

# **Oracle Financial Services Hedge Management and IFRS Valuations**

**User Guide**

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**ORACLE**  
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## Oracle Financial Services Hedge Management and IFRS Valuations

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# 1 Introduction to Oracle Hedge Management and IFRS Valuations

This chapter introduces Oracle Hedge Management and IFRS Valuations giving an insight into its place in the Oracle Financial Services Analytical (OFSAA) group of applications.

## 1.1 OFS HM and other Oracle Financial Services Applications

Oracle Financial Services Hedge Management (HM) operates on top of a common infrastructure, Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). OFSAAI is the central, integrated data source and application infrastructure on which Oracle Financial Services Analytical (OFSAA) applications are built. The OFSAA applications are a comprehensive decision support solution that significantly enhances enterprise risk and performance management functions across a financial institution.

### 1.1.1 Oracle Financial Services Enterprise Performance Management

To help financial institutions grow, manage risk, and optimize shareholder value, Oracle delivers a comprehensive, integrated suite of financial services analytical applications for enterprise performance management (EPM).

More than ever, financial institutions, their regulators, and their shareholders are focused on the must measure and meet risk-adjusted performance objectives, price products to reflect their true risk, and better understand how their institution is impacted by threats to liquidity, capital adequacy, and exposure to market rate volatility.

### 1.1.2 OFSAA Data Model

OFSAA Data Model (OFSAA DM) is shipped with optimized data structures and pre-packaged data elements developed specifically for the financial services industry. OFSAA DM is the foundation for the OFS applications. It provides the database structures necessary to support individual business applications.

### 1.1.3 OFSAA Infrastructure

OFSAA Infrastructure is the foundation for OFSAA. It provides support for User Administration, Metadata Management, a Processing Framework, a Forms Framework, and additional capabilities necessary to support the individual business applications.

### 1.1.4 OFSAA Asset Liability Management

Volatile market conditions and increasing regulatory pressures are placing greater demands on the risk management function. These stresses are driving financial institutions to review their current risk modeling and measurement capabilities. Yet, these circumstances also provide institutions with the opportunity to update technology solutions to systems fully integrated across the risk and performance spectrum. Departmental, one-off solutions are no longer viable alternatives in an environment where all systems must work together.

Oracle Financial Services Asset Liability Management (ALM) helps financial services institutions measure and manage interest rate risk and liquidity risk, perform balance sheet valuations, and forecast both net interest income and net income. The Oracle Financial Services ALM solution can measure and model every loan, deposit, investment, and off-balance sheet instrument individually, using both deterministic and stochastic methods. This helps institutions gain a better understanding of the risks they have assumed and their sensitivity to changes in economic conditions.

## **1.1.5 OFSAA Business Intelligence Applications**

OFSAA Business Intelligence (BI) Applications are complete, prebuilt BI solutions that deliver intuitive, role-based intelligence for everyone in an organization - from front-line employees to senior management - that enable better decisions, actions, and business processes.

## 2 Overview of OFSAA Infrastructure

OFSAA Infrastructure includes facilities for creating and maintaining the following:

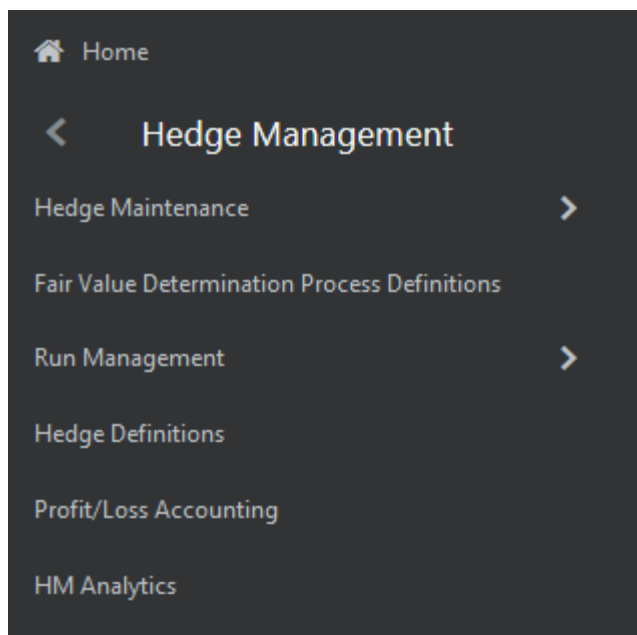
- Dimensional reference data
- Interest rate and currency exchange rate data
- Process tuning data

OFSAA Infrastructure also includes functionality for building and maintaining rules that can be used by any Oracle Financial Services Analytical Application. These common rule objects include the following:

- Expressions
- Hierarchies
- Filters

The Application LHS menu enables you to access the OFSAAI components and the OFS HM-specific components. The structure of the LHS menu is as depicted in the following figure.

**Figure 1: The Hedge Management LHS Menu**



### 2.1 Overview of Dimensionality in OFSAA

Use dimensions to stratify your business data for processing or reporting purposes. For example, at a minimum, General Ledger systems are stratified by a General Ledger dimension, an organization or cost center dimension, and a time dimension. Customer account-level data will normally have these same dimensions but are often additionally segmented by dimensions such as Product or Customer. You may wish to construct models using a specialized product dimension or other customized dimensions such as geography, cost pool, transaction, activity, or channel.

Dimensions are comprised of lists of members. For example, the Organizational Unit dimension might be comprised of Branch #1, Branch #2, Branch #3, and so on. Some dimensions can contain tens or even hundreds of thousands of members (for example, a large organizational or customer dimension) while

others can contain as few as two members (for example, a simple product-type dimension with values of Fixed and Variable).

The member values or *Chart of Accounts* for each dimension can be maintained either internally within the OFSAA Infrastructure or externally.

### 2.1.1 Internally

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, and Deleting dimension member values. These functions you can access depends on your login privilege and on the dimension with which you wish to work. For details on the creation and maintenance of Dimension Members, see the *Dimension Management* chapter in [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

### 2.1.2 Externally

You can choose to source and maintain some Charts of Accounts from external systems such as your General Ledger, a Data Warehouse, or from some other external master data management system.

### 2.1.3 Combination

You can also choose to maintain some Chart of Account values from an external source while maintaining other Chart of Account values internally.

## 2.2 Referential Integrity

You can have dimension member values defined in your Chart of Accounts that do not exist in your business data, particularly if the dimension member values are used as attribute values (see discussion of Attributes in the following sections). But you do not want to have an occurrence of a dimension member value in your business data that did not exist in the dimension's Chart of Accounts. When you load business data into OFSAA, you require assurance that there are no dimension member values present in the business data that are not defined in your Chart of Accounts. For details on ensuring referential integrity between your business data and your Chart of Accounts data, see the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#).

## 2.3 Dimension Attributes

Some OFSAA dimensions support attributes. Dimension attribute values are used to qualify dimension members. For example, a cost center, say Branch #1, might have a Headcount attribute with a value of 32 and a Volume attribute with a value of High. A product dimension member says a 30-year fixed-rate jumbo LIBOR mortgage can have a Rate attribute with a value of LIBOR, a Size attribute with a value of Jumbo, and a Loan Type attribute of Fixed. A General Ledger account, say Benefit Expense, can have an Account Type attribute with a value of Non-Interest Expense.

Like dimensions, attributes are used to stratify your business data for processing or reporting purposes. Some dimension attributes are seeded within the OFSAA data model and are used extensively in processing. You can define as many user-defined attributes as required.

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, and Deleting dimension attributes. These functions you can access depends on your login privilege and the dimension attributed to the privilege. For details on the creation and maintenance of dimension attributes, see the *Dimension Management* chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

After an attribute has been defined for a dimension, attribute values can be assigned to individual dimension member values. These attribute values can be open-ended (dates, numbers, or strings) or can be restricted to a defined set of members.

## 2.4 Hierarchies

Some OFSAA dimensions support hierarchies. Hierarchies can be used to provide sophisticated stratification for either processing or reporting purposes. For example, an organizational hierarchy can start with a Division level containing Western Region, Eastern Region, and Southern Region; the next level down within the hierarchy might be state or county. A product hierarchy might begin with branches for Asset versus Liability versus Service products; under the Asset branch, you can define additional branches for Mortgage Lending, Commercial Lending, Consumer Lending, and so on. Hierarchies are used extensively in OFSAA models to assign methods to products and to support allocation methodologies.

Like dimension members, dimension hierarchies can be maintained either internally within the OFSAA Infrastructure or externally.

### 2.4.1 Internally

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, and Deleting hierarchies. These functions you can access depends on your login privilege and the hierarchy attributed to the privilege. For details, on the creation and maintenance of hierarchies, see the *Dimension Management* chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

### 2.4.2 Externally

You can choose to source and maintain some or all of your hierarchies from external systems such as your General Ledger, a Data Warehouse, or from some other external master data management system, such as Oracle Data Relationship Management (DRM). See the [Oracle Financial Services Analytical Applications Data Model Utility User Guide](#) for details on loading the hierarchy data from external systems.

### 2.4.3 Combination

You can also choose to maintain some hierarchies from an external source while maintaining other hierarchies internally.

## 2.5 Roll up Members for Dimensions Supporting Hierarchies

For dimensions that support hierarchies, every dimension member value has the property of being either a *leaf* value (child-only or last descendant child value) or *roll-up node* value. For example, if Branch #1, Branch #2, and Branch #3 all belonged to the West roll up the point of an organizational hierarchy, then West would also be a dimension member value of the Organizational Unit dimension. Your business data is typically expressed at the *leaf* level.

## 2.6 Dimension Types

OFSAA supports the following three fundamentally different dimensions:

- Key Processing Dimensions

- Standard Dimensions
- Simple Dimensions

## 2.6.1 Key Processing Dimensions

Key Processing Dimensions have the following features:

- Accessible as modeling dimensions for all of the OFSAA analytical engines.
- Expressed as columns in nearly all of your business fact tables.
- Support both attributes and hierarchies.

Metadata for Key Processing Dimensions are stored in the following four tables:

- A base table
- A translation table
- An attribute table
- A hierarchy table

Base tables store basic information about each dimension member and translation tables store names and descriptions for each dimension member in multiple languages (see the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) for details on multi-language support). Attribute tables store one or many attribute values for each dimension member. Hierarchy tables store one or more hierarchies for each dimension (you can define as many hierarchies as you wish for any dimension that supports hierarchies).

### 2.6.1.1 Seeded Key Processing Dimensions

OFSAA is seeded with the following five Key Processing dimensions:

- Financial Element
- Organizational Unit
- General Ledger Account
- Common Chart of Accounts
- Product

Among the five seeded Key Processing dimensions, the Financial Element dimension is prepopulated with a Chart of Accounts, but it is populated in the range between 0 and 10,000 (for more details on the seeded Chart of Accounts for the Financial Element dimension, see the [Oracle Financial Services Profitability Management \(OFSPM\) User Guide](#). This is a reserved range in which you cannot add new members, or edit or delete existing members. You can add user-defined Financial Elements anywhere outside the reserved range.

### 2.6.1.2 User-Defined Key Processing Dimensions

See the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) for details on adding your own user-defined Key Processing dimensions.

## 2.6.2 Standard Dimensions

Standard dimensions can support attributes and (or) hierarchies depending on how they are configured but are not used as processing dimensions within any of the analytical application engines. Like Key Processing Dimensions, metadata for Standard Dimensions is stored in a base table and a translation table. A Standard Dimension can or cannot have an attribute table or a hierarchy table depending on how it is configured. Within the OFSAA modules, Standard dimensions that are defined as having a hierarchy table support hierarchies and Standard dimensions. See the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) and the [Oracle Financial Services Analytical Applications Data Model Data Dictionary](#) for additional information.

### 2.6.2.1 Seeded Standard Dimensions

OFSAA is seeded with the following Standard Dimensions:

- Country
- Customer

Both these dimensions support attributes and hierarchies. Default member values are provided for the Country dimension and no default values are provided for the Customer dimension.

### 2.6.2.2 User-defined Standard Dimensions

See the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) for details on adding user-defined Standard dimensions.

## 2.7 Simple Dimensions

Simple dimensions (Code dimensions) are *lists of values* that do not support attributes or hierarchies. The three key uses of Simple dimensions are:

- Reserved for use within the analytical application engines.
- Stratifying your data for processor report filtering purposes.
- Serving as *lists of values* when used as attributes.

The OFSAA Data Model comes with more than 150 seeded Simple dimensions. Many of these seeded Simple dimensions are also seeded with dimension members. Unlike Key Processing dimensions and Standard dimensions, Simple dimensions are stored in two tables:

- A code table
- A Multi-Language Support or MLS table

See the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) for details on multi-language support.

### 2.7.1 Reserved Simple Dimensions

Accrual Basis Code is an example of a seeded Simple dimension that is used extensively by the application modules. It is seeded with a small list of values (such as 30/360, Actual/360, Actual/Actual, and so on) and its value set cannot be modified.

Amortization Type Code is another example of a reserved Simple Dimension. Amortization Type Code is populated with reserved values that the Cash Flow engine interprets, and its value set cannot be modified. Many other Simple Dimensions are reserved and cannot be modified.

## 2.7.2 Simple Dimensions Used for Processing or Reporting Purposes

This kind of Simple Dimension cannot be used directly by the application engines, but they are accessible to the OFSAA Filter rules (for more information on Filter rules, see the *Filters* section in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#)). Credit Rating is an example of a seeded Simple Dimension that can be used for processing or reporting purposes. You can, for example, wish to allocate risk equity to individual instruments as a function of Credit Rating. The seeded values for Credit Rating are Moody's credit ratings, but you are free to completely redefine the membership of this dimension. Geographic Location is another example. Geographic Location is prepopulated with the US States and Canadian provinces, but you are free to completely redefine the list of geographic locations.

## 2.7.3 Simple Dimensions Used as Attribute Domains

Both seeded and user-defined attributes often utilize a Simple Dimension to provide a list of values. For example, you can create an Adjustable Type attribute on your Product dimension and you might want this attribute to be limited to the values of Fixed, Variable, or Administered. In this case, you can build a Simple Dimension called Type whose dimension members were limited to three values: Fixed, Variable, or Administered. Then you can assign the Type dimension to be the domain of your new Adjustable Type attribute.

See the [Oracle Financial Services Analytical Applications Infrastructure \(OFSAAI\) Installation and Configuration Guide](#) and the [Oracle Financial Services Analytical Applications Data Model Data Dictionary](#) for additional information on which Simple Dimensions you can extend or modify and on how to add your Simple Dimensions to the data model.

## 2.8 Overview of Attributes

OFSAA Infrastructure includes functionality for Adding, Viewing, Editing, and Deleting dimension attributes. These functions you can access depends on your login privilege and the dimension attributed to the privilege. For details, on the creation and maintenance of Dimension Attributes, see the *Dimension Management* chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

### 2.8.1 Attributes

The seeded OFSAA Key Processing Dimensions have several seeded or seeded and required attributes. For example, the Common Chart of Accounts dimension includes an Account Type attribute and an Accrual Basis attribute; the Financial Element dimension includes an Aggregation Method attribute. Some of these attributes have important implications in processing within OFSAA.

You can add Attributes to any Key Processing Dimension or to any Standard Dimension that supports Attributes (see preceding sections describing Key Processing Dimensions and Standard Dimensions).

One of the important properties of an Attribute is its Data Type. OFSAA Infrastructure supports Dimension Attribute Data Types of:

- Date, String, or Number
- Dimension



## 2.8.2 Unbounded and Bounded Attribute Data Types

Dimension attribute data types can be either bounded or unbounded. The Date, String, and Number types are unbounded, that is, there is no predetermined set of attribute values. A Date attribute value can be any valid date, a String attribute value can be any string up to 30 characters in length, and a Number attribute value can be any number. Examples of these kinds of attribute data types can include:

- Cost Center Open Date (a Date attribute on the Organizational Unit dimension).
- Product Memo (a String attribute on the Product dimension).
- Cost Center Headcount (a Number attribute on the Organizational Unit dimension).

Unlike attributes having the Date, String, or Number data type, attributes whose data type is Dimension have defined sets of values. For example, the Product dimension has a seeded attribute called Accrual Basis and the data type is Dimension. The Accrual Basis dimension is seeded with eight values. Accrual Basis is a restricted dimension (you can View Accrual Basis dimension members, but you cannot delete them or add new accrual bases), but whenever you assign an Accrual Basis attribute value to one of your Product dimension member values, you must select from the list of eight available Accrual Bases.

## 2.9 Overview of OFSAA Rules

OFS Analytical Application models are constructed using combinations of OFSAA rules. For example:

- An Allocation rule might utilize a Hierarchy Filter rule, an Expression rule, and a Static Table Driver rule.
- A Transfer Pricing rule might utilize a Hierarchy rule, a Data Element Filter rule, and a Prepayment rule.
- A Data Element Filter rule might utilize an Expression rule.
- A Group Filter rule always incorporates one or more underlying Data Element Filter rules.
- Hierarchy Filter rules always utilize an underlying Hierarchy rule.

