 2 | 100% |
| Consumer - Misc. | 3 | 3 | 100% |
| Auto Loans | 4 | 4 | 100% |
| Home Improvement Loans | 5 | 5 | 100% |
| Line of Credit | 6 | 6 | 100% |
| Comml Loans-Fixed | 7 | 7 | 100% |
| Comml Loans-ARM | 8 | 8 | 100% |
| Construction Loans | 9 | 9 | 100% |
| Mortgage Fixed 15 YR | 10 | 10 | 100% |

'Default Mix Percent' is a non-editable column. If a product has a 'Default Mix Percent' that is not 100%, that product should not be altered. If you do alter a product having a 'Default Mix Percent' that is not 100%, your edits to that product will not be saved when the form is saved. Products having 'Default Mix Percent' other than 100%, i.e., products having a "mix breakout", can be configured and saved using the Maturity Mix Default form.

After editing the Default Term and Default Amortization Term for products having Default Mix Percent of 100%, all of the Default Terms and Default Amortization Terms you have configured are saved to Essbase as Default Mix Percent = 100% for "Mix 1"for each month in your forecast.

> **Note:** Chart of Account products are expected to conform to either a simple model (100% in Mix 1; no mix breakout) or to a "mix breakout" model (2 to 10 mix breakouts), and your selection is expected to remain consistent through time. You should avoid configuring products as having a mix breakout in one period but no mix breakout in other periods. When working with the Maturity Mix Default - Single Mix form, products having 100% in Mix 1 in the first month of your forecast are assumed to be 'Single Mix' products. On saving the Maturity Mix Default - Single Mix form, any product having 100% in Mix 1 in the first month of your forecast will be saved as 'Single Mix' products, and all data in Mix 2 to Mix 10 for these products will be removed.

**Maturity Mix Default - Read Only form**

New in 8.0.2, the Maturity Mix Default - Read Only form provides Administrators a single view of Maturity Mix Default definitions.



**Maturity Mix Default**

For Products with multiple mix breakouts (2 - 10 mix breakouts), you should use the 'Maturity Mix Default' form. Select a combination of Maturity Mix Scenario, Chart of account, Currency and Year dimensions on the Paging Dimensions and click 'Go' to define Default Mix Element values.

> **Note:** Your Default Mix Percentages must add to 100% in each forecast period.

**Mix Breakouts**

The Maturity Mix Default data form supports 10 pre-defined mix breakout columns labeled Mix 1 to Mix 10. These mix breakouts allow the cash flow engine to subdivide a period's new business volumes into smaller components each of which can have its own Term and Amortization Term.

For example, if you want to model two different Terms and Amortization Terms for all new business volumes generated for a single Chart of Account value, enter values in Mix 1 and Mix 2, along with values for the associated Terms and Amortization Terms. The sum of Mix Percentages must equal 100 percent. For many of your Chart of Account products, you may only need one mix breakout (i.e., 100% under Mix 1). Balance Sheet Planning supports a maximum of 10 mix breakouts.

The 10 mix breakouts are captured in the Mix Breakout dimension in the Rates plan type.
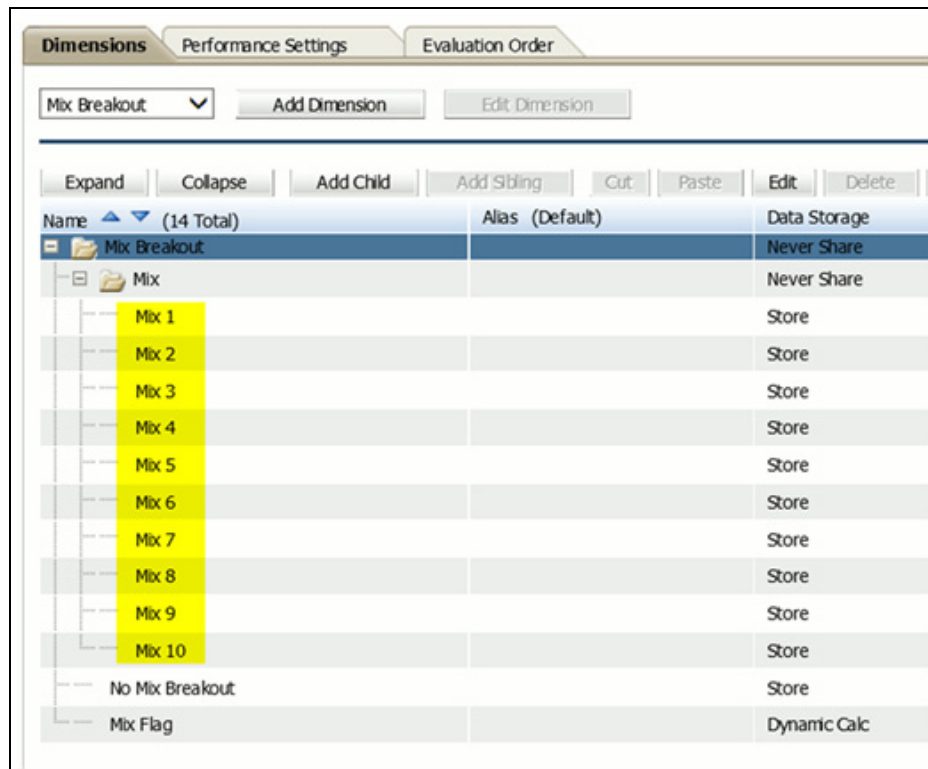
## Mix Elements

Each of the three Maturity Mix Assumptions (i.e., Mix Percent, Term, and Amortization Term) is associated with three Mix Elements: a "Default" value, an "Override" value, and an "Effective" value. These Mix Elements are members in the Rate Element dimension in the Rates plan type.
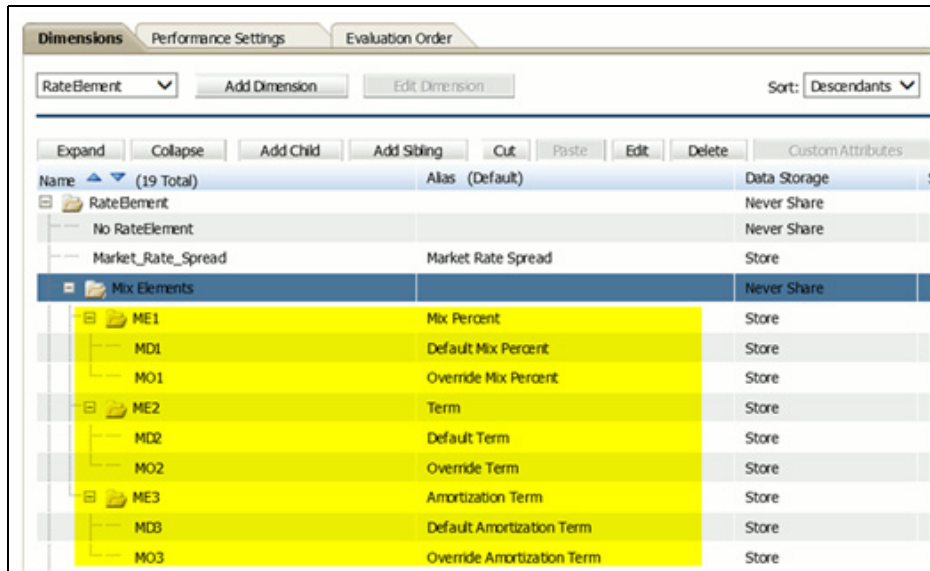


When the Budget Administrator defines and saves default Maturity Mix Assumptions, data is stored in Essbase under the 'Default' Mix Elements. For example, a Budget Administrator's Default Mix Percent definitions are stored under 'MD1 - Default Mix Percent', his default Term definitions are stored under 'MD2-Default Term', and his default Amortization Term definitions are stored under 'MD3-Default Amortization Term'. When Planning Analysts make Entity-level adjustments to default maturity mix assumptions, their adjustments are stored under the 'Override' Mix Elements. For example, a Planning Analyst's overrides to Default Mix Percentages are stored under 'MO1 - Override Mix Percent', his overrides to default terms are stored under 'MO2 - Override Term', and his overrides to default amortization terms are stored under 'MO3 - Override Amortization Term'. Planning Analyst overrides to the Budget Administrator's default Maturity Mix Assumptions are described in Chapter 23 - Analyst Data Forms and Functions.

## 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 | Required | Amortization term in months. |

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.

## Maturity Mix Scenarios

Note that Balance Sheet Planning collects Maturity Mix Assumptions by Chart of Account by Currency by Year and by Period but also by "maturity mix scenario", a member in the Assumptions dimension.
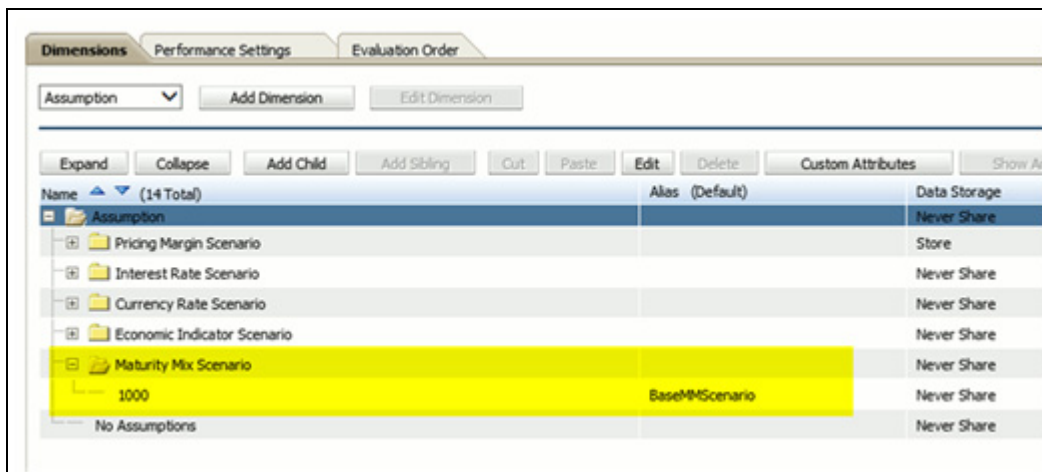


Independent sets of Maturity Mix Assumptions may be maintained under different maturity mix scenarios, and you may establish as many independent sets of Maturity Mix Assumptions as you wish. When you process data through the cash flow engine, the operative or active set of Maturity Mix Assumptions is assigned as a Version Attribute. The choice of the active set of Maturity Mix Assumptions is set by the Administrator (see Chapter 18 - Defining Process Attributes).

## Creating Maturity Mix Scenario

1. Go to the Assumption Dimension under Administration -> Manage -> Dimensions.

2. Select the "Assumption" dimension from Dimension drop down.

3. Select the Maturity Mix Scenario and click "Add Child" menu to add a child member to this Maturity Mix Scenario Node.
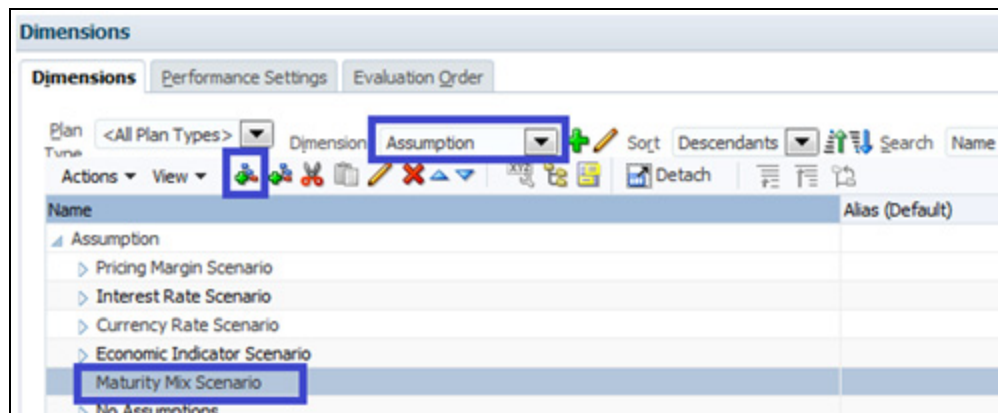
4. Give a numeric number with max length of 5 to member Name with alias as Alphanumeric.



5. Click Save.

6. Perform LCM export using Shared services

7. Run the Metadata Synchronization for Flat - Custom Dimensions and Smart List.

8. Perform LCM Import into the BSP application using Shared Services for the following LCM artifacts (as shown in the below screenshot).

   ■ "Smart Lists" under "Global Artifacts".

   ■ "Assumption" under "Plan Type" -> Rates -> "Standard Dimensions "



**Note:** Above steps will be applicable for Integrated Setup also.

## Be Sure Your Default Maturity Mix Assumptions Are Complete

The Maturity Mix Assumptions Default form gathers maturity mix data by Chart of Account by Currency for a single Period & Year under a specific maturity mix scenario. It is important that you establish Default Mix Assumption data across all Periods and Years within your forecast horizon (see the section that follows entitled Copy Across Chart of Account, Currency, Period, and Year Dimensions).

> **Note:** If you are using a single currency, it is recommended that you " activate" only the single currency you need. If you are using multiple currencies, it is not required that you establish mix assumptions for every Chart of Account & Currency combination. You can instead establish your mix assumptions using the Default Currency. Within cash flow processing, Default Maturity Mix Assumptions for a Chart of Account for a specific month (Year & Period) that are stored under the Default Currency apply unless other Default Maturity Mix Assumptions for the same Chart of Account and month are found under a specific currency (e.g., USD, EUR, GBP).
>
> This means that you can establish your mix assumptions at the Chart of Account/specific-Currency level for some Chart of Account members and at the Chart of Account/Default Currency level for other Chart of Account members. When maturity mix data is passed to the cash flow engine, mix data found at the Chart of Account/specific-Currency level takes precedence over mix data found at the Chart of Account/Default Currency level.

# Copy Across Dimensions

This section covers the Copy Across feature that can be used to copy maturity mix assumption data across Product, Chart of Account, Currency, Period, and Time dimension members.

The administrator can copy data to other products and currencies through the copy across option.

**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.
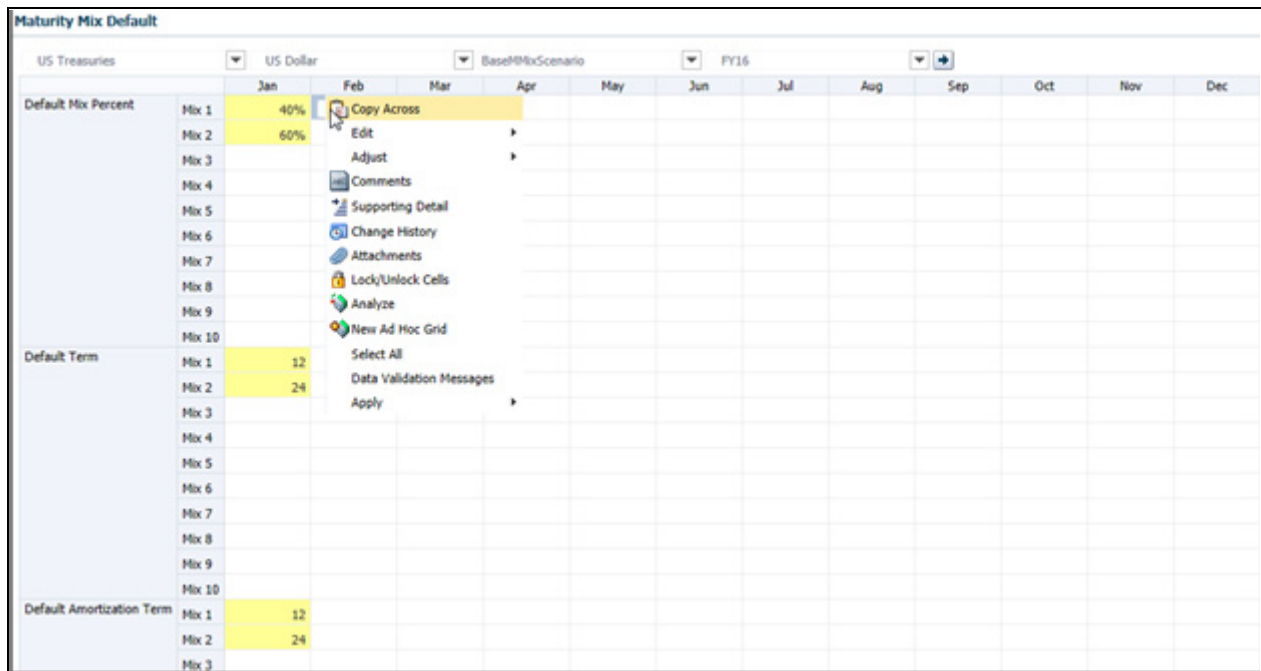


A pop up (Run Time Prompt) appears to capture Dimension Members required to execute business rule 'BSP_CopyAcross_Def'. The Run time Prompt Variables are detailed below. Note that some of the run-time prompts are hidden on the run-time prompts screen, and are automatically read from the page where the 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_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. |

| Variable Name | Associated Dimension | Type | Description |
|---|---|---|---|
| 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. |
| 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:
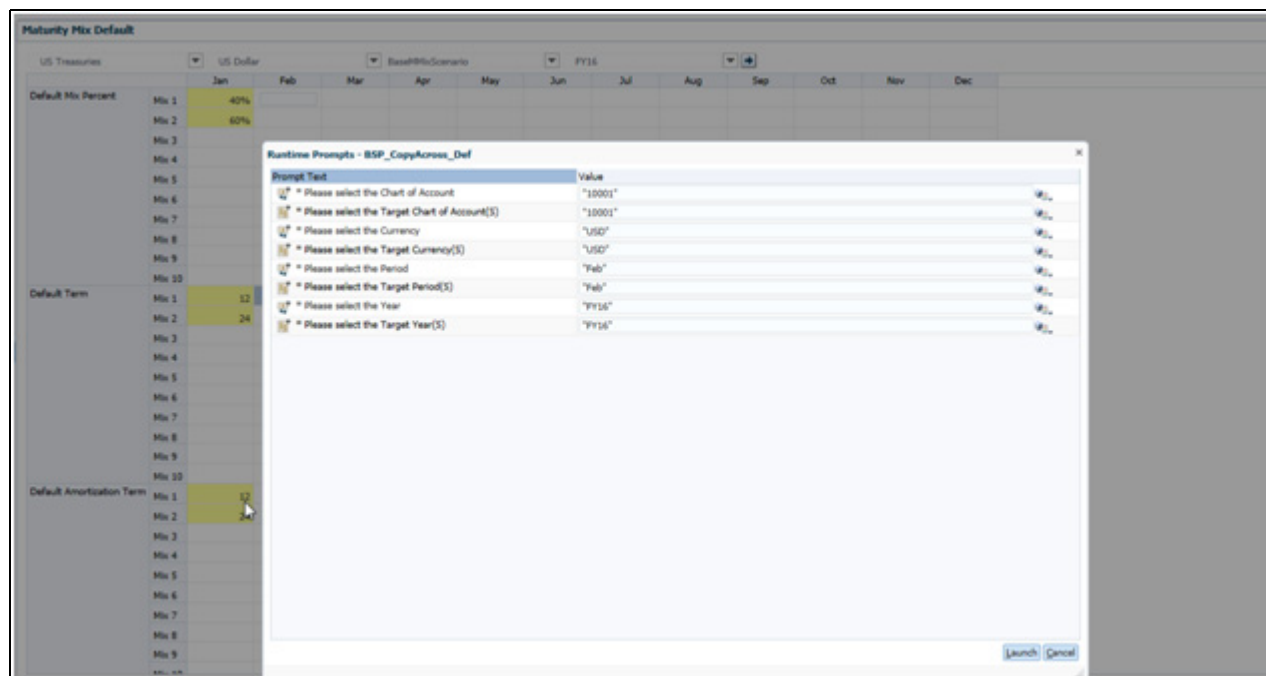


Select Dimension Members in the Run Time Prompts screen using the Selector icon against each Dimension Selection. All the run time prompts allow for multiple selections of Dimension members except for the Scenario dimension.

> **Note:** The Run Time prompts also allow targeting of node level dimension members.  In order to copy across to all members in a node, select a node level member from the Member Selection browser, right click and select 'Level 0 descendants'.
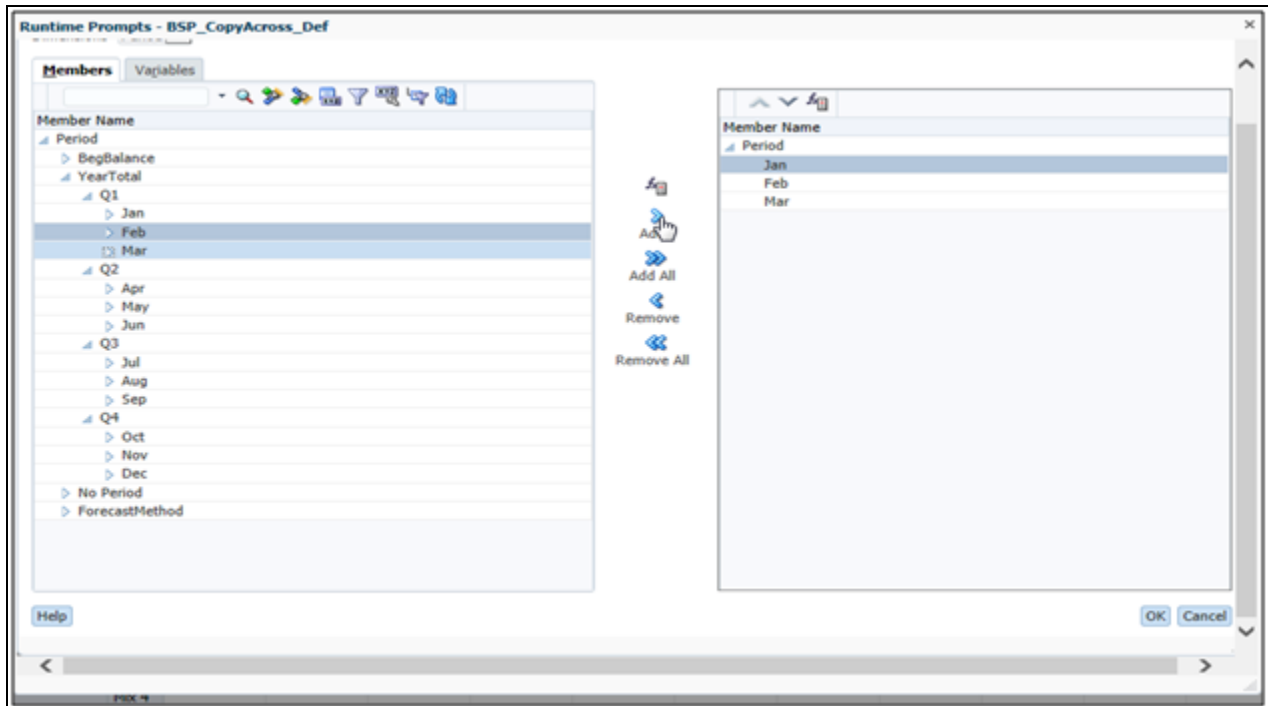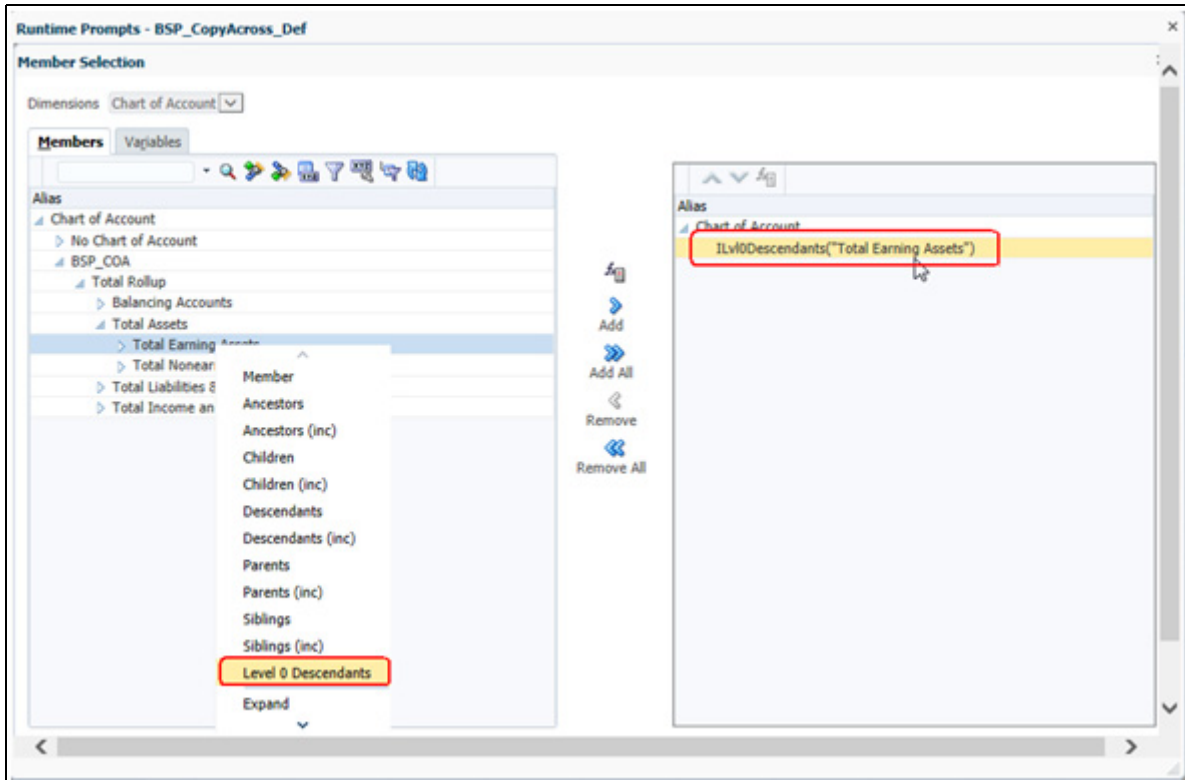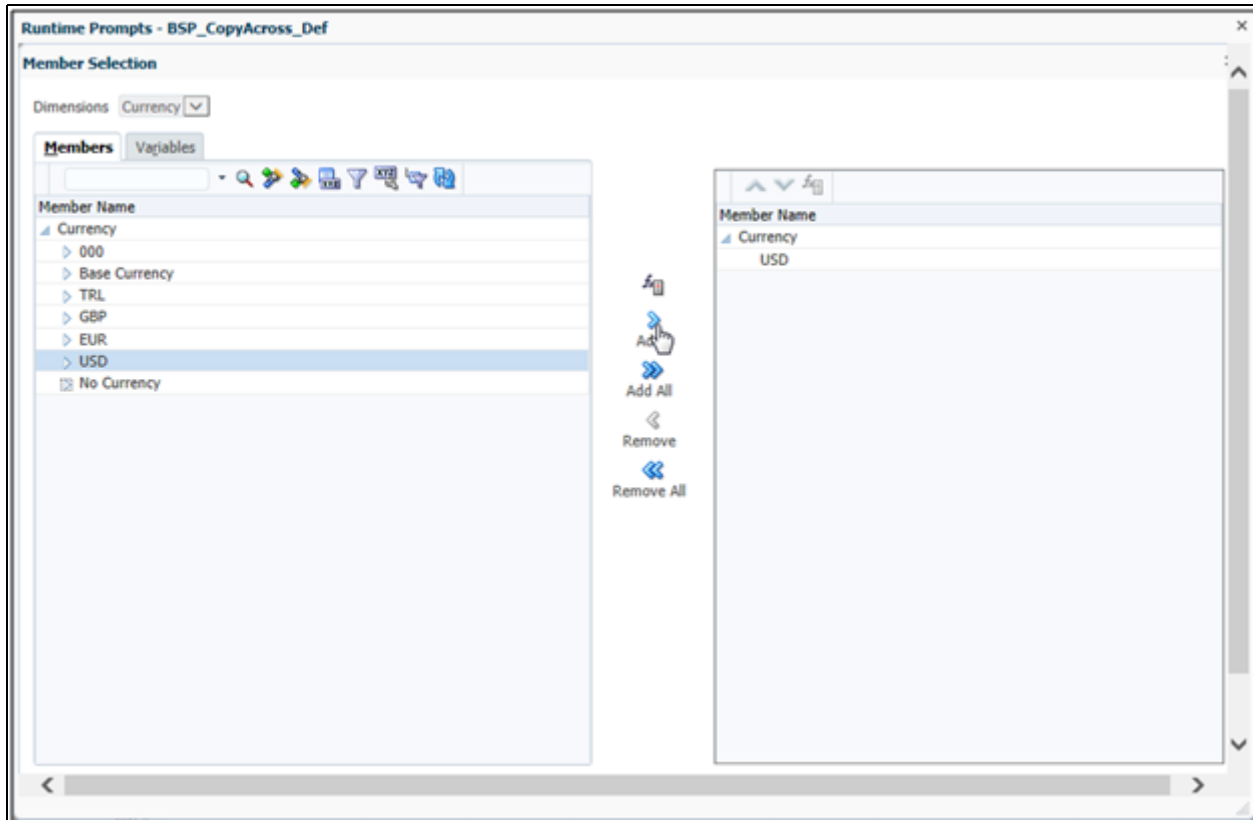
Click on 'Launch' button to run the business rule

Node level COA Copy Across
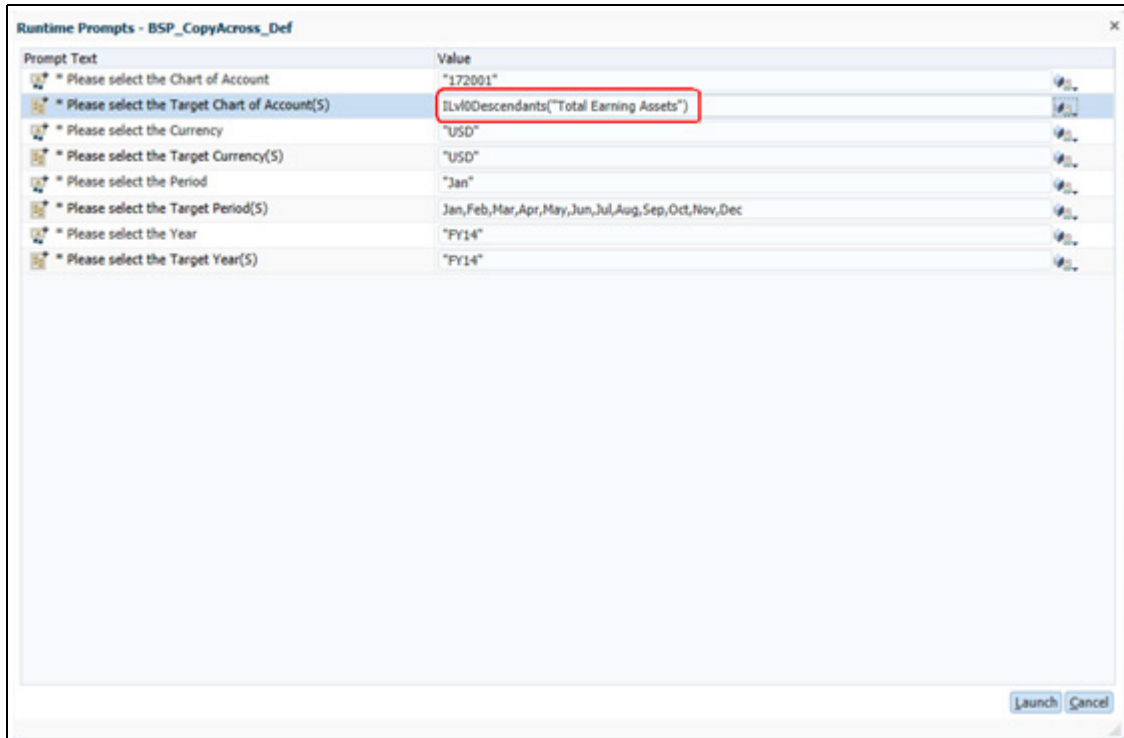
Leaf level COA Copy Across
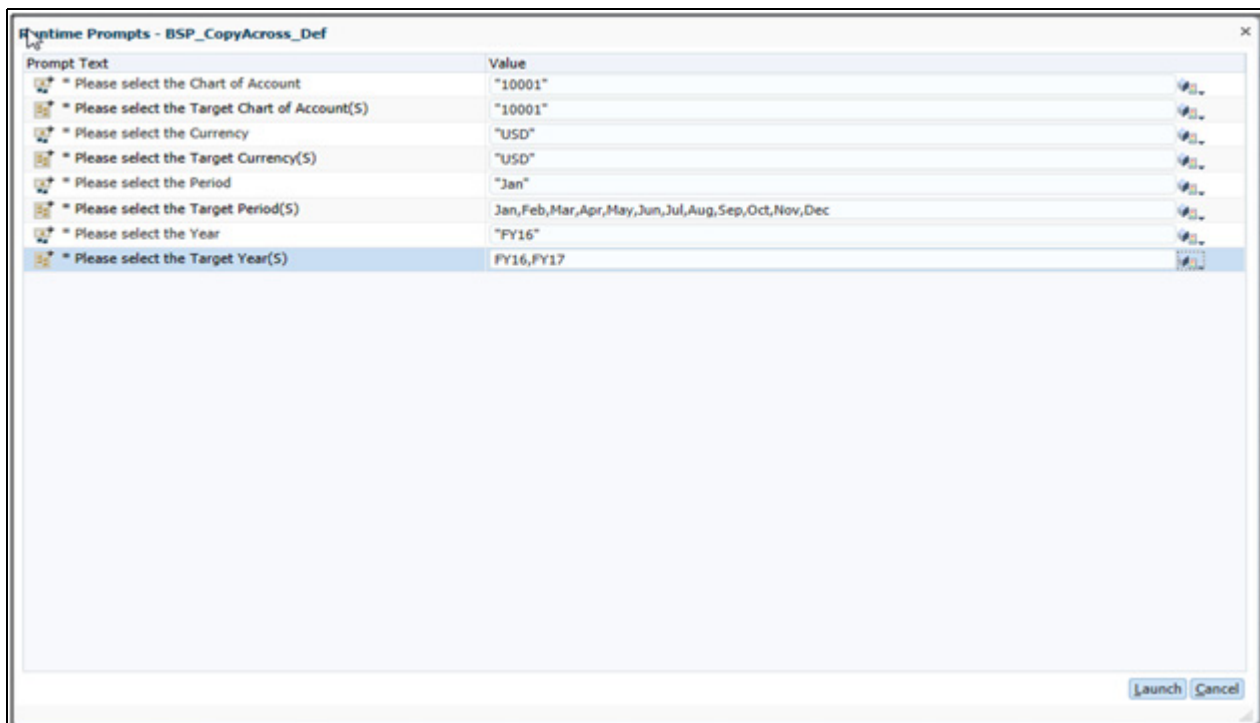


Verify results at the intersection defined by selection of dimension members in the run time prompt.

# *Maturity Mix Default Form Details*

The Maturity Mix Default data form has been created using the 'Data Forms and AdHoc grids' feature available under Administration-> Manage.

The first section, **Properties** shows the form details.
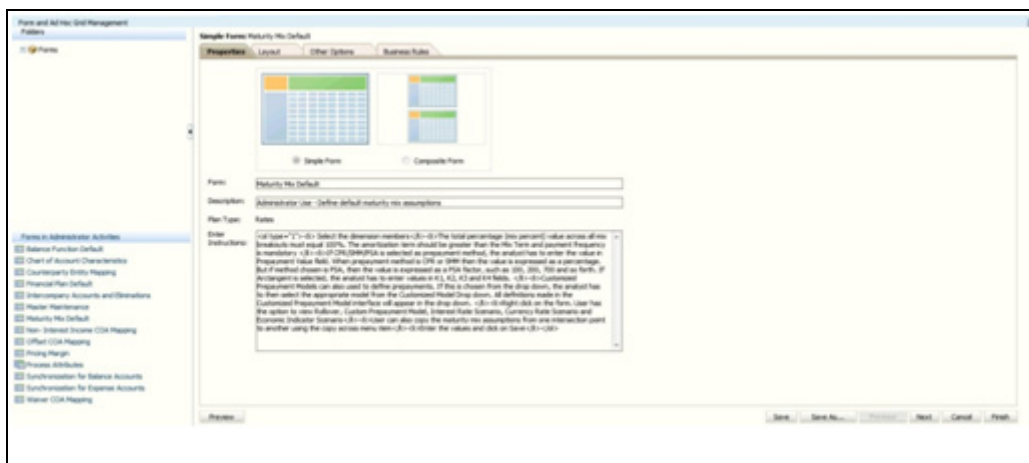


The Layout section allows you to select dimension members.