The advantage of constructing models from discrete rule components is that individual rules can be reused dozens or even hundreds of times. For example, if you wish to build a large series of allocation rules which operate on non-interest expense data in the Western region, you can build filters for (1) non-interest expense and (2) the Western region and then utilize these filters in every allocation rule. As another example, if you wanted to assign the same transfer pricing method and assumptions to all mortgage products, you can build a Hierarchy on the product dimension containing a Mortgage Products roll-up point and assign your method and assumptions at the roll-up level. You could subsequently utilize the same Hierarchy rule for allocation processing or reporting purposes.

Many rule types are specific to individual analytical applications (for example, Transfer Pricing rules, Asset or Liability Management rules, Allocation rules, and so on) while OFSAA Infrastructure rules are shared across all the OFSA applications. Rule types that are shared across all applications include:

- Hierarchies
- Hierarchy Filters
- Data Element Filters
- Group Filters
- Expressions

Dimensions, dimension members, attributes, and currency exchange rates are also shared across all applications.

## 2.9.1 Dependencies

OFSAA rules often depend on other rules for some or all of their data or usefulness. For example, an Allocation rule can depend on a Data Element Filter rule to select and focus data in a meaningful way. If that Data Element Filter is deleted, then the Allocation rule becomes unusable. OFSAA applications track such dependencies and ensure that users cannot delete rules that are consumed by other rules. Additionally, rule summary windows that present lists of rules that you have defined, offer functionality for you to generate reports on rule interdependency.

## 2.9.2 OFSAA Filters

OFSAA Infrastructure supports the following three types of filtering:

- Data Element Filters
- Group Filters
- Hierarchy Filters

### 2.9.2.1 Data Element Filters

Data Element Filters are used to select and focus data. For example, you can transfer price some financial instruments at their source and can, therefore, wish to ensure that you do not overwrite the transfer rates for any instruments that already have a non-zero transfer rate. In such a case, you can construct a Data Element Filter to isolate only those instruments having a non-zero transfer rate. As another example, you can allocate a charge to demand deposit accounts having small balances. In this case, you can construct a Data Element Filter to focus on just those instrument records having balances less than your chosen threshold.

### 2.9.2.2 Group Filters

Group Filters are used to join one or more Data Element Filters. For example, if you built one Data Element Filter that focused on balances less than 10,000 and a second Data Element Filter that focused on accounts whose origination date was before 2009, a Group Filter built on the two Data Element Filters would focus on accounts with balances less than 10,000 AND whose origination dates were before 2009.

### 2.9.2.3 Hierarchy Filters

Hierarchy Filters allow you to focus on data that rolls up to one or more points within a chosen hierarchy. You can also focus on *leaf*-level data or a combination of *leaf*-level and roll-up levels. For example, if your organization had a Western, Northern, Southern, and Eastern division, you can construct a Hierarchy Filter that focused on data belonging to branches 1, 2, or 7 within the Eastern division plus any data belonging to the Northern division.

## 2.10 OFSAA Expressions

Expressions represent formulas for combining data from your data model (for example, Column A divided by Column B times Column C). The results of Expressions can be invoked within several OFSAA rule types (for example, Data Element Filters, Allocation rules, and so on). For details on building and maintaining Expressions, see the *Expression* chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

## 2.11 Folders

One of the fundamental properties of any OFSAA rule is the Folder in which it is stored. Your System Administrator will configure your user ID to have access to one or more folders in which you can store your rules. Your access rights will likely be similar to coworkers who have a similar business role. For details on security management and defining Segment Maintenance in OFSAA, see the *Object Security* chapter in the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).

Storing rules in folders gives you the means to segregate your rules for functional or security considerations. For example, you can:

- Set up folders to store Transfer Pricing rules that are separate from folders you have built for Profitability Management rules and that are also separate from folders you have built for Asset or Liability Management rules.
- Establish some folders for rules you are in the process of developing and testing and other folders for fully tested, production-ready rules.
- Segregate some rules that are fundamental to the definition of other rules (for example, some Data Element Filters can be used in dozens or hundreds of other rules) to ensure that access to those fundamental rules is highly controlled.
- Segregate your hierarchies, which are also frequently fundamental to OFSAA models, into a restricted-access folder.

### 2.11.1 Visibility of Rules

Every navigation path to view a rule in OFSAA begins with a Summary window. Within the Summary window for each rule type, you can browse through all of the rules that are stored within Folders to which the user has access. From each Summary window, you can be granted the ability to Add, Edit, View, or Delete rules.

When building rules in an OFS Analytical Application, you frequently call upon other OFSAA rules (for example, a Data Element Filter nested within an Allocation rule or a Hierarchy utilized within a Transfer Pricing rule). When nesting a child rule within a parent rule you must specify the child rule by its Name and Folder (where both Name and Folder are presented in the drop-down lists). In this context, the Folder drop-down list for every user includes every Folder in the Information Domain, regardless of the Folder access rights. This means that a user can invoke a child rule from any Folder even if the user cannot access that child rule directly through its Summary window.

Additionally, whenever a user nests a parent rule within a child rule, the OFSAA user interface provides the user with the ability to view a read-only version of the underlying child rule.

# 3 The Oracle Hedge Management Process

This section describes the steps that you must follow to define and execute the end-to-end Hedge Management Process. Oracle Hedge Management is based on the Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). OFSAAI is the central, integrated data source and Administration layer on which Oracle Financial Services Analytical Applications (OFSA) are built. This description of the Oracle Hedge Management Process assumes that your system administrator has setup the OFSAAI data repository and has populated it with your enterprise-wide business data.

**Topics:**

- [Overview of the Process](#)
- [User Roles](#)

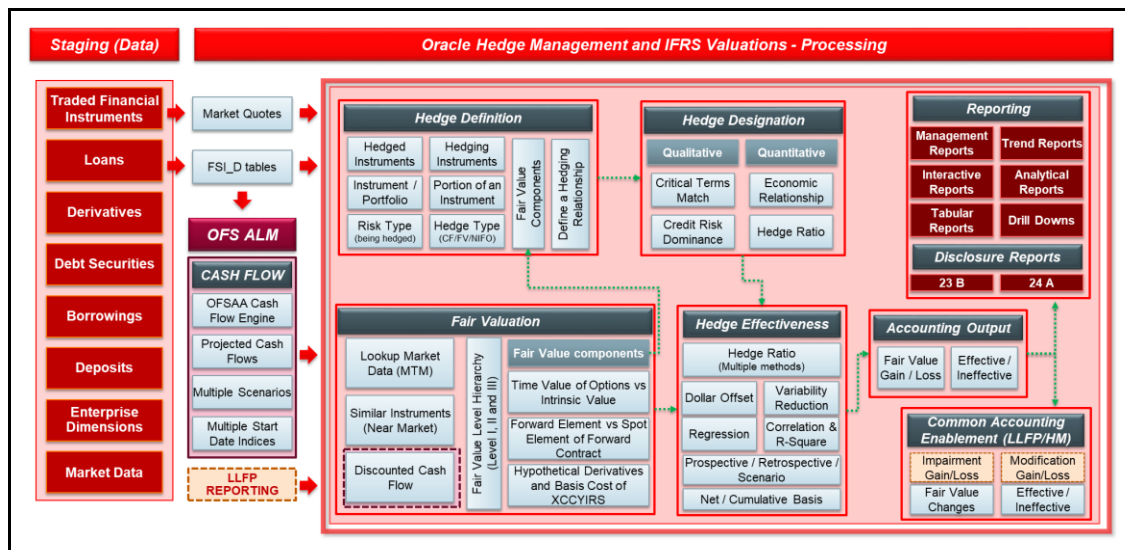
## 3.1 Overview of the Process

Oracle Financial Services Hedge Management and IFRS Valuations feature the ability for users to classify a financial instrument into any one of the prescribed valuation categories and to reclassify it as another on an as-needed basis in the future. The application supports the calculation of the Effective Interest Rate (EIR) to amortize the premium or discount and additional fees related to the financial instrument. The solution also supports the fair valuation of on- and off-balance sheet financial instruments using a time-tested cash flow engine, common among other Oracle Financial Services Analytical Applications (OFSA).

### 3.1.1 Architecture

The following diagram depicts the architecture of the OFS HM application.

**Figure 2: The OFS HM Application Architecture**



## 3.1.2 Valuations

IFRS 9 requires a fair value measurement to be categorized within the three levels of the fair value hierarchy for disclosure purposes. The categorization within the fair value hierarchy is based on the inputs to valuation techniques used to measure the fair value. In principle, observability and market activity determine the categorization of an input. IFRS 13 notes that valuation techniques should maximize the use of observable inputs and minimize the use of unobservable inputs.

Financial instruments are grouped into the following three levels, according to the IFRS 13 guidelines:

- Level 1: Unadjusted quoted prices in active markets for identical assets and liabilities that the entity can access at the measurement date.

For example:

- Financial instruments (shares, exchange-traded options, futures contracts, and so on) are traded on active markets.
- Commodities (corn, soybeans, crude oil, gold, silver, and so on) are traded on active markets.
- Level 2: Other observable inputs not included within Level 1 of the fair value hierarchy.

For example:

- Recently observed prices in markets that are not active (quoted prices in inactive markets).
- Quoted prices for similar assets or liabilities in active markets (inputs derived from yield curves when observable at commonly quoted intervals).
- The unadjusted price per square meter for a building is derived from observable market data (prices derived from observed transactions involving comparable buildings in similar locations).
- Level 3: Unobservable inputs for the asset or liability.

For example:

- Credit spread calculated using unobservable internal data.
- Management's cash flow projections (future revenue level and other financial forecasts).
- Adjustments to the price per square meter for similar buildings are derived from observable market data (adjustments reflecting differences in physical conditions and location of the properties).

For more information on HM Valuations, see the [HM Valuations Processing](#) chapter.

## 3.1.3 Hedge Effectiveness

Hedge Effectiveness testing consists of four criteria. Effectiveness testing is triggered by selecting the appropriate fair value definition run and the required date.

For a hedge to be effective, each of the three or four parameters based on the user selection has to be effective. If anyone of the parameter is ineffective, then the entire hedge is ineffective.

## 3.2 User Roles

This section describes the user roles present in the Risk Management Cell of a financial institution with their responsibilities and rights for multiple tasks or UIs to ensure security.

### 3.2.1 HM Admin

HM Admin has the following rights and responsibilities:

- Delegates the responsibility of configuration of the HM application, definition, and maintenance of the standard business rules.
- Setting up the HM application in a functional manner.
- Works as a business user with the System Administrator in carrying out certain tasks.
- HM Admin sets the standard definitions for various preferences. These definitions are used in the HM Process.

### 3.2.2 HM Analyst

HM Analyst has the following rights and responsibilities:

- Maintains some or all of the assumptions within the HM application.
- Uses the application to make the changes in assumptions on an ongoing business.
- Maintains the HM application on a routine basis, this includes defining or modifying new or existing assumptions for classification or reclassification, and so on.

### 3.2.3 HM Auditor

An HM Auditor can view definitions in the Read-Only mode.

## 4 Hedge Maintenance

This section focuses on the Hedge Maintenance functionalities available in the application.

### Topics:

- [Global Preferences](#)
- [Application Preferences](#)
- [Instrument Valuation Thresholds](#)

### 4.1 Global Preferences

The Global Preferences section enables you to view and update the preferences for all the users of the application.

#### 4.1.1 Access to Global Preferences

You can access the Global Preferences section by clicking the **Global Preferences** link present under the **Hedge Maintenance** module in the application LHS menu.

#### 4.1.2 Setting Global Preferences

After you access the **Global Preferences** section, perform the following procedure to update or add preferences for various users.

1. In the **Display** section, select the user from the **Show Preferences** drop-down list.  
The preferences for the selected user are listed under the **Display** and **Ledger** sections.
2. Populate the **Display** and **Ledger** pane as tabulated.

**Table 1: The Display and Ledger Table**

Field	Description
Default Application Language	Select the required language from the drop-down list.
Date Format	Select a date from the drop-down list.
Pagination Records	Enter the number of records to be displayed on the page.
Functional Currency	Enter a value for the default currency. The default value is USD.
Signage	Enter a value for the signage. The default value is Natural Signage.

3. Click **Apply**.
4. Additionally, click **Reset to Default** if you want to clear all previously entered values and reset to the default values.

## 4.2 Application Preferences

The **Application Preferences** section enables you to update the properties of Parameters, Processing, Assumption Management Defaults, Dimensions and Hierarchies, and ADCO Parameters.

### 4.2.1 Access Application Preferences

You can access the Application Preferences section by clicking the **Application Preferences** link present under the **Hedge Maintenance** module in the application LHS menu.

### 4.2.2 Setting Application Preferences


After you access the **Application Preferences** section, perform the following procedure to update or add preferences for various users.

1. In the **Show Preferences For** field, select the **User** from the drop-down list.  
The preferences for the selected user are listed under **Parameters - General, Processing - General, Processing - Application Specific, Assumption Management Defaults, Dimensions and Hierarchies**, and **ADCO Parameters** panes.
2. Select the checkbox adjacent to the **Active for Master Maintenance** field to mark the selected user as active for master maintenance.



If you have more than one application available in the **Common Object Maintenance** section in the LHS menu, you must designate the **Application Preferences** from one of their applications as *Active for Master Maintenance*. Certain preferences such as the default folder and read or write access setting are referenced by items within Master Maintenance based on this selection.

3. Update the required properties from the following list under the **Parameters - General** form.

**Table 2: The Parameters - General Table**

Field	Description
Security Map	Select a value from the drop-down list. This option allows you to select an existing mapper definition. Based on the Mapper selection, the list of legal entities will vary. For more information on Security Mapping, see the <a href="#">Oracle Financial Services Analytical Applications Infrastructure (OFSAAI) User Guide</a> .
As of Date	Click <b>Calendar</b>  and pick the as of date. All Hedge Management processes reference this date at runtime to determine the data to include in the process. Each period, when a new set of data is loaded, this parameter should be updated to reflect the new date. Select the checkbox adjacent to the <b>Is Editable</b> field, if you want to make this field editable after saving.
Show Execution Parameters	Select the checkbox, if you want to display the execution parameters. If this option is selected, then a window is displayed during the execution of the process to select the Legal Entity.



	<p>Select the checkbox adjacent to the <b>Is Editable</b> field, if you want to make this field editable after saving.</p> <p><b>Note:</b> This is applicable only for Level 3 Fair Value definitions.</p>
Legal Entity	<p>Click <b>Hierarchy Browser</b>  and select the required legal entity from the <b>Hierarchy Browser</b>.</p> <p>This parameter allows you to define the Legal Entity. If the <b>Show Execution Parameters</b> option is not selected and the Legal Entity is defined, then this Legal Entity will be auto-populated.</p> <p>If the <b>Show Execution Parameters</b> option is selected, then you can edit the Legal Entity during the execution of the process. Use Erase  to erase the existing dimension leaf member.</p> <p><b>Note:</b> The list of Legal Entities in the <b>Hierarchy Browser</b> will depend on the selected <b>Security Mapper</b>.</p> <p>You can also select the checkbox adjacent to the <b>Disable Legal Entity</b> field to disable the <b>Legal Entity</b>.</p>


4. Update the required properties in the **Processing - General** form.

**Table 3: The Processing - General Table**

Field	Description
Default Total Error Message Limit	<p>Enter the maximum number of error messages that will be logged for all the processes.</p> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>
Default Error Message Limit Per Item	<p>Enter the maximum number of error messages that will be logged for a given type of error.</p> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>
Debugging Output Level	<p>Select the value for debugging the output level from the drop-down list. The available options are the following:</p> <ul style="list-style-type: none"> <li>• <b>Do not output SQL to log file</b> – A log file will not be created.</li> <li>• <b>Show all SQL</b> – A log file is created and will contain all the SQL that the engines execute.</li> <li>• <b>Show significant calculation SQL</b> – A log file is created and will contain those SQLs that are tagged as significant.</li> </ul> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>

5. Update the required properties in the **Processing - Application-Specific** form.

**Table 4: The Processing - General Table**

Field	Description
Net Change Date	<p>Click Calendar  adjacent to this field and select the value for the net change date.</p> <p>This is the date on which the HM effectiveness process will look back to when effectiveness type is set to Net. This is applicable for retrospective effectiveness testing.</p> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>
Maximum Number of Instrument records to include in detail cash flow output	<p>This parameter allows you to define the maximum number of instrument records that any user can select within a process for outputting detailed cash flows.</p> <p>If you want to remove the limit, you can leave the field blank and upon selecting <b>APPLY</b>, you will notice the <i>No Limit</i> text will appear. It is recommended, however, that this value be set to 100 or less.</p> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>
Maximum Number of Rate Paths for Monte Carlo Processing	<p>This parameter allows you to limit the number of rate paths that can be selected by a user when running a Monte Carlo-based process. The maximum value is 2000.</p> <p>Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.</p>
Enable Holiday Calendar Adjustments	<p>Select the checkbox adjacent to this field to enable the <b>Holiday Calendar Adjustment</b> capability for the HM Application.</p> <p>If this option is not selected, the Cash Flow Engine ignores all Holiday Calendar information, including Instrument level inputs and assumption Rule level inputs.</p> <p><b>Note:</b> This is applicable only for Level 3 Fair Value definitions.</p>

6. Update the required properties from the following list under the **Assumption Management Defaults** form.

**Table 5: The Assumption Management Defaults Form**

Field	Description
Folder Name	<p>This parameter allows you to set the default folder location. This selection is made for convenience and can be changed within all Business Rules at the users' discretion.</p>

	Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.
Access Type	This parameter allows you to set the default access typesetting. Selections include Read, Write, and Read Only. This selection acts as the starting value for convenience only and users can change at their discretion. Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.
Initial Currency Selection ["Business Rule Currency"]	This parameter allows you to select the starting currency to be displayed within all business rules. This selection is made for convenience and can be changed within all Business Rules at the users' discretion. Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.