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.
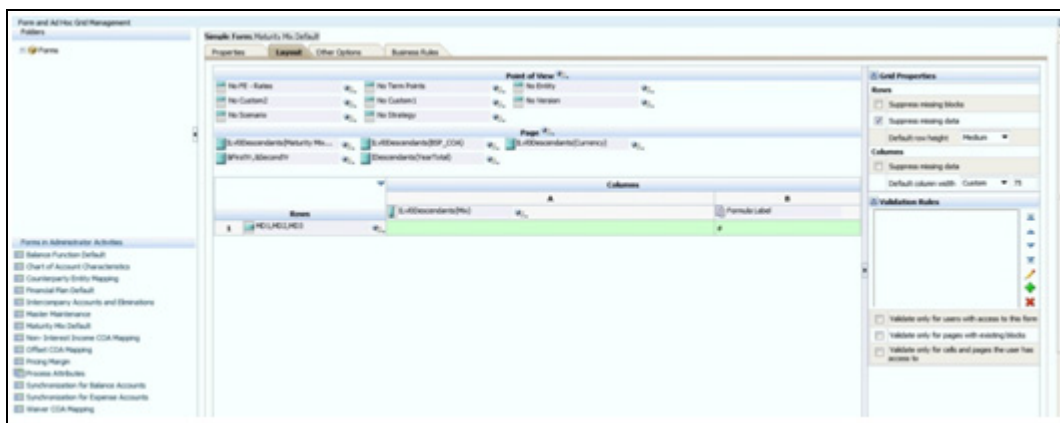


## Seeded Dimension Member Selection on the Form

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 | MixTotal,ILvl0Descendants(Mix) |
| Row | RateElement | Default |
| Page | Chart of Account | Descendants(BSP_COA) |
| Page | Entity | ILvl0Descendants(BSP_Entities) |

| Dimension View | Dimension Name | Description |
|---|---|---|
| Page | Currency | ILvl0Descendants(Currency) |
| Page | Assumption | ILvl0Descendants(Maturity Mix Scenario) |
| Page | Year | &FirstYr,&SecondYr |
| 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 |
| Point of View | Custom 1 | No Custom 1 |
| Point of View | Custom 2 | No Custom 2 |
| Point of View | Entity | No Entity |

## Mix Breakout Dimension Member Details

Mix Total shows the Total for RateElement- Mix Percent calculated using Member Formula. ILvl0Descendants(Mix) includes Level zero members of Mix consisting of all Mix Breakouts.



## RateElement Dimension Member Details

The Mix Elements dimension members in the RateElement Dimension have been selected in the Row Dimension using the Attribute Value.

# Selector Icon

The Selector Icon is used to select the Default from the Attribute 'Value Type' as shown below.
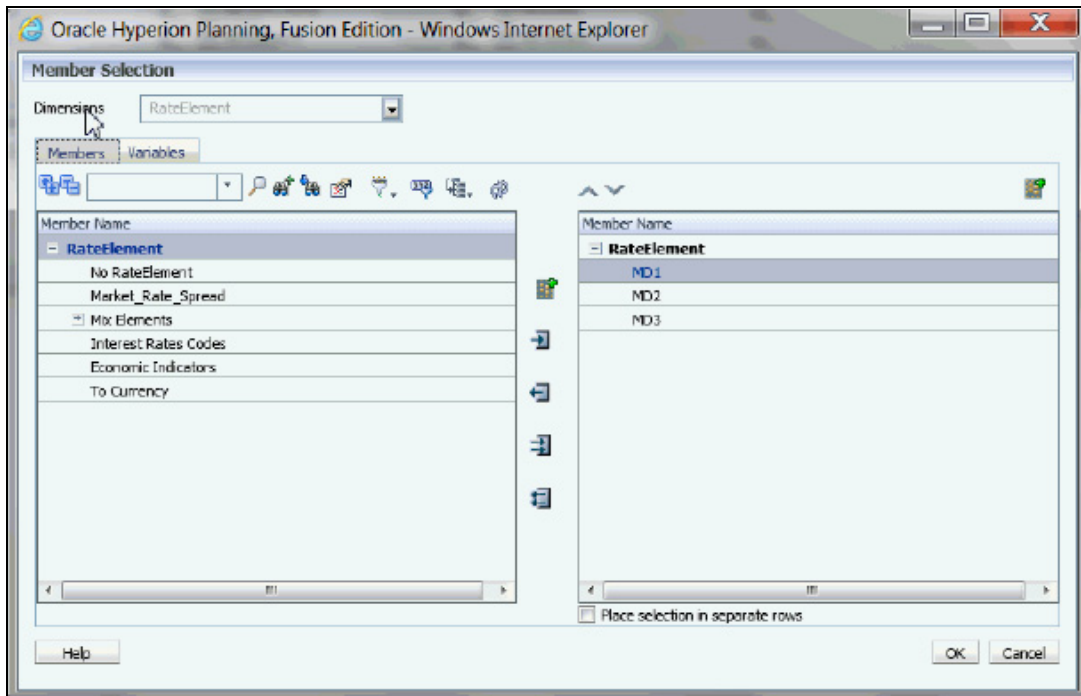


The Other Options section allows you to modify the other details such as, Smart View, Display, Printing, and context menu and so on.
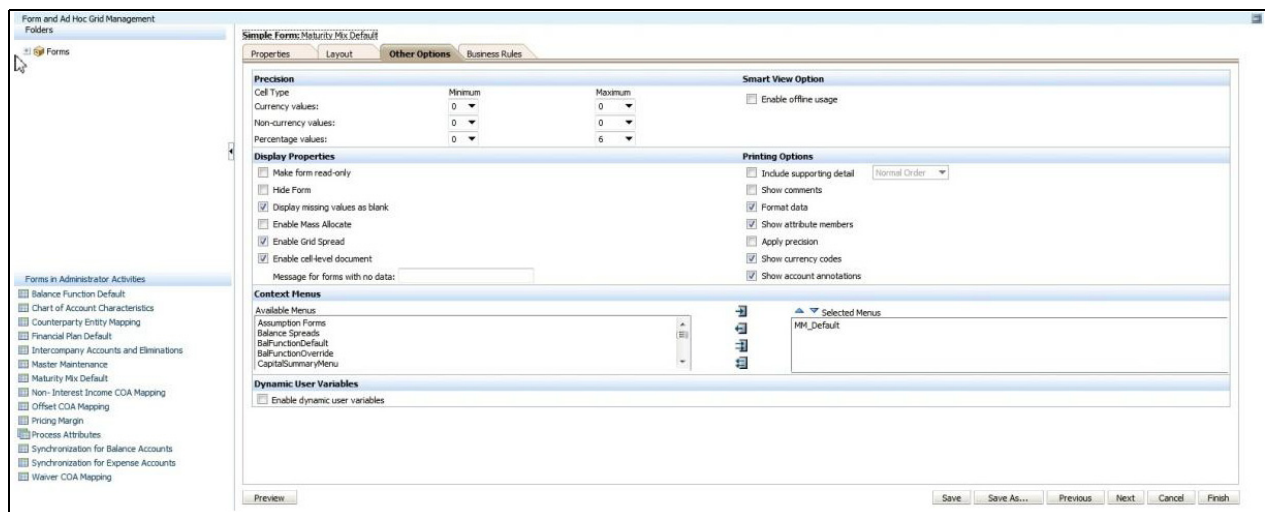
The Business Rules section allows you to define the business rules for maturity mix form.
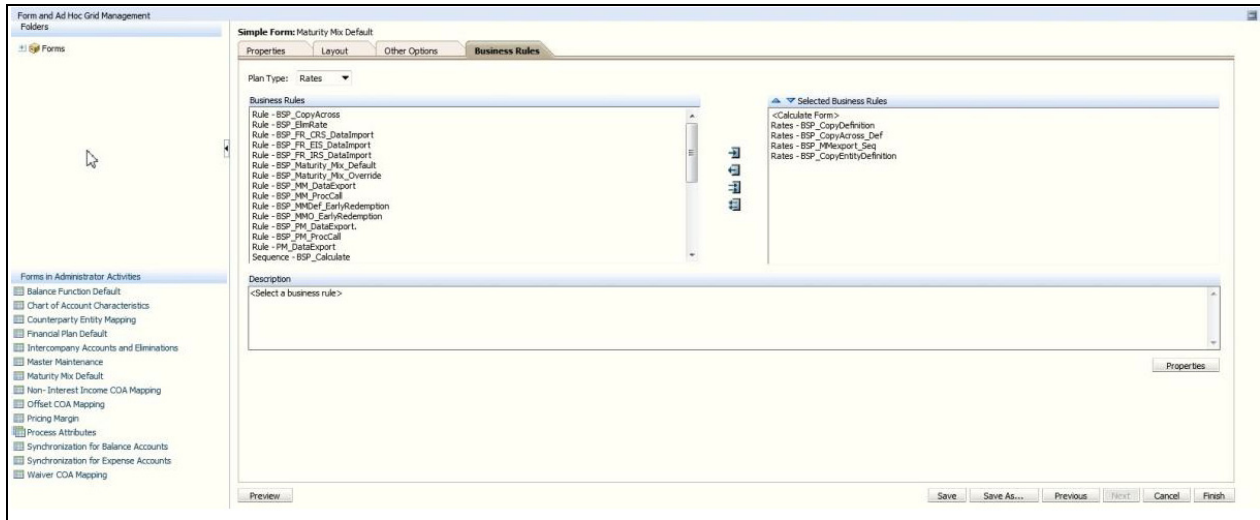


## Attribute Value Creation

A Custom Attribute 'Value Type' is created for RateElement from the screen using the 'Custom Attributes' button as shown below.
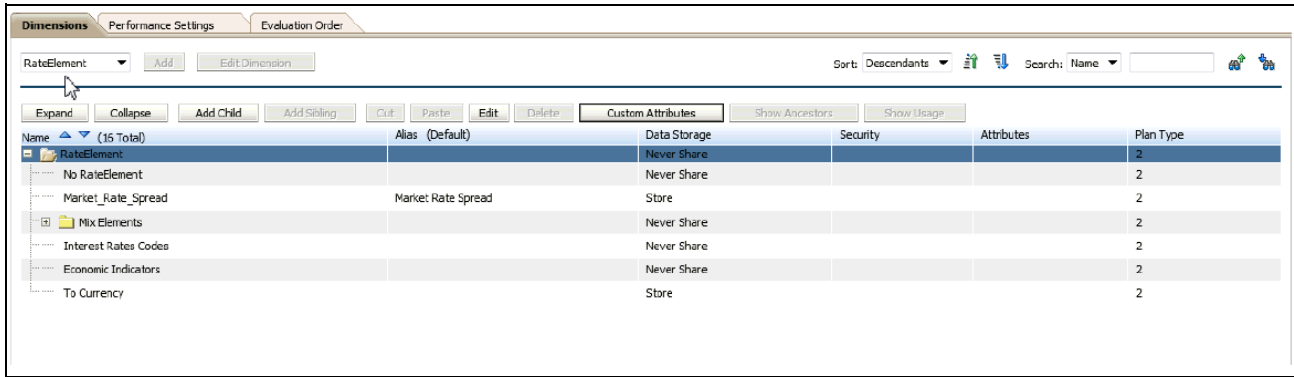


The created Attribute 'Value Type' with members 'Default' and 'Override' are shown below in the screenshot.
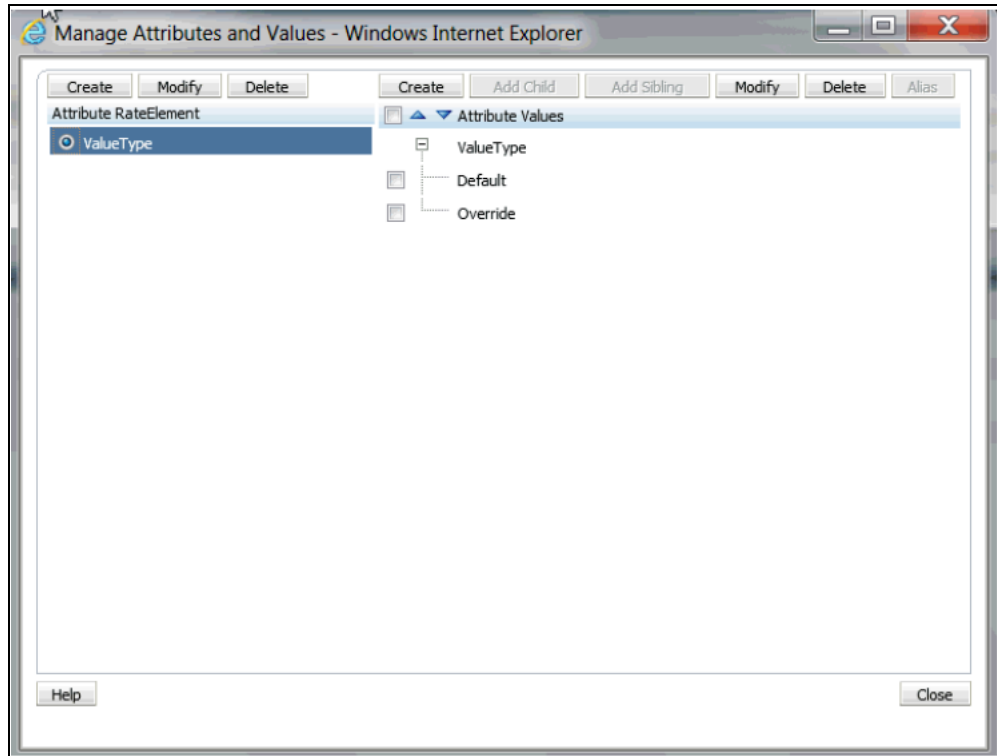
## Association of Attribute Value

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.
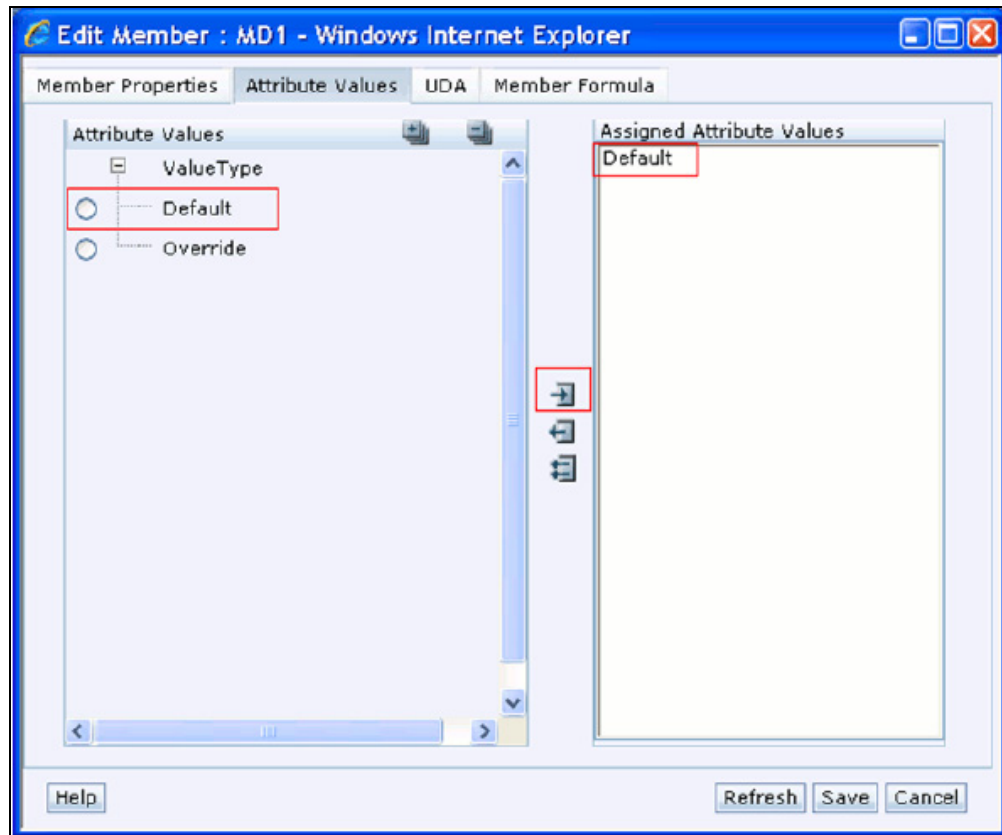


Click on 'Save' control in the toolbar to save data into Essbase.

## 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.

When user navigates to the Maturity Mix Override data form from Financial Plan form, and the Administrator has already defined values for the same combination in the default form, then Analyst will be able to see those values under the Default Mix Elements in a read only mode. Analyst can override the values using the override mix elements.

| Name | Alias | Data Storage | Data Type | Smart List |
|------|-------|--------------|-----------|------------|
| MD1 | Default Mix Percent | Store | Percentage | |
| MO1 | Override Mix Percent | Store | Percentage | |
| MD2 | Default Term | Store | Non Currency | |
| MO2 | Override Term | Store | Non Currency | |
| MD3 | Default Amortization Term | Store | Non Currency | |
| MO3 | Override Amortization Term | Store | Non Currency | |

**Note:** For Smart Lists to appear, Evaluation Order for Rates cube should be set.

# CHAPTER 21  *Pricing Margin*

This chapter describes the procedure for creating and working with Pricing Margin Scenarios.

This chapter covers the following topics:

- Overview
- Working With the Pricing Margin Default Data Form
- Pricing Margin Form Details

## *Overview*

Pricing Margins allow you to define default market rate spreads for each of your Chart of Account products. Pricing margins are defined period by period based on your active Time Bucket definition, for each product and, potentially, for each currency. Pricing margins work together with underlying interest rate forecasts to determine customer rates for new business volumes. Your new business volumes are captured and simulated through the Budget Administrator's Financial Plan Default form or through the Planning Analyst's Financial Plan form.

Using the Assumption dimension, you may generate multiple, independent sets of Pricing Margin data. You may, for example, generate a full set of Pricing Margin data for use in one setting (e.g., Pricing Margin Version 1) and another full set of Pricing Margin data to use in a different setting (e.g., Pricing Margin Version 2). Balance Sheet Planning provides this flexibility by requiring the Budget Administrator to assign an "active" set of Pricing Margin data to each Version of data you generate (see Chapter 18 - Defining Process Attributes).

When you require more complex definitions of pricing margins to model unique account pricing details, user-defined repricing patterns can be used.

## *Working With the Pricing Margin Default Data Form*

To access the Pricing Margin Default data form, navigate to BSP > Administrator Activities > Pricing Margin.



Select a combination of dimension members on the Paging Dimensions and click 'Go' to define default Market Rate Spread values.



Define Market Rate Spread values for each Period & Year in your forecast for each Chart of Account value and Currency Value.

> **Note:** Note that the Paging Dimensions also include the selection of a " Pricing Margin Scenario". The "Pricing Margin Scenario" value is selected from a predefined list of scenarios generated by the Administrator and stored under the Assumption dimension.
>
> The purpose of capturing your Pricing Margin data by "Pricing Margin Scenario" is to allow you to maintain multiple, independent sets of Pricing Margin data. You may establish as many independent sets of Pricing Margin data as you wish. When you process data through the cash flow engine, the operative or active set of Pricing Margin data is assigned as a Version Attribute. The choice of the active set of Pricing Margin is set by the Administrator (see Chapter 18 - Defining Process Attributes).
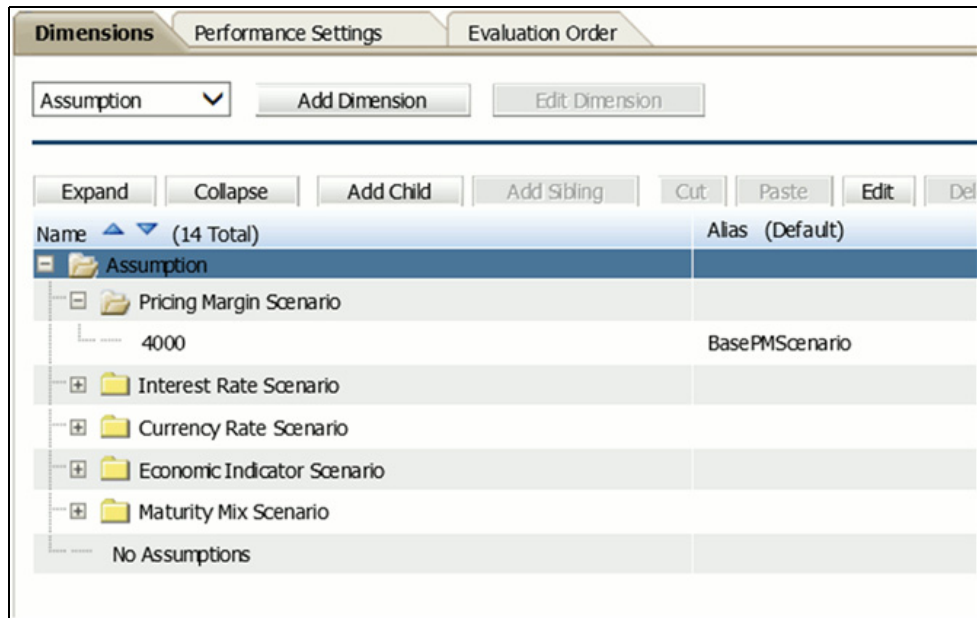
Pricing Margins are combined with underlying interest rate forecasts to generate rates that will apply to new business forecasts. Users should set Pricing Margins that will result in gross rates for Chart of Account values that are configured to Model With Gross Rates = Yes; and users should use set Pricing Margins that will result in net rates for Chart of Account values that are configured to Model With Gross Rates = No (for details, see Chapter 19 - Chart of Account Characteristics).

---

**Note:** Within the Financial Plan form, users can specify one of three " pricing drivers"

Use Administrator Default
New Add Rate
New Add Market Rate Spread

Default Pricing Margins are applied when users select Use Administrator Default.

---

## Creating Pricing Margin Scenario

1. Go to the Assumption Dimension under Administration -> Manage -> Dimensions

2. Select the "Assumption" dimension from Dimension drop down.

3. Select the Pricing Margin Scenario and click "Add Child" menu to add a child member to this Maturity Mix Scenario Node.
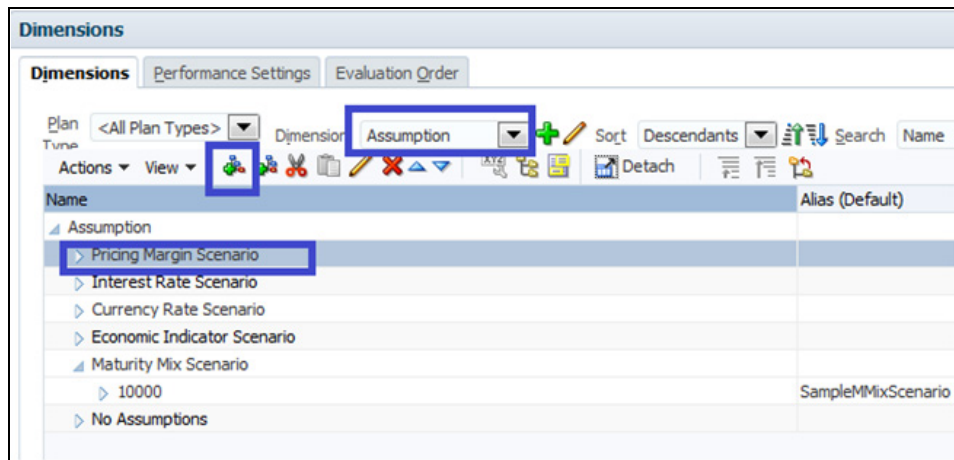


4. Provide a numeric number with max length of 5 to member Name with Alias as Alphanumeric.
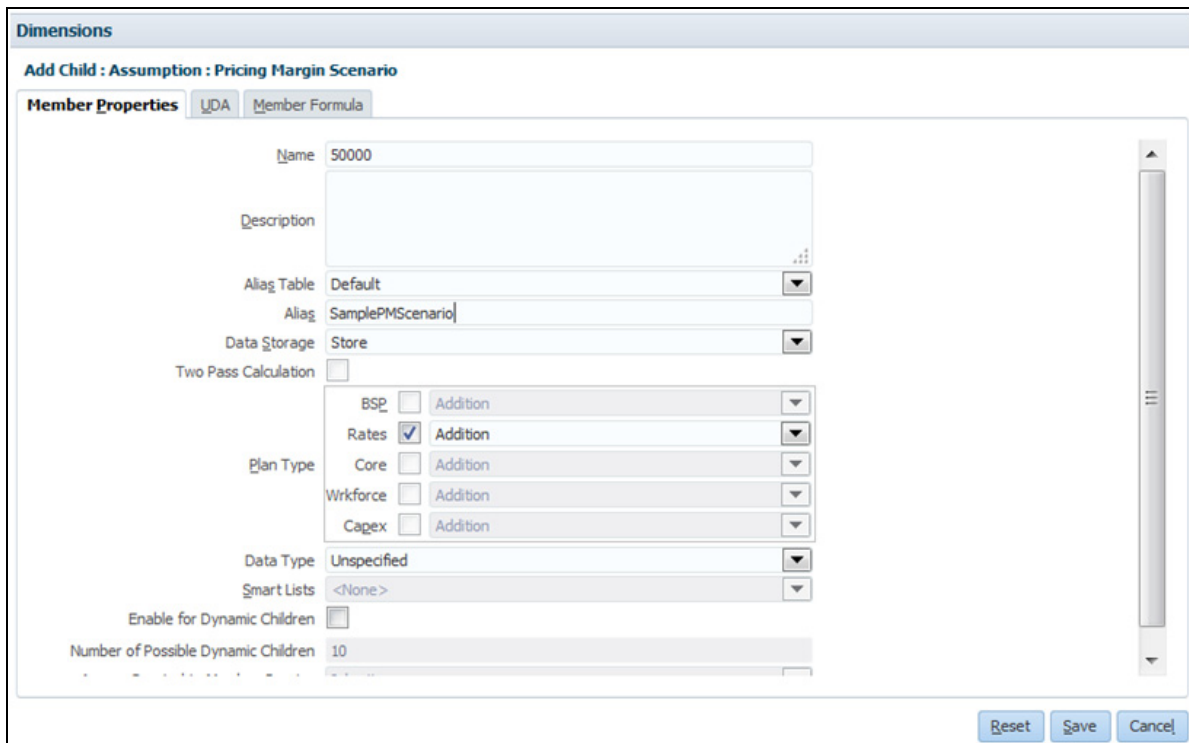


5. Click **Save**.
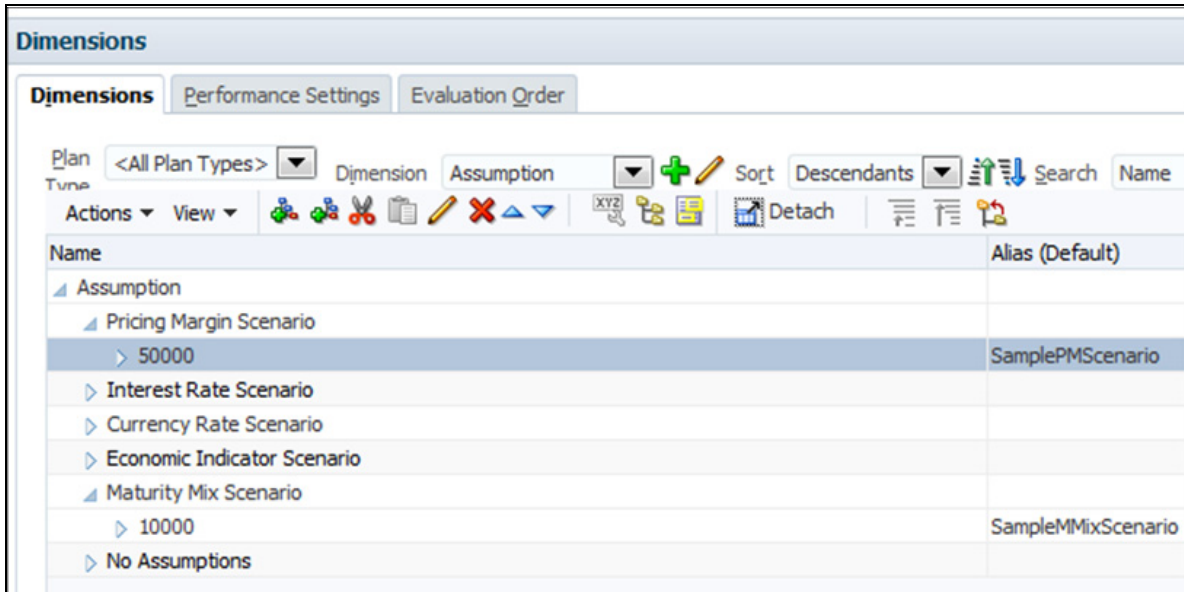
6. Perform LCM export using Shared services

7. Run the Metadata Synchronization for Flat - Custom Dimensions and Smart List.

8. Perform LCM Import into the BSP application using Shared Services for the following LCM artifacts (as shown in the below screenshot).

   a. "Smart Lists" under "Global Artifacts".

   b. "Assumption" under "Plan Type" -> Rates -> "Standard Dimensions".
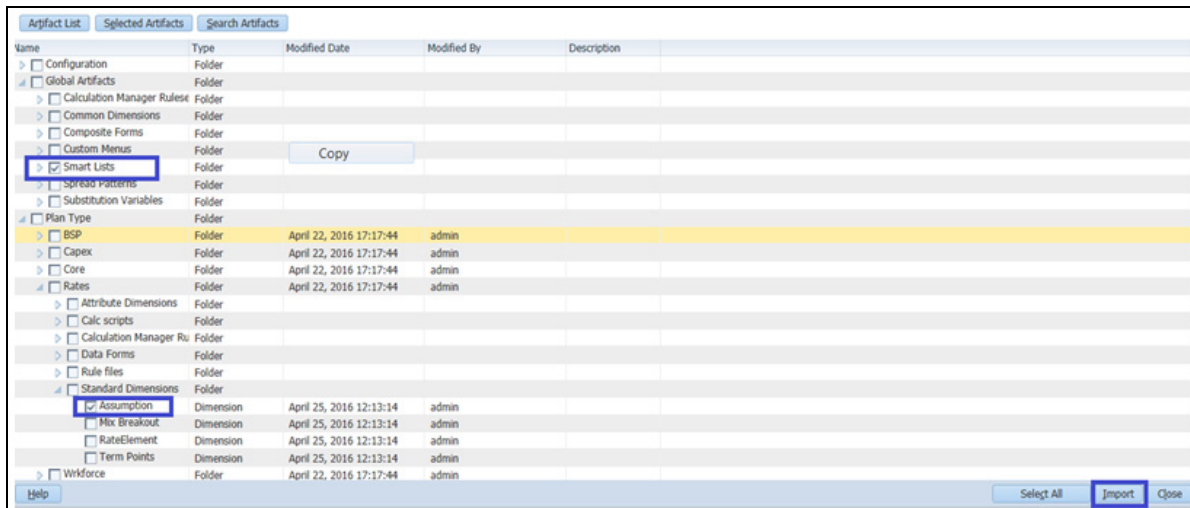


**Note:** Above steps will be applicable for Integrated Setup also.

# Pricing Margin Form Details

The Pricing Margin Default data form has been created using the 'Data Forms and AdHoc grids' feature available under Administration-> Manage.

The first section, **Properties** shows the form details.
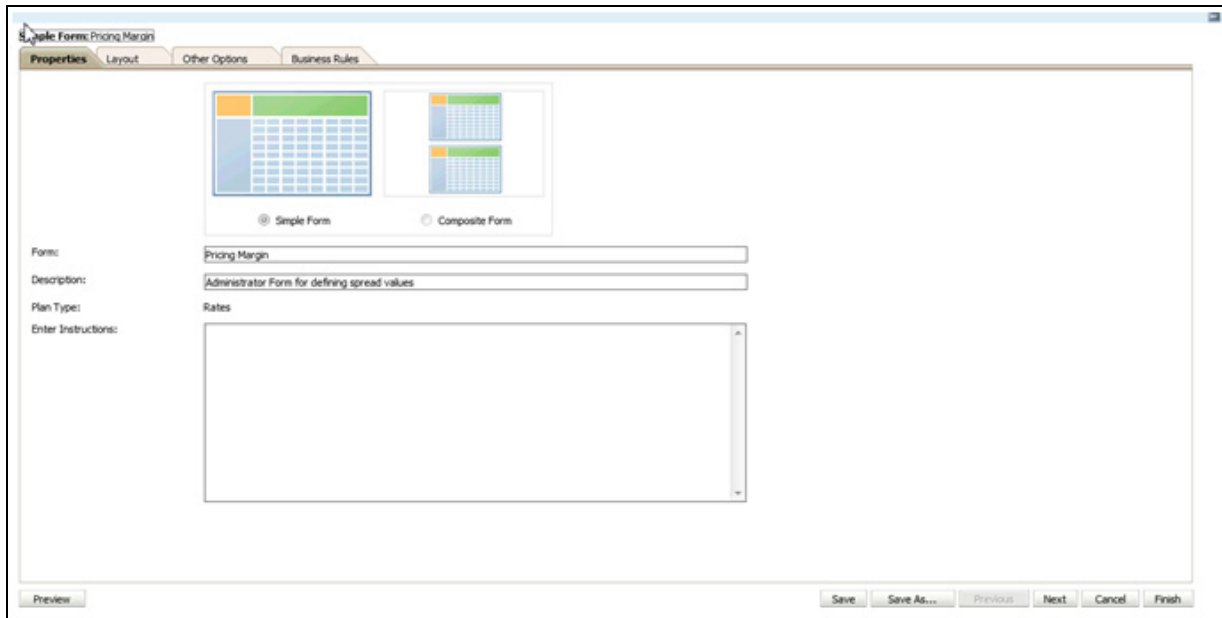


The Layout section allows you to select dimension members.
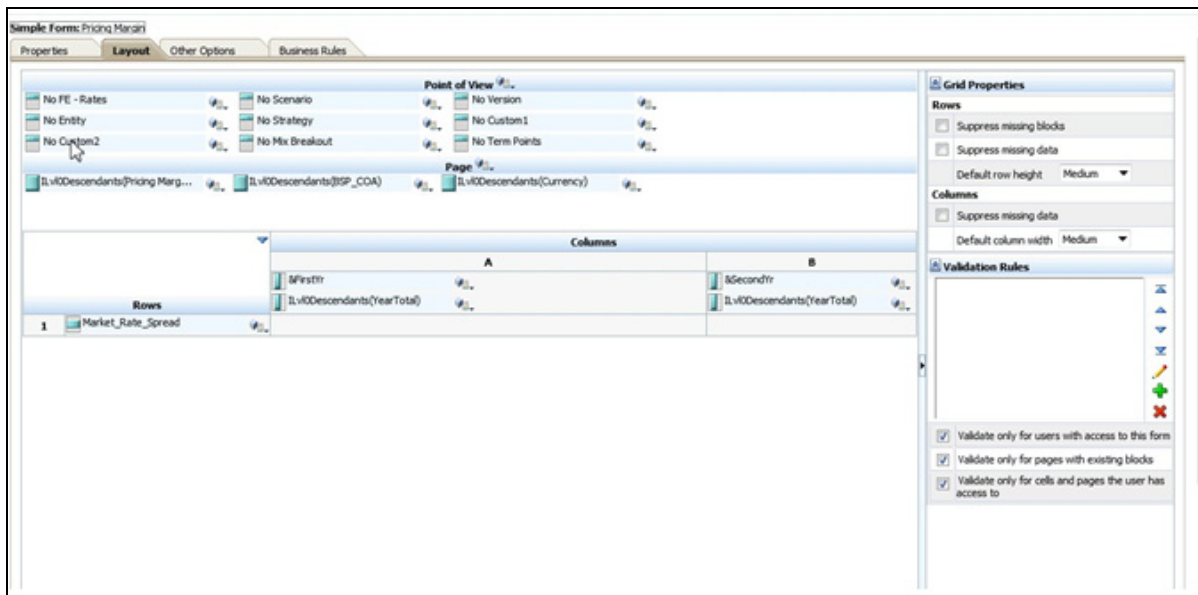
## Seeded Dimension Member Selection on the Form

The table below displays the seeded dimension member selections for each of the dimensions on the data form.

| Dimension View | Dimension Name | Description |
| --- | --- | --- |
| Column | Year Total | ILvl0Descendants(Year Total) |
| Row | Market Rate Spread | Market_Rate_Spread |
| Page | Chart of Account | ILvl0Descendants(BSP_COA) |
| Page | Pricing Margin | ILvl0Descendants(Pricing Margin) |
| Page | Currency | ILvl0Descendants(Currency) |
| 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 |
| Point of View | Custom 1 | No Custom 1 |
| Point of View | Custom 2 | No Custom 2 |
| Point of View | Entity | No Entity |
| Point of View | Mix Breakout | No Mix Breakout |

The Other Options section allows you to modify the other details such as, Smart View, Display, Printing, and context menu and so on.