7. Update the required properties from the following list under the **Dimensions and Hierarchies** form.

**Table 6: The Dimensions and Hierarchies Table**

Field	Description
Product Dimension	OFS HM requires users to declare one of the <i>Product</i> dimensions as the <b>HM Product</b> dimension. The model is seeded with the following three possible selections: <ul style="list-style-type: none"> <li>• <b>Product</b></li> <li>• <b>Common Chart of Accounts</b></li> <li>• <b>General Ledger Account</b></li> </ul> Users can also add user-defined product dimensions, which also appear in this list. HM business rules are based on the <b>Product</b> dimension selected here. The suggested default is the <b>Product</b> dimension. Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.
Default Product Hierarchy	The list of values for the <b>Default Product Hierarchy</b> is based on the value that you selected in the Product Dimension field. The hierarchy selected here will be the default hierarchy selection in all Business Rules that support node-level assumptions. This selection acts as the starting value for convenience only and users can change at their discretion within each Business Rule. Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.

Organizational Unit Dimension	Select the required dimension from the drop-down list. Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.
Hierarchy Members Navigation Size	This setting will control the number of hierarchy members that are included per page within the <b>Assumption Browser</b> and the <b>Hierarchy Browser</b> .

8. Update the required properties from the following list under the **ADCO Parameters** form.

**Table 7: ADCO Parameters Table**

Field	Description
National Housing Pricing Index	This is an input parameter for the ADCO definition purpose that you must select from the drop-down list that contains economic indicators defined from Rate Management.  You must set up the NHPI economic index if you must override the base ADCO NHPI forecast. This is an optional step, in the setting up of an ADCO process.  Select the checkbox in the <b>Is Editable</b> column, if you want to make this field editable after saving.

9. Click **Apply**.
10. Click **Reset to Default** if you want to clear all previously entered values and reset to the default values.

## 4.3 Instrument Valuation Thresholds

The Instrument **Valuation Thresholds** section enables you to set threshold values for **Historical Days and Haircuts**. In this section, you can also define the **Effectiveness Testing Parameters**.

### 4.3.1 Access Instrument Valuation Thresholds

You can access the Instrument Valuation Thresholds section by clicking the **Instrument Valuation Thresholds** link present under the **Hedge Maintenance** module in the application LHS menu to open the **Instrument Valuation Thresholds** window.

**Figure 3: The Instrument Valuation Thresholds window**

Instrument Type	Level - Threshold Historical Days	Level - Threshold Haircut
<input type="checkbox"/> Bonds		
<input type="checkbox"/> Bonds Futures		
<input type="checkbox"/> Bonds Options		
<input type="checkbox"/> Commodity		
<input type="checkbox"/> Commodity Futures		
<input type="checkbox"/> Commodity Options		
<input type="checkbox"/> Currency		
<input type="checkbox"/> Currency Futures		
<input type="checkbox"/> Currency Options		
<input type="checkbox"/> Equity	3	1.5
<input type="checkbox"/> Equity Futures		
<input type="checkbox"/> Equity Options		

This window displays the **Instrument Valuation Thresholds** and **Effectiveness Testing Parameters** tabs.

## 4.3.2 Instrument Valuation Thresholds

After you access the **Instrument Valuation Thresholds** window, perform the following steps to populate threshold values for instruments.

1. To set the **Level - Threshold Historical Days** and **Level - Threshold Haircut** for instruments, enter the required values for each instrument type in the **Level - Threshold Historical Days** and **Level - Threshold Haircut** columns.

You can also select the checkboxes adjacent to multiple Instrument Types and enter the **Level - Threshold Historical Days** and **Level - Threshold Haircut** values in the fields adjacent to the **Default Value** field. Click **Apply** to view the values in the selected **Instrument Types**.

2. Click **Save**.

## 4.3.3 Effectiveness Testing Parameters

You can access the **Effectiveness Testing Parameters** window by clicking the **Effectiveness Testing Parameters** tab.

1. Populate the **Effective Testing Parameters** pane as tabulated:

**Table 8: Effectiveness Testing Parameters Table**

Field	Description
Credit Risk Dominance Assessment	
Threshold for Questionnaire Score	Enter the threshold value for the questionnaire score.

<p>Critical Terms Match</p> <p>Enter the Threshold Range (+ or -) for each Critical Terms Match type.</p>	
Maturity Date (days)	Enter the threshold value.
Notional amount	Enter the threshold value.
Quantity	Enter the number of items.
<p>Hedge Ratios</p> <p>Enter the lower and upper bounds for each Hedge Ratio type.</p>	
Dollar offset	Enter the lower bound and upper bound values in the respective <b>Lower Bound</b> and <b>Upper Bound</b> fields.
Variability reduction	Enter the lower bound and upper bound values in the respective <b>Lower Bound</b> and <b>Upper Bound</b> fields.
Correlation	Enter the lower bound and upper bound values in the respective <b>Lower Bound</b> and <b>Upper Bound</b> fields.
R square	Enter the lower bound and upper bound values in the respective <b>Lower Bound</b> and <b>Upper Bound</b> fields.
<p>Economic Relationship</p>	
Lower Bound	Enter the lower bound threshold value for <b>Economic Relationship</b> .
Upper Bound	Enter the upper bound threshold value for <b>Economic Relationship</b> .

## 5 HM Valuations Processing

When all the required assumptions are defined, HM Processing performs calculation processes and generates a result set. The Process Flow guides you through the required inputs on the window.

### Topics:

- [Overview of HM Processes](#)
- [Valuations Processing](#)

### 5.1 Overview of HM Processes

HM Processes allow you to perform the following tasks:

- Determine the data that you want to process (Product Hierarchy block).
- Submit to the HM processing engine the financial element results you want to calculate (Calculation Elements).
- Specify to the HM processing engine the product characteristics, prepayments, discount methods, and forecast rate assumptions to be used in the process (Rule Selection blocks).
- Define the output dimension and what additional attributes must be updated at the instrument level (Output Preferences block).
- Enable the output of detailed cash flows or forecast interest rates for audit purposes (Audit Options block).
- Define the processing parameters for a reprocess on an existing run or an entirely new process (Processing Parameters block).
- Formulate and execute the HM processing request and generate results (**HM Process Summary** page).

### 5.2 Valuations Processing

This section details information about the features under valuations processing and includes the sections Fair Value Level Hierarchy, Additional Information, Fair Value Determination Process, and Fair

#### 5.2.1 Fair Value Level Hierarchy

The OFS HM application observes the characteristics of the observable and significant inputs used to determine the Fair Value (inputs of valuation model) to determine the level hierarchy of the instrument's Fair Value. Along with the Fair Valuation process, the application processes the following logical rules to update or assign the Fair Value Level Hierarchy for instruments.

##### 5.2.1.1 Threshold for Historical Days

The Threshold for Historical Days logic in HM application compares the number of days into history (from when the Fair Value was fetched) and a threshold value of days (provided in Application Preference) to determine the Fair Value Level - either Level 2 or Level 3. When the Fair Value of an instrument is identified as the close price a certain number of days before the As of Date and if this number is less than the threshold value, then the Fair Value is assigned Level 2. Otherwise, the Fair Value is assigned to Level 3.

For example, if the Threshold is set as 4 days and the Fair Value of an instrument is identified 5 days before the As of Date, then the Fair Value is assigned Level 3 since the threshold is lesser than the number of days into history (4 is less than 5).

### 5.2.1.2 Threshold for Haircut

OFS HM provides you the ability to reduce market quotes from a past date or similar instrument by a user-specified value (in percentage) - Haircut. The Haircut percentage is compared against the user-provided threshold value (provided in Application Preferences). If the haircut value (at the instrument type level) is higher than the threshold value, then the Fair Value for that instrument is assigned Level 3. Otherwise, the Fair Value is assigned a Level 2.

### 5.2.1.3 Similar Instruments

For Bonds, the application allows you to select a set of parameters based on which a set of similar instruments are identified. The Fair Value of the bond being valued is equal to the weighted average of the similar bonds (that were identified). Only if you select all the following parameters, then the Fair Value of the bond is assigned as Level 2:

- Coupon Rate
- Face Value
- Rating
- Interest Rate Code
- Currency

If even one of the above parameters is not selected, then the Fair Value of that instrument is assigned a Level 3.

**NOTE** Currency is selected by default.

### 5.2.1.4 Discounted Cash Flow

If the parameters used in the Discounted Cash Flow computation are all observable values, then the Level may be assigned as 2. For an instrument to be assigned as Level 2, then the following conditions must be met:

- **Prepayment Model** - If the instrument or product is not associated with a prepayment model.
- **Interest Rate Curve** - If the interest rate curve used for discounting is a market curve and not a forecast.

In the application, all instruments valued via the DCF method are verified for the above rules. If either a prepayment model or a forecast curve is used, then the FV of the instrument is assigned as Level 3.

**NOTE** ALM Processes created by Level 3 HM Fair Valuation Run are now editable. While editing these ALM processes, you must ensure that the underlying parameters in the ALM Process do not impact the process execution.



**NOTE** For Level 3 Instruments, processed by Discounted Cash Flow approach, where the Maturity date is the same as As of Date, the Fair Value will be 0, because there are no cash flows post maturity date.

**NOTE** All exchange rates in FX-related instrument tables are expected to be populated as several units of Buy or Receive Currency per one unit of Sell or Pay Currency.

**NOTE** If the Maturity Date of an Instrument is lesser than the as-of-date, such Instruments are included in the Valuations processing, after setting the Fair Value as zero on the as-of-date. This Fair Value, which is equal to zero, is considered for all downstream processing.

If the Maturity Date of an Instrument is not provided, such instruments are still processed normally like other Instruments whose Maturity Date is greater than or equal to the as-of-date.

## 5.2.2 Additional Information

This section contains additional information on the valuation processing such as the hypothetical derivatives and forward element of a forward contract.

### 5.2.2.1 Hypothetical Derivatives

For Hedging Instruments being cross-currency interest rate swaps, it is required to compute the Basis Cost. This cost arises due to the presence of the basis spread in the discount curve.

The OFS HM application computes two different Fair Values using the two discount curves defined in the application. The first Fair Value is the actual Fair Value of the Instrument, whereas the second the Fair Value is the Fair Value of the Hypothetical Derivative. Basis Cost is computed as the difference between these two Fair Values.

**NOTE** During Fair Value Gain or Loss computation, the change in Basis Cost is also computed along with a change in Fair Value. For more information, see the [Profit or Loss Accounting](#) chapter.

### 5.2.2.2 Forward Element of a Forward Contract

During the Fair Valuation process, for an FX forward, the application will compute two components of the FX forward: Forward Element and Spot Element. The value of the contract is based on the Spot Rate at inception and the value based on the Current Spot Rate is calculated. The difference between these two amounts is termed as the Spot Element of the Forward Contract.

The Forward Element is the difference between the Fair Value of the contract and the Spot Element.

## 5.2.3 Fair Value Determination Process

To ascertain Hedge Effectiveness, the Fair Value of all Instruments, that is, Hedged items and Hedging Instruments are required. The Fair Values can be determined using the Fair Value Determination Process Definitions module of the OFS HM application.

### 5.2.3.1 Access Fair Value Determination Process Definitions

You can access the Fair Value Determination Process Definitions module by clicking the **Fair Value Determination Process Definitions** link in the LHS menu of the OFS HM application. After clicking this link, the **Fair Value Determination Process Definitions Summary** window is displayed with the **Search** pane and the **Fair Value Process Definitions** form.

**Figure 4: The Search and Fair Value Process Definitions Form**

Definition Name	No. of Instrument Types	Folder	Creation Date	Created By	Last Modification Date	Last Modified By
samp_GDPR	2	IFRSSEG01	05/03/2018 19:27:45	HMUSER	05/03/2018 19:27:45	HMUSER
fair_value_definition3	4	IFRSSEG01	05/01/2018 22:23:48	HMUSER	05/01/2018 22:23:48	HMUSER
fair_value_definition2	12	IFRSSEG01	05/01/2018 22:21:07	HMUSER	05/01/2018 22:21:07	HMUSER
fair_value_definition1	2	IFRSSEG01	05/01/2018 22:20:08	HMUSER	05/01/2018 22:20:08	HMUSER

The **Fair Value Determination Process Definitions Summary** window displays all the existing Fair Value definitions under the **Fair Value Process Definitions** form. The definitions are displayed with details such as **Definition Name**, **No. of Instrument Types**, **Folder**, **Creation Date**, **Created By**, **Last Modification Date**, **Last Modified By**, and **Access Type**.

### 5.2.3.2 Definition Search

The **Search** pane enables you to search for existing Fair Value definitions. To search for an existing Fair Value definition from the **Search** form, perform the following procedure:

1. Enter the value for one or many of the following search parameters, in the respective fields:

**Table 9: The Search pane for the Fair Value Definitions Table**

Field Name	Description
Name	Enter the full or partial name of the definition, you want to search for.
Folder	Select the Folder from the drop-down list. The Folders are Segments defined under the current Information Domain.

Instrument Type	<p>Select the required Instrument Type, from the drop-down list. The list includes the following values:</p> <ul style="list-style-type: none"> <li>• Annuity Contracts</li> <li>• Asset-Backed Securities</li> <li>• Bonds</li> <li>• Bonds Futures</li> <li>• Bonds Options</li> <li>• Borrowings</li> <li>• Checking and Savings</li> <li>• Commercial Loans</li> <li>• Commodity</li> <li>• Commodity Futures</li> <li>• Commodity Option</li> <li>• Consumer Loans</li> <li>• Credit Cards</li> <li>• Credit Lines</li> <li>• Cross Currency Swap</li> <li>• Currency</li> <li>• Currency Forwards</li> <li>• Currency Futures</li> <li>• Currency Option</li> <li>• Deposits</li> <li>• Equity</li> <li>• Equity Futures</li> <li>• Equity Option</li> <li>• Guarantees</li> <li>• Interest Rate Swap</li> <li>• Leases</li> <li>• Loan Contracts</li> <li>• Merchant Cards</li> <li>• Money Market Contracts</li> <li>• Mutual Funds</li> <li>• Retirement Accounts</li> <li>• Trusts</li> <li>• Wholesale Funding</li> </ul>
Created By	<p>Select the name of the user, who has defined the Fair Value definition, from the drop-down list.</p>

## 2. Click **Search**.

The search operation is performed with the entered parameters and the results are displayed in the **Fair Value Process Definitions** form.

You can make use of the pagination options to decide the number of definitions per page or to navigate between pages.

### 5.2.3.3 Creating a Fair Value Definition

To create a Fair Value definition, perform the following procedure:

1. In the **Fair Value Process Definitions** form, click Add **+** to open the **Fair Value Determination Process Definition** window.

**Figure 5: The Fair Value Determination Process Definition pane**

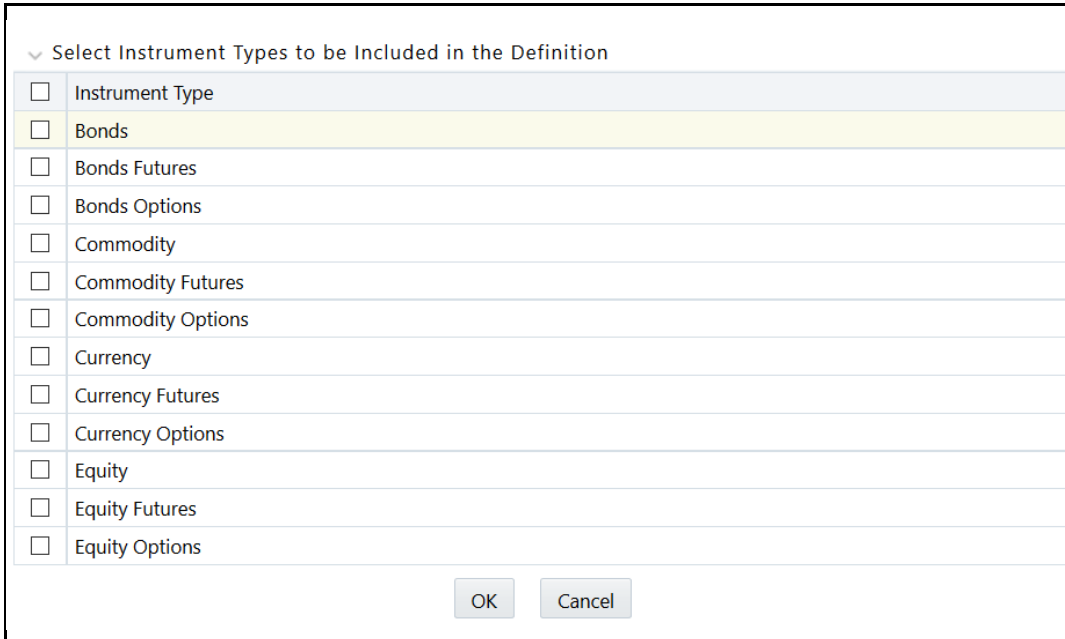
2. Populate the **Fair Value Process Definition Details** pane as tabulated.

**Table 10: The Fair Value Process Definition Details Table**

Field Name	Description
Name	Enter a name for the definition.
Description	Enter a description.
Folder	Select the Folder from the drop-down list.
Access Type	Select either Read Only or Read/Write.

3. In the **Instrument Type to Fair Value Process Definition Mapping** form, click **Add**  to open the **Select Instrument Types to be included in the Definition** window.

**Figure 6: The Select Instrument Types to be included in the Definition Window**




<input type="checkbox"/>	Instrument Type
<input type="checkbox"/>	Bonds
<input type="checkbox"/>	Bonds Futures
<input type="checkbox"/>	Bonds Options
<input type="checkbox"/>	Commodity
<input type="checkbox"/>	Commodity Futures
<input type="checkbox"/>	Commodity Options
<input type="checkbox"/>	Currency
<input type="checkbox"/>	Currency Futures
<input type="checkbox"/>	Currency Options
<input type="checkbox"/>	Equity
<input type="checkbox"/>	Equity Futures
<input type="checkbox"/>	Equity Options

4. Select the required **Instrument Types** by selecting the checkboxes adjacent to the **Instrument Type** names and click **OK**.

The selected **Instrument Types** are displayed under the **Instrument Type to Fair Value Process Definition Mapping** form. This pane displays those processes which are already checked. These processes can be modified according to the requirement.

However, for instruments such as **Loans and Advances**, only a particular process is allowed to be selected as these may not be traded in the market.

Click **Delete**  to remove the Instrument types by selecting the checkbox adjacent to the Instrument type. To remove all the Instrument types present in the **Instrument Type to the Fair Value Process Definition Mapping** form, select the checkbox present in the column header in the **Instrument Type to Fair Value Process Definition Mapping** form.

5. Select the value for the Market Data Provider, from the drop-down list, for each Instrument Type.

#### NOTE

The list of market data providers is expected as a download. You can enter the values to be listed in the Market Data Provider drop-down through the AMHM module of OFSAI. This data is received by the **Financial Data Provider** dimension and the same is later used to populate **Stage Market Center Quotes** table.

For more information on AMHM, see the [Oracle Financial Services Analytical Application Infrastructure User Guide](#).

6. Define the **Fair Value Determination Order** by selecting the checkboxes present in the following columns:

- Ascertain Market Value (Level 1)
- Ascertain Near Market Value (Level 2)
- Process Cash flows (Level 3)

You can also specify the **Near Market Value Determination Parameters for Ascertain Near Market Value (Level 2)**, by performing the following procedure:

- a. Click the **Details** link adjacent to the **Ascertain Near Market Value** field.

The **Ascertain Near Market Value** feature stores information of instruments that are used in arriving at a Fair Value, as part of the Level 2 logic.

**Example:** If the Level 2 process was executed and resulted in 100 instruments that matched the parameters as defined under Level 2, these processes then get reduced into a Fair Value for the instrument being looked up. Checking the Audit near market data on the application UI retains such 100 records for future reference. You have the option to not check this feature on the application. In such cases, the application does not retain the near market instruments which were used in arriving at the Fair Value.

The **Specify Parameters for Near Market/Proxy Value Determination** window is displayed.

The **Instrument Type** field displays the name of the instrument type.

7. Specify the number of days up to which historical market value can be looked up, in the **Specify the number of days up to which historical market value can be looked up** field.
8. Select the checkboxes adjacent to the required Attributes under **Specify Attributes** based on which a near market or proxy value has to be ascertained field. This is to specify the parameters for similar Instruments whose current market value can be used as a proxy for the Instrument that does not meet the criteria in the preceding step.

The **Dimensions and Measures** field is displayed here. This field is enabled only if you have selected **Bonds** as the **Instrument Type**.

9. (Optional) Enter the value for a Haircut percentage in the text field adjacent to **Specify a Haircut Percentage** field.

**NOTE**

If a haircut value is entered, the output is categorized as Level 3 and not Level 2, as per IFRS 9 guidelines.

10. Click **OK**.

11. Click **Save**.

The saved definition is displayed under the **Fair Value Definitions by Instrument Types** pane in the **Fair Value Definitions Summary** window.

The **Audit Trail** section at the bottom of the **Fair Value Determination Process Definition** window displays the metadata related to the definition such as **Created By**, **Creation Date**, **Last Modified By**, and **Last Modification Date with a System ID**. The **User Comments** section facilitates you to add or update additional information as comments.

### 5.2.3.4 Viewing a Fair Value Definition

The **View** feature enables you to view the details of an existing Fair Value definition. To view the definition details, perform the following procedure:

1. In the **Fair Value Definitions by Instrument Types** form, select the checkbox adjacent to the Fair Value definition name for which you want to view.

2. Click **View**  .

The **Fair Value Determination Process Definition** window is displayed in view mode with the definition details.

In **View** mode, you cannot add or edit any of the fields.

3. Click **Cancel** to go back to the **Fair Value Definitions Summary** window.

### 5.2.3.5 Editing a Fair Value Definition

The edit feature enables you to update the details of an existing Fair Value definition. To edit an existing Fair value definition, perform the following procedure:

1. In the **Fair Value Definitions by Instrument Types** form, select the checkbox adjacent to the Fair Value definition name that you want to edit.

2. Click **Edit**  to open the **Fair Value Determination Process Definition** window in edit mode with the definition details.

3. Update the required fields of the definition. For more information, see [Creating a Fair Value Definition](#) section.

4. Click **Save**.

The saved definition is displayed under **Fair Value Definitions by Instrument Types** pane in the **Fair Value Definitions Summary** window.

### 5.2.3.6 Copying a Fair Value Definition

You can copy the details of an existing Fair Value definition and create a new definition by changing the **Name** and **Description**, from the **Fair Value Definitions Summary** window.

To copy the details of an existing Fair Value definition, perform the following procedure:

1. Select the checkbox adjacent to the **Fair Value** definition that you want to copy.
2. Click **Copy** from the **Fair Value Definitions by Instrument Types** pane to open the **Save As** window.
3. Populate the **Fair Value Definitions by Instrument Types** pane as tabulated.

**Table 11: The Fair Value Definitions by Instrument Types Table**

Field Name	Description
Name	Enter a name for the definition.
Description	Enter a description.

Folder	Select the Folder from the drop-down list. The Folders are Segments defined under the current Information Domain.
Access Type	Select either <i>Read Only</i> or <i>Read/Write</i> .

4. Click **Save**.

The saved definition is displayed under **Fair Value Definitions by Instrument Types** pane in the **Fair Value Definitions Summary** window.

All the definition details except the **Name**, **Description**, **Folder**, and **Access Type** remain the same as that of the parent definition. You can edit the definition to update any details of the definition.

### 5.2.3.7 Checking Dependencies of a Fair Value Definition

You can check the dependency information of the individual Fair Value definition from the **Fair Value Definitions Summary** window.

To check the dependency information of an existing **Fair Value** definition, perform the following procedure:

1. Select the checkbox adjacent to the Fair Value definition that you want to check the dependency information.
2. From the **Fair Value Definitions by Instrument Types** form, click **Check Dependency**.


The dependency information of the selected definition is displayed in the **Dependency Information** window with the details such as **Child Object Name**, **Child Object Type**, **Folder**, **Parent Object Name**, **Parent Object Type**, and **Folder**.

3. Click **Cancel** to go back to the **Fair Value Definitions Summary** window.

### 5.2.3.8 Deleting a Fair Value Definition

You can delete an existing Fair Value definition from the **Fair Value Definitions Summary** window.

To delete one or more existing Fair Value definitions, perform the following procedure:

1. Select the checkbox (or checkboxes) adjacent to the **Fair Value** definitions you want to delete.
2. Click **Delete**  from the **Fair Value Definitions by Instrument Types** form.  
A warning dialog is displayed.
3. Click **Yes**.

The selected definitions are removed from the **Fair Value Definitions Summary** window.

## 5.2.4 Fair Value Determination Process - Run Definition

The Fair Value Run definitions enable you to create and execute Run definitions. Run definition enables you to choose which Fair Value definition you want to execute and on what parameters. That is, Run Definition associates a Fair Value definition with user-specified Run parameters available in the UI and executes the definition.



### 5.2.4.1 Access Fair Value Determination Process Definitions

You can access the **Fair Value Determination Run Definition** module by clicking the **Fair Value Determination Run Definition** link under the **Run Management** section in the LHS menu of the OFS HM application. After clicking this link, the **Fair Value Determination Run Definition** window is displayed with the **Search** pane and the **Fair Value Determination Run Definition** form.

Figure 7: The Fair Value Determination Run Definition pane

Run Name	Fair Value Name	No. of Instrument Types	Folder	Creation Date	Created By	Last Run Date	Last Modification Date	Last Modified By	Status
samp_GDPR_Run	samp_GDPR	2	IFRSSEG01	05/03/2018 19:28:24	HMUSER		05/03/2018 19:28:24	HMUSER	Success
samp_Eq_EQop	fair_value_definition1	2	IFRSSEG01	05/02/2018 18:15:29	HMUSER		05/02/2018 18:20:57	HMUSER	Success
Rundef1	fair_value_definition1	2	IFRSSEG01	05/01/2018 22:24:41	HMUSER	05/01/2018 23:43:01	05/01/2018 23:26:14	HMUSER	Success
Rundef3	fair_value_definition3	4	IFRSSEG01	05/01/2018 22:25:56	HMUSER	05/01/2018 23:24:48	05/01/2018 22:25:56	HMUSER	Success
Rundef2	fair_value_definition2	12	IFRSSEG01	05/01/2018 22:25:19	HMUSER	05/01/2018 23:17:46	05/01/2018 22:25:19	HMUSER	Success

The **Fair Value Determination Run Definition** window displays all the existing Fair Value Run definitions under the Fair Value Determination Run Definition form. The definitions are displayed with details such as **Run Name**, **FV Definition Name**, **No. of Instruments Types**, **Folder**, **Creation Date**, **Created By**, **Last Executed**, **Last Modification Date**, **Last Modified By**, **Access Type**, and **Status**.

### 5.2.4.2 Definition Search

The **Search** pane enables you to perform a search for existing **Fair Value Run** definitions. To search for an existing definition from the **Search** form, perform the following procedure:

1. Enter the value for one or more of the following search parameters, in the respective fields:

Table 12: The Definition Search Table

Field	Description
Name	Enter the full or partial name of the definition, you want to search for.
Folder	Select the Folder from the drop-down list. The Folders are Segments defined under the current <b>Information Domain</b> .
Legal Entity	Select the required value for Legal Entity from the drop-down list. The Legal Entities displayed in this drop-down list are picked from a Dimension table. You can update the list of these Legal Entities through the <b>AMHM</b> window of OFSAAI. For more information on AMHM, see the <a href="#">Oracle Financial Services Analytical Application Infrastructure User Guide</a> .

Instrument Type	<p>Select the required value for Instrument Type, from the drop-down list. The list includes the following values:</p> <ul style="list-style-type: none"> <li>• Annuity Contracts</li> <li>• Asset-Backed Securities</li> <li>• Bonds</li> <li>• Bonds Futures</li> <li>• Bonds Options</li> <li>• Borrowings</li> <li>• Checking and Savings</li> <li>• Commercial Loans</li> <li>• Commodity</li> <li>• Commodity Futures</li> <li>• Commodity Option</li> <li>• Consumer Loans</li> <li>• Credit Cards</li> <li>• Credit Lines</li> <li>• Cross Currency Swap</li> <li>• Currency</li> <li>• Currency Forwards</li> <li>• Currency Futures</li> <li>• Currency Option</li> <li>• Deposits</li> <li>• Equity</li> <li>• Equity Futures</li> <li>• Equity Option</li> <li>• Guarantees</li> <li>• Interest Rate Swap</li> <li>• Leases</li> <li>• Loan Contracts</li> <li>• Merchant Cards</li> <li>• Money Market Contracts</li> <li>• Mutual Funds</li> <li>• Retirement Accounts</li> <li>• Trusts</li> <li>• Wholesale Funding</li> </ul> <p>Definitions with specified Instrument Type selected are displayed in this list.</p>
-----------------	---

## 2. Click **Search**.

The search operation is performed with the entered parameter values and the results are displayed in the **Fair Value Determination Run Definition** form.

You can make use of the pagination options to decide the number of definitions per page or to navigate between pages.

### 5.2.4.3 Creating a Fair Value Run Definition

To create a **Fair Value Run** definition, perform the following procedure:

1. From the **Fair Value Determination Run Definition** form, click **Add** to open the **Run Definition** window.

**Figure 8: The Run Definition Window**

The screenshot shows the 'Run Definition' window with the following components:

- Process Flow:** A sequence of four steps: Definition Details (highlighted in orange), Legal Entities, Fair Value Definition, and Cashflow Attributes.
- Definition Details:**
  - Name:** A text input field.
  - Description:** A larger text input field.
  - Folder:** A dropdown menu currently showing 'IFRSSEG01'.
  - Reporting Currency:** A dropdown menu.
  - Access Type:** Radio buttons for 'Read Only' and 'Read/Write' (which is selected).
  - Buttons:** 'Save' and 'Cancel' buttons.
- Audit Trail / User Comments:** A section with tabs for 'Audit Trail' and 'User Comments'.
- System ID:** A section with fields for 'Created By', 'Last Modified By', 'Creation Date', and 'Last Modification Date'.

The **Process Flow** pane displays the available processes such as **Definition Details**, **Legal Entities**, **Fair Value Definition**, and **Cash Flow Attributes**. By default, the **Definition Details** process is selected.

2. Populate the **Fair Value Determination Run Definition** pane as tabulated.

**Table 13: The Fair Value Determination Run Definition Table**

Field Name	Description
Name	Enter a name for the definition.
Description	Enter a description.
Folder	Select the Folder from the drop-down list.
Reporting Currency	Select the reporting currency from the drop-down list.
Access Type	Select either Read Only or Read/Write. <ul style="list-style-type: none"> <li>• Read Only allows you to view the content but not make any changes to the details that have been defined. In effect, editing the content on the window is not possible.</li> <li>• Read/Write lets any user modify the settings on the window and save the updated definition.</li> </ul>

3. Click the **Legal Entities** process from the **Process Flow** form.

The **Legal Entities** pane is displayed.

- a. Select the folder from the drop-down list adjacent to the **Hierarchy Folder** field. The **Folders** are **Segments** defined under the current **Information Domain for Legal Entities**.
- b. Select the **Legal Entity** hierarchy for the **Run**, from the drop-down list adjacent to the **Hierarchy** field.
- c. Click **Browse** and select the **Legal Entities** for the **Run** from the **Hierarchy Browser** window. The selected **Legal Entities** are displayed in the **Legal Entities** for the **Run** field.

**NOTE** This field is security enabled and the members listed in the **Hierarchy Browser** window are dependent on your privileges.

4. Click **Clear** to clear the **Legal Entities** for the **Run** field.

Click the **Fair Value Definition** process from the **Process Flow** pane to open the **Fair Value Definition**.

5. Select the folder from the drop-down list adjacent to the **Folder** field. The Folders are Segments defined under the current **Information Domain for Legal Entities**.
  - a. Select a Fair Value definition from the available list of definitions from the drop-down list adjacent to the **Fair Value Determination Process** field.
6. Select the checkboxes adjacent to the instrument types you want to include in the Run definition by selecting the checkbox adjacent to the **Instrument Types** in the **Instrument Types** form.
 

The list of instrument types is fetched from the Fair Value definition you have selected in the **Fair Value Determination Process** field.
7. Select the checkbox adjacent to the **Audit Near Market Value Instrument Types** field, if you want to retain the set of **Near Market value Instrument Types** for later reference.
 

If this checkbox is not checked, the application will not retain a record of which instruments were used in ascertaining a proxy value.
8. Click the **Cashflow Attributes** process from the **Process Flow** form.

**NOTE** The **Cashflow Attributes** process in the **Process Flow** pane is enabled only if you have installed OFS ALM.

The **Cashflow Attributes** pane is displayed.

**NOTE** You must select at least one **Instrument Type** having a **Cashflow** process associated with it from the **Instrument Types** pane to access the **Cashflow Attributes** process.

The **Cashflow Attributes** pane displays the following attributes.

- Product Characteristics
- Discount Methods
- Prepayments
- Forecast Rates

**NOTE**

When a cross-currency interest rate swap is part of a **Fair Value Run** definition, you can select an additional discount method to compute the Fair **Value of Hypothetical Derivative**, related to the given swap. The discount curve used here must be adjusted for **Basis Spread**.

9. Select the **Folder** and **Definition** for each of these attributes, from the respective drop-down lists.
10. Click the drop-down list adjacent to **Opt for the hypothetical derivatives** field and select the required discount method.
11. Click the drop-down list adjacent to **Base Scenario for the Accounting** field and select the required scenario.
12. Click **Save** to save the definition details.

The saved definition is displayed under the **Fair Value Determination Run Definition** pane in the **Fair Value Determination Run Definition** window.

The **Audit Trail** section at the bottom of the **Run Definition** window displays the metadata related to the definition such as **Created By**, **Creation Date**, **Last Modified By**, and **Last Modification Date with a System ID**. The **User Comments** section facilitates you to add or update additional information as comments.