The Business Rules section allows you to define the business rules for maturity mix form.
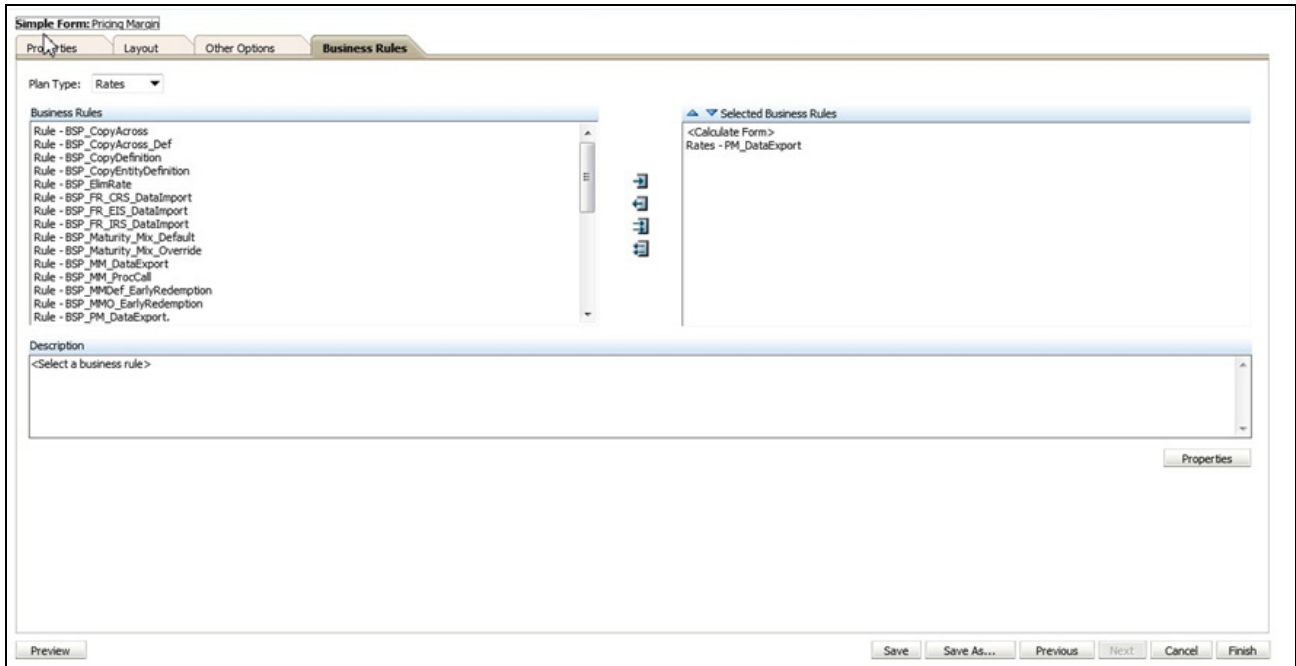
## RateElement Dimension Member Details

The required Attribute values to be associated with Market Rate Spread dimension have been created as dimension members of the RateElement Dimension. The pre-defined Market Rate Spread Attribute has been highlighted in the following Screenshot:

A Custom Attribute 'Value Type' is created for RateElement from the screen using the 'Custom Attributes' button as shown below.
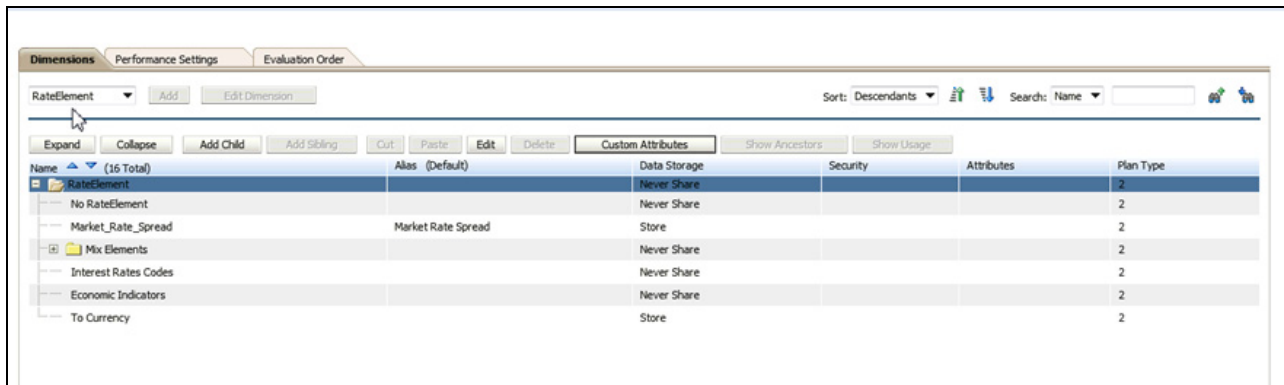
The created Attribute 'Value Type' with members 'Default' and 'Override' are shown below in the screenshot.
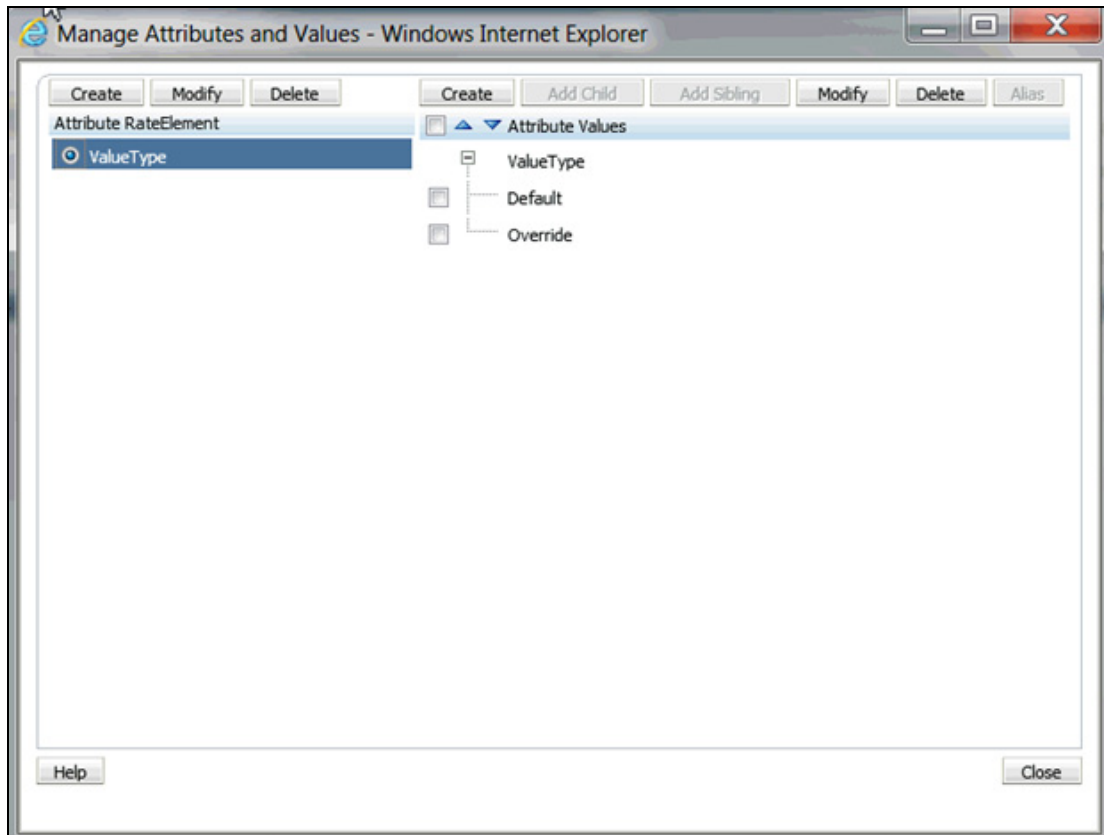
# Additional Administrator Data Forms and Functions

This chapter contains an overview of the Administrator Data Forms and functions apart from the Master Maintenance Activities.

This chapter covers the following topics:

- Overview
- Synchronization with Workforce and Capital Asset Planning
- Non Interest Income COA Mapping
- Waiver COA Mapping
- Financial Plan Default Data Form
- Balance Function
- Eliminations Support

## 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.
- Currency conversion and unpriced amount
- Calculating current position cash flow data.
- Launching data consolidations.
- Entering or generating target driver data and launching calculations.

The last four functions listed in the preceding section are performed using the predefined Financial Plan Default data form.

## Synchronization with Workforce and Capital Asset Planning

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--> Admin Activities--> Synchronization for Balance** Accounts data form to define balance sheet account mapping, or click **Synchronization for Expense Accounts** form to define expense account mapping.
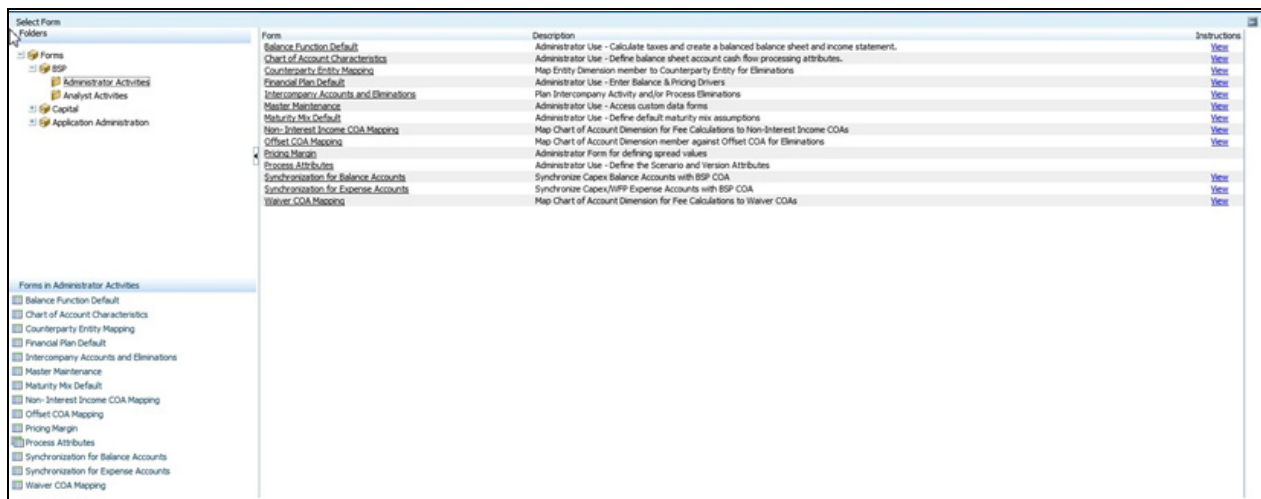


To complete the mapping of dimension members, select the Account dimension members from the Smart List for each of the appropriate Chart of Account dimension members listed in the forms.

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*
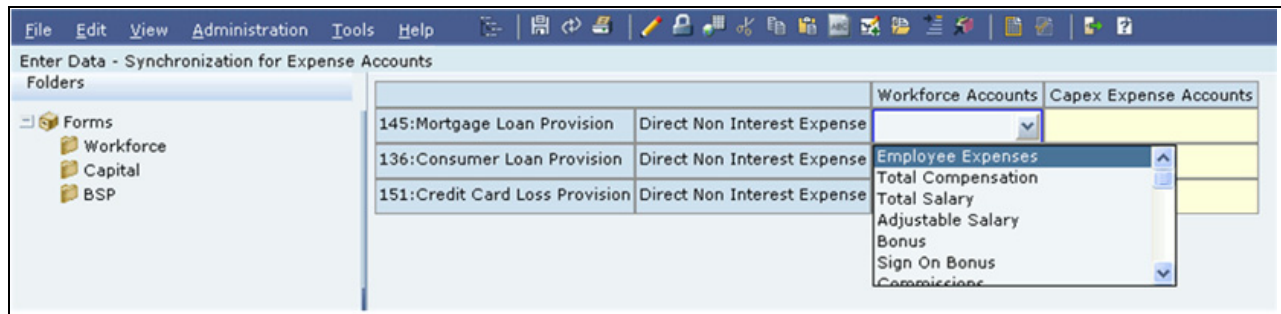


*Selection of Mapping for Capital Asset Expense Account Dimension Members*
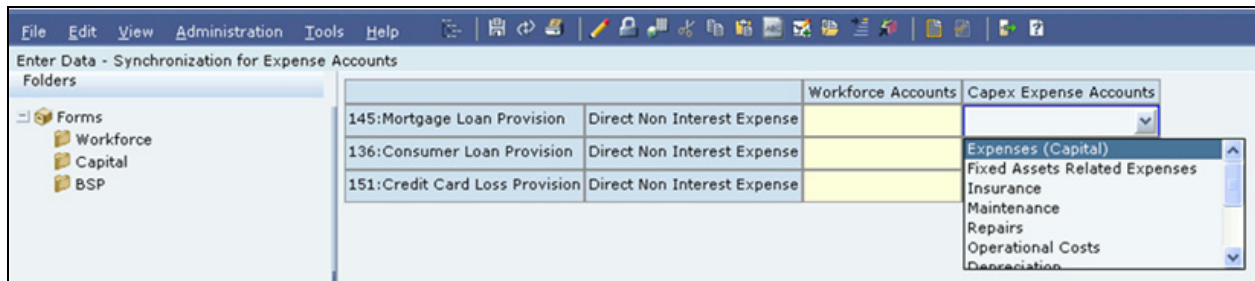


*Selection of Mapping for Capital Asset Balance Sheet Account Dimension Members*
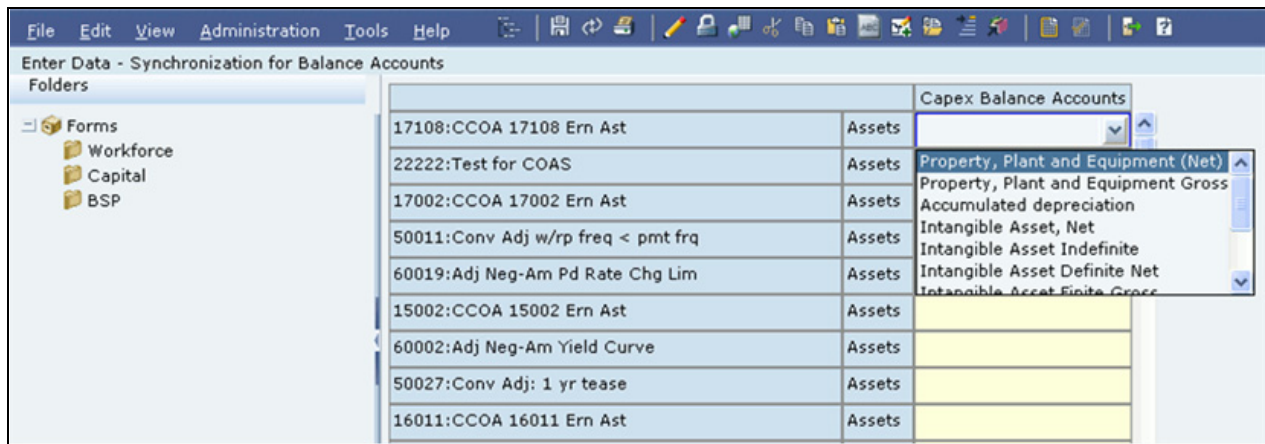


After defining the mapping on each data form, click Save to save the mapping information.

# Non Interest Income COA Mapping

All the Chart of Accounts whose fee classification attribute is loan fees or deposit service charge will automatically appear as grid rows on **Non Interest Income COA Mapping** data form. User can assign the non interest income Chart of Account to each balance sheet COA.

To access the **Non Interest Income COA Mapping** data form, go to the BSP Folder (under Administrator Activities) on the left panel and select the form.
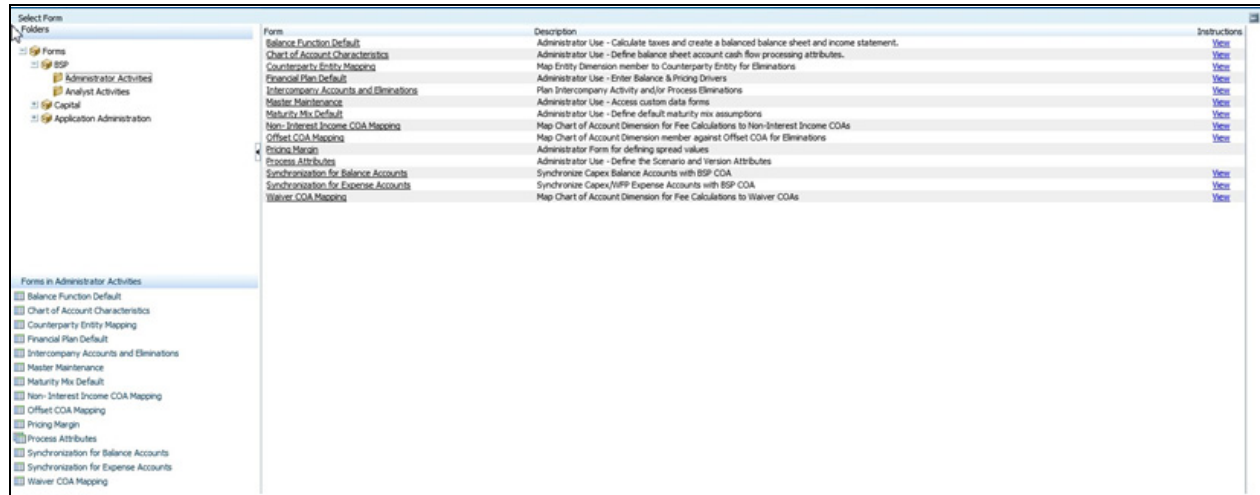
Using the smart list, the user can select those COAs which will be used for capturing the non interest income amounts for the loan fees or deposit service charge COAs.

After defining the mapping on data form, click **Save** to save the mapping information.
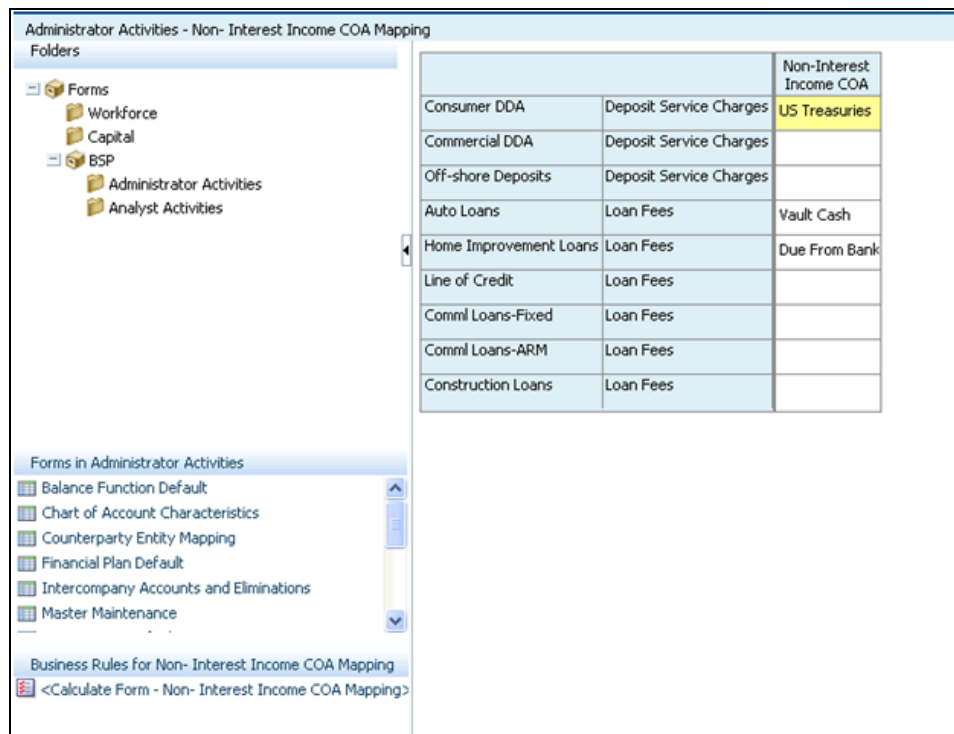
# Waiver COA Mapping

All the Chart of Accounts whose fee classification attribute is other loan fees or other deposit service charges will automatically appear as grid rows on **Waiver COA Mapping** data form. User can assign a waiver for each non interest income Chart of Account as required.

To access the **Waiver COA Mapping** data form, go to the BSP Folder (under Administrator Activities) on the left panel and select the form.
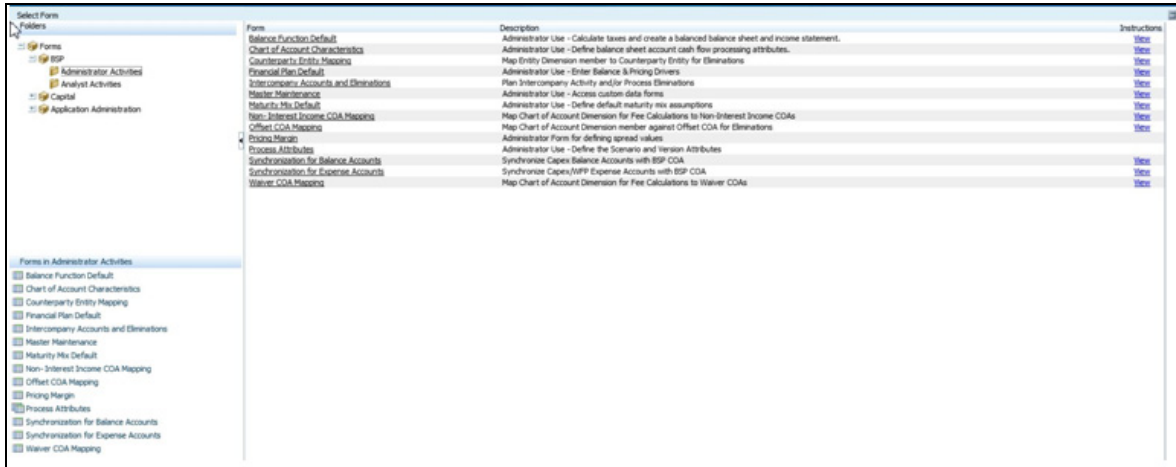


Using the smart list, the user can select those COAs which will be used for capturing the waiver amounts for the non-interest income COAs.

After defining the mapping on data form, click **Save** to save the mapping information.
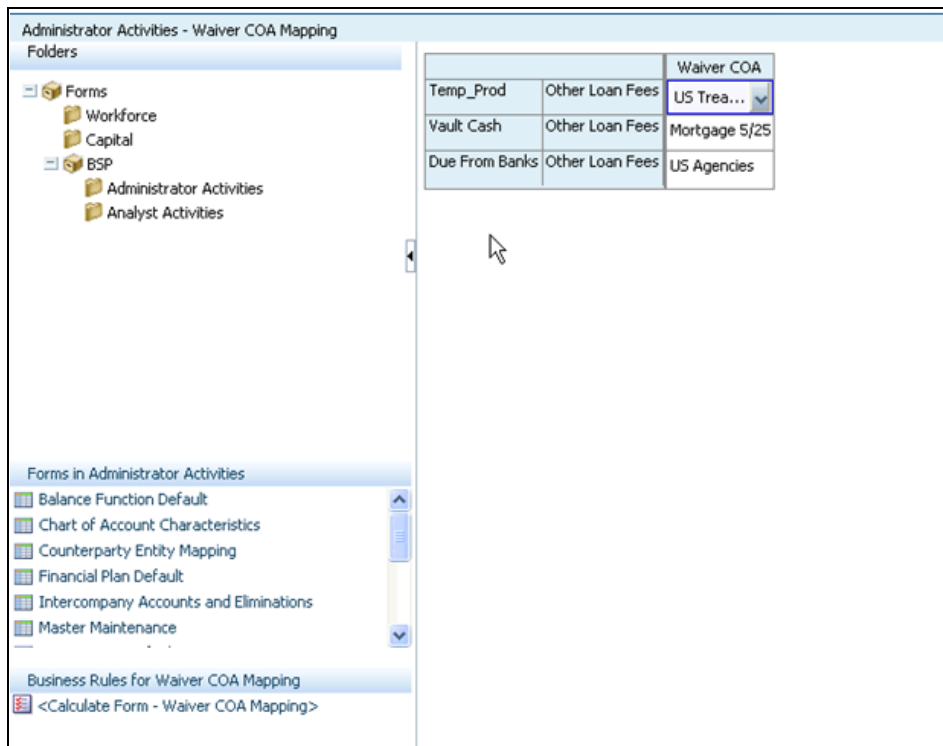
# *Financial Plan Default Data Form*

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 --> Admin Activities--> Financial Plan Default**.

Forecast Balance Method drop-down list has following options: New Add, Target Average, Target End, and Target Growth. Pricing Method drop-down list has following options: Use Administrator Default, New Add Rate, and New Add Market Rate Spread.
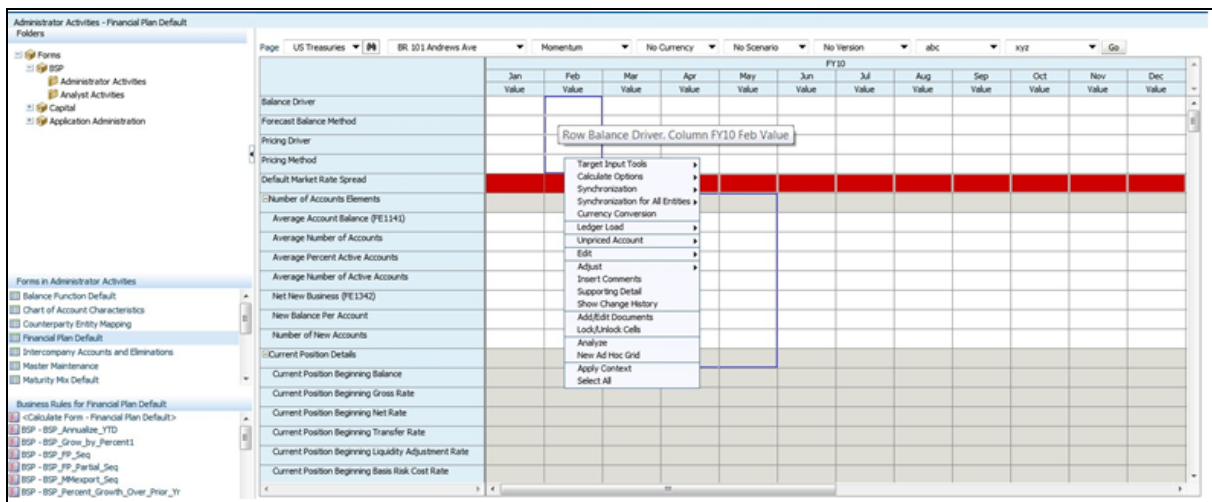


The following menu items and functions are accessed from the Financial Plan Default data form by placing your cursor over a row label on the form and right clicking with your mouse:

- 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
  - 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)

- ● Unpriced Account

- ■ For Current Business

- ■ For New Business

- ● Ledger Load

- ■ Create Ledger GTT

- ■ Load into Essbase

  - ◆ Load Actual Data

  - ◆ Load Forecast Data

- ■ Load Forecast Data into Ledger Stat

- ● Node Level Distribution

- ■ Spread Evenly

- ■ Pro-rata

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. **Ledger Load** is applicable only for Administrator. 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.

When you Save the Financial Plan Default form, the Default Market Rate Spread gets populated with the value defined in Pricing Margin default data form for the Product, Currency, Years and Periods selected/displayed in the form. If data is not available for the selected currency, the Pricing Margin data for the Default Currency will be displayed. You cannot edit the Default Market Rate Spread values. If values are not defined for Default Market Rate Spread in Pricing Margin form, then following message is displayed: Default Pricing Margin has not been defined. Please provide Pricing Margin Inputs in Pricing Margin form.

After clicking Save, the default value for Forecast Balance Method as "New Add" and the default value for Pricing Method as "Use Administrator Default" (if Forecast Method is missing for first Time Bucket, then it will be replaced with New Add for all other time buckets and If Pricing Method is missing for first Time Bucket, then replace it with Use Administrator Defaults for all other Time Buckets) are displayed.

If you enter the value for Pricing Driver field and select "Use Administrator Default" as Pricing Method, the Pricing Driver value gets deleted.

After clicking Save, the Forecast Balance Method and Pricing Method selected in the first time bucket, will be copied to all the other time buckets. The first bucket will drive the method selection. The active time bucket can start from any month and not only January, so the business rule reads the substitution variable for start and end period and then copy the data to the other time buckets.

Information on the remaining functions and additional details on the usage of Target Input Tools is provided in Analyst Data Forms and Functions, page 23-1. The Budget Administrator should review the information in that chapter prior to performing activities not described in the remainder of this chapter.

For enabling an active currency in Financial Plan Default (Admin Form), follow the steps given below:

1. Login to Hyperion Planning by selecting the required BSP application.

2. Navigate to option, Administration -> Manage -> Forms and Ad Hoc Grids.

3. Select the standard form (that is, Financial Plan Default) to be modified by clicking the checkbox, and then click **Edit** button.

4. Choose the **Layout tab** and check for Currency dimension in Page section.

5. Click the **Member Selector** icon next to Currency dimension.

6. Select the new active currency from the left hand side to right hand side and click OK button.

7. Click **Save** button to save the form changes and then click Finish button.

---

> **Note:** Similarly, perform the same steps to other standard forms wherever new active Currency addition to Page selection, is required.

---

8. In situations where the cash-flows need to be run for high volume data - for e.g., Node level calculations involving a large number of COAs/ Entities, Users are suggested to configure parallel configuration in Essbase and enable parallelism inside the Cash Flow Engine calculation as below:

   1. Steps to configure parallel calculation in Essbase:

```
.
– Go to bin directory under ARBORPATH path on Essbase server :
$MIDDLEWARE_HOME/user_projects/epmsystem1/EssbaseServer/essbaseserver1/bin
– Open file essbase.cfg ( please keep a back up of this file before
modification)
– Make the entry for parallel calculation as : CALCPARALLEL 4
– An integer values can be specified in range 2-8 for a 64 bit platform.
– Restart the essbase services in the following order :
./stopEssbase.sh
./stopEssbaseAdminServices.sh
./startEssbaseAdminServices.sh
./startEssbase.sh
.
.
```

   2. Steps to enable parallelism inside the cash flow engine calculation by enabling the multi-thread option:

.

Run the below update sql statement against the BSP Initialized database schema and commit it.

---

```
.
update FSI_PROCESS_ID_STEP_RUN_OPT set num_of_processes=3
where PROCESS_STEP_RUN_SYS_ID = 2
and  PROCESS_ENGINE_STEP_CD in ('Client Data by Prod, Org', 'Client Data by
Prod, Currency', 'Client Data by Prod')
and PROCESS_ENGINE_CD = 2 ;
commit;
```

> For additional information on multiprocessing capabilities of the OFSAA Cash Flow Engine, please see
> Appendix D: Process Tuning in the OFSAA Asset Liability Management User Guide."

## Calculation of Current Position Cash Flow Data

To access the Financial Plan Default Data form, go to BSP -> Administrator Activities Folder on the left pane and click 'Financial Plan Default' form on the lower left corner in the data form list.
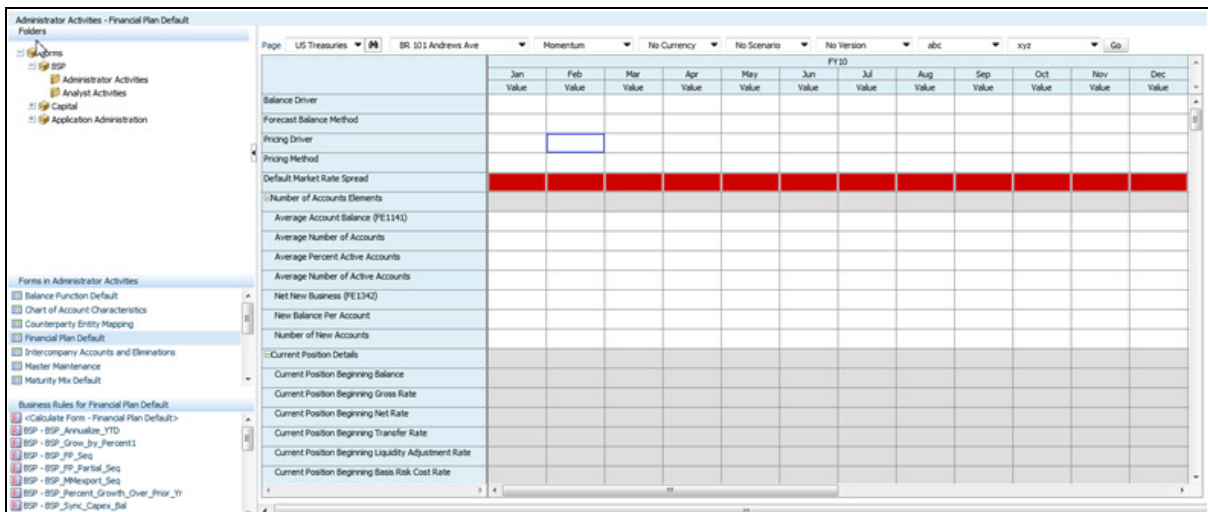


Define the following Dimension values on Financial Plan Default Form:

**Table 5.**

| Dimension Name | Description |
|---|---|
| Chart of Account | 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. |
| Entity | 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. |
| Strategy | Allows selection of a single Strategy dimension member. |
| Currency | Allows to select a single Currency Dimension Member. |
| Scenario | Allows to select a single Scenario Dimension Member. |
| Version | Allows to select a single Version Dimension Member. |

**Table 5.**

| Dimension Name | Description |
|---|---|
| Custom 1 | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| Custom 2 | Select a single Custom 2 dimension member. Defaults to dimension member displayed on the data form. |

Right Click **Financial Plan Default** Form and click **Calculate Options**, then click **Calculate Current Business** as highlighted in the following screenshot.
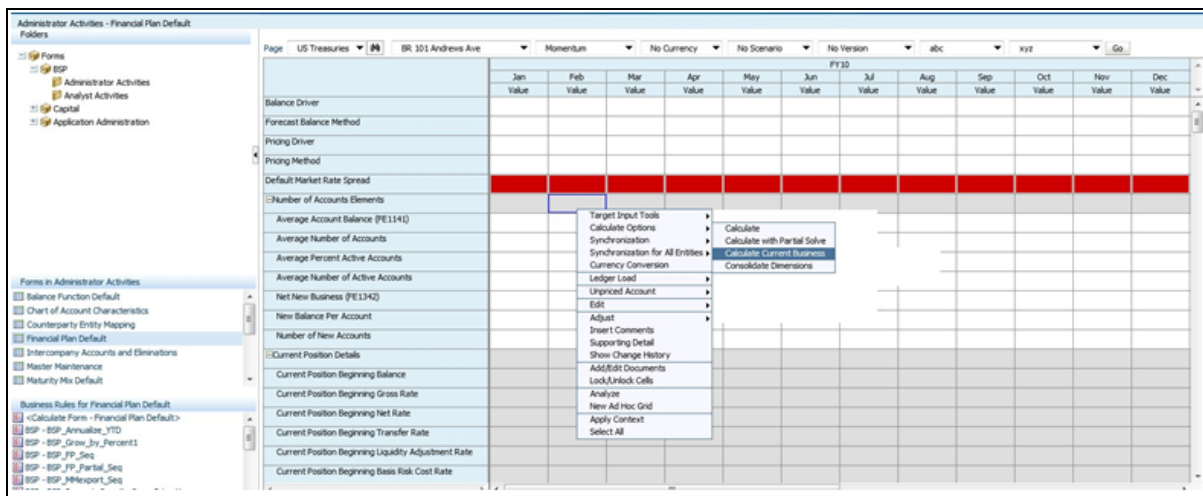


A message will be displayed on **Financial Plan Default** Form: "BSP_Calculate_Current_Business was successful". After the cash flow data is generated by the cash flow engine, it is imported into Essbase and the data form is refreshed with the results. You can review and verify the results in the Financial Plan Default Form.