#### 5.2.4.4 Viewing a Fair Value Determination Run Definition

The View feature enables you to view the details of an existing **Fair Value Determination Run** definition. To view the definition details, perform the following procedure:

1. Select the checkbox adjacent to the **Run** definition name, which you want to view, in the **Fair Value Determination Run Definition** form.

2. Click **View** .

The **Run Definition** window is displayed in view mode with the definition details.

In **View** mode, you cannot add or edit any of the fields.

3. Click **Cancel** to go back to the **Fair Value Determination Run Definition** window

#### 5.2.4.5 Editing a Fair Value Determination Run Definition

The edit feature enables you to update the details of an existing Run definition. To edit an existing Run definition, perform the following procedure:

1. Select the checkbox adjacent to the Run definition name, which you want to edit, in the **Fair Value Determination Run Definition** form.

2. Click **Edit** .

The **Run Definition** window is displayed in edit mode with the definition details.

3. Update the required fields of the definition. For more information, see [Creating a Fair Value Run Definition](#) section.

4. Click **Save** to save the definition details.

The saved definition is displayed under the **Fair Value Determination Run Definition** pane in the **Fair Value Determination Run Definition** window.

### 5.2.4.6 Copying a Fair Value Determination Run Definition

You can copy the details of an existing **Fair Value Determination Run** definition and create a new definition by changing the **Name** and **Description**, from the **Fair Value Determination Run Definition** window.

To copy the details of an existing Fair Value Determination Run definition, perform the following procedure:

1. Select the checkbox adjacent to the **Fair Value Determination Run** definition you want to copy.
2. Click **Copy** to open the **Save As** window.
3. Enter a name in the text area adjacent to the **Name** field.
4. Enter a description in the text area adjacent to the **Description** field.
5. Select the folder from the drop-down list adjacent to the **Folder** field.  
The Folders are Segments defined under the current Information Domain.
6. Select the required radio button adjacent to the **Access Type** field to make the definition Read Only or Read/Write.
7. Click **Save** to save the definition details.

The saved definition is displayed under the **Fair Value Determination Run Definition** pane in the **Fair Value Determination Run Definition** window.

All the definition details except the **Name**, **Description**, **Folder**, and **Access Type** remain the same as that of the parent definition. You can edit the definition to update any details of the definition.

### 5.2.4.7 Checking Dependencies of a Fair Value Determination Run Definition

You can check the dependency information of individual Run definition from the **Fair Value Determination Run Definition** window.

To check the dependency information of an existing Run definition, perform the following procedure:

1. Select the checkbox adjacent to the Run definition of which you want to check the dependency information.
2. Click **Check Dependency** from the **Fair Value Determination Run Definition** form.  
The dependency information of the selected definition is displayed in the Dependency Information window with the details such as **Child Object Name**, **Child Object Type**, **Folder**, **Parent Object Name**, **Parent Object Type**, and **Folder**.
3. Click **Cancel** to go back to the **Fair Value Determination Run Definition** window.

### 5.2.4.8 Executing a Fair Value Determination Run Definition

The **Execute** feature enables you to implement the Run definition you have created. To execute a Run definition, perform the following procedure:

1. Select the checkbox adjacent to the Run definition you want to execute.
2. Click **Run** from the **Fair Value Determination Run Definition** pane to open the **Date Selection** window.
3. Select a date for which you want to execute the Run definition.

#### 4. Click **OK**.

A batch will be created at the time of the **Fair Value Run Definition Save** operation and the Run definition is marked for execution. A dialog window confirming the same is displayed. Once executed from the UI, a batch is generated to **Run Processes** that have been defined for each **Instrument Type**. Upon completion of the execution, Fair Values are generated for specified instrument types and processes.

The output table used to handle the result of this execution is **FCT\_ACCOUNT\_FAIR\_VALUE**.

For more information, see Oracle Financial Services Hedge Management and IFRS Valuations Run Chart and List of Tables on MOS.

#### NOTE

The application generates Fair Value for instruments for which appropriate processes (also referred to as Levels) and criteria have been specified in the **Fair Valuation Process Definition** UI. For more information, see **Fair Value Calculation, Fair Value Definition Details** page, and **Cash Flow attributes** sections.

Upon completion of the execution, the **Status** column in the **Fair Value Determination Run Definition** window displays the execution status as **Success or Failure**. You can click on this status to view the tasks involved in the **Fair Value Run** process, in the **View Log** window.

#### View Log

The **View Log** window provides the log details and displays the execution status of the **Fair Value Run Definition**.

Figure 9: The View Log Window

The screenshot shows the 'View Log' window with a search bar and filters for Component Type (Hedge Management), Folder, User, As of Date, Task Name, and Batch Run ID. Below the filters is a table of task information.

As of Date	Component	Folder	Task Name	Task ID	Process Type	Status	Process Step	Records Processed	Number of Errors	Start Date	End Date	Elapsed Time	User	Batch Run ID
10/21/2016	Hedge Management	IFRSSEG01	Populate Time/Value for Options	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	Populate Instruments	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	PopulateDim_Run_L1_L2_HM	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	Push L1,L2 FV result to reporting	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	SCD for Org Unit / Populate Org Unit	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	SCD for Dim_common_coa	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	SCD for Dim_product	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	Level1 FV Valuation	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/21/2016	Hedge Management	IFRSSEG01	Level2 FV Valuation	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:35	05/03/2018 19:29:17	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016
10/20/2016	Hedge Management	IFRSSEG01	PopulateDim_Run_L1_L2_HM	200100	HM_RUN_DEFINITION	Completed			NA	05/03/2018 19:28:45	05/03/2018 19:29:27	00:00:42	HMUSER	HMINFO_InFairValue_200100_2016

The **View Log** window displays the details such as **As of Date, Component, Folder, Task Name, Task ID, Process Type, Status, Process Step, Records Processed, Number of Errors, Start Date, End Date, Elapsed Time, User, and Batch Run ID**.


You can search for a particular task from the list of tasks using the parameters such as **User** and **Batch Run ID**.

You can also click on the **Task ID** to view the task details in the **Log Information** window.

### 5.2.4.9 Deleting a Fair Value Determination Run Definition

You can delete an existing Run definition from the **Fair Value Definitions Summary** window.

To delete one or more existing Run definitions, perform the following procedure:

1. Select the checkbox(s) adjacent to the **Run** definitions you want to delete.
2. Click **Delete**  from the **Fair Value Determination Run Definition** form.  
A warning dialog is displayed.
3. Click **Yes**.

The selected definitions are removed from the **Fair Value Determination Run Definition** window.



## 6 Hedge Management Effectiveness Process

### 6.1 Overview of Effectiveness Process

HM Effective Processes allow you to perform the following tasks:

- Determine the name, location, and access type of process rule that you want to perform (Process block).
- To select the Hedge definition (Hedges block).
- Submit to the HM engine the prospective and retrospective processing types.
- Formulate and execute the HM processing request and generate results (HM Process Summary Page).

### 6.2 Hedge Definitions

The hedge Creation process consists of the Hedge Definition UI in the OFS HM application. This UI component is detailed in the following sections.

#### 6.2.1 Access Hedge Definitions

You can access the Hedge Definitions section by clicking the Hedge Definitions link present under the Hedge Management menu in the LHS of the OFS HM application. Upon clicking this link, the *Hedge Definitions Summary* page is displayed with a list of all the existing definitions.

These definitions are listed with the details such as Hedge Name, Hedge Type, Folder, Creation Date, Created By, Last Modification Date, and Last Modified By.

#### 6.2.2 Search for Hedge Definitions

You can search for existing definitions using the search parameters such as Folder, Definition Name, or Hedge Type and by clicking the **Search** button. Upon performing a search operation, only those definitions that match with the search criteria are displayed in the *Hedge Definitions* grid.

#### 6.2.3 Add Hedge Definition

To create a Hedge Definition, perform the following procedure:

1. Click the **Add** button from the *Hedge Definitions* grid.

The *Hedge Definition* window displays the *Hedge Creation Process* and *Hedge Definition Details* grids.

2. Enter the details in the *Hedge Definition Details* grid, as tabulated:

Field	Description
Name*	Enter the name of the Hedge Definition.

Description	Enter the description of the Hedge Definition.
Folder*	Select the folder from the drop-down list. Folders are segments present in the selected Information Domain.
Access Type*	Select the access type as either Read Only or Read/Write by selecting an appropriate radio button. This selection determines whether the definition should be made available for edit at a later point in time.
Hedge Type	Select the hedge type from the drop-down list. The Available values are the following: <ul style="list-style-type: none"> <li>• Cash Flow</li> <li>• Fair Value</li> <li>• Net Investment</li> </ul> Choose the Hedge Type appropriately, that is in line with the accounting policies of the financial institution. Note: These options influence the computation logic. And the accounting adjustments are based on the selection made here.
Hypothetical Derivative	Select the checkbox adjacent to this field, if Hypothetical Derivative is a part of the hedge. If this option is checked, then the definition is created for a Hypothetical Hedge.
Hierarchy Folder	Click the drop-down list adjacent to this field and select the folder.
Hierarchy	Click the drop-down list adjacent to this field and select the hierarchy.
Legal Entity	Click the Browse button adjacent to this field and select a legal entity from the Hierarchy Browser window. List of Hedge Segments in Hedged Items selection process and Hedge Instruments in Hedged Instruments selection process are displayed according to the selected Legal Entity.
Active	Select the checkbox adjacent to this field to mark the Hedge Definition as active. This field is used for Batching/Scheduling. The Hedge definition Batching functionality considers only 'Active' Hedge definitions.

3. Click the **Apply** button to save the changes.
4. Click the Save button to save the definition and close the window.
5. Click the Hedged Items process from the Hedge Creation Process grid.
6. Select the Definition Type as either Hedge Segment or Hedge Instruments.

This allows you to create a hedge either on a Segment (Portfolio) basis or on an Instrument basis. Depending on this selection, the *Hedged Items* or *Hedged Instruments* grids are displayed.

7. Enter the percentage to be hedged in the text field adjacent to the **Percentage to be Hedged** field. Permitted values are numeral from 1 to 100 without any decimals. If this field is not specified, upon Effectiveness Testing execution, this is treated as 100% and not as NULL.  
Depending on the definition type you have selected, fields in *Hedged Items* or *Hedged Instruments* grids are displayed.

### 6.2.3.1 Hedged Items

To add Hedge Items to the definition, perform the following procedure:

Click the **Add** button from the *Hedged Items* grid. The *Hedge Segments* window is displayed with the list of existing Hedge Segments. Here you can search for segments using ID, Name, and/or Type.

Select the checkbox adjacent to the Segment ID of the Hedge Segment you want to select and click the **Apply** button.

The selected segments are displayed with the details such as Segment ID, Segment Name, and Segment Type.

The available Instrument Types are Annuity Contracts, Bonds, Borrowings, Commodity, Credit Lines, Currency, Deposits, Equity, Leases, Loan Contracts, Money Market Contracts, and Retirement Accounts.

### 6.2.3.2 Hedge Instruments

To add Hedge Instruments to the definition, perform the following procedure:

1. Click the **Add** button from the *Hedged Instruments* grid.

You have to select an instrument type that you want to search for. Depending upon the selection, the search parameters are disabled if they are not relevant for the selected Instrument Type. To use the Time to Maturity search option, you need to specify the band from the drop-down list and the date as to which the application has to bucket records into the selected maturity band.

The *Hedge Instruments* window is displayed with the list of existing Instruments available for Hedging.

You can search for Instruments using Instrument Type, Product, Instrument ID, Party Type, Instrument Name, and/or Account ID.

You can also use the Advanced Search feature by clicking the **Advanced Search** button and entering the details such as Issuer Type, Issuer, Party, Country, Instrument Rating, Counterparty Rating, Restructured, Currency, Benchmark Ref, Time to Maturity, Folder, and/or Filter Type.

The results are displayed in *Select Instruments to be Hedged* grid with the details such as Instrument Id, Account ID, Instrument Name, Product, Currency, and Benchmark Ref.

2. Select the checkbox adjacent to the **Instrument ID** of the Hedge Instrument you want to select and click the **Apply** button.

The selected Instruments are displayed with the details such as Account ID/No, Product, Party, Instrument Name, and Currency.

**Note:** If you switch between the Hedge Segments and Hedge Instruments, contents in the grid will be reset.

3. Click the **Hedging Instruments** process from the *Hedge Creation Process* grid.
4. Click the **Add** button from the *Hedging Instruments* grid.

The *Hedge Instruments* window is displayed with the list of existing Hedge Instruments.

You can search for Instruments using Instrument Type, Product, Instrument ID, Party Type, Instrument Name, and Account ID, Issuer Type, Issuer, Party, Country, Instrument Rating, Counterparty Rating, Restructured, Currency, Benchmark Ref, Time to Maturity, Folder, and/or Filter Type.

The results are displayed in Select Instruments to be Hedged grid with the details such as Instrument Id, Account ID, Instrument Name, Product, Currency, and Benchmark Ref.

The available Instrument Types are Bonds Futures, Bonds Options, Commodity Futures, Commodity Option, Cross Currency Swap, Currency Forwards, Currency Futures, Currency Option, Equity Futures, Equity Option, and Interest Rate Swap.

5. Select the checkbox adjacent to the Account ID/No of the Hedge Instrument you want to select and click the **Apply** button.

The selected Instrument is displayed with the details such as Account ID/No, Instrument Name, Maturity, Underlying Quantity, Currency, Benchmark Ref, and an option to select the Risk Type.

**Note:**

- Hedge Risk Type selection is used only for reporting purposes.
  - You cannot select multiple Risk Types for an Instrument Type. The only exception is Cross Currency Swap Instrument Type, where multiple Risk Types can be added in a single definition.
  - On a subsequent date, it is advisable not to include a Hedging Instrument which is already part of another Hedge definition designated on an earlier date unless you want to terminate the former Hedge definition.
6. Click the drop-down list in the Risk Type column and select the type of risk that is being covered in the hedge relationship. Available options are the following:
    - Currency Risk
    - Interest Rate Risk
    - Credit Risk
    - Liquidity Risk
    - Price Risk
    - Volatility Risk

**Note:**

- Some instruments may appear in the Search grids of both Hedged Items and Instrument Types windows, to be potentially picked up for inclusion in the definitions. This is due to Segments which the application does not read into individual instruments for the mutual exclusive logic to work. However, if such a scenario exists, Effectiveness Testing logic will enforce mutual exclusivity by excluding such common instruments/accounts from the Hedged Items, during processing.
  - Hedge Risk Type is a new Dimension type. You can define new Members to this Dimension type through Dimension Management > Members module.
7. Select the checkbox adjacent to a Hedging Instrument and click the Hedge Recommendation icon to select the recommended hedge.

The *Hedge Recommendation* window is displayed. This window displays Hedged Instruments and Hedging Instruments.

8. Click the drop-down list adjacent to the Risk Type field and select the type of risk. Available options are the following:
  - Currency Risk
  - Interest Rate Risk
  - Price Risk
9. Click the Search button to view the Hedged Instruments and corresponding Hedging Instruments. You can use the Next and Previous buttons to move back and forth between Hedged Instruments.
10. Select the required Hedged Instruments and Hedging Instruments before clicking the Apply button.
11. Click the Questionnaire process from the Hedge Creation Process grid.
 

The Generic Questions are displayed under the Credit Risk Dominance Assessment grid.
12. Select the answers as either Yes or No by clicking appropriate radio buttons.
13. Click the Apply button.
 

The Questionnaire is saved.
14. Click the Save button to save the definition and close the window.
15. Click the Effectiveness Testing process from the Hedge Creation Process grid.
16. Populate the form under Choose Effectiveness Testing Parameters grid, as tabulated:

Field	Description
Fair Value Determination Run Definition Folder	Click the drop-down list and select the required folder from the list of folders.
Fair Value Determination Run Definition	This field displays the definitions, depending on the folder you have selected in the Fair Value Determination Run Definition Folder field. Click the drop-down list and select the required definition from the list of definitions.
<i>Qualitative Parameters</i>	
Credit Risk Dominance Assessment	Select the checkbox adjacent to this field if you want to perform a Credit Risk Dominance Assessment.
Critical Terms Match	Select the checkbox adjacent to this field if you want to perform Critical Terms Match.
<i>Quantitative Parameters</i>	
Measurement Methodology	Select the checkbox adjacent to the required measurement methodology. Available values are the following:

	<ul style="list-style-type: none"> <li>• Prospective Cash Flow Based</li> <li>• Retrospective</li> <li>• Scenario-Based</li> </ul>
Base value to be used for Options	<p>Select the radio button adjacent to Intrinsic Value or Fair Value.</p> <p><b>Note:</b> This option is available only for instrument type Options.</p> <p>The Intrinsic Value is the difference between the price of the underlying (for example, the underlying stock or commodity) and the strike price of the Option. Any premium that is more than the option's intrinsic value is referred to as its time value.</p>
Base value to be used for Currency Forwards	<p>Select the radio button adjacent to Spot Element Value or Fair Value.</p> <p><b>Note:</b> This option is available only for instrument type Currency Forwards.</p>
Hedge Ratios	<p>The following needs to be selected to calculate Hedge Ratio.</p> <p>Hedge Ratios are mandatory.</p>
Computation Type	<p>Click the drop-down list and select the required computation type from the list. Available values are the following:</p> <ul style="list-style-type: none"> <li>• Cumulative</li> <li>• Net</li> </ul>
Prospective Hedge Ratio Methodology	<p>This field is enabled only if you have selected Prospective as the measurement methodology.</p> <p>Click the drop-down list and select the required Prospective Hedge Ratio Methodology from the list. Available values are the following:</p> <ul style="list-style-type: none"> <li>• Dollar Offset</li> <li>• Regression</li> </ul> <p>If you select Regression as the Hedge Ratio Methodology, you have the option to select the checkbox adjacent to the Make intercept zero fields to compute the Hedge Ratio from the line of best fit (slope) by forcing the intercept to be Zero.</p> <p>Also, select the Confidence Level from the drop-down list. Confidence Levels are required to perform the F-Test. Available values are the following:</p> <ul style="list-style-type: none"> <li>— 1 %</li> <li>— 2.5 %</li> <li>— 5 %</li> <li>— 10 %</li> </ul> <p>To include more confidence levels, reach out to Oracle support.</p> <ul style="list-style-type: none"> <li>• Variability Reduction</li> </ul>
Retrospective Hedge Ratio Methodology	<p>This field is enabled only if you have selected Retrospective as the measurement methodology.</p> <p>Click the drop-down list and select the required Retrospective Hedge Ratio Methodology from the list. Available values are the following:</p> <ul style="list-style-type: none"> <li>• Dollar Offset</li> <li>• Regression</li> </ul>

	<p>If you select Regression as the Hedge Ratio Methodology, you have the option to select the checkbox adjacent to the Make intercept zero fields to compute the Hedge Ratio from the line of best fit (slope) by forcing the intercept to be Zero.</p> <p>Also, select the Confidence Level from the drop-down list. Confidence Levels are required to perform the F-Test. Available values are the following:</p> <ul style="list-style-type: none"> <li>— 1 %</li> <li>— 2.5 %</li> <li>— 5 %</li> <li>— 10 %</li> </ul> <p>To include more confidence levels, reach out to Oracle support.</p> <ul style="list-style-type: none"> <li>• Variability Reduction</li> </ul>
Scenario Hedge Ratio Methodology	<p>This field is enabled only if you have selected Scenario Based as the measurement methodology.</p> <p>Click the drop-down list and select the required Scenario Hedge Ratio Methodology from the list. Available values are the following:</p> <ul style="list-style-type: none"> <li>• Correlation</li> <li>• R Square</li> </ul>
Economic Relationship	<p>Select the checkbox adjacent to the Economic Relationship field, if you want to calculate the economic relationship using Prospective, Retrospective, Scenario-Based, or all three methods.</p>

17. Click the **Apply** button to apply the changes. The Apply function saves the data and retains the window open for further operations.
18. Click the **Save** button to save the changes. Once saved, the definition is displayed in the Hedge Definitions grid of the Hedge Definitions Summary window.

The Audit Trail section at the bottom of the Hedge Definition window displays the metadata related to the definition such as Created By, Creation Date, Last Modified By, and Last Modification Date with a System ID. The User Comments section facilitates you to add or update additional information as comments.

For more information on Segmentation Run, see the Segmentation Run chapter.

## 6.2.4 Viewing a Hedge Definition

The View feature enables you to view the details of an existing Hedge definition. To view the definition details, perform the following procedure:

1. Select the checkbox adjacent to the Hedge definition name, which you want to view, in the Hedge Definitions grid.
2. Click the **View** button.

The **Hedge Definition** window is displayed in view mode with the definition details.

In *View* mode, you cannot add or edit any of the fields.

## 6.2.5 Editing a Hedge Definition

The edit feature enables you to update the details of an existing Hedge definition. To edit an existing Hedge definition, perform the following procedure:

1. Select the checkbox adjacent to the Hedge definition name, which you want to edit, in the **Hedge Definitions** grid.
2. Click the **Edit** button.
3. Update the required fields of the definition.
4. Click the **Save** button to save the definition details.

The saved definition is displayed under the Hedge Definitions grid in the Hedge Definitions Summary window.

## 6.2.6 Copying a Hedge Definition

You can copy the details of an existing Hedge definition and create a new definition by changing the Name and Description, from the Hedge Definitions Summary window.

To copy the details of an existing Hedge definition, perform the following procedure:

1. Select the checkbox adjacent to the Hedge definition you want to copy.
2. Click the Copy button from the Hedge Definitions grid.
3. Enter a name for the Hedge definition in the text area adjacent to the **Name** field.
4. Enter a description for the Hedge definition in the text area adjacent to the **Description** field.
5. Select the folder from the drop-down list adjacent to the **Folder** field. The Folders are Segments defined under the current Information Domain.
6. Select the required radio button adjacent to the **Access Type** field to make the definition Read Only or Read/Write.
7. Click the **Save** button to save the definition details.

The saved definition is displayed under the Hedge Definitions grid in the Hedge Definitions Summary window.

All the definition details except the Name, Description, Folder, and Access Type remain the same as that of the parent definition. You can edit the definition to update any details of the definition.

## 6.2.7 Checking Dependencies of a Hedge Definition

You can check the dependency information of individual Hedge definition from the Hedge Definitions Summary window.

To check the dependency information of an existing Hedge definition, perform the following procedure:

1. Select the checkbox adjacent to the Hedge definition of which you want to check the dependency information.
2. Click the Check Dependency button from the Hedge Definitions grid.



The dependency information of the selected definition is displayed in the Dependency Information window with the details such as Child Object Name, Child Object Type, Folder, Parent Object Name, Parent Object Type, and Folder.

## 6.2.8 Deleting a Hedge Definition

You can delete an existing Hedge definition from the Hedge Definitions Summary window.

To delete one or more existing Hedge definitions, perform the following procedure:

1. Select the checkbox(s) adjacent to the Hedge definitions you want to delete.
2. Click the **Delete** button from the Hedge Definitions grid.

A warning dialog is displayed.

3. Click the **Yes** button.

The selected definitions are removed from the Hedge Definitions Summary window.

## 6.3 Managing Hedge Definitions

The Hedge Lifecycle feature enables you to manage the Hedge definitions, based on multiple scenarios. In any scenario, for a hedge to be designated on day 1, it should be effective. On subsequent FIC MIS dates, the hedge need not be effective for it to be finalized. While executing through the batch, the hedge is finalized automatically (irrespective of whether the hedge is effective or ineffective). In a manual process, you need to finalize the hedge through the application UI.

Finalize indicates that a given hedge and its effectiveness test results are valid to be reported on any given date.

Following are the scenarios possible in Hedge Effectiveness:

1. The hedge gets Designated on day 1. On a subsequent day, while the hedge is still not finalized (remains un-finalized), the user can perform effectiveness testing via the UI, and irrespective of the result (effective/ineffective), the hedge is (marked as) finalized. There is no re-balancing in this scenario.
2. The hedge gets Designated on day 1. On a subsequent day, when a batch is triggered, the effectiveness tests are performed and all (previously) designated hedges are finalized, irrespective of the result. The user may view the results via the UI and if required re-execute the effectiveness. Again in this scenario, no re-balancing is made.
3. The hedge gets Designated on day 1. On a subsequent day, while the hedge is still not finalized (remains un-finalized), the user can modify the hedge composition (it is advised to modify only the hedge composition to modify the number of hedging instruments and not the instruments themselves - it is not allowed in IFRS 9) and test the modified hedge for its effectiveness. If the hedge effectiveness test results are unsatisfactory, the user may revert the modifications. Upon revert, the hedge composition (that was valid) as of the last FIC MIS DATE (the last finalized hedge composition) is selected. The user may make such modifications and reversion any number of times. If the user finalizes a modified hedge, then the steps of scenario 4 are followed.
4. The hedge gets Designated on day 1. On a subsequent day, while the hedge is still not finalized (remains un-finalized), the user can modify the hedge composition (it is advised to modify only the hedge composition to modify the number of hedging instruments and not the instruments themselves - it is not allowed in IFRS 9) and test the modified hedge for its effectiveness. If the

hedge effectiveness test results are satisfactory, the user may finalize the hedge. Upon finalize, the hedge is marked as "Rebalanced".

The user may make such modifications and finalize any number of times. If the user modifies an already finalized hedge, then the steps of scenario 6 are followed. If the user reverts changes made on a finalized hedge, the steps of scenario 5 are followed.

5. The hedge gets Designated on day 1. On a subsequent day, post the hedge being finalized (maybe via a batch process - refer to scenario 2), the user may choose to modify the composition of the hedge (it is advised to modify only the hedge composition to modify the number of hedging instruments and not the instruments themselves - it is not allowed in IFRS 9) and test the modified hedge for its effectiveness. If the hedge effectiveness test results are unsatisfactory, the user may revert the modifications. Upon revert, the hedge composition (that was valid) before the modification; as of that FIC MIS DATE/current date (the last finalized hedge composition) is considered. The user may make such modifications and reversion any number of times. If the user finalizes a modified hedge, then the steps of scenario 6 are followed.
6. The hedge gets Designated on day 1. On a subsequent day, post the hedge being finalized (maybe via a batch process - refer to scenario 2), the user may choose to modify the composition of the hedge (it is advised to modify only the hedge composition to modify the number of hedging instruments and not the instruments themselves - it is not allowed in IFRS 9) and test the modified hedge for its effectiveness. If the hedge effectiveness test results are satisfactory, the user may finalize the hedge. Upon finalize, the hedge is marked as "Rebalanced". The user may make such modifications and finalize any number of times. If the user modifies an already finalized hedge, then the same steps (of this scenario) are followed. If the user reverts changes made on a finalized hedge, the steps of scenario 5 are followed.

**Note:** It is important to understand that, on revert, across any scenario, the last finalized hedge composition will be selected. The hedge could have been finalized on that FIC MIS DATE or the previous FIC MIS DATE.

**Note:** Whenever a hedge is Rebalanced, the gain/loss computation (from the last date to the current FIC MIS date) considers the composition of the hedge as per the previous finalized/designated date. The re-balancing of the hedge affects the gain/loss computation only from the subsequent date.

## 6.4 Hedge Effectiveness Testing

Hedge Effectiveness testing consists of four criteria. Effectiveness testing is triggered by selecting the appropriate fair value definition run and the required date. While Hedge Ratio is mandatory, the user can choose between Economic Relationship, Credit Risk Dominance, or Critical Terms Match, or a combination of any of these.

Hedge Effectiveness Testing calculates the fair values for all Hedged Items and Hedging Instruments.

For a hedge to be effective, each of the three or four parameters based on the user selection has to be effective. If any one of the parameters is ineffective, then the entire hedge is ineffective.

The net Fair Value of all participating Hedged Items is calculated to perform Hedge Effectiveness Testing. The following available account types: Non-Interest Income, Taxes, None, Interest Income (Unallocated), Interest Expense (Unallocated), Equity, Dividends, Statistical, Taxes, and Use Detail Leaves, are not considered for netting.

## 6.4.1 Quantitative Attributes

**Economic Relationship:** This attribute tests if an economic relationship exists between the hedged item and the hedging instrument. The process requires the fair values of both the hedged item and hedging instrument for a set of dates. The system compares the fair values of both the hedged item and hedging instrument and calculates the correlation factor for the same. The correlation range that is acceptable to the entity is stored in the system and is compared with the correlation factor of the specific hedge.

If the correlation value of the hedge is within the range, then an economic relationship exists and the hedge is effective, else it is considered ineffective. If there are multiple hedging instruments present, then multiple correlation values are calculated as output. Economic Relationship can be computed using Retrospective, Prospective, or Scenario-Based methods. Prospective testing is possible only if the hedge consists entirely of Level 3 accounts. If the hedge consists of Level 1 or Level 2 instruments, then only retrospective testing is possible.

**Hedge Ratio:** This is computed using one of the three methods.

- Dollar Offset Method
- Variability Reduction Method
- Regression and F-Test

The entity can choose to select one of the methods to compute the Hedge Ratio. Hedge Ratio can be computed either retrospectively or prospectively. Prospective testing is possible only if the hedge consists entirely of Level 3 accounts. If the hedge consists of Level 1 or Level 2 instruments, then only retrospective testing is possible.

Hedge Ratio can be computed using cumulative period or net period. If a Cumulative period is selected, then fair values of multiple dates are considered for the calculation. For the retrospective method, if the period selected is Net, then fair values of only the hedge effectiveness date and previous date should be considered for calculation. For Prospective if the period selected is Net, then for the execution date, fair values between the start date index zero and one are considered.

The resulting value is compared with the range present in the system stored earlier. If the value is within the specified range, then the hedge is effective, else it is considered ineffective.

Fair Values of different Scenarios are considered for Scenario-based Hedge Effectiveness Testing. Hedge Ratio is computed by considering Fair Values across all Scenarios. Scenario-Based Hedge Effectiveness Testing requires at least 30 Scenarios to be defined.

In Hedge Effectiveness Testing and Economic Relationship processes, where the application computes Hedge Ratio and Correlation respectively, if there are instruments with different currencies, the Fair Values are converted to a common reporting currency (as defined through the application UI) using the exchange rates as of the corresponding dates/start date indices.

**Note:** For historical dates, the Exchange Rates as provided as a download on those as of dates are used. For forward or prospective start date indices, the exchange rates computed through ALM are used.

If the exchange rate is not provided, the default value will be taken as 1.

In the case where a Hedge Definition has both Assets and Liabilities as part of its Hedged Item, the Fair Value of Liabilities is deducted while doing the aggregation.

## 6.4.2 Qualitative Attributes

### 6.4.2.1 Credit Risk Dominance

Credit Risk Dominance is one of the qualitative criteria of Hedge Effectiveness. This criteria tests if there is the effect of credit risk which dominates the value changes that result from the economic relationship between the hedged item and hedging instrument. This is tested in the form of a questionnaire which is divided into two sections as Logic Based questions and Generic questions.

The criteria for Credit Risk Dominance to be effective is detailed in the Criteria for Credit Risk Dominance to be Effective Appendix.

#### 6.4.2.1.1 Logic-Based Questions

The Logic Based questions consist of questions for which answers will be auto-populated, based on the data derived from the hedging relationship. This set of questions are based on a seeded logic that retrieves a YES/NO answer from parsing through available data in various tables/columns. Currently, the application seeds a limited set of questions and the logic there too, without the capability for the users to modify any of them or even create them.

Example: One of the Logic-Based questions is to determine whether Credit Value Adjustment (CVA) was computed, which itself determines the Credit Risk dominates the equation.

#### 6.4.2.1.2 Generic Questions

The second section consists of questions that the user has to respond to. Once the user responds to the questions, the response is compared with the score set by the administrator, and a final score is arrived at.

These questions are not particular to any one instrument type and are intended to capture management's attitude or outlook towards hedge management as of the assessment date. These questions also reflect a degree of judgment with which they will have to be responded to by the user and therefore cannot be set to be answered through the application of logic.

The administrative user assigns a score to each option of all questions. The administrative user also sets the threshold score beyond which it is considered that credit risk is not dominant. For example, if the Aggregate threshold value set by the administrative user is 80%, and the user's response gets a score of 85%, then it is determined that Credit risk is Not Dominant. If the user's response is less than 80%, then Credit Risk is determined to be Dominant.

### 6.4.2.2 Critical Terms Match

The critical terms or attributes between the hedged item and hedging instruments are compared, and if all the critical terms match, then the Hedge is considered effective. If any of the terms do not match, then the hedge is considered ineffective. Examples of critical terms/attributes that matches are Notional Amount, Maturity Period, and Underlying Risk.

Critical Terms are dimensional or measure parameters to a Hedging Instrument that when matches those of Hedged Items a Hedging relationship is said to have met Critical Terms of the hedging instrument.

The application looks for the availability of permissible instruments on the Hedged Items to Hedging Instruments within the relationship definition before proceeding to look for matching critical terms. You do not have to key in any inputs for matching. Because the critical terms per instrument type are known to the application and the process is automatically sequenced upon the trigger of the effectiveness test.

If there are instruments with different currencies, the Notional Amount is converted to a common reporting currency (as defined through the application UI) using the exchange rates as of the FIC MIS Date.

**Note:** In case the Exchange Rates are not available, the default value is considered as "1".

### 6.4.3 Testing Hedge Effectiveness

Once a Hedge Definition details are saved and Effectiveness Testing Parameters are applied, you can test the effectiveness using the Test Effectiveness functionality from the Choose Effectiveness Testing Parameters grid. To test Hedge Effectiveness, perform the following procedure:

1. Click the Test Effectiveness button from the Choose Effectiveness Testing Parameters grid.
2. Select the Run Date by clicking the calendar icon present in the Run Date field.
3. Click the Go button.

The Effectiveness Testing is triggered and a confirmation message is displayed.

#### 6.4.3.1 Batch Execution

The Effectiveness Testing for all the active Hedges can be performed simultaneously using the Batch Execution functionality. For this, select RUN EXECUTABLE as the Component and enter HedgeEffectivenessTest.sh as the Executable in Task Definition screen. For more information, see the Batch Maintenance section under the Operation chapter in Oracle Financial Services Advanced Analytical Applications Infrastructure User Guide.

If the Hedge is effective after performing the Effectiveness Testing, then those hedge definitions will be auto-designated.