**Calculation of Total Business Cash Flows:**

To access the Financial Plan Default Data form, go to BSP -> Administrator Activities Folder on the left pane and click **Financial Plan Default** form on the lower left corner in the data form list.

Select the Chart of account, Entity, Strategy, Currency, Scenario, Version, Custom1 and Custom2 Dimension values on the 'Financial Plan Default' form. Refer to the Section on 'Calculation of Current Position Cash Flow Data' for more details. Right click **Financial Plan Default** Form and click **Calculate Options**, then click **Calculate** as highlighted in the screenshot below:

A run time prompt screen will be displayed.



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, Version, Custom 1, Custom 2 are pre-populated from the Financial Plan Default 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 and Entity 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.

> **Note:** All User defined COA and Entity dimensions are uploaded under the seeded top level hierarchical nodes i.e., 'BSP_COA' and 'BSP_Entities' respectively. Refer to 'Predefined Dimensions' section of Chapter 1 - 'Balance Sheet Planning Overview' for more details. These seeded dimension members cannot be selected for node level cash-flow executions.

## Additional Notes

- When you click Calculate option, the Maturity Mix data will be exported to RDBMS. During export, the Business Rule decides which needs to be entered (MO or MD).

- If the Adjustable type is fixed, then original term (read from maturity mix ME 2) is used as term point to locate the forecasted interest rate

- If Adjustable Type is not fixed, then repricing frequency (read from COA characteristics) is used as term point to locate the forecasted interest rate. If data is not available for the COA/Currency combination for which calculate is done, then the Business rule looks for data defined for COA/Default Currency.

- If you have selected a Forecast Balance Method and balance driver is blank, then balance driver value 0 will go into RDBMS.

- If Balance Driver value is '0', forecast balance method is New Add, and version attribute has rollover attached to it, then Rollover with new add method is used.

- If the version attribute has rollover attached to it, the current Product/Currency combination is configured to generate rollovers, and the New Add is selected as forecast balance method, then Rollover with new add forecast balance method is used.

- If the version attribute has rollover attached to it, the current Product/Currency combination is configured to generate rollovers, and the Target Growth % is selected as forecast balance method, then Rollover with Target Growth % forecast balance method is used.

- Balance Driver (FE 700) entered should be 12 digits or less.

> **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, 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 'BSP_Calculate was successful'.

**Important:** After entering driver data in the Financial Plan Default 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.

---

**Note:** Administrators may process and then re-process the same forecast items multiple times as using slightly different forecast data or other modeling assumptions. When data is reprocessed, Essbase is refreshed with the new results, but Essbase may not be completely cleared of its prior results if previous simulations have generated runoff under Accounts that were not generated in subsequent simulations.

For example, if you forecast a Chart of Account that generates prepayment runoff and then subsequently, first remove your prepayment assumption and second re-process your forecast, the re-processed forecast data will not contain any prepayment runoff, but the original runoff generated by the first simulation will not have been cleared from Essbase.

To avoid these kinds of issues, it is recommended that you utilize different Versions for generating current position runoff or new business forecasts whenever you are fine-tuning modeling assumptions such as Prepayments, Behaviour Patterns, Economic Indicators, Transfer Pricing, and Adjustments. When these basic modeling assumptions are stable, the Accounts generated by your forecast activity for each Chart of Accounts member will also be stable.

---

The performance of Current Position processing requests that involve node-level processing in one or more dimensions (e.g., running current position a full line of business for a division of the bank; or running current position at the Total Product & Total Entity level) may be adversely impacted by high dimension member counts. If you experience this kind of performance issue, it is recommended that you add secondary indexes to your instrument tables for your high cardinality dimensions. For example, CREATE INDEX <Index Name> ON FSI_D_MORTGAGES (AS_OF_DATE, COMMON_COA_ID, ORG_UNIT_ID).

## 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 -->Admin Activities-->**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.



---
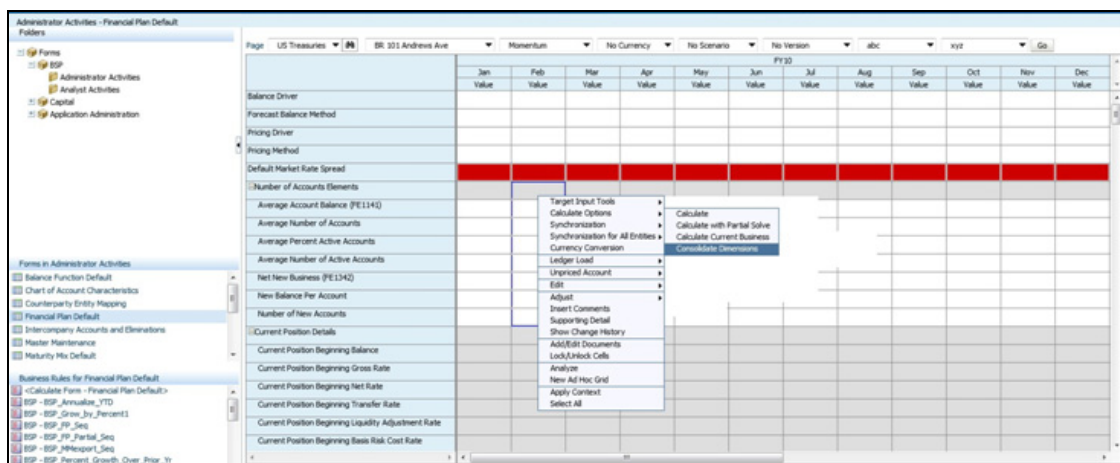
**Run Time Prompt** window appears to capture parameters to run the business rule (BSP_Consolidate).

The Run time Prompt Variables are detailed as follows.

Table 6.

| 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. |
| BSP_Strategy_S | Strategy | Visible | Allows selection of a single Strategy dimension member. |
| 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. |
| BSP_Custom1 | Custom 1 | Visible | Select a single Custom 1 dimension member. |
| BSP_Custom2 | Custom 2 | Visible | Select a single Custom 2 dimension member. |
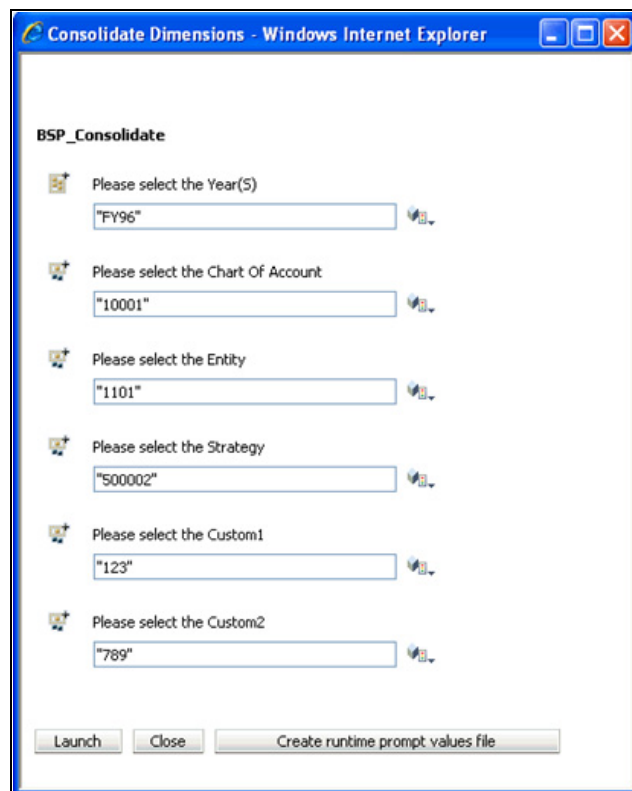


Click the Selector control next to each parameter to open the dimension member selector and make your selections for each dimension.
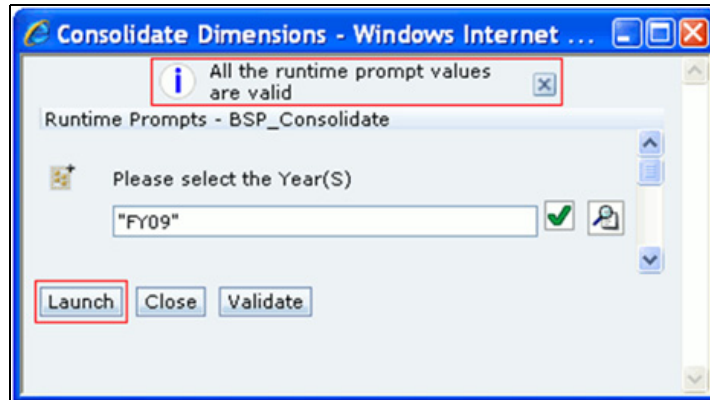
After making your parameter selections, click **Validate** to validate the entered parameters. A message appears stating that "All the runtime prompt values are valid." You can then click **Launch** to run the consolidation.
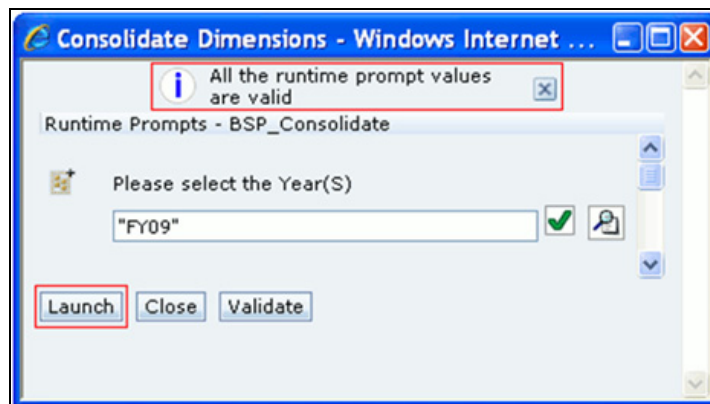


Verify the results in the Financial Plan Default Form. The results can be verified by selecting the node level dimension members and confirming results at those aggregated levels.

## 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--> Admin Activities-->**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**.
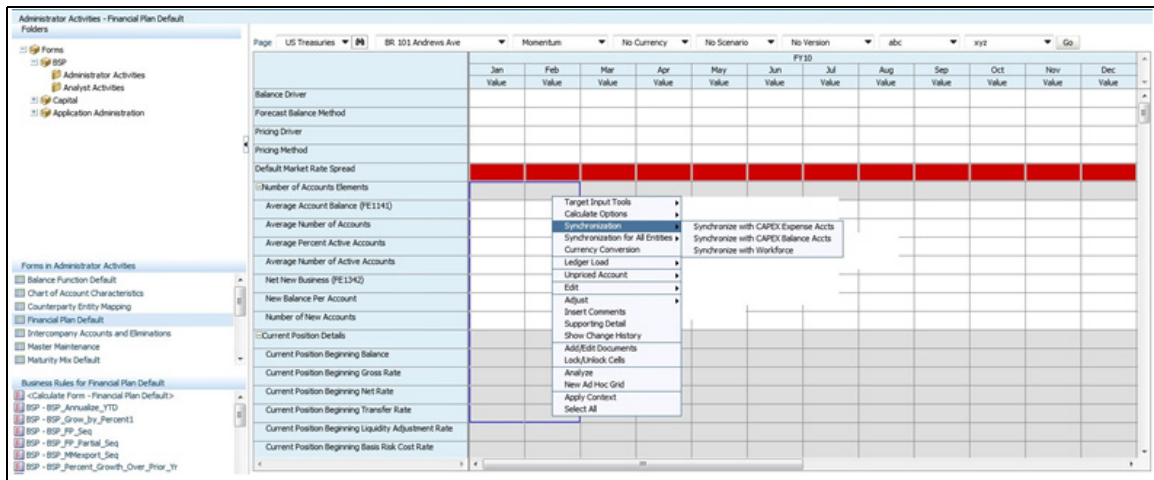
Three functions will be available for selection:

- **Synchronize with Expenditure Accounts** - 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 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** - 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.

## 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.

To launch Target Input Tools, right click **Financial Plan Default** Form and click **Target Input Tools**.
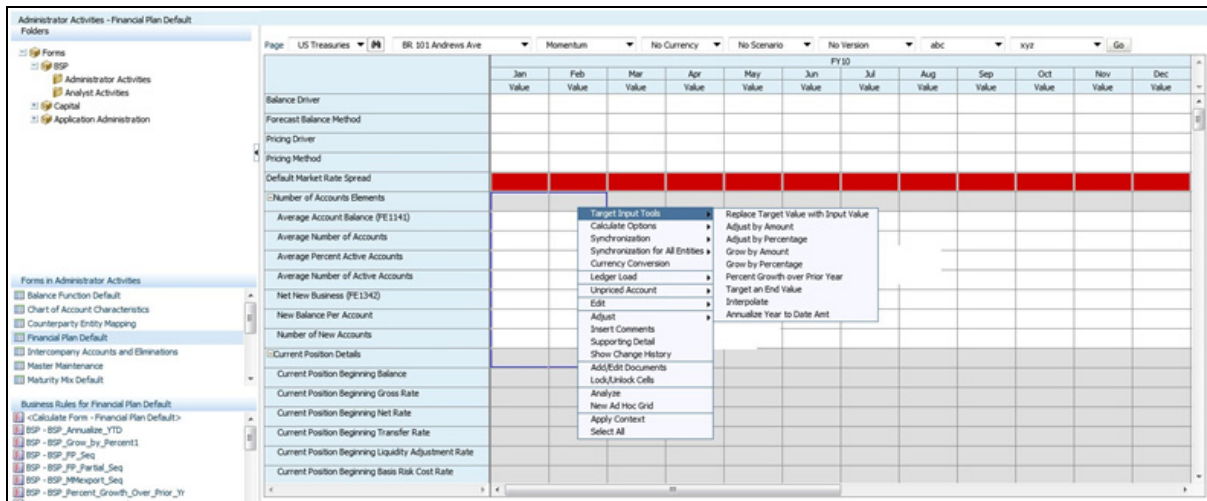
## Target Input Tool Methods

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 23-1:

- 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_lnput

**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.

**Table 7.**

| 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. |
| 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. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 8.**

| 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. |
| 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. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 9.**

| 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. |
| 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. |
| BSP_Version_S | Version | Hidden | Select a single Version dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 10.**

| 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. |
| 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. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 11.**

| 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. |
| 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. |
| BSP_Version_S | Version | Hidden | Select a single Version dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 12.**

| 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. |
| 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. |
| BSP_Version_S | Version | Hidden | Select a single Version dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 13.**

| 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. |
| 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. |
| BSP_Version_S | Version | Hidden | Select a single Version dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

**Table 14.**

| 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. |
| 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. |
| BSP_Version_S | Version | Hidden | Select a single Version dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 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.

Table 15.

| 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. |
| 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. |
| BSP_Custom1 | Custom 1 | Hidden | Select a single Custom 1 dimension member. Defaults to dimension member displayed on the data form. |
| BSP_Custom2 | Custom 2 | Hidden | Select a single Custom 2 dimension member. Defaults to dimension member displayed on the data form. |

# Ledger Data Load

The Ledger Data Load Data Form is used by the Budget Administrator to Move Ledger Data at Financial Element level. You can load the data from Essbase to RDBMS or RDBMS to Essbase.

Two Functions are available to load the data:

- Load Actual Data (From Ledger Stat to Essbase)
- Load Forecast Date (From Essbase to Ledger Stat and vice versa)

To access and run the functions, right click on the Financial Plan data form, highlight Ledger Load and select the function you wish to run from the sub-menu.

**Note:** Before starting the ledger load activities, the administrator should run the Create Ledger GTT business rule. This is a onetime activity.
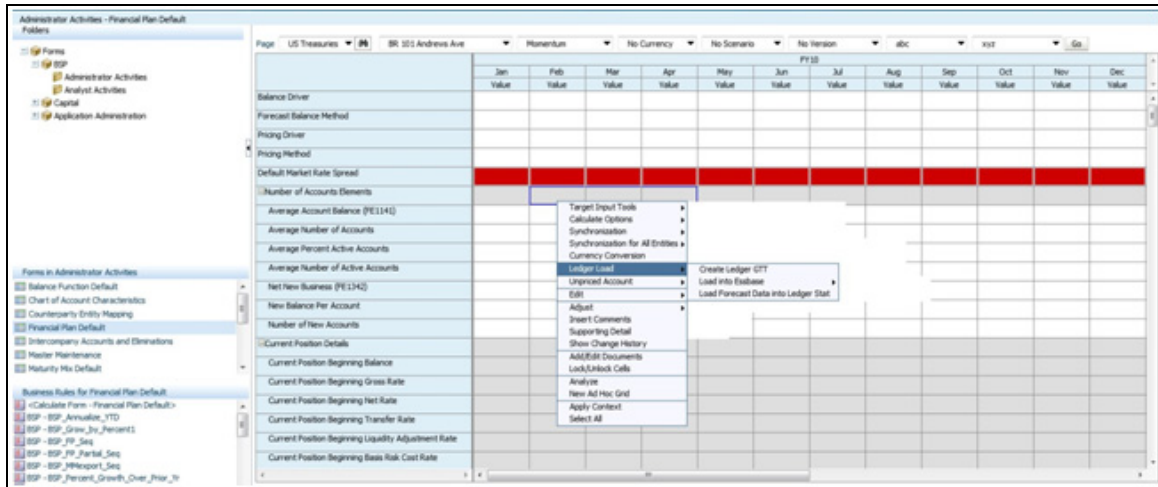


## Load Actual Data

This function will load the Actual Data into Essbase.

Actual data should be available in the STG_GL_DATA table. The administrator should go to ledger load menu->load into Essbase->load actual data and select the menu item load ledger stat data.
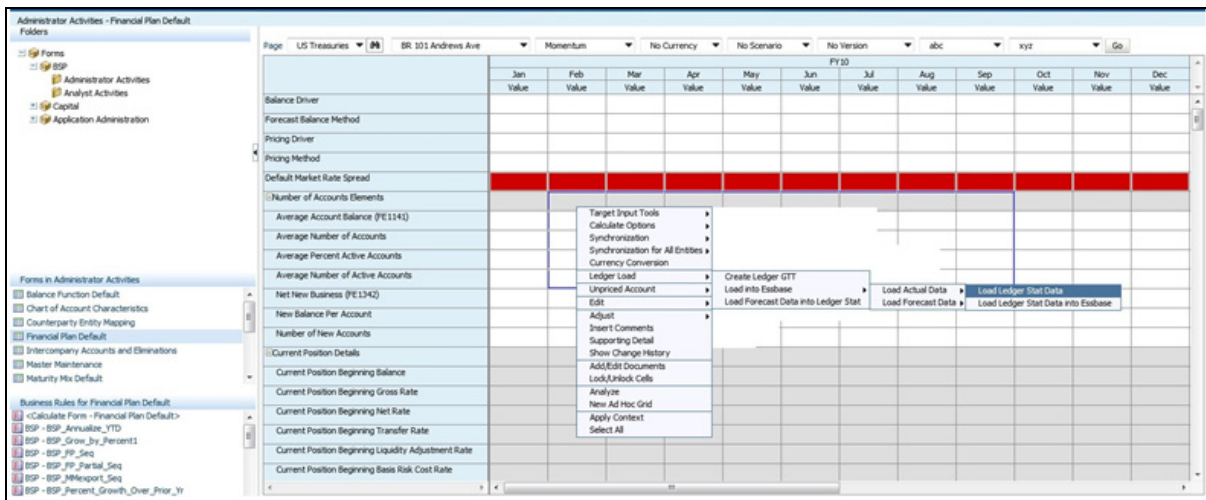


A Run Time Prompt will appear. Enter batch id as alphanumeric like test123, start and end date should be numeric within quotes "19960501" (start date), and "19960531" (end date), assuming Start Date is 1st May 1996 and End Date is 31st May 1996. Insert mode should be ADD and insert flag should be Y. Click on submit
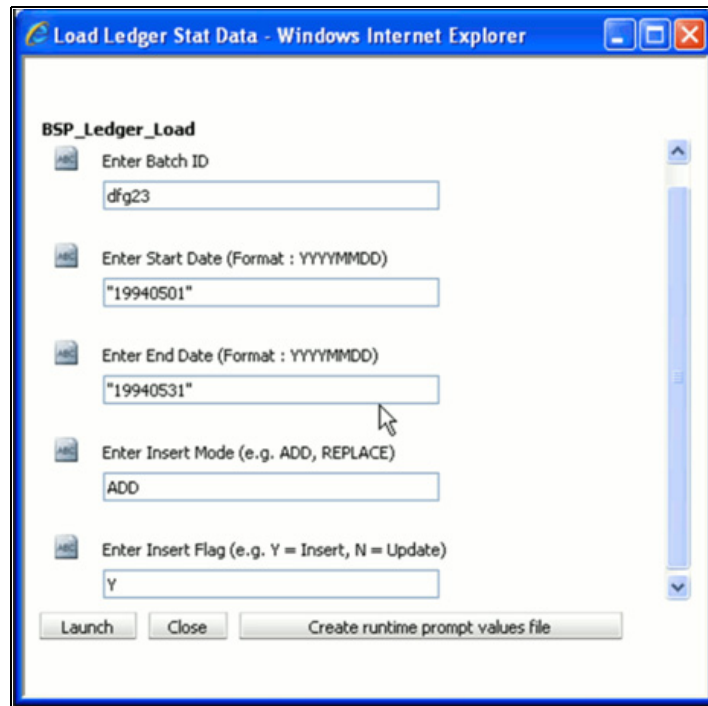
The administrator should then go to ledger load menu->load into Essbase-> load actual data and select the menu item load ledger stat data into Essbase.
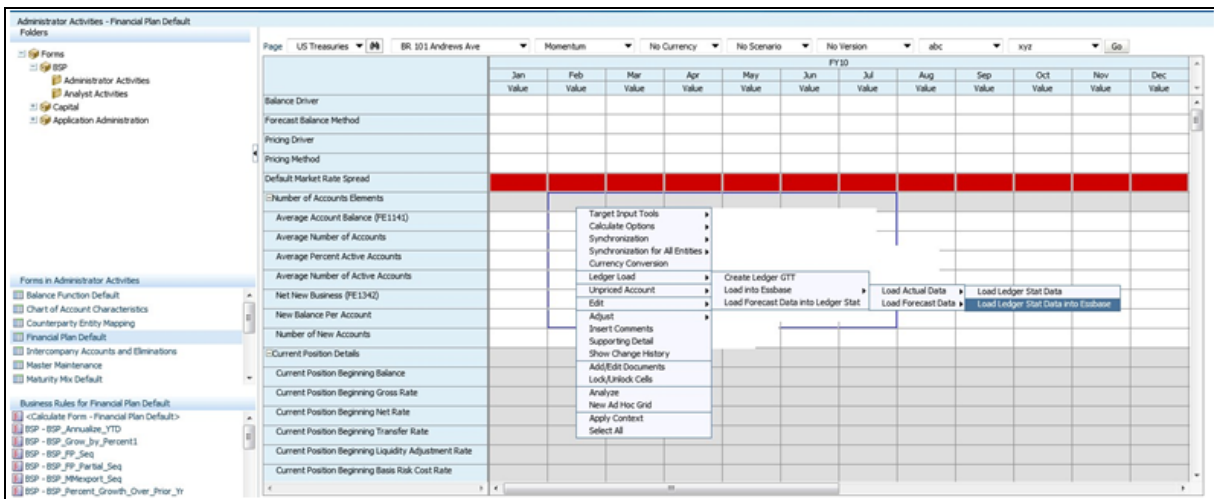


In the Run Time Prompt, specify another batch id example abc123, start month 5 and end month also 5, year = "1996" (within quotes), rest of the info will be taken from the page itself.

Once the business rule is run successfully, select the appropriate Intersection Point and view the data in the Financial Plan data form.

**Note:** For Actual data, the scenario in Essbase should be selected as Actual.

## Load Forecast Data Into Essbase

The same steps apply for loading Forecast Data from Ledger Stat to Essbase as shown above. Only the scenario selected should be Forecast and the Administrator should run both the business rules from the below mentioned path:

ledger load->load into Essbase->Load Forecast Data->Load Ledger Stat Data ledger load->load into Essbase->Load Forecast Data-> Load Ledger Stat Data into Essbase
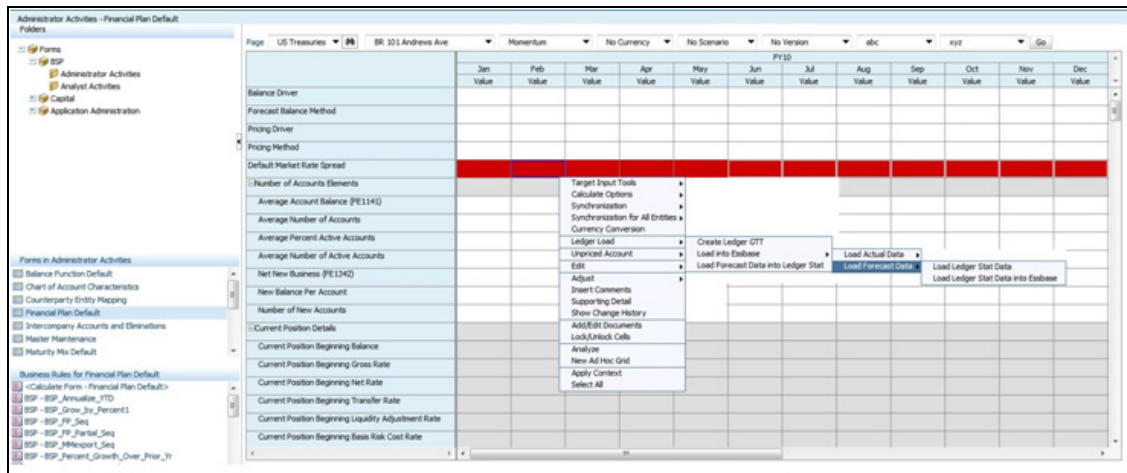


## Load Forecast Data into Ledger Stat from Essbase

Once the Cash Flow Engine is run and all forecasted data is available in the Financial Plan data form. This data can be loaded into the Ledger Stat table. The administrator should go to Ledger Load and select Load Forecast Data into Ledger Stat.
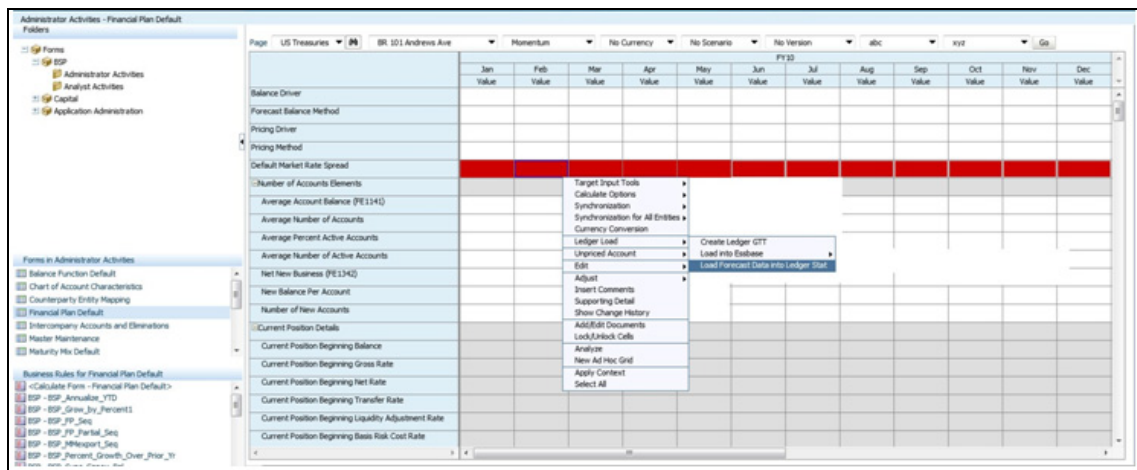


A Run Time Prompt will appear, enter the appropriate values and click on Launch. Once Business Rule is run successfully, check data in Ledger_Stat table.

# Node Level Distribution

You can enter the values for a node member of any dimension and then distribute it to the lowest level (leaf) members.

The Node Level Distributions functionality is enhanced for all the Hierarchical Dimensions; Chart Of Account, Entity, Strategy, Custom1, and Custom2.

> **Note:** The node level distributions will be applicable for Balance Driver and Pricing Driver. The Pricing Driver will support only Spread Evenly method of distribution.

Following are two ways of distributing node level data across dimensions:

- Spread Evenly: This evenly apportions the amounts input at a node level over all subsidiary lowest level dimension members.
- Pro-rata: This distributes the input value across underlying lowest level dimension members on a pro-rata basis (weighted average).

The node level distribution for a particular period can be achieved using the Mass Allocate feature in Hyperion Planning.

1. Login to EPMS Workspace.
2. Select Shared Service Console using Navigate->Administer->Shared Services Console.
3. Expand User Directories and go to path Native Directory->Users.
4. Search for particular user name and right click on user, select Provision option.
5. Select "Mass Allocation" in available roles and map it to the respective application (Selected Roles). Click on OK button to save.
6. Now Mass Allocate feature is enabled for the particular user.

Using the feature Mass Allocate for Balance Driver and Pricing Driver in Financial Plan Default Data Form:

- Select the combination in Financial Default Plan with version selected as Target.
- Also select a parent COA or Strategy or Entity in page dimension selection.
- Now enter a value to be distributed to the child for either Pricing Driver or Balance Driver and save the form.
- Once the value to be distributed is saved at the parent hierarchy, select the cell containing value and navigate to Mass Allocate option on Edit link.
- Select the "Evenly Split" option or "Proportional Spread" option accordingly for even splitting or pro-rate splitting.
- The distribution will depend on the number of combination from values selected in page dimension.

> **Note:** Mass Allocate for different periods simultaneously is not supported by Hyperion Planning. Hence, for spreading values at various periods, user has to manually invoke the Mass Allocate option for each period for example, Jan Feb Mar and so on.

# *Balance Function*

## Overview

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 Function** menu item in the Financial Plan data form will open a data form used to prepare for and run the Balancing process.
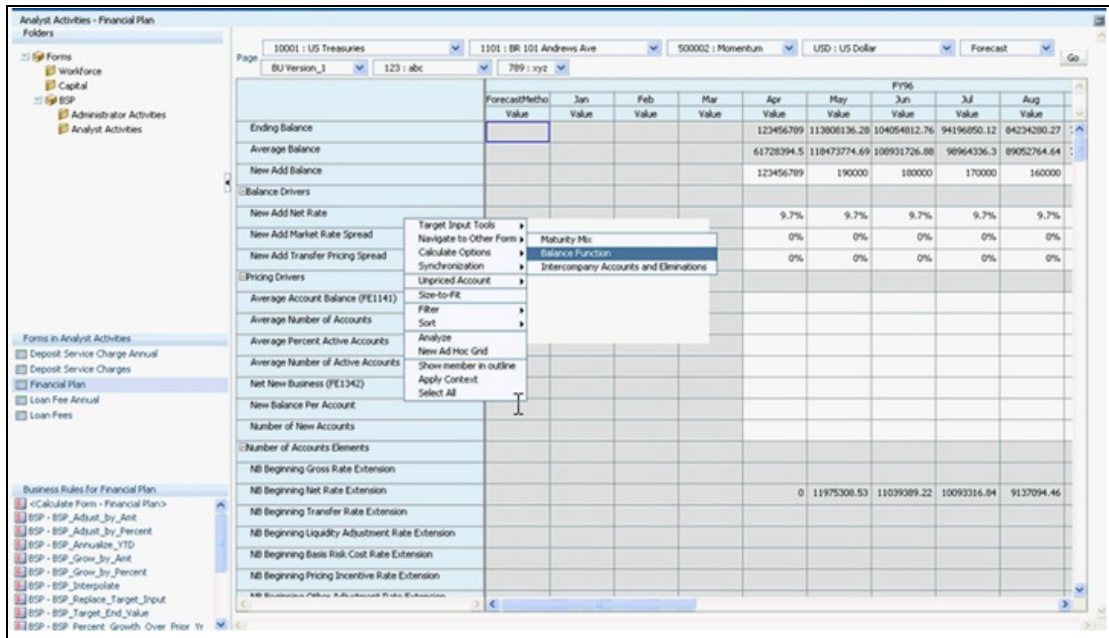


The Administrator will use the Balance Function Default data form to run the Balance Function. Go to **Analyst Activities > Financial Plan**, right click on **Navigate to Other Form** and select **Balance Function**.
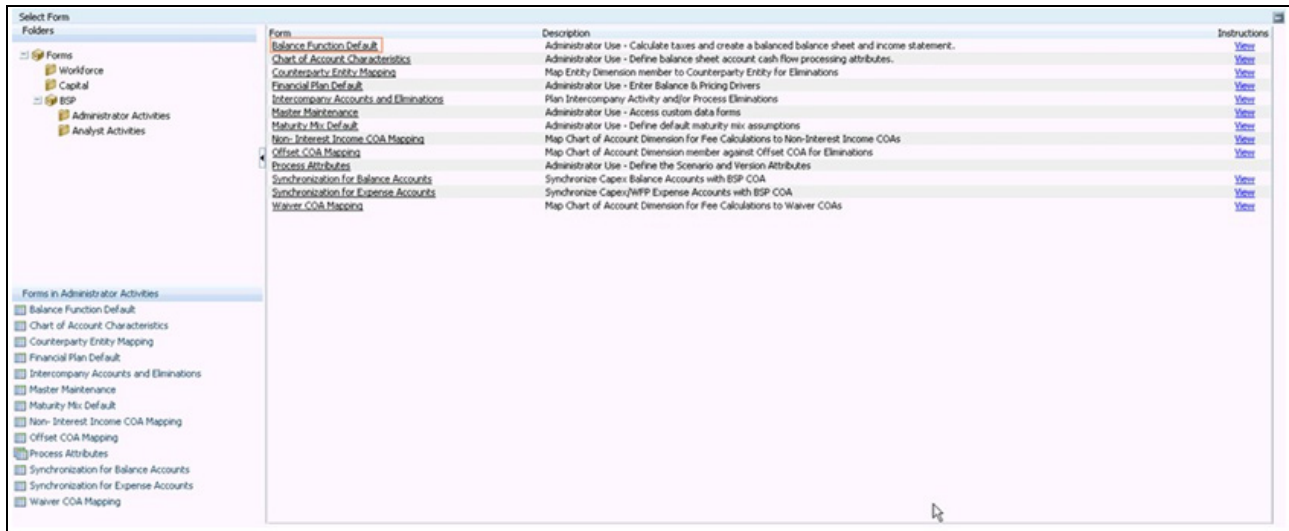
> **Note:** The Balance Function is run for all the Chart of Accounts for a particular Entity. Hence COA selection in the page dimension is not relevant. Any chart of account can be selected to run the Balance Function. Select the appropriate members in the page dimension (The Currency, Entity, Strategy, Scenario, Version, Custom1 and Custom2 members should be those for which Cash Flow Engine has already been run and results available in the Financial Plan form for all the COAs)

Select the Balancing Chart of Account and Entity member for Asset, Liability, Equity, Tax Expense, Tax Expense Adjustment and TP Offset by individually clicking on the variables COA_Asset, Entity_Asset, COA_Liability, Entity_Liability, COA_Equity, Entity_Equity, COA_TaxExp, Entity_TaxExp, COA_TaxExAdj and Entity_TPoffset. On clicking each variable, a member selector browser will open for selecting the Chart of Account or Entity dimension member.



## Entering Balance Spread

The Balance Spread Data form is used to enter the pricing spread that is used for the asset or liability accounts you use to balance at intersection point defined by the Balancing Chart of Account and Entity selected using the User Variables explained above in the Balance Function Data Form.

Balance Spread values should be entered as percentages. For example, to enter 1.5%, type 1.5. You must specify a spread for appropriate Balancing Chart of Account values for all time periods; however, you are not able to do so unless you have already populated the Balancing Chart of Account. You should enter Balance Spread values only after you have populated the Balancing Chart of Account and Entity.

To access the Balance Spread form, Right Click Balance Function Default Form and click Enter Balance Spread, as highlighted in the following screenshot.

Enter the details and click Save to submit values to Essbase.



Click on Back to Balance Function (for analyst) or Back to Balance Function Default (for administrator) available as a Right Click menu option to navigate back to the Balance Function or Balance Function Default data form.

# Run Balance Function

In the Balance Function data form enter values for State Tax, Tax Adjusments, Federal Tax and Dividends for the periods for which you wish to run the Balance Function and click on Save.



A Run Time Prompt will appear. All values in the page will appear as default in the appropriate fields. Select the Year and the Start and End Period for which you wish to run the Balancing process. In the above UI, the start and end period will be April and June respectively. Click on Submit.