#### 6.4.3.2 Hedge Effectiveness Execution Result

The Hedge Effectiveness execution result displays the details such as Hedge Summary, Quantitative Parameters, Critical Terms Match, and Credit Risk Dominance Assessment in various tabs.

##### 6.4.3.2.1 Hedge Summary

The Hedge Summary tab displays Hedge Name, Percentage Hedged, Hedge Type, Fair Value Run Definition, Effectiveness Test Result, Status, Hedge Ratio effectiveness, Economic Relationship effectiveness, Critical Terms Match effectiveness, Credit Risk Dominance effectiveness. Hedged Items count and fair value, and Hedging Instruments count and fair value.

##### 6.4.3.2.2 Quantitative Parameters

The Quantitative Parameters tab displays Hedge Ratio details such as Measures, Value, Lower, Upper, and Result along with Economic Relationship details such as Account No, Methodology, Value, Lower, Upper, and Result.

##### 6.4.3.2.3 Critical Terms Match

The Critical Terms Match tab displays the critical terms with the detail such as Instrument Type, Parameters, and Result.

#### 6.4.3.2.4 Credit Risk Dominance Assessment

The Credit Risk Dominance Assessment tab displays the Logic Based Questions and Generic Questions as answered in the definition.

You can click the Designate button to designate Hedging Instruments.

**Note:** Multiple Hedging Instruments cannot be designated for a single date.

The output table used to handle the result of this process is FSI\_M\_HEDGE\_EFF\_TEST\_SUMMARY.

For more information, see Oracle Financial Services Hedge Management and IFRS Valuations Run Chart and List of Tables in MOS Document.

## 7 Profit or Loss Accounting

This section details information on the Profit or Loss Accounting feature and includes information on the computation of effective and ineffective gain or loss for hedging instruments.

### Topics:

- [Overview of Profit or Loss Accounting](#)
- [Profit or Loss Accounting](#)

### 7.1 Overview of Profit or Loss Accounting

The **Profit or Loss Accounting** feature enables you to compute the Profit and Loss (or Gain or Loss) of Fair Value on two specific dates, that is From date and To date.

The **Profit or Loss Accounting** process is present in the **Profit or Loss Accounting** UI in the OFS HM application. These UI components are detailed in the following sections.

The **Classification Code** is sought from **OFS LLFP Classification Run**. If the **LLFP Classification** is not available, then the **Classification Codes** are expected as a download.

There are the following three types of **Classification Codes** are present:

- **FVOCI** - Fair Value through Other Comprehensive Income
- **FVTPL** - Fair Value through Profit for Loss
- **AFS** - Available for Sale

These three classification codes are picked up for accounting of fair value gains and losses.

You must select the From and To dates from the application UI. The date corresponds to the last accrual date while the To date corresponds to the FIC MIS date.

All instruments that were valued as of the To date are identified. For these instruments, the Fair Value as of the From date and the To date is fetched from the results of the Fair Valuation process. If there are multiple records for the same instrument on any given date (this can occur because of different Fair Value definitions and multiple executions), then the value with the least Fair Value level hierarchy is given preference. If multiple Fair Values are available at the same level, then the least Fair Value is fetched. This applies to both From and To dates.

In addition to the Profit or Loss computed for all instruments, for Hedging Instruments that are part of finalized or designated hedge definitions, the split between effective and ineffective portion is computed. All finalized or designated hedge definitions as of the To (FIC MIS) date are considered for this calculation.

#### 7.1.1 Computation of Effective or Ineffective Portion of Gain or Loss - For Hedging Instruments

For Hedged and Hedging Instruments, which are part of each Hedge definition, the Fair Values as of the first designation date (of the Hedge), From date, and To date is fetched. The cumulative changes in the Fair Values of Hedged and Hedging instruments are computed. Using these cumulative Fair Value changes, the effective and ineffective portions for the Hedging instruments are computed. From the cumulative changes, the net values are also computed.

**NOTE** It is expected that the effective and ineffective portion of Gain or Loss will be applied only on cash flow Hedges (for downstream counting purposes), though the application computes this for all Hedge types.

For the application to compute the effective or ineffective split for Hedging Instruments that are a part of an active Hedge, the first designation date of the Hedge must be equal to or earlier than the From date or Last accrual date.

To compute the Hedge Ratio, the part of the instrument of the Hedge as of the From date or Last accrual date is considered. The effective and ineffective split is computed only for Hedging Instruments that were part of the Hedge as on the From date. Any change in the composition of the Hedge on a given date is considered (for Hedge Ratio or effective or ineffective calculation) only in the subsequent period.

## 7.2 Profit or Loss Accounting

This section details the Profit or Loss Accounting feature and contains information on the actions that you can perform.

### 7.2.1 Access Profit or Loss Accounting

You can access the **Profit or Loss Accounting** section by clicking the **Profit/Loss Accounting** link present under the **Hedge Management** menu in the LHS of the OFS HM application. Upon clicking this link, the **Profit/Loss Accounting Definitions Summary** page is displayed with a list of all the existing definitions.

**Figure 10: The Profit/Loss Accounting Definitions Summary Page**

Name	Reporting Currency	Legal Entity	From Date	To Date	Last Run Date	Status	Folder	Creation Date	Created By	Last Modification Date	Last Modified By	Access Type
samp_pl	US Dollar	leg_node	10/20/2016	10/21/2016	05/18/2018 16:45:56	Success	IFRS9SEG	05/18/2018 14:36:36	HMUSER	05/18/2018 14:36:36	HMUSER	Read/Write

These definitions are listed with the details such as **Name, Reporting Currency, Legal Entity, From Date, To Date, Last Run Date, Status, Folder, Creation Date, Created By, Last Modification Date, Last Modified By, and Access Type.**

### 7.2.2 Search for Profit or Loss Accounting Definitions

You can search for existing definitions using the search parameters such as **Name, Folder, or Reporting Currency** and by clicking **Search**. Upon performing a search operation, only those definitions that match with the search criteria are displayed in the **Profit/Loss Accounting Definitions** form.

### 7.2.3 Add Profit or Loss Accounting Definition

To create a **Profit/Loss Accounting Definition**, perform the following procedure:



**NOTE** Fields marked in Asterisk (\*) are mandatory.

1. Click **Add** in the **Profit/Loss Accounting Definitions** pane to open the **Profit/Loss Accounting Definition** window.

**Figure 11: The Profit/Loss Accounting Definition Window**

The **Profit/Loss Accounting Definition** window displays the **Profit/Loss Accounting Definition Details** form.

2. Enter the details in the **Profit/Loss Accounting Definition Details** form, as tabulated:

**Table 14: The Profit/Loss Accounting Definition Details Table**

Field	Description
Name*	Enter the name of the Profit/Loss Accounting Definition.
Description	Enter a description for the Profit/Loss Accounting Definition.
Folder*	Select the folder from the drop-down list. Folders are segments present in the selected Information Domain.
Access Type*	Select the access type as either Read Only or Read/Write by selecting the appropriate radio button. This selection determines whether the definition should be made available for edit at a later point in time.
Hierarchy Folder*	Select the hierarchy folder from the drop-down list.
Hierarchy *	Select the appropriate hierarchy from the drop-down list.
Legal Entity*	Click <b>Browse</b> adjacent to this field and select a legal entity from the <b>Hierarchy Browser</b> window.
Reporting Currency*	Select the appropriate currency from the drop-down list.

3. Click **Save** to save the definition details. The definition is displayed in the **Profit/Loss Accounting Definitions** pane of the **Profit/Loss Accounting Definitions Summary** window.

**NOTE**

If the Maturity Date of an Instrument is lesser than the as-of-date, such Instruments are included in the Valuations processing, after setting the Fair Value as zero on the as-of-date. Because of this, the application computes the Fair Value Gain or Loss for such Instruments as the difference between zero and the Fair Value as of the Period Start Date.

## 7.2.4 Viewing a Profit or Loss Accounting Definition

The **View** feature enables you to view the details of an existing **Profit/Loss Accounting** definition. To view the definition details, perform the following procedure:

1. Select the checkbox adjacent to the **Profit/Loss Accounting** definition name, which you want to view, in the **Profit/Loss Accounting Definitions** form.

2. Click **View** .

The **Profit/Loss Accounting Definition** window is displayed in view mode with the definition details.

In **View** mode, you cannot edit any of the fields.

3. Click **Cancel** to go back to the **Profit/Loss Accounting Definitions Summary** window.

## 7.2.5 Editing a Profit or Loss Accounting Definition

The edit feature enables you to update the details of an existing Profit or Loss Accounting definition. To edit an existing Profit or Loss Accounting definition, perform the following procedure:

1. Select the checkbox adjacent to the Profit or Loss Accounting definition name, which you want to edit, in the **Profit/Loss Accounting Definitions** form.

2. Click **Edit** .

The **Profit/Loss Accounting Definition** window is displayed in edit mode with the definition details.

3. Update the required fields of the definition. For more information, see [Add Profit/Loss Accounting Definition](#) section.

4. Click **Save** to save the definition details.

The saved definition is displayed under the **Profit/Loss Accounting Definitions** pane in the **Profit/Loss Accounting Definitions Summary** window.

## 7.2.6 Checking Dependencies of a Profit or Loss Accounting Definition

You can check the dependency information of individual Profit or Loss Accounting definition from the **Profit/Loss Accounting Definitions Summary** window.

To check the dependency information of an existing Profit/Loss Accounting definition, perform the following procedure:

1. Select the checkbox adjacent to the **Profit/Loss Accounting** definition of which you want to check the dependency information.
2. Click **Check Dependency** from the **Profit/Loss Accounting Definitions** form.

The dependency information of the selected definition is displayed in the **Dependency Information** window with the details such as **Child Object Name**, **Child Object Type**, **Folder**, **Parent Object Name**, **Parent Object Type**, and **Folder**.

3. Click **Cancel** to go back to the **Profit/Loss Accounting Definitions Summary** window

## 7.2.7 Execute Profit or Loss Accounting

You can execute the Profit or Loss definitions from the **Profit/Loss Accounting Definitions Summary** window. To execute the Profit or Loss definitions, perform the following procedure:

1. Select the checkbox adjacent to the definition you want to execute.
2. Click **Run** from the **Profit/Loss Accounting Definitions** form.  
The **Profit/Loss Accounting Run** window is displayed.
3. Click **Calendar** adjacent to the **From Date** field and select the required date.
4. Click **Calendar** adjacent to the **To Date** field and select the required date.

**NOTE** The intraday calculation of Profit and Loss is not supported in the application. Therefore, the **Profit/Loss Accounting Run** window does not allow you to select a **From Date** greater than or equal to **To Date**.

5. Click **Execute**.

The definition is executed, and the **Batch Run ID** is generated.

Also, a message confirming the execution is displayed with the Batch Run ID.

**NOTE** The parameters in the **Parameter List of Task ID** that belongs to the Batch can be updated accordingly to schedule the Batch execution. The parameters that can be updated are day (D)/month (M)/year (Y) (fourth parameter - multiplier) and the corresponding value (third parameter - numeral). For more information, see the [Oracle Financial Services Analytical Applications Infrastructure User Guide](#).


The output table used to handle the result of this execution is **FCT\_HM\_ACCOUNT\_GAIN\_LOSS**.

For more information, see the *Oracle Financial Services Hedge Management and IFRS Valuations Run Chart and List of Tables* in the [MOS Document](#).

## 7.2.8 Deleting a Profit or Loss Accounting Definition

You can delete an existing Profit or Loss Accounting definition from the **Profit/Loss Accounting Definitions Summary** window.

To delete one or more existing Profit or Loss Accounting definitions, perform the following procedure:

1. Select the checkboxes adjacent to the Profit or Loss Accounting definitions you want to delete.
2. Click **Delete**  from the **Profit/Loss Accounting Definitions** form.  
A warning dialog is displayed.
3. Click **Yes**.

The selected definitions are removed from the **Profit/Loss Accounting Definitions Summary** window.

## 8 Segmentation Run

Segmentation Run of OFS HM is one of the foremost runs that must be executed during the process of computing various parameters required under IFRS 9. However, the use of segments (execution of the Segmentation run) is not mandatory. If you do not want to use features that require segments (for example, Historical Transition Matrix, PD Model, and so on).

Segmentation is the process of grouping accounts into homogeneous clusters using various dimensions as parameters. Segments or Portfolios help in simplifying the process of treating or evaluating accounts by treating accounts belonging to one homogeneous group in the same manner.

The Segmentation Run of HM can be used to create such Segments or Portfolios, wherein every account is mapped to a specific Segment. The first step in the Segmentation process is to create a Segment Type and the master list of Segments that you want to map each of the accounts to, using the AMHM window s. The standard product has a seeded Segment Type - *IFRS9 - ECL* and corresponding Segments. You can choose to use the existing Segments or create a new Segment type and corresponding child Segments.

After the master list of Segments is available, the second step is to configure Rules that assign a Segment to an account taking into consideration various dimensions, using the flexible (configurable) Run Rules Framework. The standard product considers two dimensions to assign a Segment to an account. These are Product Type and Customer Type. As required, more Dimensions can be considered by reconfiguring the dataset and the Rule, such as Industry, Region, Branch, Country, and so on.

The output of HM's Segmentation Run is stored in a specific table where for any given date only one set of Account-Segment mapping, the final one, is stored.

This mapping is then considered for further processing in both the OFSAA's Hedge Management and Loan Loss Forecasting and Provisioning applications.

Segmentation is mandatory for the functioning of the following features:

- Historical Transition Matrix
- Historical Loss Rates
- Inbuilt PD Model
- ECL Computation using Roll Rate Methodology

### 8.1 Populate Accounts for Segmentation

To map Segments to Accounts using Segmentation Run, perform the following procedure:

Execute the batch **DIMENSION\_DATA\_POPULATION**. This batch loads the following Dimension tables:

- **DIM\_CUSTOMER**
- **DIM\_CUSTOMER\_TYPE**
- **DIM\_PRODUCT**
- **DIM\_ORG\_STRUCTURE** (Legal Entity)

Perform the following steps to map the segments to the accounts in the segmentation run.

1. Run **Account\_Data\_Population** to populate the **DIM\_ACCOUNT** table.
2. Run **FCT\_Common\_Account\_Summary** population batch to load data for required Instrument tables.

3. Run **SCD\_Segmentation Batch to load DIM\_SEGEMENT** with all the required Segments.
4. Execute the Segmentation Run, **DIM\_SEGEMENT**:
  - Task1: Loads all **account\_skey** and **acct\_Start\_date** from the table FCAS to the **FCT\_ACCOUNT\_SEGMENT\_SCORE** table.
  - Task2: PR2 Rule populates the **FCT\_ACCOUNT\_SEGMENT\_SCORE.N\_ACCT\_SEGMENT** with the Segment skey from **DIM\_SEGEMENT** to each account, based on the dimensions used in the Rule.  
Seeded Rule assigns segments based on Customer Type and Product Type.
  - Task3: Populates **the FSI\_IFRS\_ACCT\_SEGMENT\_MAP** table with the account to the Segment map for each **FIC\_MIS\_DATE**.

## 9 OFS HM Reports

This chapter provides the details of OFS HM reports.

### 9.1 Fair Value Summary

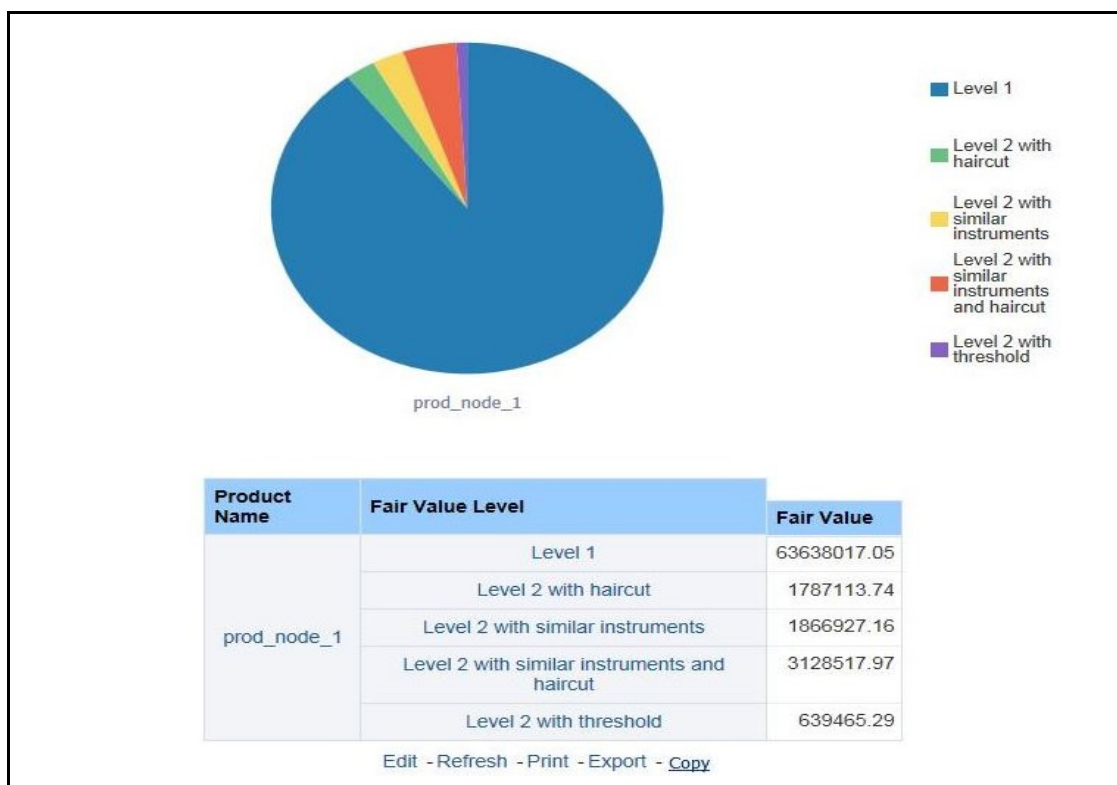
The Fair Value Summary Dashboard consists of the following reports:

- [Fair Value By Product](#)
- [Disclosure Reports](#)

#### 9.1.1 Fair Value By Product

This report uses a Pie Chart to depict the Fair value of various products with the details such as Product Name, Fair Value Level (Level 1, Level 2, or Level 3), and Fair Value as of the selected Execution Date.