Once the Business Rules is run successfully and the results are satisfactory i.e the Balance Result Average value is zero for all the selected periods. Right Oick and select the Transfer Results menu item.

A pop up appears to capture the Run Time parameters required to run  business rule (BSP_TransResult). The COA, Entity, Strategy, Currency, Scenario, Version, Customl and Custom2 values will be taken from the page dimension members. Select the COA and  Entity for Asset, Liability,Equity and Tax Expenses as selected in the Variables at the top of the data form and  click on Launch.

If the balancing values have been generated for Assets or Liabilities, then the values will be transferred to the combination of chart of account and entity selected as Balancing COA and Entity for Asset/Liability. The balancing values will be stored under the Financial Elements Average Balance, Interest and Charge/Credit. The balancing values generated for Equities will be transferred to the combination of chart of account and entity selected as Balancing COA and Entity for Equity.

To Run Balancing for other Entities, run CFE for all COAs for the other Entities. Change the Entity selection in the Balance Function data form and perform all the steps mentioned above.

# *Eliminations Support*

Eliminations refer to accounting entries made on consolidating statements in the process of generating consolidated balance sheets and income statements. When processing consolidations, it is a standard accounting practice to eliminate balance sheet balances and income statement amounts arising from 'Intercompany' transactions. Intercompany transactions are those that occur between business units that cross legal entity boundaries. Intercompany eliminations cancel the accounting effects of transactions between legal entities in the consolidated group so that the final consolidated numbers exclude all transactions between those entities.

Balance Sheet Planning includes the functionality to eliminate intercompany account balances during the eliminations process, resulting in consolidated budgets or forecasts that reflect standard accounting practice in consolidating actual data, enabling consistent comparisons of actual versus budgeted or forecasted performance.

## Income Statement & On/Off Balance Sheet Support

The eliminations functionality provided in Balance Sheet Planning supports elimination of amounts for both income statement accounts as well as balance sheet accounts. Examples of such account activities include, but are not limited to:

- Intercompany Loans that may be transacted to provide funds to a borrowing entity while utilizing excess funds available in the lending entity

- Intercompany payables and receivables arising from ongoing operations and transactions between business units in different legal entities

- Intercompany fees paid to or received from business units in different legal entities for services provided by those entities.

- Intercompany Investments between parent and subsidiary entities

# Balance Sheet Planning Implementation Setup

In order to identify intercompany balances that must be eliminated in the eliminations process, clients must structure their account and entity dimensions in a way that enables automatic capture of intercompany amounts to be eliminated.

Dimension members for the Account dimension must be defined at implementation that will exclusively hold balance and income statement amounts related to intercompany activities. Dimension members for the Entity dimension should be identified as entities that will have activity in those Account dimension accounts. (Note - it should be alright for these entities to also have budget data in other, non-intercompany accounts. Such values would not be included in the eliminations process.) Additionally, an eliminations entity(s) should be defined under the entity hierarchy node(s) that corresponds to legal entities, which will hold the eliminating balances populated when the eliminations process is run. Balances posted to the eliminations entity(s) will be posted with negatively signed balances, such that intercompany balances are offset against the accounts and entities that hold those balances when values are aggregated to total entity level. This approach ensures that budget or forecast data is retained at the entity/account level where intercompany transactions are planned, while also ensuring that those balances are eliminated at the consolidated company level.

## Prerequisites to run the Eliminations

1. **Assigning attributes to Chart of Accounts (COAs) and Entities**

   **Intercompany COA Flag**

   This Attribute value is set to True to indicate that the COA is an intercompany transaction COA that should be eliminated. It should only be necessary for the budget administrator to set a value of True for intercompany COA, and not be required to set any value for other dimension members in the COA dimension.

   **Intercompany Entity Flag**

   This attribute has two values available for assignment:

   - 'Yes' - This attribute value indicates that the entity uses intercompany accounts.
   - 'Yes-Eliminations Entity' - This attribute value indicates that the entity is an eliminations entity, where elimination amounts will be written.

   It should only be necessary for the budget administrator to set a value of 'Yes' for entities using intercompany accounts or 'Yes-Eliminations Entity' to designate entities that will hold elimination results. It should not be required to set any value for other dimension members in the entity dimension where intercompany activities do not occur.

   Transit Entity member of Entity Dimension should be assigned the attribute, 'Yes-Eliminations Entity'.

   > **Note:** To assign the attributes, go to Administrator-> Manage-> Dimensions. Select COA or Entity Dimension as required.
   >
   > For COA: Select a COA and the member for editing. Under Attribute Values tab, select Intercompany COA Flag as "True".
   >
   > For Entity: Select the Entity and the member for editing. Under the Attribute Values tab, select Intercompany Entity Flag as "Yes" or Yes Elimination Entity as required and Entity combinations.

2. **Offset COA Mapping**

   In this data form, you can map the chart of accounts that are part of the intercompany transactions.

For example, if the offset for Fed Funds Purchased is a COA called Fed Funds Sold, the attribute would be defined as follows:

**Table 16.**

| Intercompany Account | Intercompany Account Offset |
|---|---|
| Fed Funds Purchased | Fed Funds Sold |
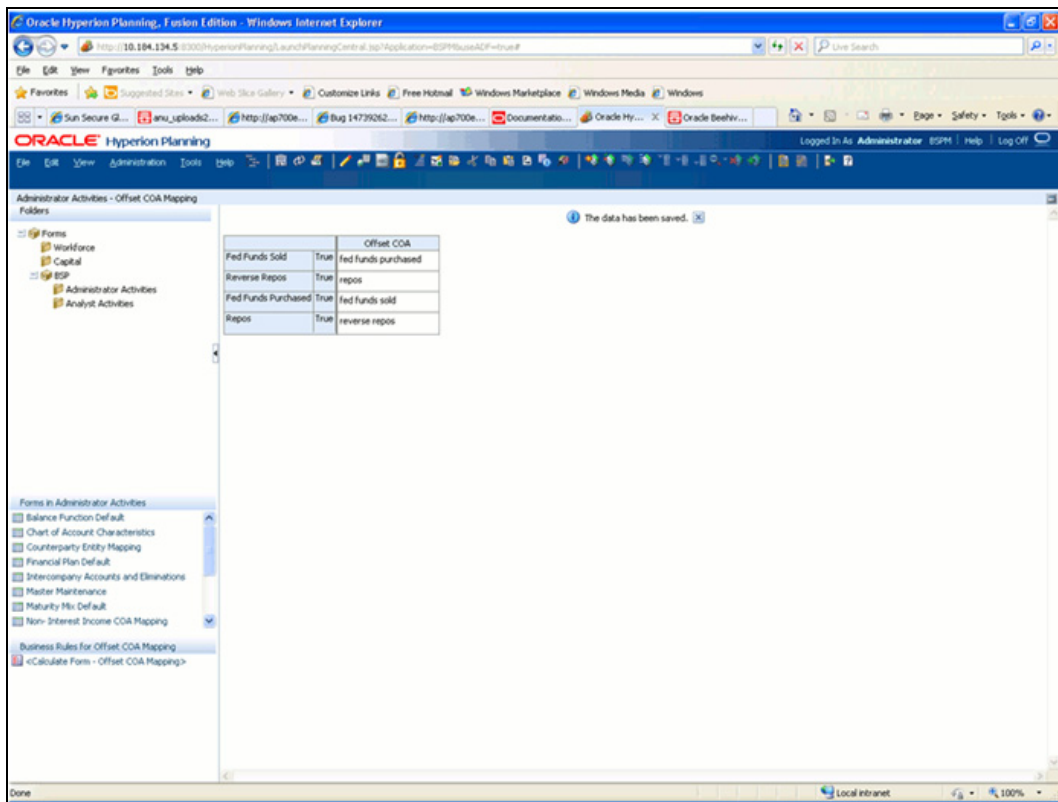


3. **Counterparty Entity Mapping**

   In this data form, you can map the Entities that are part of the intercompany transactions.

   For example, if the offset for the Entity 1103, who makes the loan, is Entity 1105, who borrows the money, the attribute would be defined as follows:

**Table 17.**

| Originating Entity | Counterparty Entity |
|---|---|
| Entity 1103 | Entity 1105 |
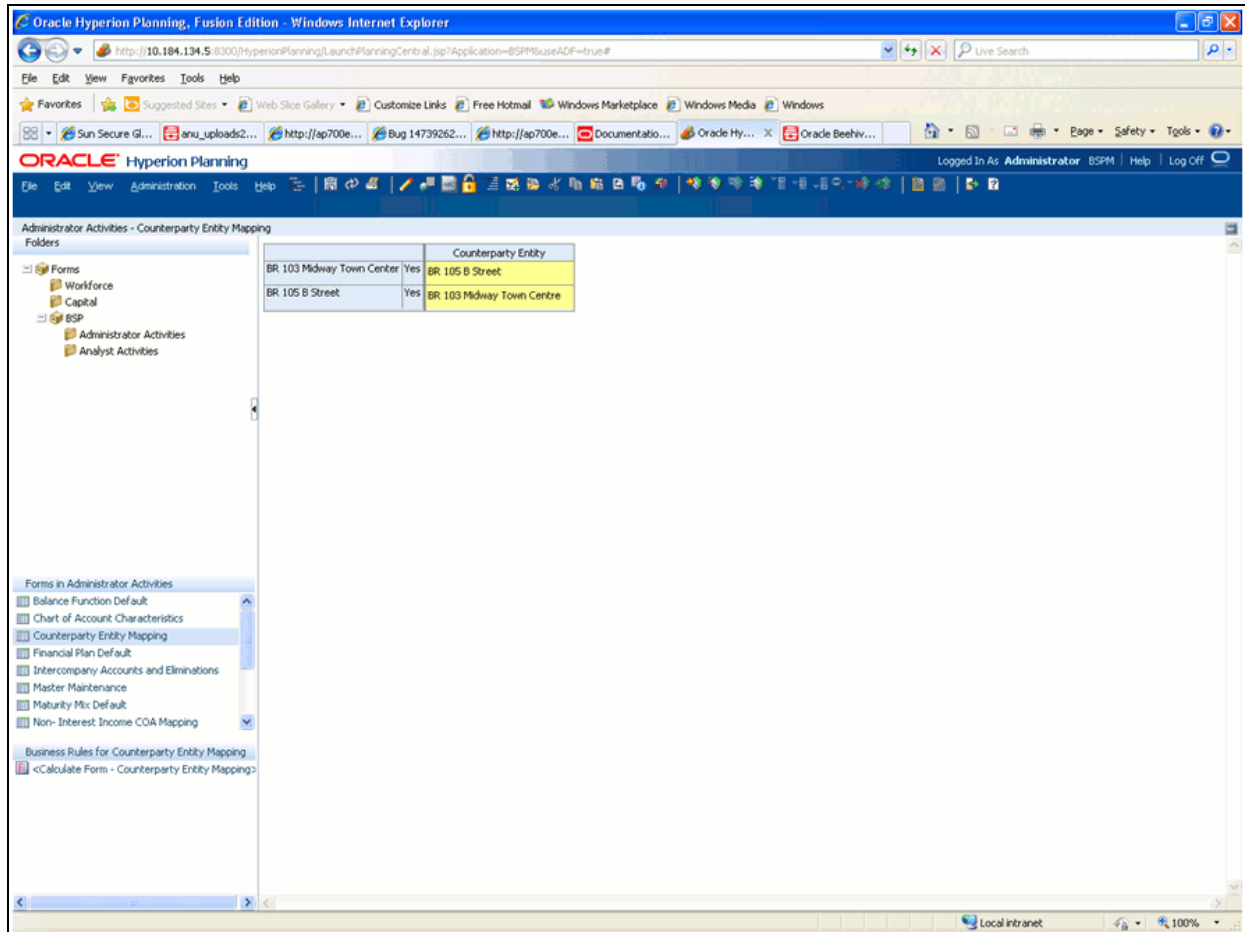
4. Cash Flow Engine has been run and results available in the Financial Plan Data Form for one of the chart of accounts.

5. Navigate to Intercompany Accounts and Eliminations Data Form and perform the following:

**Copy attributes and driver assumptions**.

■ Select the Mapped Chart of Account, Entity, and other dimension members.

■ Right click and select the **Copy attributes and driver assumptions**.

- Run time Pop Up window appears.

- Enter the values selected in the Page Dimensions.

- Click Launch.

- Check the data in Chart of Account Characteristics Data Form for the mapped products. The same data should appear for both the mapped products.

## Copy Maturity Mix assumptions

- Right click and select **Copy Maturity Mix assumptions**.



- Run time Pop Up window appears.

- Enter the values selected in the Page Dimensions.

- Click Launch.

■ Check the data in Maturity Mix Data Form for the Offset COA and Counterparty Entity combination. The same data should appear for both the mapped products.

■ Navigate to Financial Plan Data Form and run CFE for the Offset COA and Counterparty Entity combination.

## Launch Eliminations

1. Navigate to Intercompany Accounts and Eliminations Data Form.

2. Select the Source Chart of Account and Entity along with other Dimension Members.

3. Right click and select Launch Eliminations.



4. A Run Time Pop Up Window Appears.

5. Enter the values selected in the Page Dimensions.

6. Click Launch.

7. Once the business rule is executed, select the Transit Entity and click Go to view the data.

8. Negative Values will be available for all the balance Financial Elements.

9. Select the top node of the Entity Dimension and click Go.

10. All the values will be eliminated by now and Value 0 will be displayed.

A routine will be delivered that will process eliminations and write the results of the eliminations to an Eliminations Entity or Entities. The Eliminations Entity(s) will be a member of the Entity dimension, and will only hold budgeted eliminations for intercompany accounts. The system determines the eliminations entity(s) from the Intercompany Entity Flag where the attribute = 'Yes-Eliminations'.

When calculating elimination values, all financial element-based data values reflected in the Intercompany Accounts are included in the process to ensure accurate aggregations across financial elements at the legal entity level. For balance sheet accounts (on and off balance sheet), this will include financial elements holding both amounts and rate data.

Balance financial elements, such as FE100 Ending Balance, FE140 Average Balance, FE340 New Add Balance, and so on, are multiplied by minus one and written to the eliminations entity, for the same account dimension members in which the original intercompany activities are planned. Income statement amounts, such as interest income, interest expense, transfer pricing charges/credits, non interest income and expense, should also be multiplied by minus one and written to the eliminations entity.

Rate and transfer rate financial elements, such as FE160 Average Net Rate, FE230 Total Runoff Net Rate, and so on, are multiplied by one and written to the eliminations entity, maintaining positive signage. As corresponding balance amounts have signage changed to negative, the consolidation process will produce the appropriate balance weighted rate data at a consolidated level.

## Aggregation of account data when multiple entities use the same account(s)

If more than one entity has intercompany activity that results in usage of the same account dimension member, the data must be aggregated prior to multiplying values by minus one and writing the data to the eliminations entity(s).

## Example

Following is an abbreviated example of an intercompany loan transaction from Entity A to Entity B. Entity A is a business unit in Legal Entity 1, while Entity B is a business unit in Legal Entity 2. Legal Entity 1 and Legal Entity 2 are subsidiaries of a multi-entity bank holding company called Consolidated Legal Entity. An organizational hierarchy depicting the relationship between these entities, and including an Eliminations Entity and a Parent Entity, might look like this:
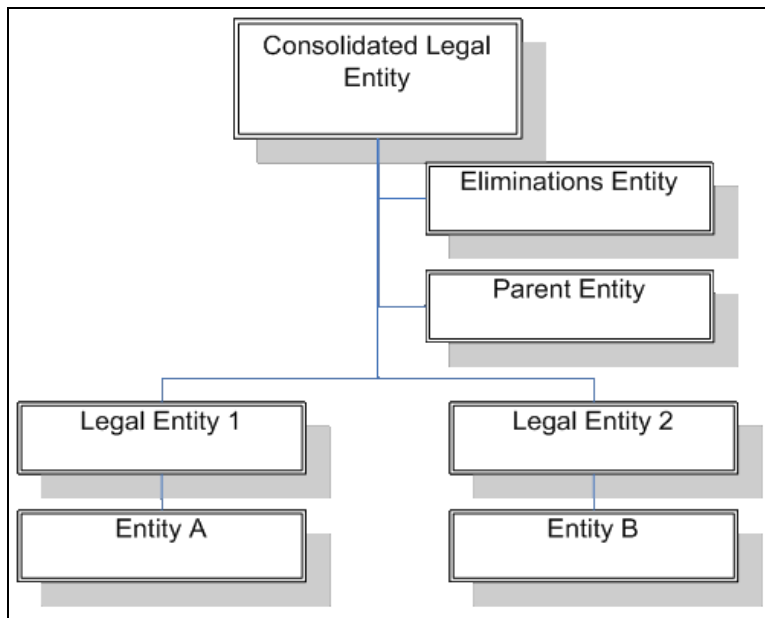


Entity A enters a loan agreement with Entity B for a $10000 loan. The loan is booked as an Intercompany Loan on Entity A's books, and as an Intercompany Borrowing on Entity Bs books. After processing the new business through the cash flow engine, the following chart depicts resulting projected budget data for the first future time period where the loan is made:

| Account | Intercompany Loans | Account | Intercompany Borrowings |
|---|---|---|---|
| Entity | **Entity A** | Entity | **Entity B** |
| Currency | USD | Currency | USD |
| Period | JAN09 | Period | JAN09 |
| Strategy | Momentum | Strategy | Momentum |
| **Financial Elements:** | | **Financial Elements:** | |
| F100 Ending Balance | 10,000 | F100 Ending Balance | 10,000 |
| F140 Average Balance | 5,000 | F140 Average Balance | 5,000 |
| F340 New Add Balance | 10,000 | F340 New Add Balance | 10,000 |
| F420 Interest (Income) | 53.8 | F420 Interest (Expense) | 53.8 |
| F120 Ending Net Rate | 6.25% | F120 Ending Net Rate | 6.25% |
| F160 Average Net Rate | 6.25% | F160 Average Net Rate | 6.25% |
| F360 New Add Net Rate | 6.25% | F360 New Add Net Rate | 6.25% |

**Note:** The financial elements listed earlier are not a complete list of financial elements produced by the cash flow engine. The list is abbreviated for illustration purposes.

The routine provided in Balance Sheet Planning to generate data written to the Eliminations entity produces the following results:

| Account | Intercompany Loans | Account | Intercompany Borrowings |
|---|---|---|---|
| Entity | Eliminations Entity | Entity | Eliminations Entity |
| Currency | USD | Currency | USD |
| Period | JAN09 | Period | JAN09 |
| Strategy | Momentum | Strategy | Momentum |
| | | | |
| Financial Elements: | | Financial Elements: | |
| F100 Ending Balance | (10,000) | F100 Ending Balance | (10,000) |
| F140 Average Balance | (5,000) | F140 Average Balance | (5,000) |
| F340 New Add Balance | (10,000) | F340 New Add Balance | (10,000) |
| F420 Interest (Income) | (53.8) | F420 Interest (Expense) | (53.8) |
| F120 Ending Net Rate | 6.25% | F120 Ending Net Rate | 6.25% |
| F160 Average Net Rate | 6.25% | F160 Average Net Rate | 6.25% |
| F360 New Add Net Rate | 6.25% | F360 New Add Net Rate | 6.25% |

> **Note:** The results of the routine generate negative balances for balance and income (interest) financial elements, that result from the initial values residing in Entity A and Entity B being multiplied by a value of minus one. They are offsetting account balances as well. (If this were not true, there could be an error depending on how system is setup.)

After processing eliminations, the Budget Administrator runs the Balance Sheet Planning aggregation process to generate consolidated values for both Legal Entities and Total Consolidated Entity.

After running the routine, the data for the intercompany accounts for the Consolidated Entity looks like the following:

| Account | Intercompany Loans | Account | Intercompany Borrowings |
|---|---|---|---|
| Entity | Consolidated Entity | Entity | Consolidated Entity |
| Currency | USD | Currency | USD |
| Period | JAN09 | Period | JAN09 |
| Strategy | Momentum | Strategy | Momentum |
| | | | |
| Financial Elements: | | Financial Elements: | |
| F100 Ending Balance | 0.00 | F100 Ending Balance | 0.00 |
| F140 Average Balance | 0.00 | F140 Average Balance | 0.00 |
| F340 New Add Balance | 0.00 | F340 New Add Balance | 0.00 |
| F420 Interest (Income) | 0.00 | F420 Interest (Income) | 0.00 |
| F120 Ending Net Rate | 0.00 | F120 Ending Net Rate | 0.00 |
| F160 Average Net Rate | 0.00 | F160 Average Net Rate | 0.00 |
| F360 New Add Net Rate | 0.00 | F360 New Add Net Rate | 0.00 |

The results of the aggregation process are all zero for the intercompany accounts at the Consolidated Legal Entity level, reflecting that the intercompany accounts have been successfully eliminated.

If balances or rates exist after running the eliminations and consolidation process, there is an error in the process. This could be an error in the setup of the system, such as an account or entity not being flagged as having an intercompany account in the dimension attributes established for that purpose. If that is the case, the budget administrator must fix the setup issue and run the process again.

## Multi Currency Implementations

Balance Sheet Planning's consolidation and balancing processes are run for data that has been converted to a single currency, usually the organization's functional currency. As such, multicurrency implementations of the product are required to run a currency conversion process that translates amounts from various local or entered currencies to the organization's functional currency prior to aggregating budget data and producing balanced, consolidated financial statements for the plan. Consistent with this approach, eliminations functionality provided with Balance Sheet Planning can only be processed against a single currency, after the currency conversion process has been performed. The functionality can also only be run for one Scenario/Version at a time.

# CHAPTER 23 — *Anayst Data Forms and Functions*

This chapter contains an overview of the Forms and functions related to Analyst Activities.

This chapter covers the following topics:

- Overview of Analyst Data Forms and Functions
- Financial Plan Form
- Working With the Financial Plan Data Form
- Automated Fee and Expense Calculations
- Working With the Deposit Service Charge Data Forms

## 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:

- Overview of Analyst Data Forms and Functions
- Financial Plan Form
- Working With the Financial Plan Data Form
- Automated Fee and Expense Calculations
- Working With the Deposit Service Charge Data Forms

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 primary data form used by Planning Analysts in working with Balance Sheet Planning. 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.

## Cash Flow Processing in Balance Sheet Planning

Balance Sheet Planning works with both your new business forecasts as well as your current book of business to present a complete picture of your forecast balances and spreads over time. Generally, the Planning Administrator will generate current position runoff data for your entire institution prior to opening up access to the Financial Plan data form for use by Analysts. Current position runoff data contains projected balances and rates for your current book of business for each Chart of Account, Entity, and Currency combination for each of your forecast Periods. Some of the more important balances and rates include:

- Beginning, average, and ending balances

- Interest cash flows & accruals

- Beginning, average, and ending gross & net rates

- Beginning, average, and ending transfer rates (and FTP adjustment rates)

- Runoff from payments, maturity, prepayments, behavior patterns, and so on.

After the Planning Administrator has generated total current position runoff, when you open the Financial Plan form for a selected Chart of Account, Entity, and Currency (and Scenario, Version, and Strategy), the form presents cash flow runoff balances & rates as rows in the Financial Plan form (under the Account dimension).

| | Apr | May | Jun | |
|---|---|---|---|---|
| Page | US Treasuries ⌄ 🔍 | BR 101 Andrews Ave ⌄ | Momentum ⌄ | US Dollar ⌄ | Budget ⌄ | BU Version_1 ⌄ | Go |

| | FY94 | | | |
|---|---|---|---|---|
| | Apr | May | Jun | |
| | Value | Value | Value | |
| Balance Driver | 142500 | 144500 | 152000 | |
| Forecast Balance Method | New Add | New Add | New Add | New |
| Pricing Driver | | | | |
| Pricing Method | Use Administrator Default | Use Administrator Default | New Add Rate | New |
| ⊞Number of Accounts Elements | | | | |
| ⊟Current Position Details | | | | |
| Current Position Beginning Balance | 131543 | 114304.59 | 108004.84 | |
| Current Position Beginning Gross Rate | | | | |
| Current Position Beginning Net Rate | 5.000000% | 10.000001% | 9.999996% | |
| Current Position Beginning Transfer Rate | | | | |
| Current Position Beginning Liquidity Adjustment Rate | | | | |
| Current Position Beginning Basis Risk Cost Rate | | | | |
| Current Position Beginning Pricing Incentive Rate | | | | |
| Current Position Beginning Other Adjustment Rate | | | | |
| Current Position End Balance | 114304.59 | 108004.84 | 101653.31 | |
| Current Position Ending Gross Rate | | | | |
| Current Position Ending Net Rate | 10.000001% | 9.999996% | 9.999999% | |
| Current Position Ending Transfer Rate | | | | |
| Current Position Ending Liquidity Adjustment Rate | | | | |
| Current Position Ending Basis Risk Cost Rate | | | | |
| Current Position Ending Pricing Incentive Cost Rate | | | | |
| Current Position Ending Other Adjustment Rate | | | | |
| Current Position Average Balance | 131543 | 114304.59 | 108004.84 | |
| Current Position Average Gross Rate | | | | |
| Current Position Average Net Rate | 5.000000% | 10.000001% | 9.999996% | |
| Current Position Average Transfer Rate | | | | |

**Note:** All current position balances & rates are displayed in read-only cells on the Financial Plan form.

When you forecast new business volumes and spreads through the Financial Plan form and process your forecasts through the cash flow engine, Balance Sheet Planning populates your forms with a new set of rows for "new business" (also stored under the Account dimension).

---

**Note:** All new business balances & rates are displayed in read-only cells on the Financial Plan form.

---

Finally, Balance Sheet Planning also populates another set of Accounts (rows) representing a composite of your current position and new business results - Total Business.

---

**Note:** All Total Business balances & rates are displayed in read-only cells on the Financial Plan form.

---

Not every Chart of Account balance will generate all of these Accounts, and your institution may choose to narrow the focus of your Financial Plan form to hide this level of detail, but the full set of Account data is stored in Essbase and is available for use either in independent analysis or as driver data elsewhere in your planning process. For a full listing of Accounts [or Financial Elements] and an explanation of how each Account is derived, see the Oracle Financial Services Cash Flow Engine Reference Guide).

Among the "new business" rows that are generated for each Chart of Account / Entity / Currency are a set of "New Add" Accounts:

The "New Add Balance" for any forecast month will be equal to the amount of new business you submit in your forecast. Balance Sheet Planning, however, supports a number of methods for generating that "New Add Balance". You can submit a new business forecast as a specific amount using the New Add method or you can generate your new business forecast indirectly (e.g., targeting an ending balance). The Forecast Methods and Pricing Methods supported in Balance Sheet Planning are described in the following section.

# Working With the Financial Plan Data Form

Financial Plan form is accessed from BSP folder under Analyst Activities.



The Financial Plan form is the primary data collection form in Balance Sheet planning. The form presents Years & Period as columns and Accounts as rows. Users generally will utilize the first four data input rows in the form to collect:

- Balance Driver - how much new business

- Forecast Balance Method - how the new business is projected

- Pricing Driver - a rate or spread on new business

- Pricing Method - how the new business is priced
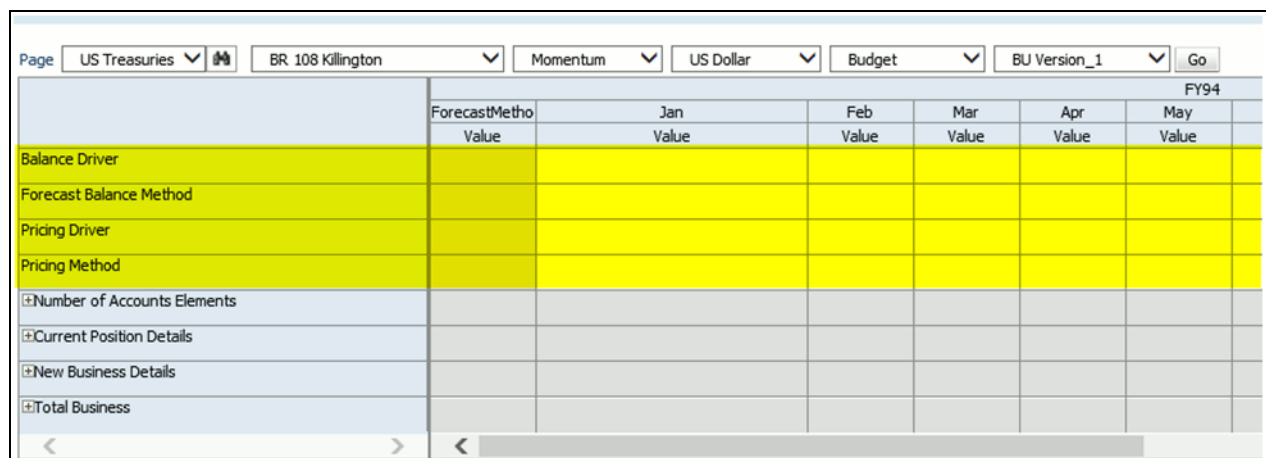


Select a Chart of Account, Entity, Currency, Strategy, Scenario, and Version and click Go. If your Planning Administrator has processed your institution's current book of business, you should see the runoff profile for your Chart of Account for Current Position rows (Accounts) on the form.

> **Note:** Your Planning Administrator may also have loaded historical actual results into "past" months, i.e., months leading up to your first forecast month. Combined with your current position forecast, the Financial Plan form shows you your Chart of Account balances & rates both historically as well as into the future (before any new business is added to maintain your balances).

After the screen refreshes, you may begin to enter your forecast values - Balance Drivers & Methods and Pricing Drivers & Methods.

**Forecast Balance Methods**

Balance Sheet Planning supports four Forecast Balance Methods:

- New Add
- Target Average
- Target End
- Target Growth



Table 18.

| New Add | Use the New Add Forecast Balance Method to forecast a specific amount of new business. |
|---------|----------------------------------------------------------------------------------------|
| Target Average | Use the Target Average Forecast Balance Method to forecast an average balance for a Period. Using this method, the cash flow engine will generate the correct volume of new business such that your average balance for the period, net of runoff from payments, prepayments, or other forms of runoff for the period, will match your forecast average balance. |
| Target End | Use the Target End Forecast Balance Method to forecast an ending balance for a period. Using this method, the cash flow engine will generate the correct volume of new business such that your ending balance for the period, net of runoff from payments, prepayments, or other forms of runoff for the period, will match your forecast ending balance. |
| Target Growth | Use the Target Growth Forecast Balance Method to forecast a percentage growth of your ending balance over your beginning balance. Using this method, the cash flow engine will generate the correct volume of new business such that your ending balance for the period, net of runoff from payments, prepayments, or other forms of runoff for the period, will equal your beginning balance times a growth rate. Growth rates in BSP are monthly growth rates. To achieve a month end balance 3% higher than the month's beginning balance, use a growth rate of 3%. |

> **Note:** You must utilize a consistent Forecast Balance Method for each Period in your Chart of Account / Currency / Entity / Strategy / Scenario / Version forecast, but you can use different Forecast Balance Methods for different combinations of Chart of Account, Currency, Entity, Strategy, Scenario, and Version. Balance Driver (FE 700) entered should be 12 digits or less.

## Pricing Methods

Balance Sheet Planning supports three Pricing Methods:

- Use Administrator Default
- New Add Rate
- New Add Market Rate Spread



When using the New Add, Target Average, or Target End Forecast Balance Method, be sure your forecast balance is less than < 999,999,999,999.99.  The Cash Flow Engine is limited to 14-digits of precision.

> **Note:** You must utilize a consistent Pricing Method for each Period in your Chart of Account / Currency / Entity / Strategy / Scenario / Version forecast, but you can use different Pricing Methods for different combinations of Chart of Account, Currency, Entity, Strategy, Scenario, and Version.

If you select Use Administrator Default, a default pricing spread will be applied to your forecast. This default spread will be added to the pricing index applicable to the Chart of Account member you are forecasting (see Market Rate Interest Rate Code in Chapter 18 - Chart of Account Characteristics). The Planning Administrator establishes interest rate indexes, defines forecasts for each of the interest rates curves, and generates default margins for your institution.

> **Note:** If you save the Financial Plan form using the "Use Administrator Default" Pricing Method for a Chart of Account / Currency combination for which the Planning Administrator has not established a default spread, BSP will look for a default spread for your Chart of Account under the Default Currency. If a Default Spread still cannot be found, you will be alerted with the message: "Default Pricing Margin has not been defined. Please provide Pricing Margin Inputs in Pricing Margin form."

If you do not select a Forecast Balance Method or Pricing Method, "New Add" and "Use Administrator Default" are applied by default when you save the form.

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:

For enabling an active currency in Financial Plan Default (Analyst Form), follow the steps given below:

1. Login to Hyperion Planning by selecting the required BSP application.

2. Navigate to option, Administration -> Manage -> Forms and Ad Hoc Grids.

3. Select the standard form (that is, Financial Plan) to be modified by clicking the checkbox, and then click **Edit** button.

4. Choose the **Layout tab** and check for Currency dimension in Page section.

5. Click the **Member Selector** icon next to Currency dimension.

6. Select the new active currency from the left hand side to right hand side and click OK button.

7. Click **Save** button to save the form changes and then click **Finish** button.

> **Note:** Similarly, perform the same steps to other standard forms wherever new active Currency addition to Page selection, is required.

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
  - Intercompany Account and Eliminations
- Calculate Options
  - Calculate
  - Calculate with Partial Solve
- Synchronization
  - Synchronize with CAPEX Expense Accounts
  - Synchronize with CAPEX Balance Accounts
  - Synchronize with Workforce

When you highlight a top level menu item with your curser, lower level menu items are displayed and available for selection.

> **Note:** If you do not enter value in the Default Market Rate Spread and select "Use Administrator Default" as Pricing Method and user click Save, a message is displayed "Default Pricing Margin has not been defined. Please provide Pricing Margin inputs" If you enter the value for Pricing Driver field and select "Use Administrator Default" as Pricing Method, the Pricing Driver value gets deleted.
>
> After clicking Save, the Forecast Balance Method and Pricing Method selected in the first time bucket, will be copied to all the other time buckets. The first bucket will drive the method selection. The active time bucket can start from any month and not only January, so the business rule reads the substitution variable for start and end period and then copy the data to the other time buckets.

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.
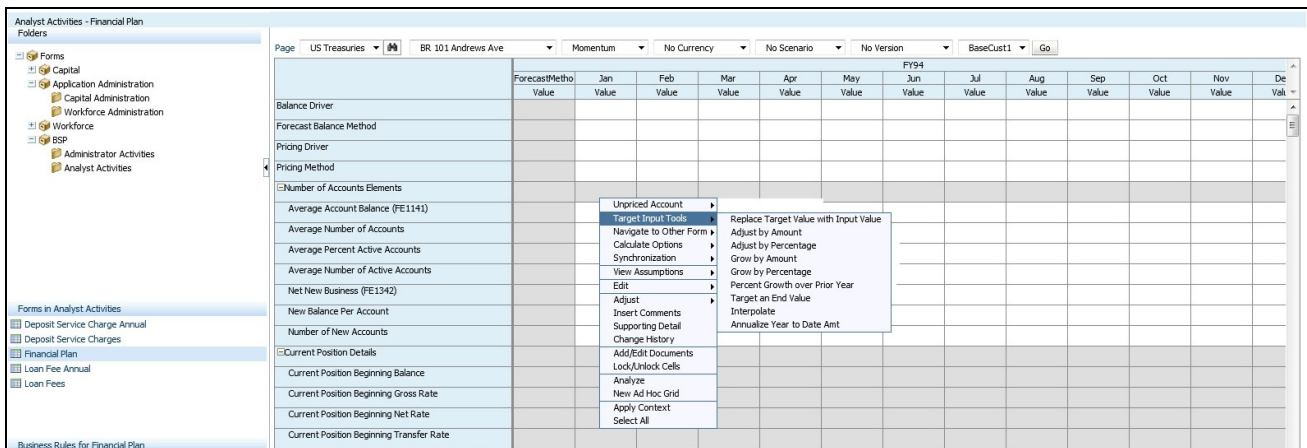


3. Select the method to be used. A Run Time Prompt window will appear. Select dimensions members using the Selector icon next to each dimension selection.

> **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''.
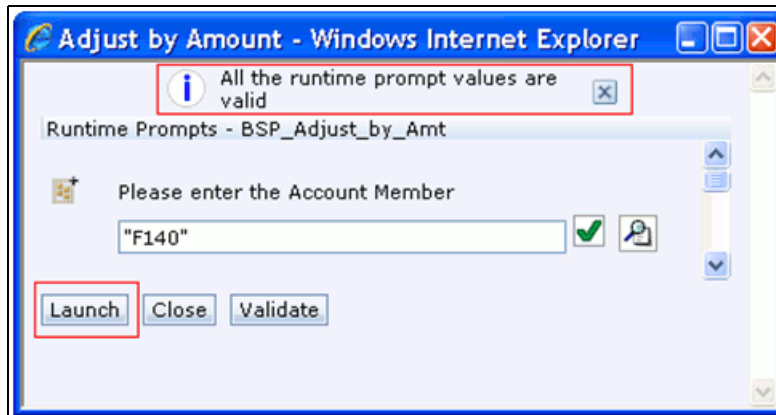


5. Click the Launch button to generate the target values. After the rule is run, you will be returned to the Financial Plan data form and a message will appear stating that the rule was successful.

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 23-36 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:
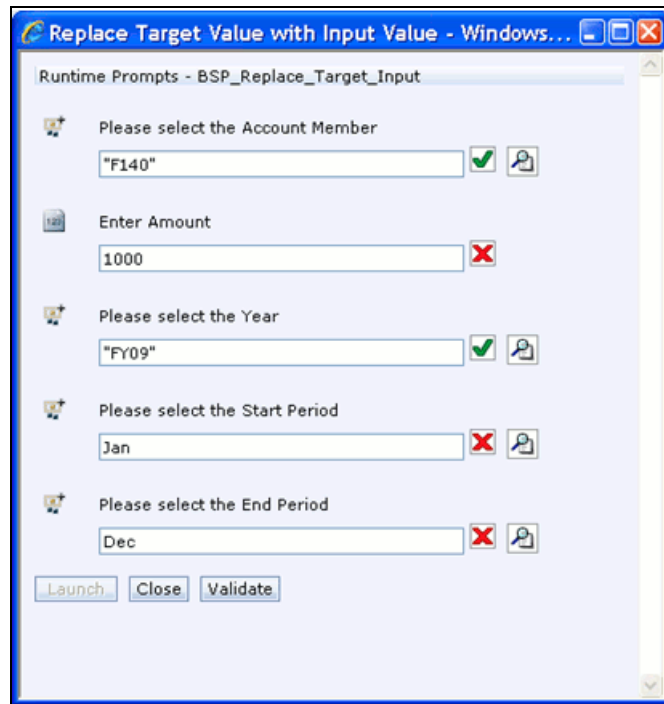
**Example**

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:

Table 19.

|  | Jan | Feb | Mar | Apr | May | Jun | Jul | 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_In-put 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:
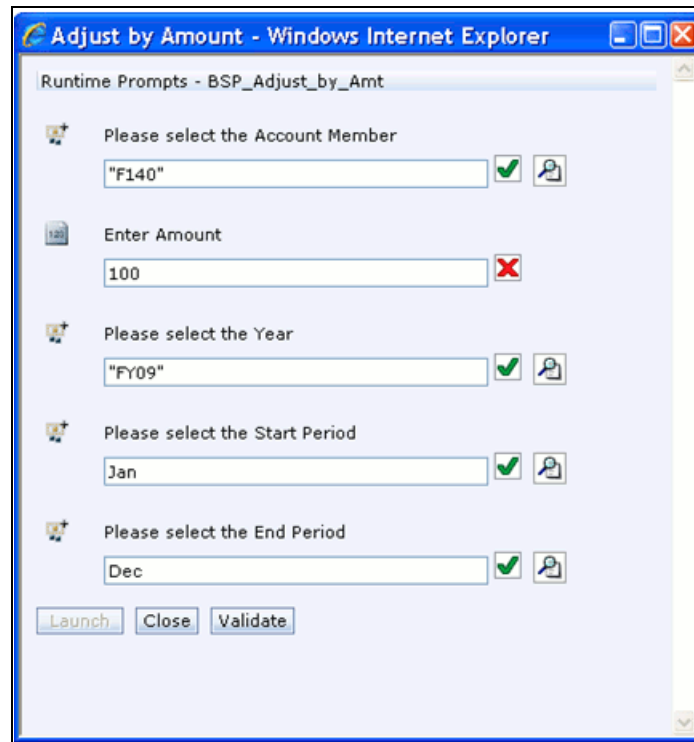
**Example**

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:

Table 20.

| | Jan | Feb | Mar | Apr | 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:
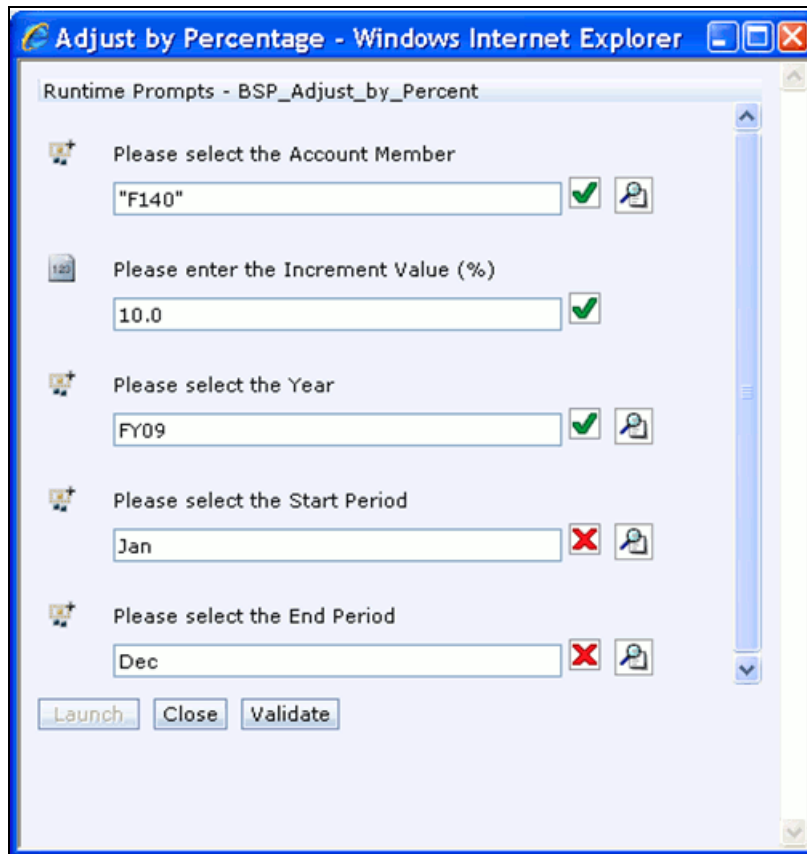
**Example**

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:

Table 21.

|  | Jan | Feb | Mar | Apr | 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_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:
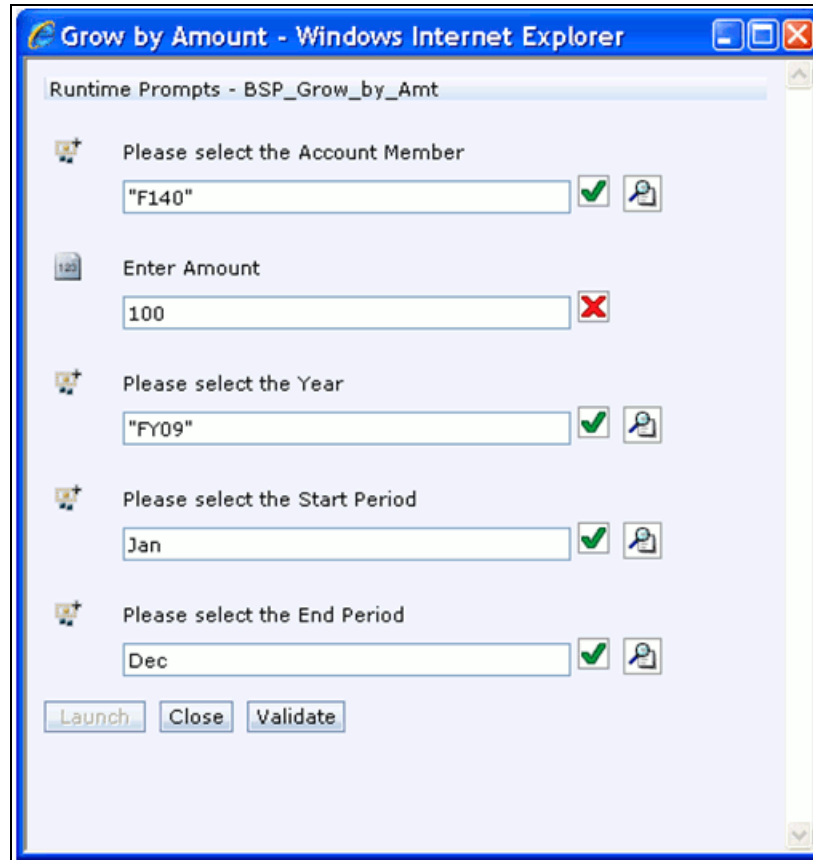
**Example**

> **Note:** This example assumes that the value for Average Balance ("F140") is 1000 for Year: FY08 and Period: Dec.
>
> 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:

**Table 22.**

|  | Jan | Feb | Mar | Apr | 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:
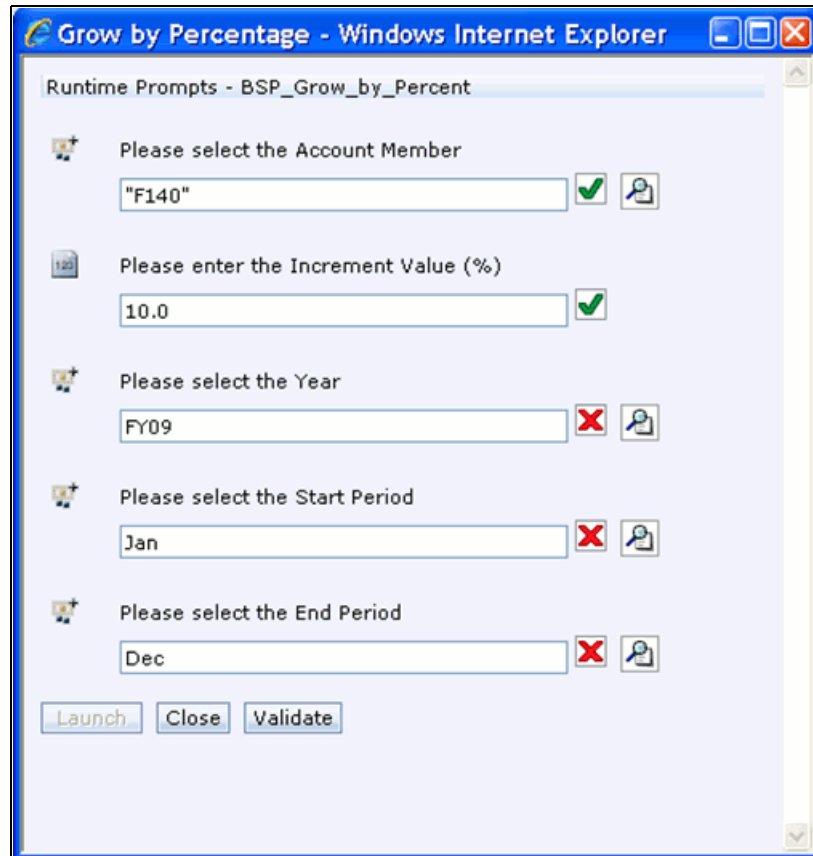


**Example**

> **Note:** This example assumes that the value for Average Balance ("F140") is 1000 for Year: FY08 and Period: Dec.
>
> 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:

**Table 23.**

|  | Jan | Feb | Mar | Apr | 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:
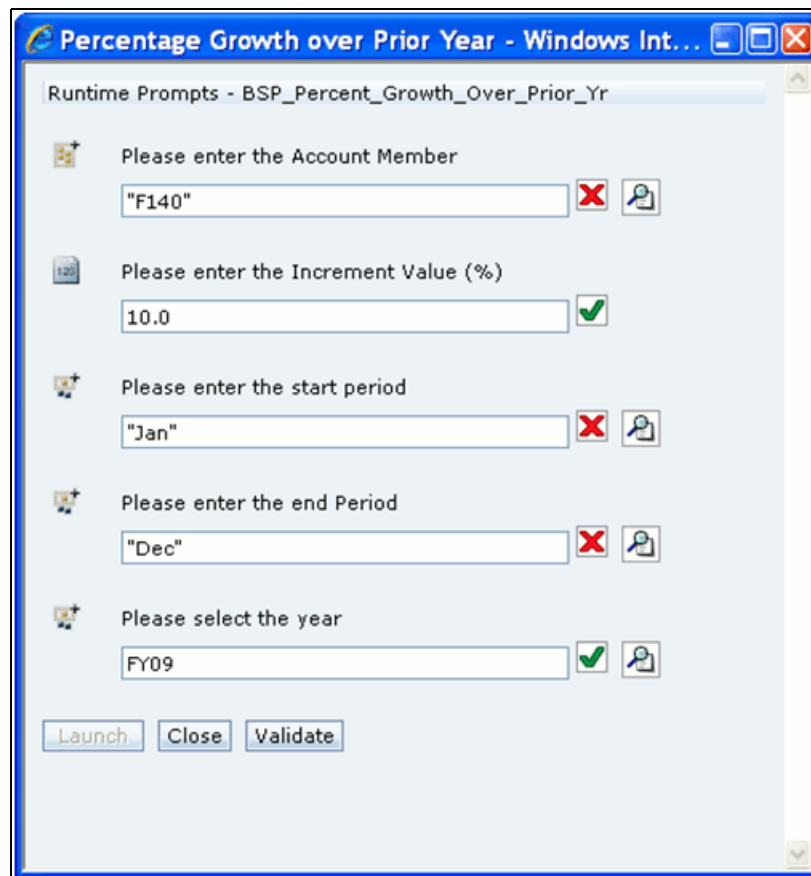


**Example**

> **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:

**Table 24.**

|  | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Old 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:
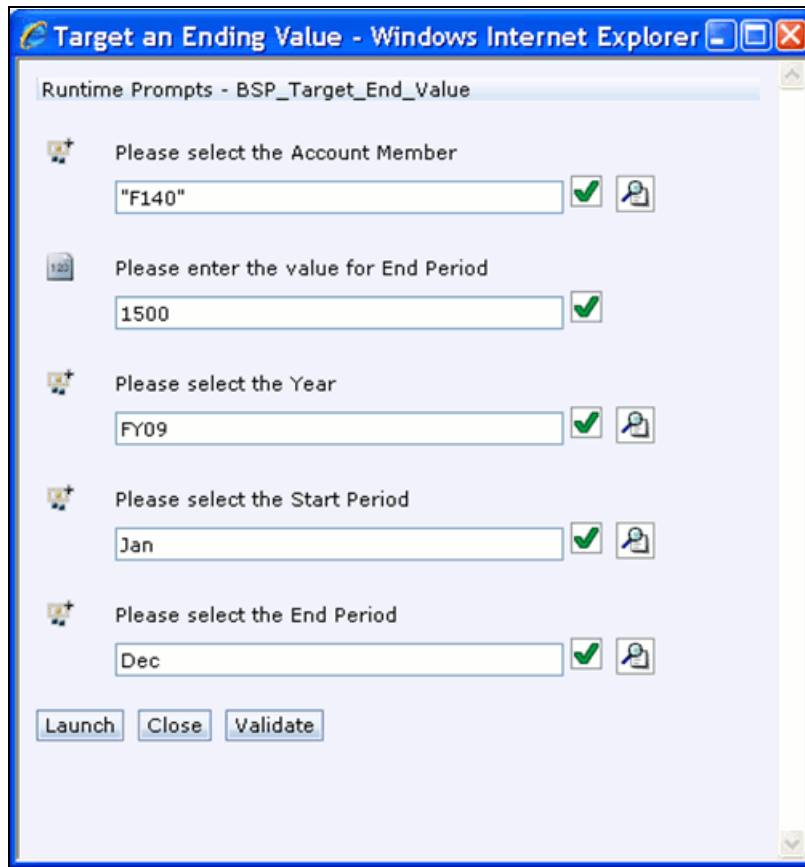
**Example**

> **Note:** This example assumes that the value for Average Balance is 1000 for Year: FY08 and Period: Dec.
>
> 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:

**Table 25.**

|  | 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:
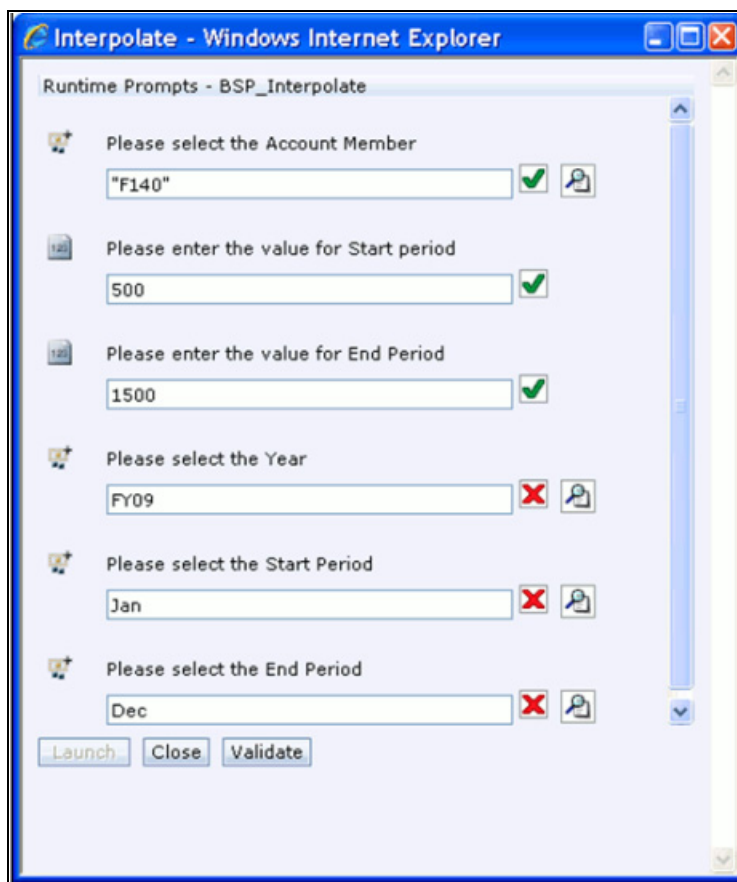


**Example**

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 promptsscreen:

**Table 26.**

|  | 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 | 590.0 | 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:
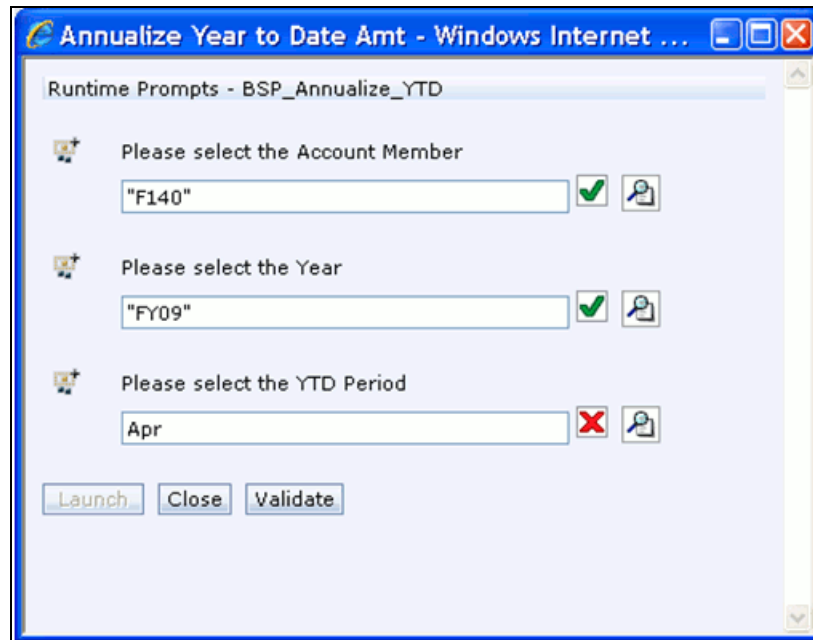


The calculations performed by the Annualize Year-to-date Values function vary depending on the type of financial element being projected:

- 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:

**Table 27.**

|  | 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:

**Table 28.**

|  | 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:

**Table 29.**

|  | 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
- Intercompany Accounts and Eliminations
- Maturity Mix - Single Mix

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. Refer to Elimination Support section for more information on Intercompany Accounts and Eliminations form. 'Maturity Mix - Single Mix' form feature will be supported in a future release.

## Maturity Mix

### Overview

Maturity Mix Assumptions are used to define mix breakout, term, and amortization term characteristics 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 Override 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.
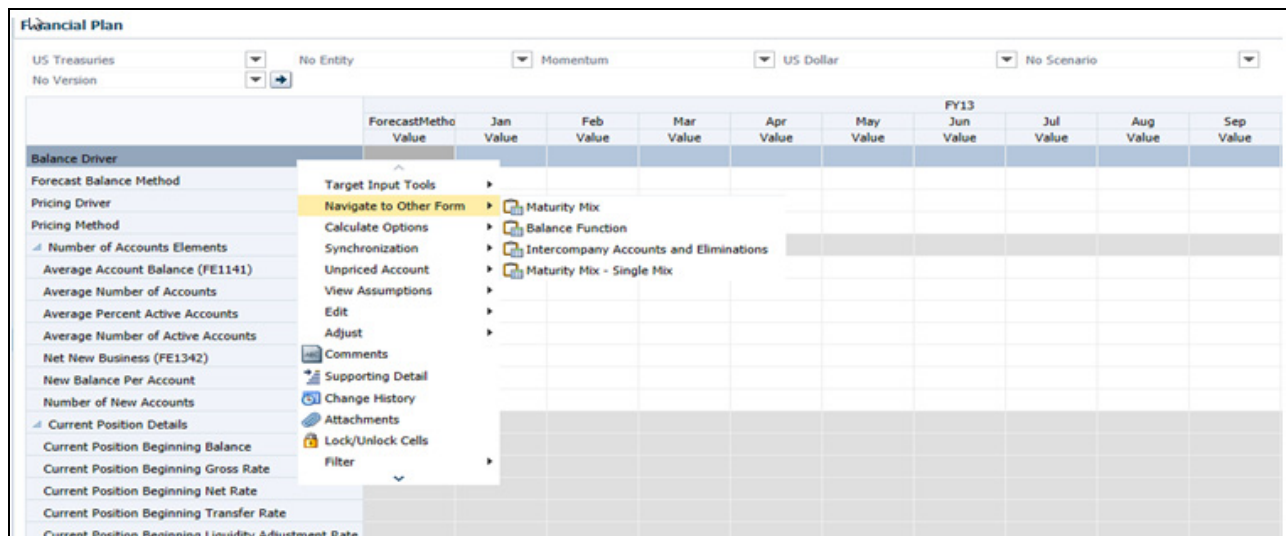


In the Maturity Mix data form, three rows are generally displayed for each maturity mix assumption including a node level row, an underlying default row and an underlying override row. The node level rows are displayed underneath the underlying 'children' rows.

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
- Custom 1
- Custom 2

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.

**Maturity Mix Override**

Financial Plan > Maturity Mix Override

| Visa Gold ▼ | BR 101 Andrews Ave ▼ | US Dollar ▼ | BaseMMixScenario ▼ | Jan ▼ |
|---|---|---|---|---|
| FY13 ▼ ➜ | | | | |

| | Mix 1 | Mix 2 | Mix 3 | Mix 4 | Mix 5 | Mix 6 | Mix 7 | Mix 8 | Mix 9 | Mix 10 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Override Mix Percent | 100% | | | | | | | | | | |
| Override Term | 36 | | | | | | | | | | |
| Override Amortization Term | 60 | | | | | | | | | | |

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 Jan. The assumptions defined on this page will be applied to new add balances for the month of Jan, 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:
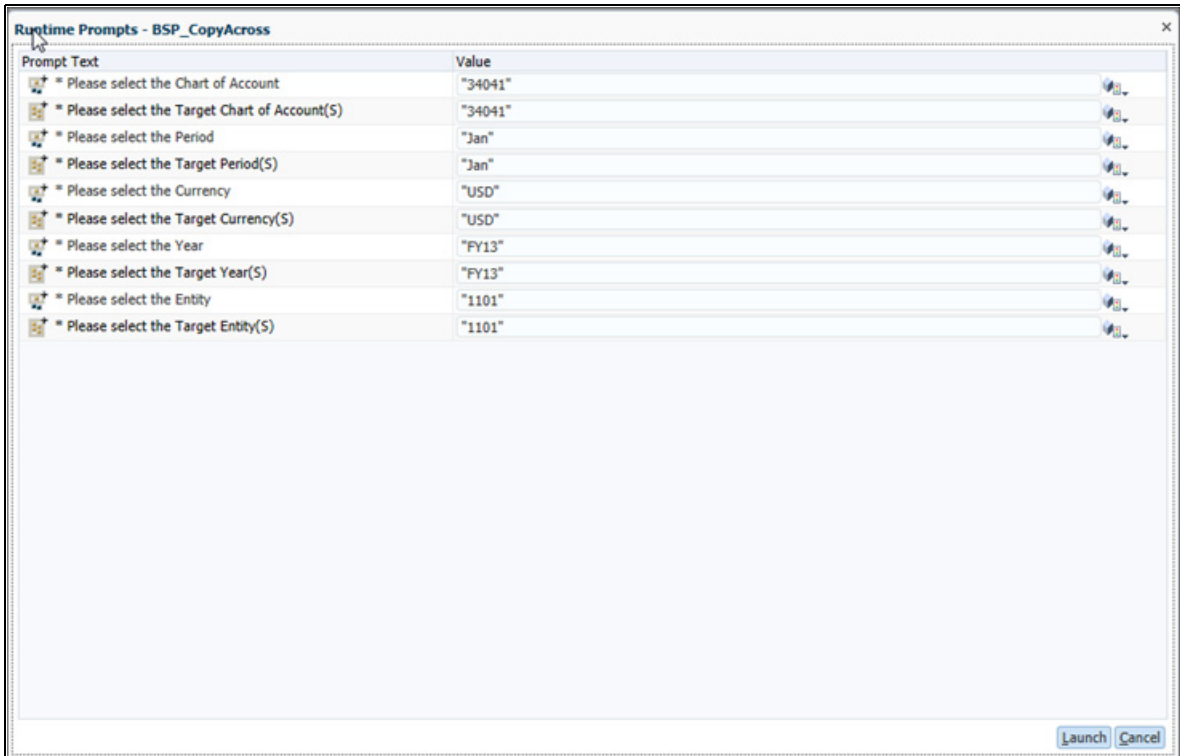
You can copy maturity mix assumptions defined on the page to other years, periods, currencies, entities and chart of account dimension members by selecting the target dimension members in the respective selectors. Once you have made the selections of members to be copied to, click Launch to copy the 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.

● 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.

### *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 Function** 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:

● 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.
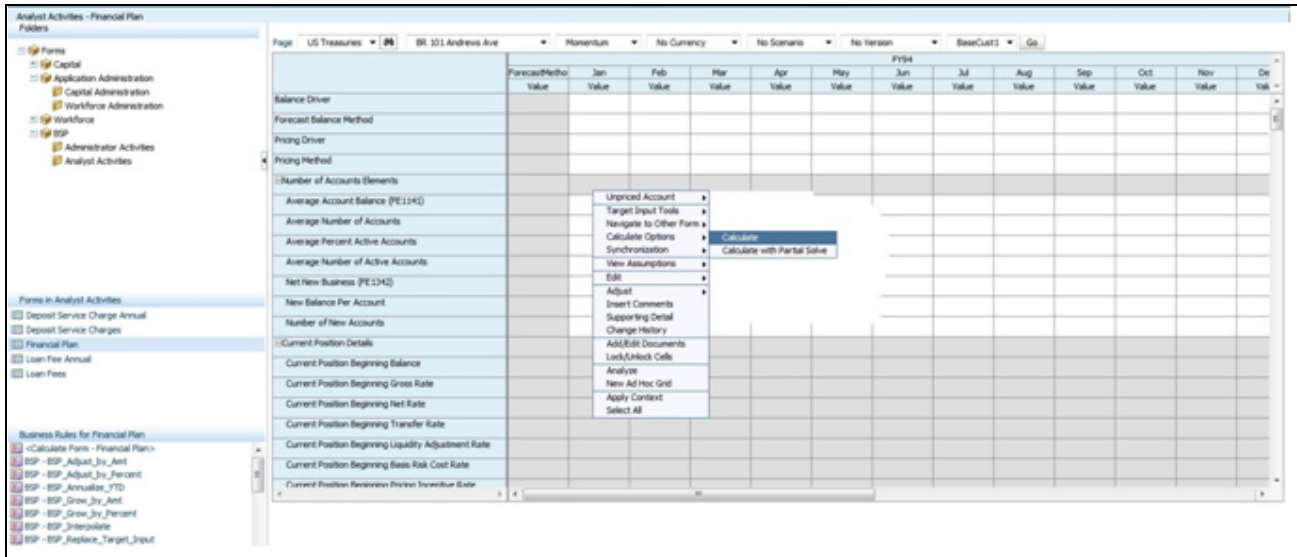


## Calculate

After entry of target balance driver pricing driver data; and after extracting maturity, 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.
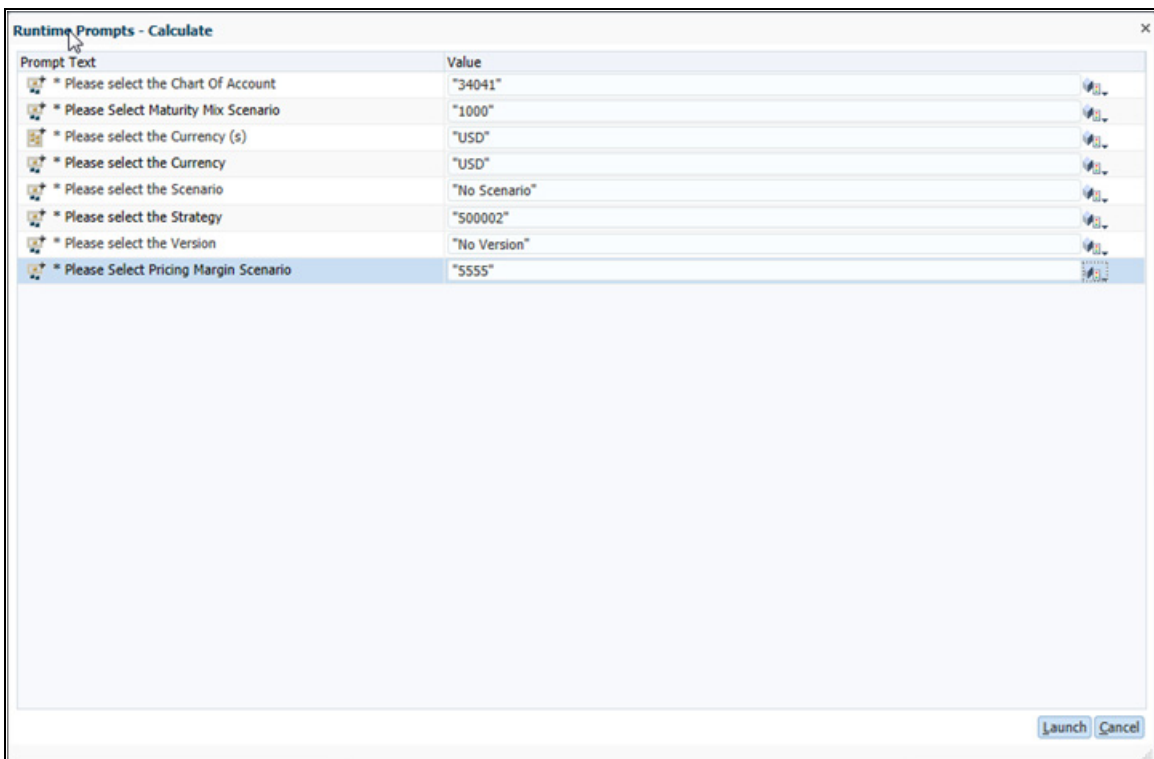
To generate cash flows for a single dimension member combination that is reflected on the Financial Plan data form, the values for Chart of Account, Strategy, Currency, Scenario, Version, Custom 1, Custom 2 are pre-populated from the Financial Plan form.

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 dimension in the dimension member selector. When node level members are selected (node level for entity cannot be selected), the cash flow engine will be run for all lowest level dimension members underneath the selected nodes, in a single process execution.

---

**Note:** All User defined COA dimensions are uploaded under the seeded top level hierarchical node i.e., 'BSP_COA'. Refer to 'Predefined Dimensions' section of Chapter 1 - 'Balance Sheet Planning Overview' for more details. This seeded dimension member cannot be selected for node level cash-flow executions.

Analyst would not be able to select the Entity dimension in the dimension member selector.

---

Note the following points:

- When you click Calculate option, the Maturity Mix data will be exported to RDBMS. During export, the Business Rule decides which needs to be entered (MO or MD).

- If the Adjustable type is fixed, then original term (read from maturity mix ME 2) is used as term point to locate the forecasted interest rate

- If Adjustable Type is not fixed, then repricing frequency (read from COA characteristics) is used as term point to locate the forecasted interest rate. If data is not available for the COA/Currency combination for which calculate is done, then the Business rule looks for data defined for COA/Default Currency.

- If you have selected a Forecast Balance Method and balance driver is blank, then balance driver value 0 will go into RDBMS.

- If Balance Driver value is 0, forecast balance method is New Add, and version attribute has rollover attached to it, then Rollover with new add method is used.

- If the version attribute has rollover attached to it, the current Product/Currency combination is configured to generate rollovers, and the New Add is selected as forecast balance method, then Rollover with new add forecast balance method is used.

- If the version attribute has rollover attached to it, the current Product/Currency combination is configured to generate rollovers, and the Target Growth % is selected as forecast balance method, then Rollover with Target Growth % forecast balance method is used.

---

**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, 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_Calculate.' 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.

---

**Note:** Analysts may process and then re-process the same forecast items multiple times as using slightly different forecast data or other modeling assumptions. When data is reprocessed, Essbase is refreshed with the new results, but Essbase may not be completely cleared of its prior results if previous simulations have generated runoff under Accounts that were not generated in subsequent simulations.

For example, if you forecast a Chart of Account that generates prepayment runoff and then subsequently, first remove your prepayment assumption and second re-process your forecast, the re-processed forecast data will not contain any prepayment runoff, but the original runoff generated by the first simulation will not have been cleared from Essbase.

To avoid these kinds of issues, it is recommended that you utilize different Versions for generating current position runoff or new business forecasts whenever you are fine-tuning modeling assumptions such as Prepayments, Behaviour Patterns, Economic Indicators, Transfer Pricing, and Adjustments. When these basic modeling assumptions are stable, the Accounts generated by your forecast activity for each Chart of Accounts member will also be stable.

## 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.
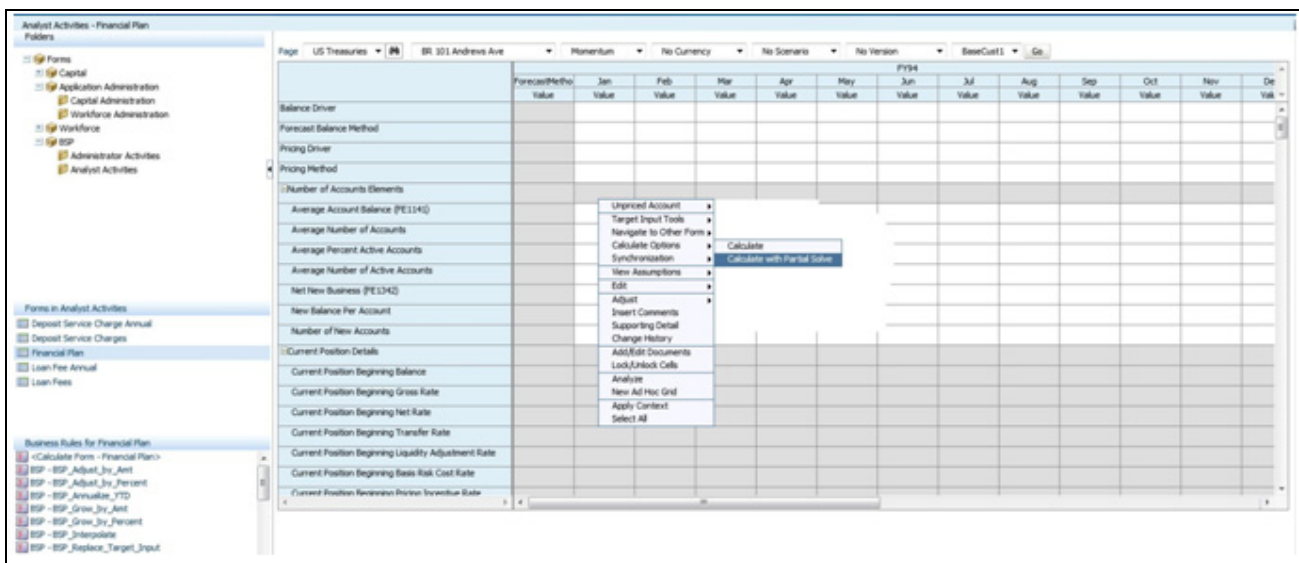
A run time prompt window will be displayed.
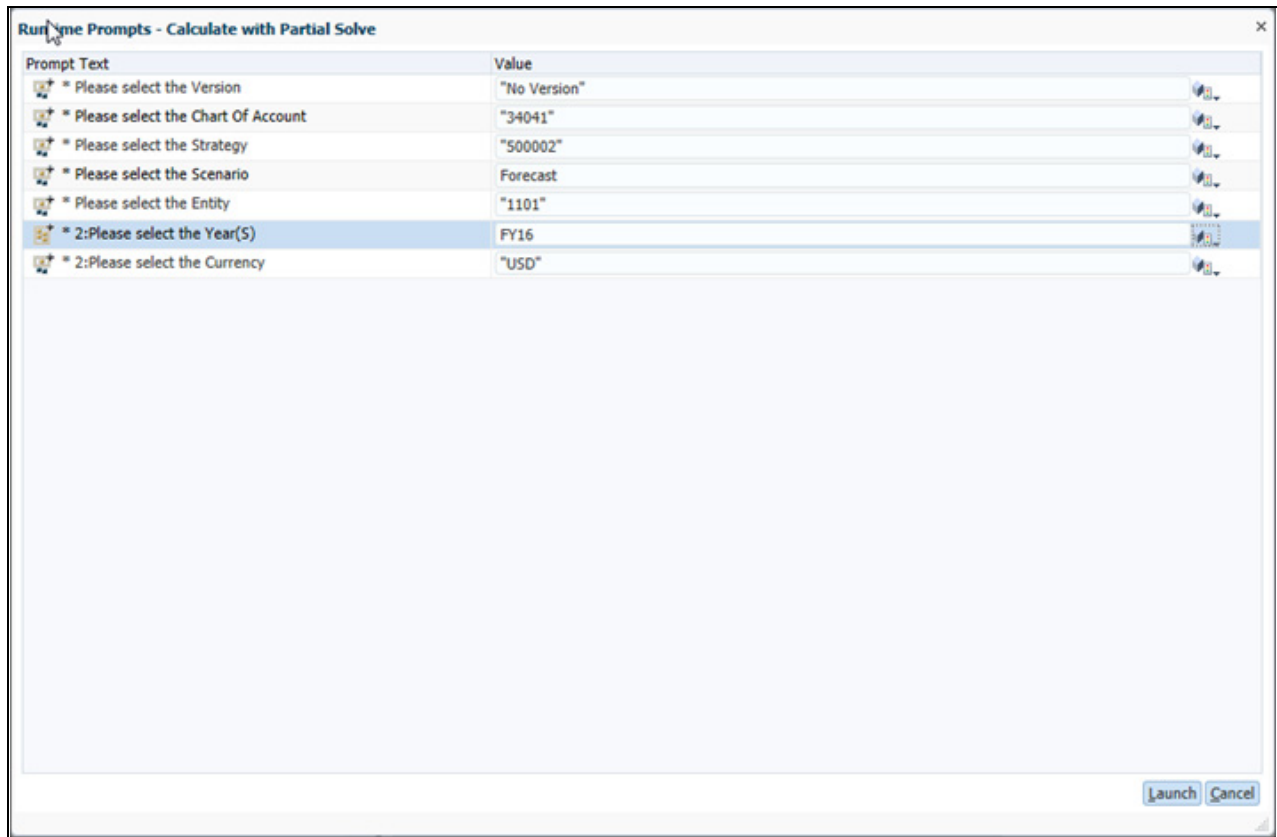


Select the node level dimension members to which you wish to aggregate data after running the cash flow engine for hierarchical dimensions, including the Year, Chart of Account, Entity and Strategy dimensions.

## 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.
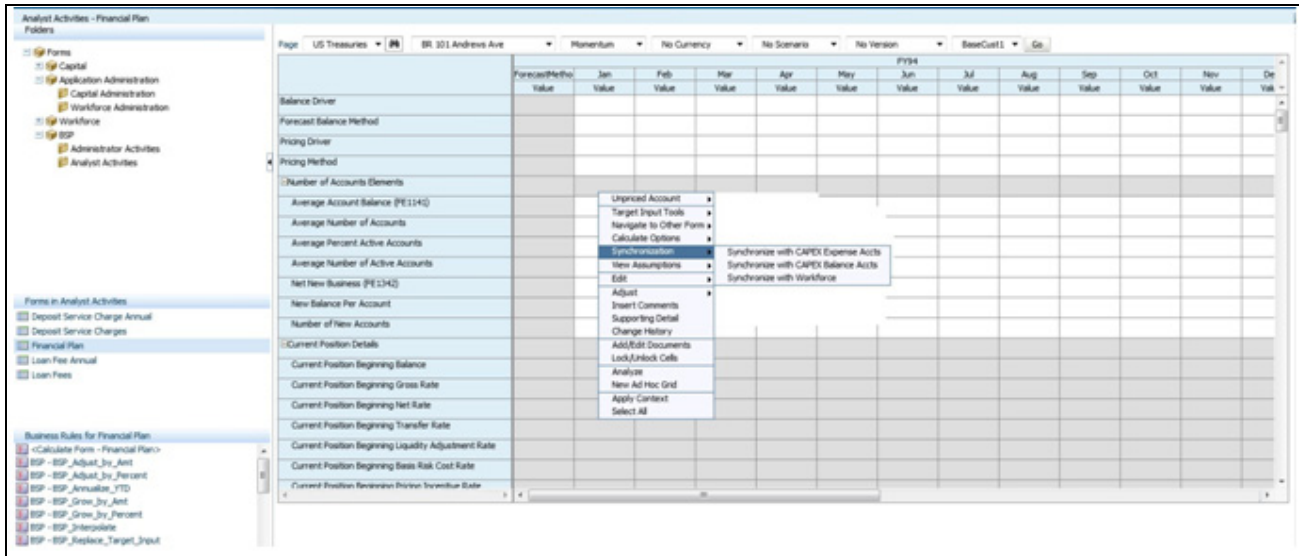
## Synchronize with CAPEX Expense Accounts

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, Version, and Custom 1, and Custom 2 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, Version, Custom 1, and Custom 2 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, Version, Custom 1, and Custom 2 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.

## 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** - Click this menu item to view data for the rollover scenario being used for the budget or forecast scenario.

## *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

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.

● 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.

● Non interest income and fee waiver members must be defined in the Chart of Accounts dimension. The attributes other loan fees, loan fee waiver for loan, other deposit service charges, and deposit service charge waiver for deposit should be assigned.

● The loan fees and deposit service charge Chart of Accounts should be mapped to the non interest income Chart of Account using the data form Non interest income COA Mapping.

● The non interest income Chart of Accounts for loan and deposit should be mapped to the waiver using the data form Waiver COA Mapping.

## 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.

## Loan Fee Data Form

You can generate and work with the loan fees on a period basis by using the Loan Fee data form. To access the data form used to plan the loan fees on a monthly basis, go to the BSP Folder, Analyst Activities, click on Loan Fees.



This will open the Enter Data - Loan Fees data form.
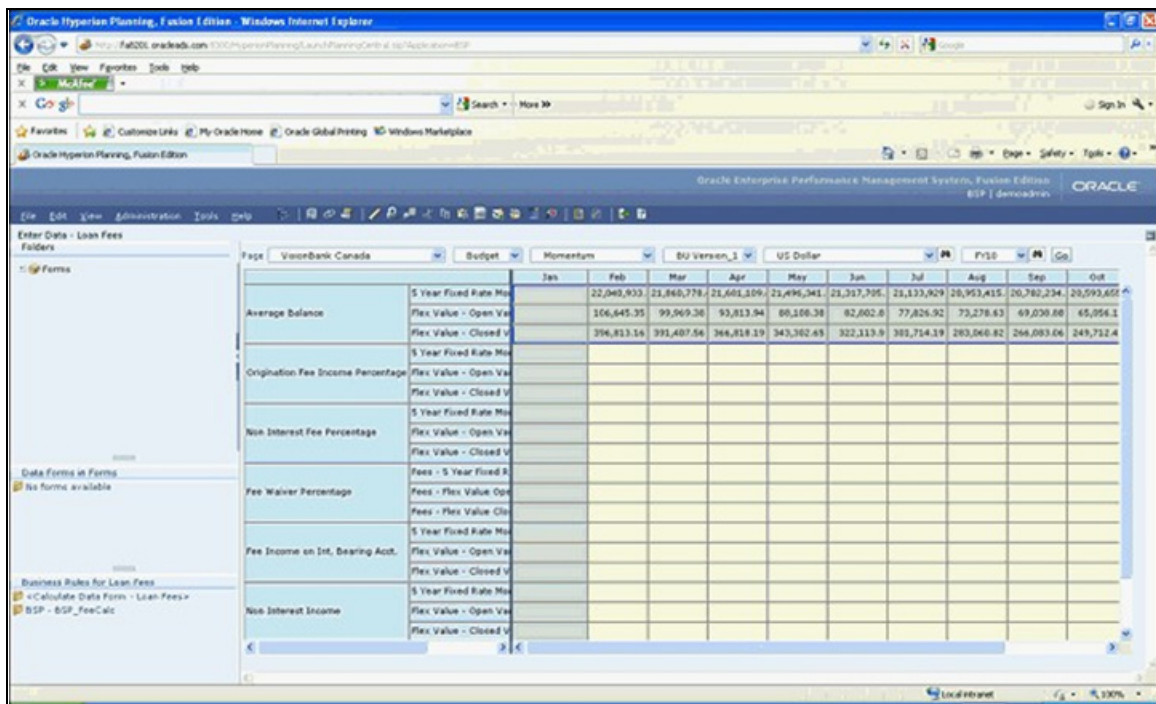


Select the Entity, Currency, Scenario, Version, Strategy, Year, Custom 1 and Custom 2 dimension members you want to work with and click Go, and the screen will refresh.

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 annual 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 annual 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.

■ 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 Calculate Loan Fee, and a runtime prompts window will open:



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.

## Loan Fee Annual Data Form

The data form supports the 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. To access the data form used to plan the loan fees on yearly basis, go to the BSP Folder, Analyst Activities, click on Loan Fees Annual.



This will open the Enter Data - Loan Fees Annual data form.

Select the Entity, Currency, Scenario, Version, Strategy, Year, Custom 1 and Custom 2 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.

- Non Interest Income Fees - Enter annualized percentages in the Non Interest Fee Percentage section of the data form.

- Loan Fee Waivers - Enter percentages in the Fee Waiver Percentage section of the data form.

  - 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 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.

## *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.

# Predefined Business Rules and 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

### BSP_Product_Instrument

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;
```

### BSP_SmartList_Sync

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;
```

### BSP_HierDim_Sync

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;
```

## BSP_Flat_StdDim_Sync

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;
```

## BSP_Flat_CustDim_Sync

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;
```

## BSP_Adjust_by_Amt

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
```

## BSP_Adjust_by_Percent

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
```

## BSP_Annualize_YTD

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
```

## BSP_Calculate_Current_Business

This business rule executes a java function to call cash flow engine for Current Business data processing.

```
/* STARTCOMPONENT:SCRIPT */
/*This rule is used to call the Cash flow engine for Current Position business
processing for the Dimension member selection made. */
SET CREATENONMISSINGBLK ON;
 /* ENDCOMPONENT */
 FIX
("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q3","O
ct","Nov","Dec","Q4","YearTotal",{BSP_Scenario_S},@RELATIVE({BSP_Strategy_S},0),@RELA
TIVE({BSP_COA_S},0),{BSP_Version_S},{BSP_Currency_S},@RELATIVE({BSP_Entity_S},0))

/* STARTCOMPONENT:SCRIPT */
    /*Temporary Variable is used to fetch the status, success(1) or
 failure(0)*/

     VAR Return_Status = 100;
   /*   ENDCOMPONENT   */
"No Attribute Value"(
      /*       STARTCOMPONENT:FORMULA      */
      Return_Status = @JCFE( "PR_FINANCIAL_PLAN",
 "FN_BSP_PROCESSING",
@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("F700"),
@NAME("F701"),
"ofsrm.sh",
"OFSRM",
 "TASK1",
 "ADMIN",
 "BSP",
 "PR_RES_DET_IMPORT",
 &DATASOURCE,
 &CubeName,
 "impCBCS" );
 )
 ENDFIX
```

# BSP_CFE_Security_File_Gen

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;
```

# BSP_Consolidate

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
```

# 12. BSP_CopyAcross

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
```

## 13.  BSP_Replace_Target_Input

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
```

## 14.  BSP_RunBalancing

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");
```

# BSP_Sync_Capex_Bal

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
```

# BSP_Sync_Capex_Bal_All

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
```

## BSP_Sync_WrkForce_Bal

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
```

## BSP_Sync_WrkForce_Bal_All

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
```

# BSP_Target_End_Value

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
```

## BSP_TransResult

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
```

## BSP_Percent_Growth_Over_Prior_Yr

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
```

## BSP_Sync_Capex_Bal

This rule is used to synchronize data for Balances, Account Dimension Members of CAPEX Plan Type with Ending Balance of mapped Chart of Account Dimension Member in the BSP Plan Type The change which needs to be made to this rule is given below.

```
/*Data is synchronized for Chart of Account Dimension members assigned with Asset or
Liability Attribute*/
FIX ([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Custom
1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute(100),@Attribute(200),@Attribute(3
00),@Attribute(400))
```

## BSP_Sync_Capex_Bal_All

This rule is used to synchronize data for Balances, Account Dimension Members of CAPEX Plan Type with Ending Balance of mapped Chart of Account Dimension Member in the BSP Plan Type for Entity Dimension members The change which needs to be made to this rule is given below.

```
/*Data is synchronized for Chart of Account Dimension members assigned with Asset or
Liability Attribute*/
FIX ([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Custom
1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute(100),@Attribute(200),@Attribute(3
00),@Attribute(400))
```

## BSP_Sync_Capex_Exp

This rule is used to synchronize data for Expenses, Account Dimension Members of CAPEX with Non Interest Expense of mapped Chart of Account Dimension Member in the BSP Plan Type The change which needs to be made to this rule is given below.

```
/*Data is synchronized for Chart of Account Dimension members assigned with
Attribute: Non Interest Expense */
FIX ([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Custom
1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute("350"))
```

## BSP_Sync_Capex_Exp_All

This rule is used to synchronize data for Expenses, Account Dimension Members of CAPEX with Non Interest Expense of mapped Chart of Account Dimension Member in the BSP Plan Type for Entity Dimension members The change which needs to be made to this rule is given below.

```
/*Data is synchronized at all Entity Dimension members for Chart of Account Dimension
members assigned with Attribute: Non Interest Expense */
FIX ([BSP_Year],[BSP_Period],@DESCENDANTS("BSP_Entity"),[BSP_Strategy_S]
,[BSP_Custom1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"N
o Attribute Value",[BSP_Currency_S],@Attribute("350"))
```

## BSP_Sync_WrkForce

This rule is used to synchronize data for Expenses, Account Dimension Members of Workforce with Non Interest Expense of mapped Chart of Account Dimension Member in the BSP Plan Type The change which needs to be made to this rule is given below.

```
/*Data is synchronized for Chart of Account Dimension members assigned with
Attribute: Non Interest Expense*/
FIX ([BSP_Year],[BSP_Period],[BSP_Entity_S],[BSP_Strategy_S],[BSP_Custom
1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"No Attribute
Value",[BSP_Currency_S],@Attribute("350"))
```

## BSP_Sync_WrkForce_All

This rule is used to synchronize data for Expenses, Account Dimension Members of Workforce with Non Interest Expense of mapped Chart of Account Dimension Member in the BSP Plan Type for Entity Dimension members The change which needs to be made to this rule is given below.

```
/*Data is synchronized for Chart of Account Dimension members assigned with
Attribute: Non Interest Expense */
FIX ([BSP_Year],[BSP_Period],@DESCENDANTS("BSP_Entity"),[BSP_Strategy_S]
,[BSP_Custom1_S],[BSP_Custom2_S],[BSP_Version_S],[BSP_Scenario_S],"N
o Attribute Value",[BSP_Currency_S],@Attribute("350"))
```

# *Sequences*

## BSP_COA_Seq

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.

### BSP_COA_Export

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;
```

### BSP_COA_ProcCall

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;
```

## 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.

### BSP_ScenarioAttr_DataExport

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;
```

### BSP_ScenarioAttr_ProcCall

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;
```

## BSP_Version_Export_Seq

This sequence is being used to export version attributes from Essbase to FSDM. There are two business rules included in this sequence.

### BSP_VersionAttr_DataExport

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;
```

### BSP_VersionAttr_ProcCall

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;
```

# BSP_FP_Partial_Seq

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.

## BSP_FP_Export

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
```

## BSP_Calc_Partial

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
```

## BSP_FeeCalc_Annual_Seq

This sequence is used in Fee Calculations on Loan and Deposit Accounts. There are five business rules in the sequence.

### BSP_Annual_FeeCalc_P1

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
```

## BSP_Annual_FeeCalc_P2

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
```

## BSP_Annual_FeeCalc_P3

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
```

## BSP_Annual_FeeCalc_P4

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
```

## BSP_Annual_FeeCalc_P5

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
```

# BSP_Calculate

This Sequence is used to export Financial Plan, Maturity Mix and Pricing Margin Data for Total Business i.e., Current and New Business in the 'Financial Plan Default'form (Administrator Activities).

## BSP_Calculate.

This Sequence is used to export Financial Plan, Maturity Mix and Pricing Margin Data for New Business in the 'Financial Plan' form (Analyst Activities)

Both the Sequences above have the following ten Rules:

| Name | Type |
|------|------|
| ◢ ✦ BSP_Calculate | |
| ▷ ◈ BSP_MM_DataExport | Rates |
| ▷ ◈ BSP_MM_DataExport1 | Rates |
| ▷ ◈ BSP_MM_ProcCall | Rates |
| ▷ ◈ BSP_PM_DataExport | BSP |
| ▷ ◈ BSP_PM_DataExport. | Rates |
| ▷ ◈ BSP_PM_DataExport1 | Rates |
| ▷ ◈ BSP_PM_ProcCall | Rates |
| ▷ ◈ BSP_FP_Export | BSP |
| ▷ ◈ BSP_FP_Export1 | BSP |
| ▷ ◈ BSP_Calculation | BSP |

**Note:** The codes provided for the Rules below relate to BSP 'Standard' Type (without Custom1 and Custom2 dimensions)

## BSP_MM_DataExport

This business rule exports maturity mix data into FSI_BSP_MATURITY_MIX_T intermediate table of FSDM for the Default currency.

```
/*STARTCOMPONENT:SCRIPT*/
SET CREATENONMISSINGBLK ON;

SET UPDATECALC OFF;
/*ENDCOMPONENT*/
```

```
FIX ({BSP_Year},/*DIM:Period*/"No Period",/*DIM:Mix
Breakout*/@RELATIVE("Mix",0),/*DIM:Scenario*/"No Scenario",/*DIM:Strategy*/"No
Strategy",/*DIM:Chart of Account*/@RELATIVE({BSP_COA_S},0),/*DIM:Account*/"No FE -
Rates",/*DIM:Version*/"No Version",/*DIM:Currency*/"000",/*DIM:RateElement*/"MD1",
"MD2", "MD3", "MO1", "MO2",
"MO3",/*DIM:Assumption*/{Rates_Assumption_S},/*DIM:Entity*/@RELATIVE({BSP_Entity_S},0
))
    "No Term Points"(
      /*STARTCOMPONENT:FORMULA*/
      @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_MATURITY_MIX_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR(Assumption)), @NAME(@CURRMBR("Chart of
Account")), @NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR("Mix Breakout")),
@NAME(@CURRMBR("Term Points")), @NAME(@CURRMBR(RateElement)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
      /*ENDCOMPONENT*/
    )
ENDFIX
```

## BSP_MM_DataExport 1

This business rule exports maturity mix data into FSI_BSP_MATURITY_MIX_T intermediate table of FSDM for the User Defined currency.

```
/*STARTCOMPONENT:SCRIPT*/
/* STARTCOMPONENT:SCRIPT */
SET CREATENONMISSINGBLK ON;

SET UPDATECALC OFF;
/*ENDCOMPONENT*/
/* ENDCOMPONENT */
FIX (/*DIM:Period*/"No Period",{BSP_Year}, {BSP_Currency},/*DIM:Mix
Breakout*/@RELATIVE("Mix",0),/*DIM:Scenario*/"No Scenario",/*DIM:Strategy*/"No
Strategy",/*DIM:Account*/"No FE - Rates",/*DIM:Chart of
Account*/@RELATIVE({BSP_COA_S},0),/*DIM:Version*/"No
Version",/*DIM:RateElement*/"MD1", "MD2", "MD3", "MO1", "MO2",
"MO3",/*DIM:Entity*/@RELATIVE({BSP_Entity_S},0),/*DIM:Assumption*/{Rates_Assumption_S
})
    "No Term Points"(
      IF (NOT(@HspStringCompare(@NAME(@CURRMBR(Currency)),@NAME("000"))))
        /*STARTCOMPONENT:FORMULA*/
        @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_MATURITY_MIX_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR(Assumption)), @NAME(@CURRMBR("Chart of
Account")), @NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR("Mix Breakout")),
@NAME(@CURRMBR("Term Points")), @NAME(@CURRMBR(RateElement)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
        /*ENDCOMPONENT*/
      ENDIF
    )
ENDFIX
```

## BSP_MM_ProcCall

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.

```
/* This rule is used in BSP_MM_Seq. This rule is used to call procedure to
PR_COA_ATTRIBUTE to move data  from FSI_BSP_MATURITY_MIX_T table to FSI_MATURITY_MIX
*/
FIX ("No FE - Rates","No Period","No Year","No
Scenario",@RELATIVE({BSP_Entity_S},0),"No Version","No
Strategy",@RELATIVE({BSP_COA_S},0),{BSP_Currency_S},{Rates_Assumption_S},"No Mix
Breakout","No RateElement")
  /*Temporary Variable to fetch the status, success(1) or failure(0)*/
  VAR return_value = 100;
    "No Term Points"(
      return_value =
@JProc_4("PR_MATURITY_MIX_OVERRIDE",&DATASOURCE,@NAME({BSP_COA_S}),@NAME({BSP_Entity_
S}),@NAME({BSP_Currency_S}),@NAME({Rates_Assumption_S}));
    )
ENDFIX
```

## BSP_PM_DataExport

This business rule exports Override Pricing Margin data into 'FSI_BSP_PRICING_MARGIN_T ' intermediate table of FSDM
for the Default / User Defined currency.

```
SET CREATENONMISSINGBLK ON;
SET UPDATECALC OFF;
FIX ("No Period",
@LIST(&FirstYr:&EndYr),{BSP_Scenario_S},@RELATIVE({BSP_Strategy_S},0),@RELATIVE({BSP_
COA_S},0),"F701", "F703", "F704",{BSP_Version_S},{BSP_Currency_S},
"000",@RELATIVE({BSP_Entity_S},0))
    "No Attribute Value"(
      @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_PRICING_MARGIN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR("Chart of Account")),
@NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR(AttributeValue)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
    )
ENDFIX
```

## BSP_PM_DataExport

This business rule exports Default Pricing Margin data into 'FSI_BSP_PRICING_MARGIN_T' intermediate table of FSDM for
the Default currency.

```
/* SET CREATENONMISSINGBLK ON, */
/* SET CREATENONMISSINGBLK ON, */
/* SET CREATENONMISSINGBLK ON, */
/* SET CREATENONMISSINGBLK ON, */
/* STARTCOMPONENT:SCRIPT */
SET UPDATECALC OFF;
/* ENDCOMPONENT */
```

```
FIX ("No Period", @LIST(&FirstYr:&EndYr),"No Mix Breakout","No Scenario","No
Strategy","No FE - Rates",@RELATIVE({BSP_COA_S},0),"No
Version","000","Market_Rate_Spread","No Entity",{Rates_Assumption_S1})
    "No Term Points"(
      @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_PRICING_MARGIN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME({BSP_Scenario_S}), @NAME({BSP_Version_S}),
@NAME({BSP_Entity_S}), @NAME(@CURRMBR("Chart of Account")), @NAME({BSP_Strategy_S}),
@NAME(@CURRMBR(Assumption)), @NAME(@CURRMBR(Currency)), @NAME("No FE - Rates")),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
    )
ENDFIX
```

## BSP_PM_DataExport1

This business rule exports Default Pricing Margin data into 'FSI_BSP_PRICING_MARGIN_T' intermediate table of FSDM for the User Defined currency.

```
/* SET CREATENONMISSINGBLK ON, */
/* SET CREATENONMISSINGBLK ON, */
/* SET CREATENONMISSINGBLK ON, */
/* STARTCOMPONENT:SCRIPT */
SET UPDATECALC OFF;
/* ENDCOMPONENT */
FIX ("No Period", @LIST(&FirstYr:&EndYr), {BSP_Currency},"No Mix Breakout","No
Scenario","No Strategy",@RELATIVE({BSP_COA_S},0),"No FE - Rates","No
Version","Market_Rate_Spread",{Rates_Assumption_S1},"No Entity")
    "No Term Points"(
      IF (NOT(@HspStringCompare(@NAME(@CURRMBR(Currency)),@NAME("000"))))
        @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_PRICING_MARGIN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME({BSP_Scenario_S}), @NAME({BSP_Version_S}),
@NAME({BSP_Entity_S}), @NAME(@CURRMBR("Chart of Account")), @NAME({BSP_Strategy_S}),
@NAME(@CURRMBR(Assumption)), @NAME(@CURRMBR(Currency)), @NAME("No FE - Rates")),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
      ENDIF
    )
ENDFIX
```

## BSP_PM_ProcCall

This rule is used to call procedure PR_BSP_POPULATE_PRICING_MARGIN to move data  from FSI_BSP_PRICING_MARGIN_T table to FSI_M_PRICING_MARGIN

```
/* This rule is used in BSP_PM_Seq. This rule is used to call procedure
PR_BSP_POPULATE_PRICING_MARGIN to move data  from FSI_BSP_PRICING_MARGIN_T table to
FSI_M_PRICING_MARGIN */
/* This rule is used in BSP_PM_Seq. This rule is used to call procedure
PR_BSP_POPULATE_PRICING_MARGIN to move data  from FSI_BSP_PRICING_MARGIN_T table to
FSI_M_PRICING_MARGIN */
FIX ("No FE - Rates","No Period","No
Year",{BSP_Scenario_S},@RELATIVE({BSP_Entity_S},0),{BSP_Version_S},@RELATIVE({BSP_Str
ategy_S},0),@RELATIVE({BSP_COA_S},0),{BSP_Currency_S}, "000",@Descendants("Pricing
Margin Scenario"),"No Mix Breakout","Market_Rate_Spread")
  /*Temporary Variable to fetch the status, success(1) or failure(0)*/
        VAR return_value = 100;
    "No Term Points"(
```

```
        return_value =
@JProcStr_7("PR_BSP_POPULATE_PRICING_MARGIN",&DATASOURCE,@NAME({BSP_COA_S}),@NAME({BS
P_Entity_S}),@NAME({BSP_Currency_S}),@NAME({BSP_Strategy_S}),@NAME({BSP_Scenario_S}),
@NAME({BSP_Version_S}),@NAME({Rates_Assumption_S1}));
    )
ENDFIX
```

## BSP_FP_Export

This business rule exports financial plan data into FSI_BSP_FIN_PLAN_T intermediate table of FSDM for the User Defined currency.

```
/*STARTCOMPONENT:SCRIPT*/
SET CREATENONMISSINGBLK ON;
SET UPDATECALC OFF;
/*ENDCOMPONENT*/

FIX (/*DIM:Period*/"No Period", @LIST(&FirstYr:&EndYr),
{BSP_Currency},/*DIM:Scenario*/{BSP_Scenario_S},
/*DIM:Strategy*/@RELATIVE({BSP_Strategy_S},0),/*DIM:Chart of
Account*/@RELATIVE({BSP_COA_S},0),/*DIM:Account*/"F701", "F702", "F703",
/*DIM:Version*/{BSP_Version_S},/*DIM:Entity*/@RELATIVE({BSP_Entity_S},0))
    "No Attribute Value"(
      IF (NOT(@HspStringCompare(@NAME(@CURRMBR(Currency)),@NAME("000"))))
        /*STARTCOMPONENT:FORMULA*/
        @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_FIN_PLAN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR("Chart of Account")),
@NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR(AttributeValue)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
        /*ENDCOMPONENT*/
      ENDIF
    )
ENDFIX

FIX (/*DIM:Period*/"No Period", @LIST(&FirstYr:&EndYr),
{BSP_Currency},/*DIM:Scenario*/{BSP_Scenario_S},
/*DIM:Strategy*/@RELATIVE({BSP_Strategy_S},0),/*DIM:Chart of
Account*/@RELATIVE({BSP_COA_S},0), /*DIM:Account*/"F700",
/*DIM:Version*/{BSP_Version_S},/*DIM:Entity*/@RELATIVE({BSP_Entity_S},0))
    "No Attribute Value"(
      IF (NOT(@HspStringCompare(@NAME(@CURRMBR(Currency)),@NAME("000"))))
        /*STARTCOMPONENT:FORMULA*/
        @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_FIN_PLAN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR("Chart of Account")),
@NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR(AttributeValue)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
        /*ENDCOMPONENT*/
      ENDIF
    )
ENDFIX
```

## BSP_FP_Export1

This business rule exports financial plan data into FSI_BSP_FIN_PLAN_T intermediate table of FSDM for the Default currency.

```
/* STARTCOMPONENT:SCRIPT */
SET CREATENONMISSINGBLK ON;
SET UPDATECALC OFF;

FIX (/*DIM:Account*/"F700", "F701", "F702", "F703",/*DIM:Period*/"No
Period",/*DIM:Years*/@LIST(&FirstYr:&EndYr),/*DIM:Scenario*/{BSP_Scenario_S},/*DIM:En
tity*/@RELATIVE({BSP_Entity_S},0),/*DIM:Version*/{BSP_Version_S},/*DIM:Strategy*/@REL
ATIVE({BSP_Strategy_S},0),/*DIM:Chart of Account*/@RELATIVE({BSP_COA_S},0),
/*DIM:Currency*/"000")
    "No Attribute Value"(
  IF (@SUM(@LIST(@ABS("F702"->Jan),@ABS("F702"->Feb), @ABS("F702"->Mar),
@ABS("F702"->Apr), @ABS("F702"->May), @ABS("F702"->Jun),
@ABS("F702"->Jul),@ABS("F702"->Aug), @ABS("F702"->Sep), @ABS("F702"->Oct),
@ABS("F702"->Nov),@ABS("F702"->Dec))) > 0)
        /*STARTCOMPONENT:FORMULA*/
        @JDataExport(&DATASOURCE,"JDBC","TargetOracle","","FSI_BSP_FIN_PLAN_T",
@LIST(@NAME(@CURRMBR(Years)), @NAME(@CURRMBR(Scenario)), @NAME(@CURRMBR(Version)),
@NAME(@CURRMBR(Entity)), @NAME(@CURRMBR("Chart of Account")),
@NAME(@CURRMBR(Strategy)), @NAME(@CURRMBR(AttributeValue)),
@NAME(@CURRMBR(Currency)), @NAME(@CURRMBR(Account))),
@LIST("BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","Q
3","Oct","Nov","Dec","Q4","YearTotal"));
        /*ENDCOMPONENT*/
  ENDIF
  )
ENDFIX
```

## BSP_Calculation

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.

```
/* STARTCOMPONENT:SCRIPT */
/* STARTCOMPONENT:SCRIPT */
SET CREATENONMISSINGBLK ON;
/* ENDCOMPONENT */
FIX ("F700", "F701", "F702",
"F703","BegBalance","Jan","Feb","Mar","Q1","Apr","May","Jun","Q2","Jul","Aug","Sep","
Q3","Oct","Nov","Dec","Q4","YearTotal",{BSP_Year},{BSP_Scenario_S},@RELATIVE({BSP_Ent
ity_S},0),{BSP_Version_S},@RELATIVE({BSP_Strategy_S},0),@RELATIVE({BSP_COA_S},0),{BSP
_Currency_S})
  /* STARTCOMPONENT:SCRIPT */
    /* STARTCOMPONENT:SCRIPT */
      /*Temporary Variable is used to fetch the status, success(1) or failure(0)*/
        VAR Return_Status = 100;
  /*   ENDCOMPONENT   */
    "No Attribute Value"(
      /*        STARTCOMPONENT:FORMULA        */
```

```
        Return_Status = @JCFE( "PR_FINANCIAL_PLAN", "FN_BSP_PROCESSING",
@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("F700"), @NAME("F701"), "ofsrm.sh", "OFSRM", "TASK1", "ADMIN", "BSP",
"PR_RES_DET_IMPORT", &DATASOURCE, &CubeName, "impNBCFS" );
    )
ENDFIX
```

# *Multi Language Support*

## *Overview*

In addition to the base language (American English, for example, en_US), the following languages are currently supported for BSP, by installing the associated Language Pack.

| Language | Java Locale |
|---|---|
| Chinese-Simplified | zh_CN |
| Chinese-Traditional | zh_TW |
| French(Canada) | fr_CA |
| French | fr_FR |
| German | de_DE |
| Italian | it_IT |
| Japanese | ja_JP |
| Korean | ko_KR |
| Portuguese | pt_BR |
| Russian | ru_RU |
| Spanish | es_WW |

**Note:** Maintain  the browser locale same as the Hyperion Planning Application locale.

# Access Control for Balance Sheet Planning

To do the access control in Balance Sheet Planning, do the following:

1.  Identify the Analyst Groups which are required to be created as per business needs.

2.  Open 'Shared Services Console' from Hyperion Workspace. Expand 'User Directories' to create the Analyst groups (and a super Analyst group).

3.  Perform the following steps to create Analyst group in 'Shared Services Console':

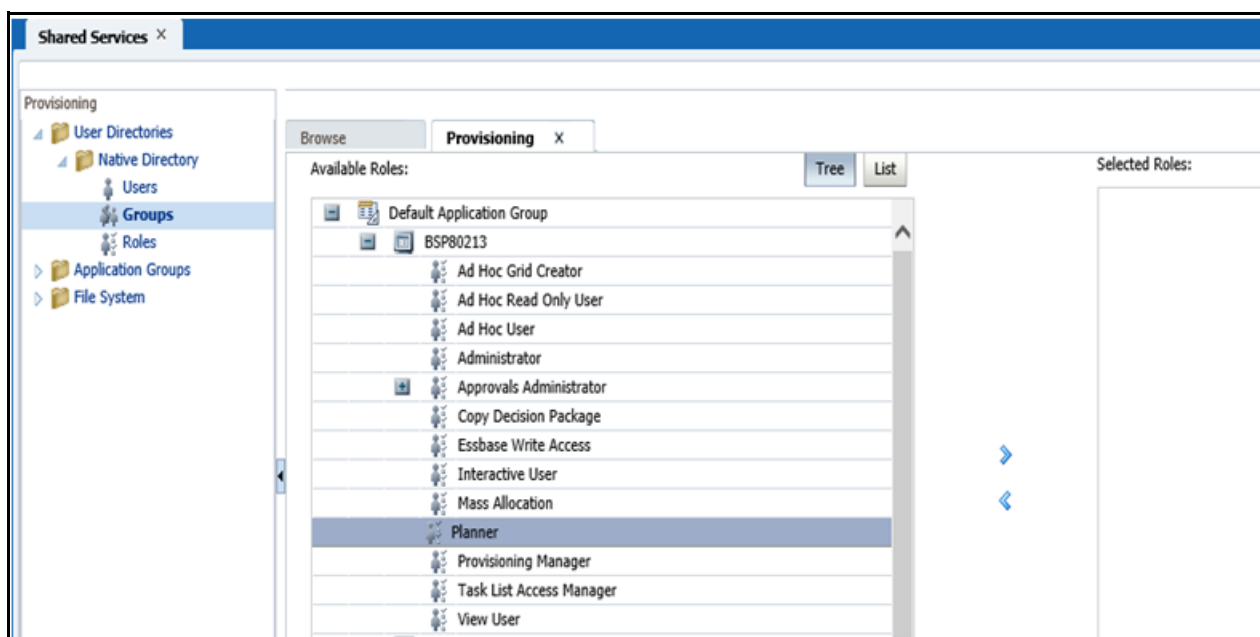    a.  Right click on 'Groups' and select 'New Group' to create a new Group as per screen shot below:
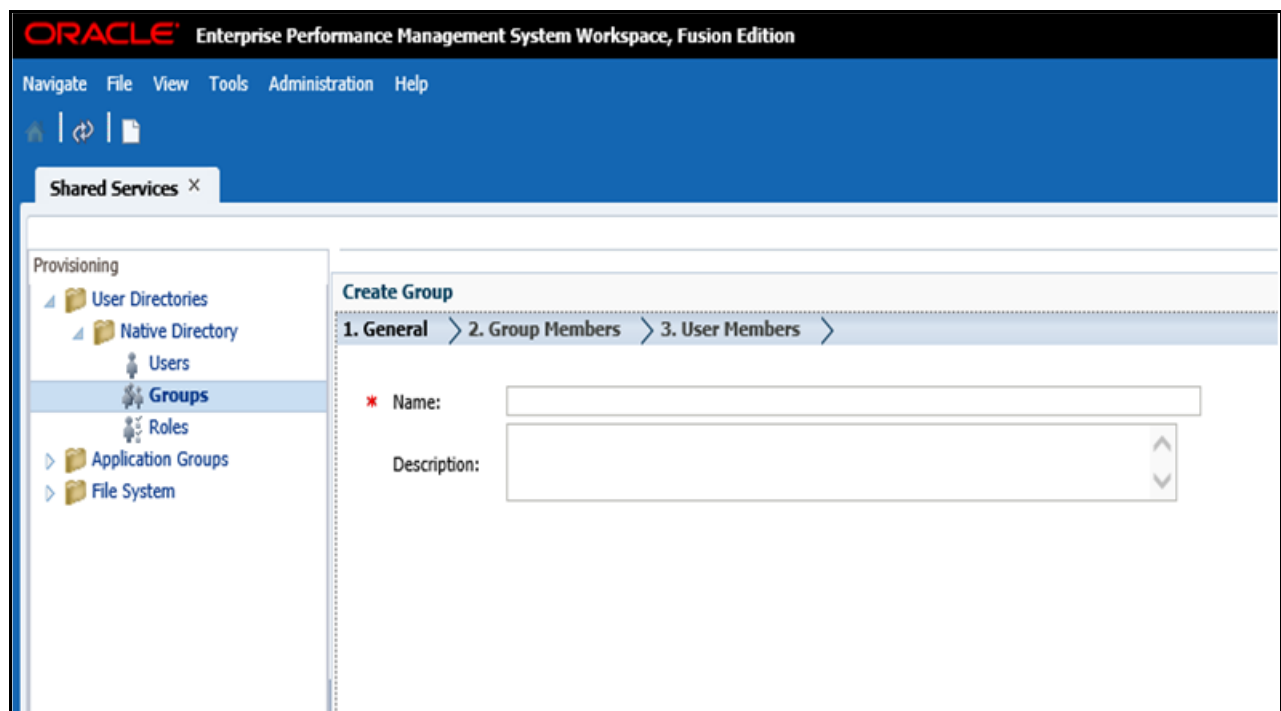


    b.  Enter the name of Analyst group to be created in the 'Name' field and suitable description in the 'Description' field.

    c.  Now, click on 'Next' to open 'Group Members' tab. Again, click on 'Next' to open 'User Members' tab as per screen shot below:
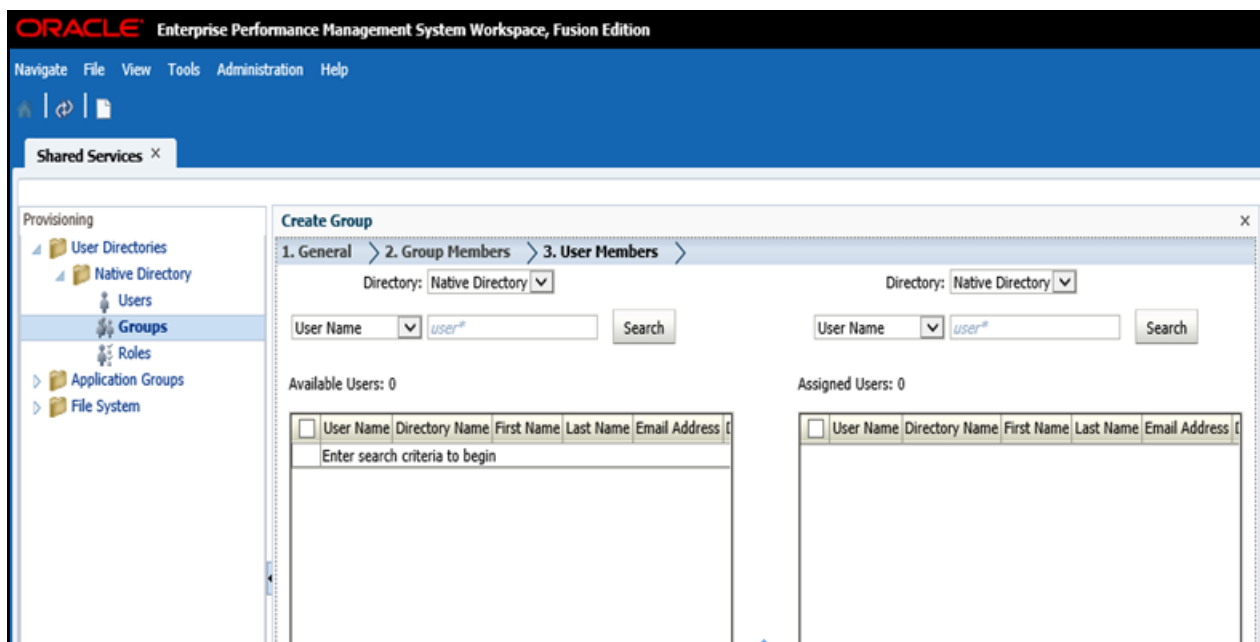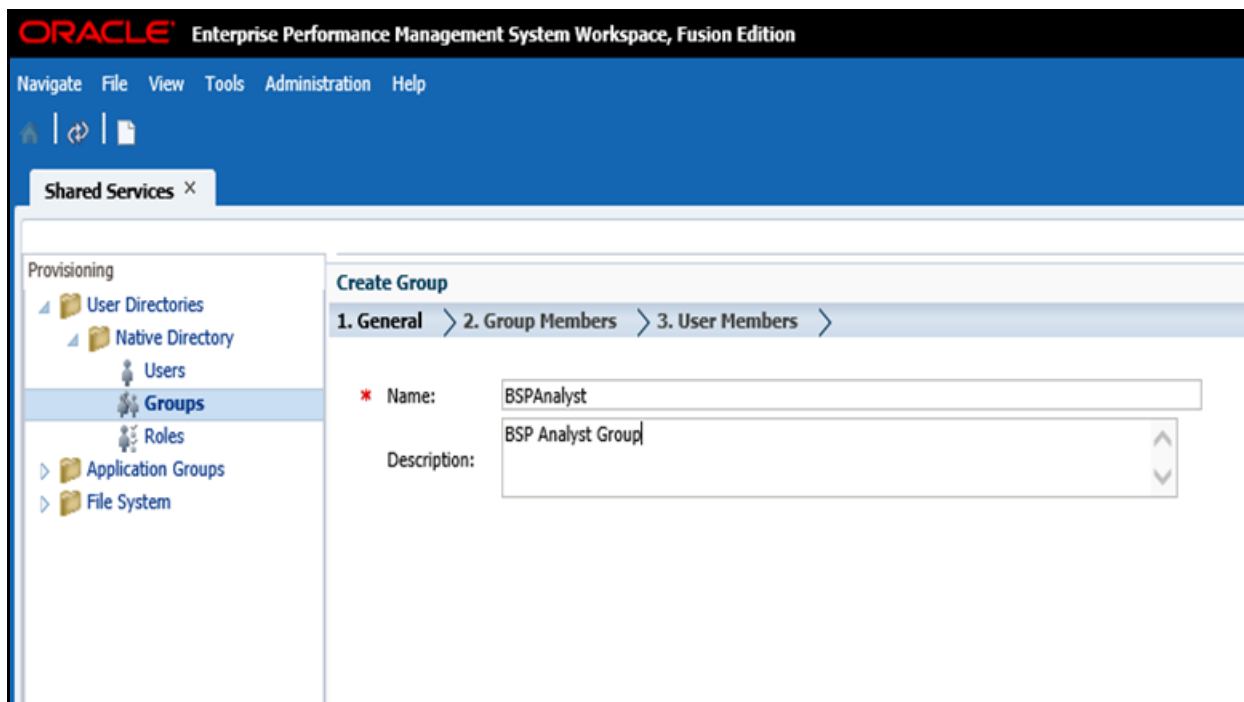
Select all the users (in the left pane) belonging to the Group and click to add them to the list of Assigned users on the right pane.

d. Click 'Finish'.

e. Now, right click on the Analyst group name so created and select Provision. Provisioning screen will appear. Expand BSP Application and select Planner. Click to add 'Planner' role in the list of selected role for the group (as depicted in the right pane).



f. Perform the above steps (3a to 3d) to create all the identified Analyst Groups one by one.

4.  Create a Master Analyst Group 'BSPAnalyst' as per process below:

    a.  Right click on 'Groups' and select 'New Group' to create a new Group as per screen shot below:



    b.  Enter 'BSPAnalyst' in the 'Name' field and 'BSP Analyst Group' or any other suitable description in the 'Description' field.

    c.  Now, click on 'Next' to open 'Group Members' tab as per screen shot below:
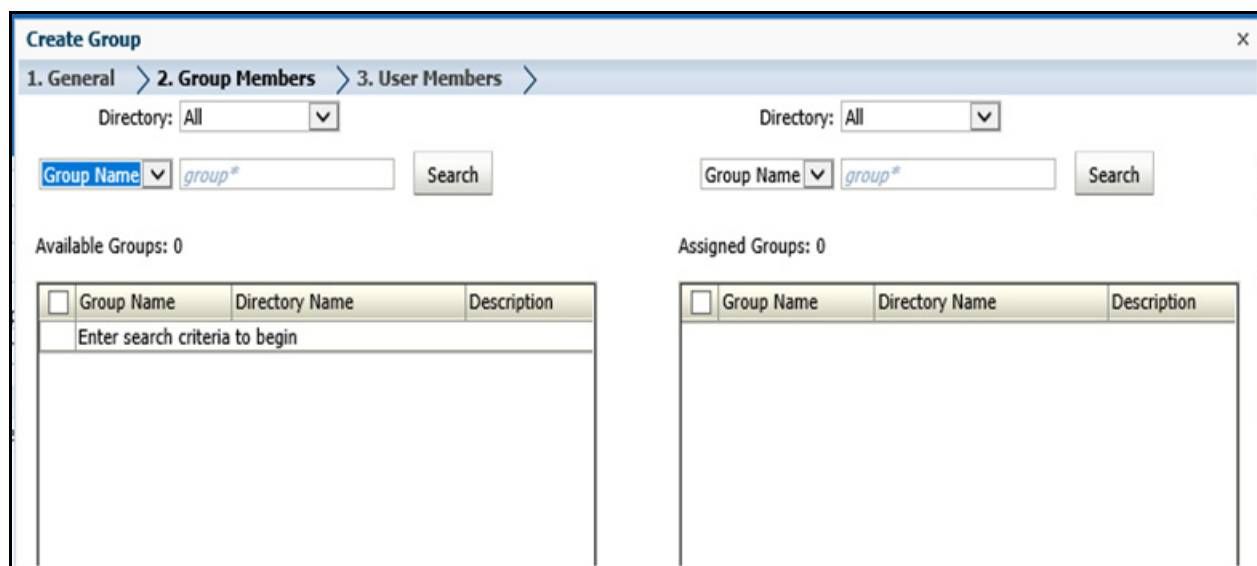


    Select all the Analyst groups created above (step 3) and click to add them to the list of Assigned Groups on the right pane

    d.  Click 'Finish'.

e. Now, right click on 'BSPAnalyst' group and select Provision. Provisioning screen will appear. Expand BSP Application and select Planner. Click to add 'Planner' role in the list of selected role for the group (as depicted in the right pane).
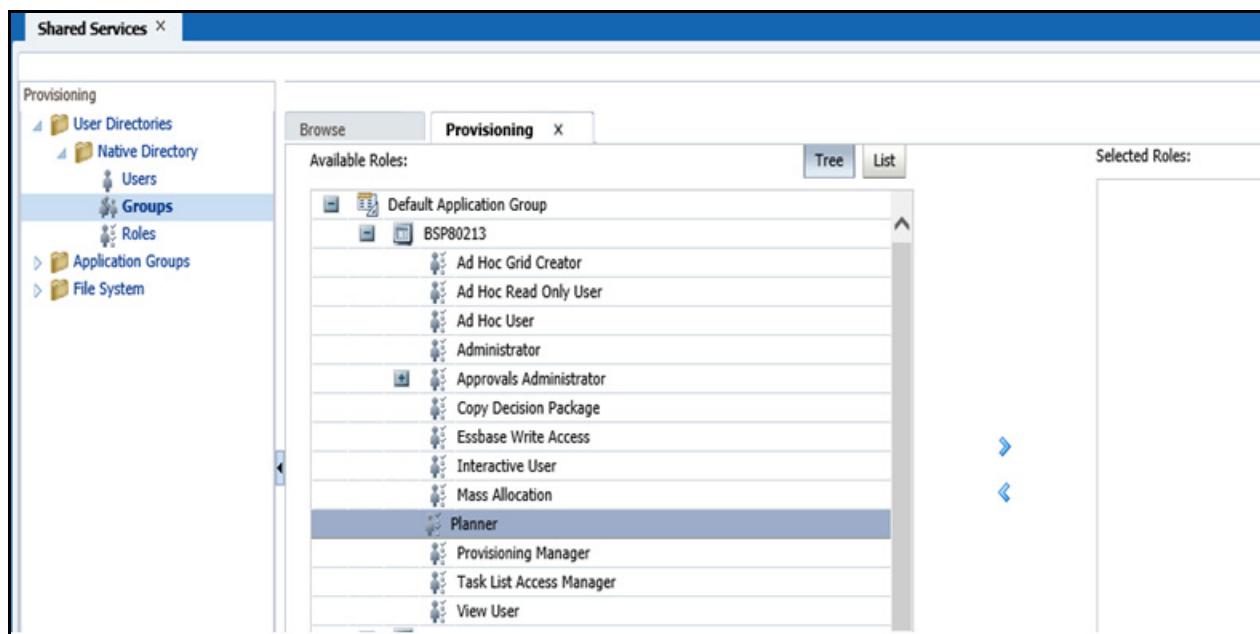


f. Click 'Ok'/ 'Close' to close 'Shared Services Console'.

5. Open BSP Application in Workspace and click Administration->Manage->Dimensions to open Dimension screen:

   a. Assign access for all Account members to each of the Analyst groups

   b. Assign access to requisite Entity, Scenario and Version members to each of the Analyst groups

   c. As per business needs, enable security for one or more BSP custom dimensions (such as COA, Custom1, Custom2, Strategy) and assign access to the required members to the applicable Analyst groups

   d. Please note that each Analyst Group should be having access to at least one member of each dimension which is used in POV definition (layout) of each of the Analyst forms

6. Open Business rules security from Workspace and assign Launch access for all Business rules to all Analyst groups

7. In the BSP Application, assign access to 'BSPAnalyst' group for 'Analyst' folder as per below steps:

   a. Click on Analyst folder on LHS and then click on Access security button as highlighted in yellow in the screen shot below:
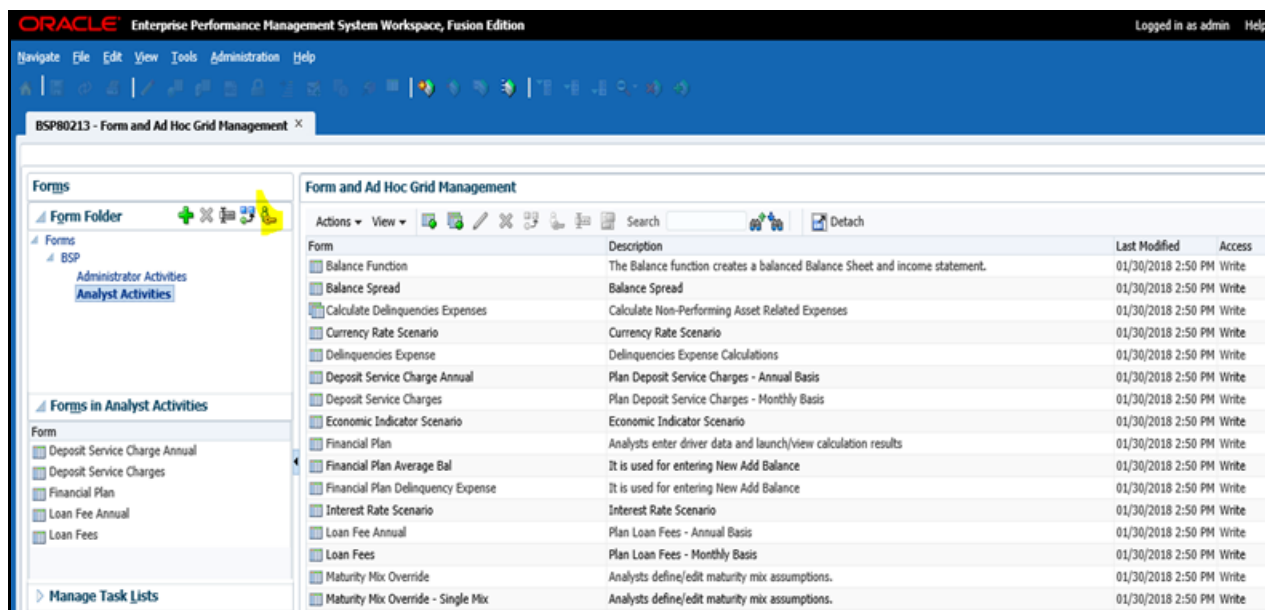
b.  As depicted below, 'Assign Access' screen will come. Click on 'Group' tab. Press 'Add Access' button to add 'write' access to 'BSPAnalyst' group.
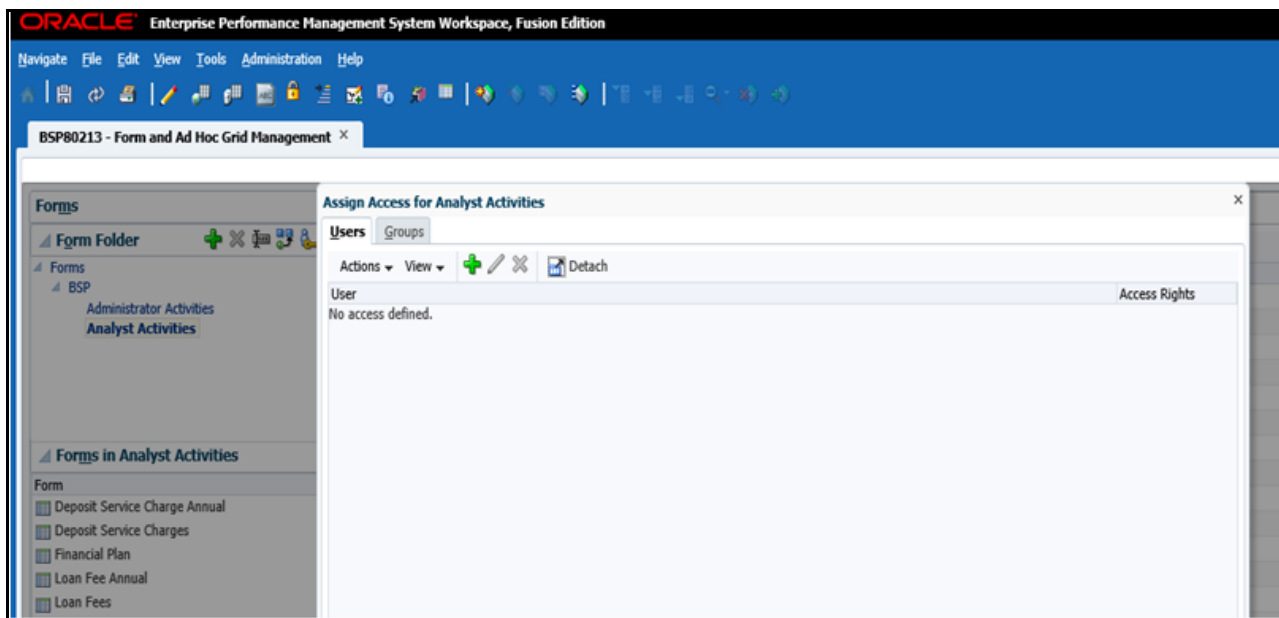


c.  Click 'Close' to close the dialog box.

# APPENDIX D

# *Application Backup and Restoration*

## *Assumption*

It is assumed that the BSP source environment is available in a healthy state before the backup process. Target environment is expected to be in a healthy state with working Hyperion and BSP setup at the time of restoration. Target environment (where BSP Application is to be restored) can be same as the source environment or a different environment. However, it is expected that the source environment and the target environment are similar in terms of Operating System, RDBMS, Hyperion and BSP version. If the environments are not similar against any of these aspects, then users need to analyze any specific environment related impact at their end

## Action Summary

Backup of a standalone BSP Application and subsequent restoration.

## Steps to take Backup (from Source Environment)

Note down and document the Hyperion Application creation parameters in source BSP Application. Following Parameters are important to note:

- Shared Services Project
- Application Type
- Base time period
- Fiscal Year First Month
- Weekly Distribution
- Fiscal year Start Date
- First Fiscal Year
- Number of Fiscal years
- Default Application Currency

Note down and document the BSP initialization parameters (from the source BSP Application). Following Parameters are important to note:
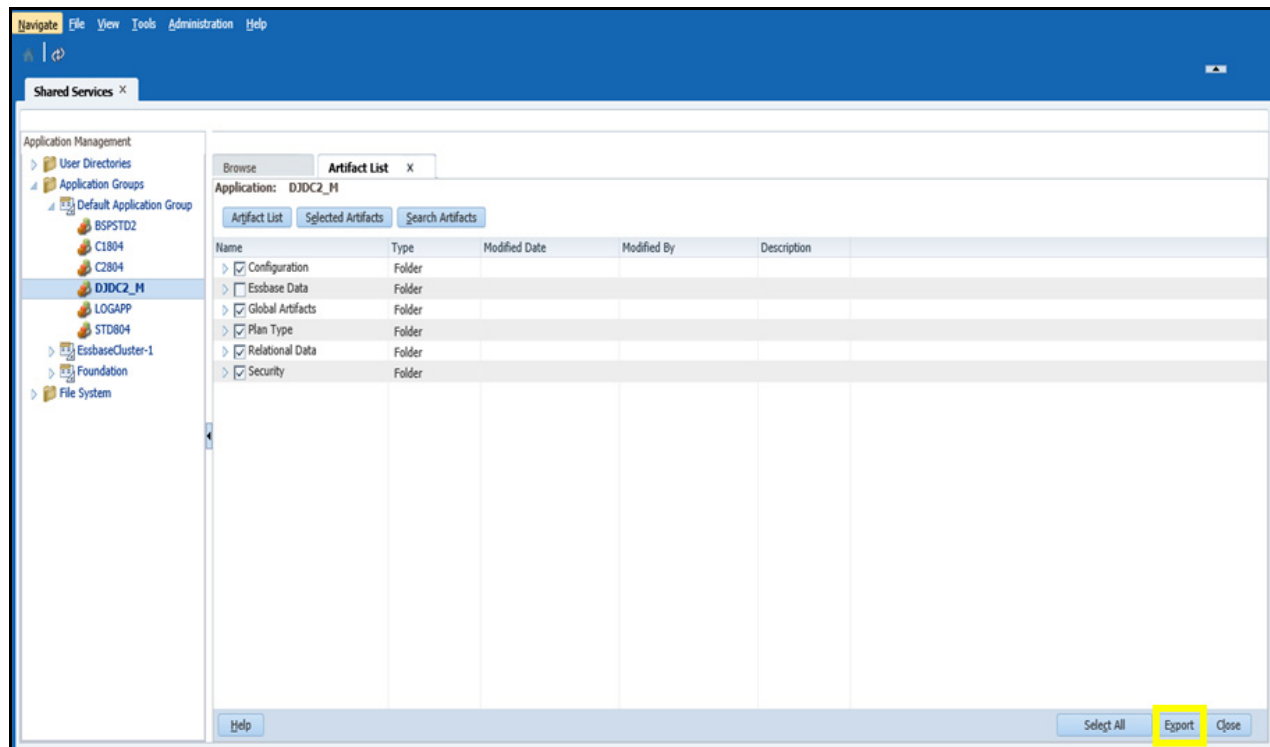
- Model
- Languages

Run Hyperion Migration process using LCM to take Hyperion Metadata backup for all artifacts (exclude data) in the file system (Source environment)

Navigate > Administer > Shared Services Console



Take Essbase full Data backup of the BSP Application from Source environment (using Data Export).

There can be multiple ways to take Essbase data backup. One simple way of taking Essbase data backup is through Essbase Console.

Login to essbase server, under Application expand the source application'right click on BSP cube name 'select Export (select Full data export and column format data export options).

Export all the other cubes (Rates and Core) in similar manner.
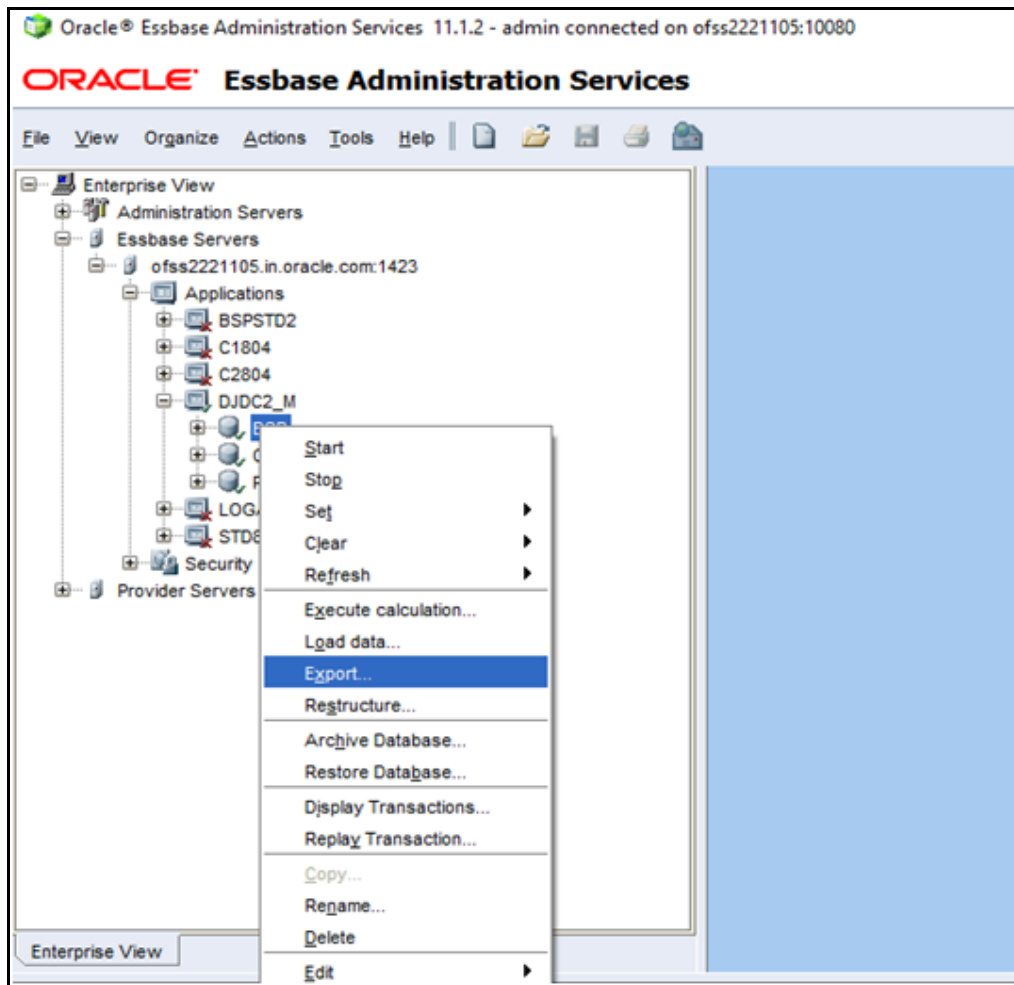
Take Atomic/ FSDM Schema full backup of BSP Application from Source environment.

## Restoration Steps (Target Environment):

- Transfer the Hyperion Metadata file (taken using LCM), Essbase Data File and Atomic Schema backup file from Source system to Target system. This step is not required if source env and target env are same.

- Create a fresh Hyperion Planning Application (make use of the same application creation parameters used for Source Application)

- Initialize BSP in the newly created Application as per process (make use of the same BSP initialization parameters as used for Source Application)

- Re-create Atomic/ FSDM Schema in the Target environment (using the schema backup taken from Source environment)

- Run LCM utility to load Hyperion Metadata into the newly created application from the Hyperion Metadata backup file (created through LCM utility in Source environment

    Navigate'Administer 'Shared Services Console'File System
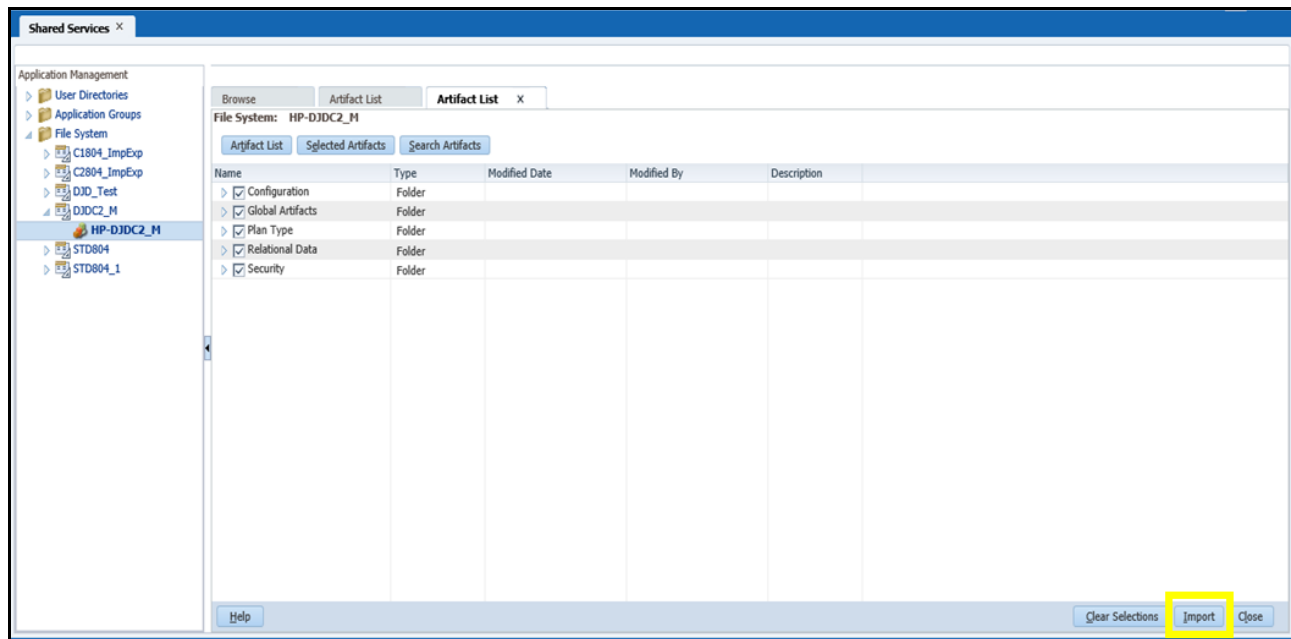
- Run LCM utility to take Hyperion Metadata backup for all artifacts (exclude data) in the file system (Target environment).

- Open 'Configuration UI' in the newly created BSP Application and enter the details as per the Target environment. Point the application to the newly created FSDM/ Atomic schema in Target environment. Also mention the LCM file name & path in the User Interface.

- Perform full metadata sync from the BSP Application (through Master Maintenance Form).

- Import Essbase Data into the newly created BSP Application (using the data backup taken from Source environment).

  One way of importing Essbase Data into the newly created BSP Application is through Essbase Console

  Login to essbase server, under Application expand the target application'right click on cube name 'select Load data'Find Data File (data backup taken from Source environment)'ok

  Load data for all the cubes in similar manner.

  Alternatively, data can also be loaded from Hyperion Workspace Front End menu item (Administration -> Import and Export ->Import data from File)
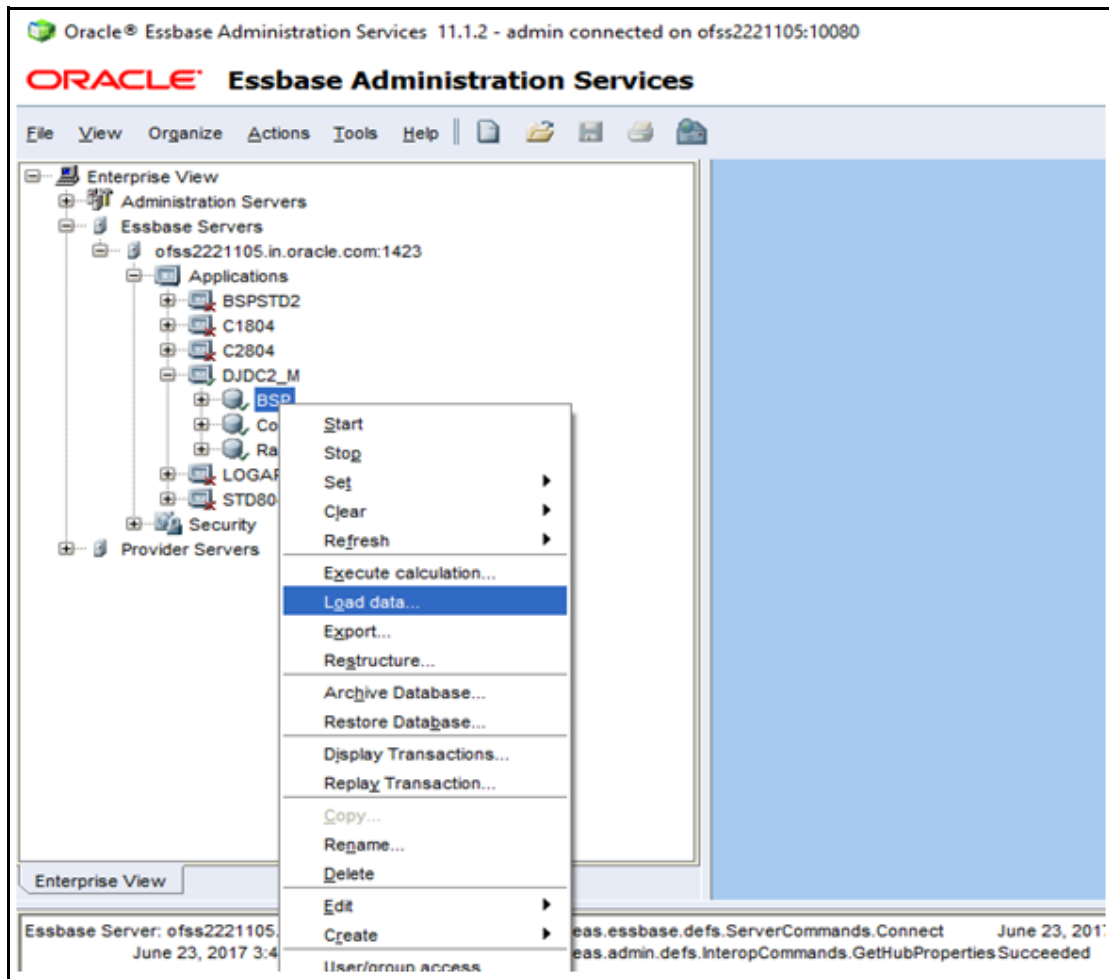
**Note:** Security and Access privileges definition/ migration need to be handled by customer at their end and not covered in the scope of this document.