Figure 12: The Fair Value By Product Report



You can click on the Pie Chart to view the report details such as Account Number, Fair Value Level Method, Market Value, Iso Currency Code, and Market Value-Reporting Currency.

#### 9.1.2 Disclosure Reports

The Disclosure Reports display the effectiveness details of various Hedges as on the selected Effectiveness Date. The details include Hedge Name, Hedge Ratio, First Designation Date, Hedge Effectiveness, FV of Hedged Items, and FV of Hedging Items.

Figure 13: The Disclosure Report

\* Effectiveness Date  \* Type of Hedge (All Column Values) Legal Entity (All Column Values)

\* Hedge Effectiveness (All Column Values)

Name	Hedge Ratio	First Designation Date	Hedge Effectiveness	FV of Hedged Items	FV of Hedging Items
CTM	-17.98	10/21/2016	Effective	39441.16	440576.25
Cur_op_tc-2_hedeff	1.89	10/21/2016	Effective	120738.50	1169337.85
Leap_year_verify	12.79	10/21/2016	Effective	25585.98	809011.25
TC4_Ext2yr	14.49	10/21/2016	Effective	80082.16	418313.25
TC_5_2yr_plus1day	-3.57	10/21/2016	Effective	43097.36	658406.00
hedge_copy1	-6.67	10/21/2016	Effective	64398.03	759761.25

[Edit](#) - [Refresh](#) - [Print](#) - [Export](#) - [Copy](#)

## 9.2 Disclosure - 23 B(a)

The Disclosure - 23 B(a) Dashboard consists of the following report:

- [Disclosure 23 B\(a\)](#)

### 9.2.1 Disclosure - 23 B(a)

This report displays the Nominal Amount in less than one year and one to two years for various Hedge Types, Instrument Type Codes, and Risk Types.

Figure 14: The Disclosure – 23 B (a) Report

Hedge Type	Instrument Type Code	Risk Type	Nominal Amount			
			1 to 2 Yr	2 to 5 Yr	Less Than 1 Yr	More Than 5 Yr
Cash Flow	Currency Options	Volatility Risk				0.40
Cash Flow	Currency Options	Interest Rate Risk				12.00
Cash Flow	Equity Options	Price Risk		0.69		
Cash Flow	Equity Options	Credit Risk	10.00			4.00
Cash Flow	Commodity Options	Currency Risk	1.00			
Cash Flow	Commodity Options					0.86

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

## 9.3 Disclosure - 24 A

The Disclosure - 24 A Dashboard consists of the following report:

- [Disclosure 0 24 A](#)

### 9.3.1 Disclosure - 24 A

This report calculates the Fair Value for various Hedge Types using the parameters such as Risk Type, Instrument Type, Change in Fair Value, Effective Portion, Ineffective Portion, and Nominal Amount.

Figure 15: The Disclosure – 24 A Report



Hedge Type	Risk Type	Instrument Type Code	Current Principal Balance	Change in Fair Value	Ineffective Portion	Effective Portion	Market Value Clean
Cash Flow	Credit Risk	Commodity Options	0.86	135583.50			881152.50
		Equity Options	4.00	-51948.00	0.00	49266.90	420420.00
	Currency Risk	Commodity Options	10.00	101214.90	0.00	49266.90	1099102.50
		Equity Options	0.80	-135679.00	0.00	-205216.92	759841.00
	Interest Rate Risk	Commodity Options	1.00	-69537.92	0.00	-205216.92	76785.50
		Equity Options	8.00	15560.60	0.00	167325.29	1114158.25
	Price Risk	Commodity Options		313740.00	0.00	167325.29	1629180.00
		Equity Options	12.00	-161975.31	0.00	167325.29	303965.20
	Volatility Risk	Commodity Options	0.69	-205893.60	0.00	-17381.10	289476.00
		Equity Options		188512.50	0.00	-17381.10	1027336.00
		Commodity Options	0.40	97043.20	0.00	298629.45	560260.00
		Equity Options		201586.25	0.00	298629.45	1057762.50

[Analyze](#) - [Edit](#) - [Refresh](#) - [Export](#)

## 9.4 Fair Valuation Management Reports

The Fair Valuation Management Reports Dashboard consists of the following report:

- [Fair Value Management Report](#)

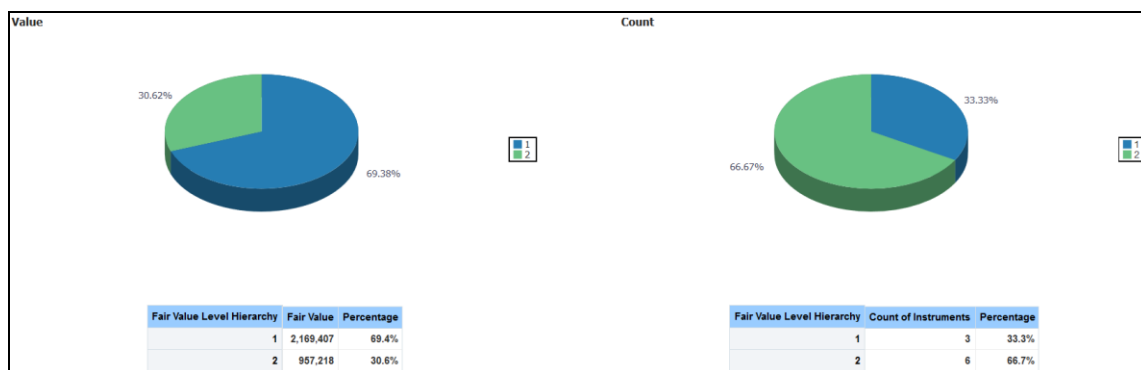
### 9.4.1 Fair Value Management Report

This report displays two different pie charts for Value and Count. The Value report displays the percentage of Fair Value for different levels of Fair value.

The Count report displays the number of instruments and distribution percentages.

Both Value and Count report also displays the details in tables.

Figure 16: The Fair Value Management Report



## 9.5 Hedge Management Report

The Hedge Management Report Dashboard consists of the following reports:

- [Hedged Items](#)
- [Hedging Instruments](#)

### 9.5.1 Hedged Items

This report displays the Gain or Loss values of all hedged items in a given Hedge.

## 9.5.2 Hedging Instruments

This report displays the Gain or Loss values, Effective Portion Value, and Ineffective Portion Value for all Hedging Instruments across various Hedges.

The following report displays both Hedged Items and Hedging Instruments.

Figure 17: The Hedging Instruments Report

Hedge Name	Gain Value	Effective Portion Value	Ineffective Portion Value
BD_BDFut	-4142977.59	-8,285,955	0
EQ_Eqop_hedge	-1029468.00	-1,029,468	0
comm_comop	-1026084.60		
commodity_1_hedge	-510170.30		

## 9.6 Hedge Effectiveness Report

The Hedge Effectiveness Report Dashboard consists of the following reports:

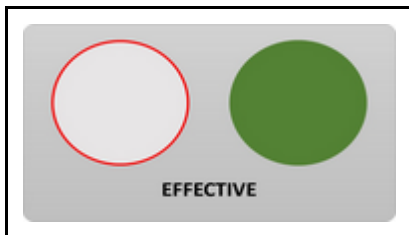
- [Overall Hedge Effectiveness](#)
- [Hedge Effectiveness based on Parameters](#)
- [Economic Relationship Detail Report](#)
- [Hedge Ratio Detail Report](#)

### 9.6.1 Overall Hedge Effectiveness

This section of the report indicates whether the Hedge is effective or not.

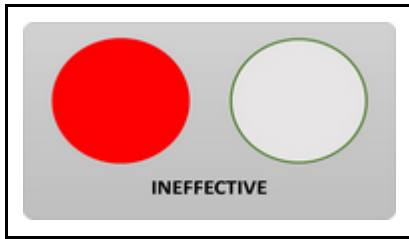
Effectiveness is as shown in the following figure.

Figure 18: The Overall Hedge Effectiveness Section



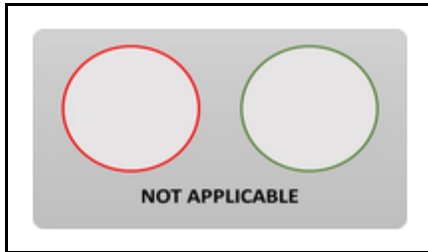
Ineffectiveness is as shown in the following figure.

Figure 19: The Overall Hedge Effectiveness Section



Not Applicable is as shown in the following figure.

**Figure 20: The Overall Hedge Effectiveness Section**



### 9.6.2 Hedge Effectiveness based on Parameters

This section of the report displays the Hedge Effectiveness or Ineffectiveness based on the Quantitative and Qualitative parameters such as Critical Terms Match, Hedge Ratio, Economic Relationship, and Credit Risk Dominance.

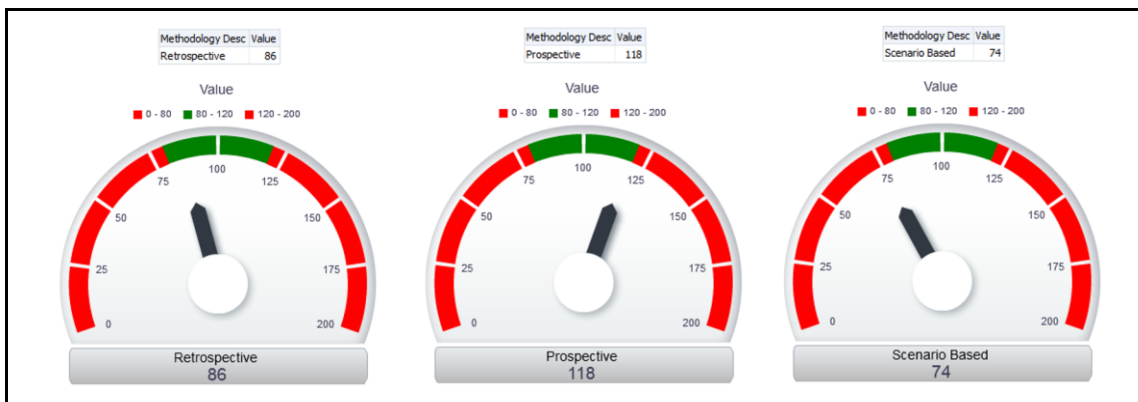
### 9.6.3 Economic Relationship Detail Report

This report displays the Retrospective value of Economic Relationship, as depicted in the following section.

### 9.6.4 Hedge Ratio Detail Report

This report displays the Retrospective value of the Hedge Ratio, as depicted in the following figure. The following diagram displays the Economic Relationship Detail and Hedge Ratio Detail report.

**Figure 21: The Hedge Ratio Detail Report**



## 10 Appendix A -Viewing HM Objects in Metadata Browser

### 10.1 Metadata Browser (Object and Application View)

#### 10.1.1 Metadata Browser (Object and Application View)

Metadata Browser (Object and Application View) provides a common repository of metadata Objects created in OFSAAI and applications hosted in OFSAAI. Using this view, you can identify the usage of base Objects in higher-level Objects and the mapping of Objects to Applications. It enables to perform traceability and impact analysis. It also allows you to view the data flow and the workflow of the application and understand the usage of Objects within the application.

Metadata Browser (MDB) supports Application to view and Object view: In Application view, you can browse through the metadata created using the applications hosted in OFSAAI. In Object view, you can view the metadata created in OFSAAI.

To access the Metadata Browser (Object and Application View), your role Business Analyst (SYSBAU) must be mapped to the SCR\_MDB function. For more information on mapping functions to a role, see Function - Role Map.

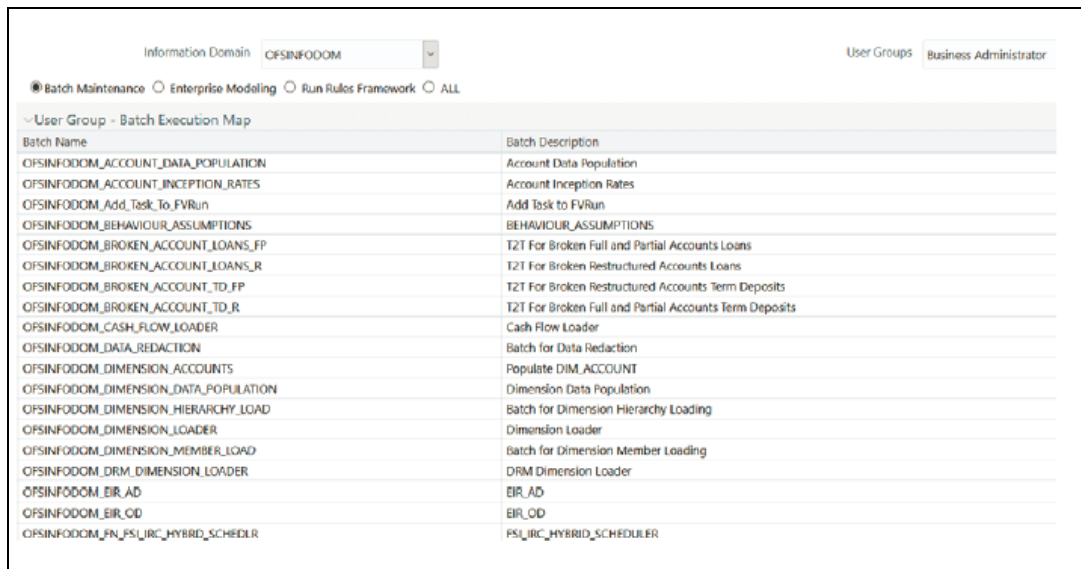
The Application view provides the top-down approach to view the defined metadata. The Application view shows the list of Applications at the parent level, and the Child elements are Runs for the application. This list will grow dynamically based on the Run definitions mapped to Application, through this tab users can view Run execution details in Metadata Browser.

For more information on Metadata Browser, see the Metadata Browser section of Oracle Financial Services Analytical Application Infrastructure (OFSAAI) User Guide.

#### 10.1.2 Configuring Metadata Browser

You can configure the Metadata Browser for HM using the following steps:

1. Map the MDB batch to User - Group using the Common Object Maintenance > Object Administration > Object Security > Batch Execution Rights as mentioned here:



Batch Name	Batch Description
OFSINFODOM_ACCOUNT_DATA_POPULATION	Account Data Population
OFSINFODOM_ACCOUNT_INCEPTION_RATES	Account Inception Rates
OFSINFODOM_Add_Task_To_FVRun	Add task to FVRun
OFSINFODOM_BEHAVIOUR_ASSUMPTIONS	BEHAVIOUR_ASSUMPTIONS
OFSINFODOM_BROKEN_ACCOUNT_LOANS_FP	T2T For Broken Full and Partial Accounts Loans
OFSINFODOM_BROKEN_ACCOUNT_LOANS_R	T2T For Broken Restructured Accounts Loans
OFSINFODOM_BROKEN_ACCOUNT_TD_FP	T2T For Broken Restructured Accounts Term Deposits
OFSINFODOM_BROKEN_ACCOUNT_TD_R	T2T For Broken Full and Partial Accounts Term Deposits
OFSINFODOM_CASH_FLOW_LOADER	Cash Flow Loader
OFSINFODOM_DATA_REDACTION	Batch for Data Redaction
OFSINFODOM_DIMENSION_ACCOUNTS	Populate DIM_ACCOUNT
OFSINFODOM_DIMENSION_DATA_POPULATION	Dimension Data Population
OFSINFODOM_DIMENSION_HIERARCHY_LOAD	Batch for Dimension Hierarchy Loading
OFSINFODOM_DIMENSION_LOADER	Dimension Loader
OFSINFODOM_DIMENSION_MEMBER_LOAD	Batch for Dimension Member Loading
OFSINFODOM_DRM_DIMENSION_LOADER	DRM Dimension Loader
OFSINFODOM_EIR_AD	EIR_AD
OFSINFODOM_EIR_CD	EIR_CD
OFSINFODOM_FN_PSI_IRC_HYBRD_SCHEDLER	PSI_IRC_HYBRID_SCHEDULER

For more information, see Command Line Utility to Publish Metadata in Metadata Browser section in Oracle Financial Services Analytical Application Infrastructure (OFSAAI) User Guide.

For more information, see the Batch Execution section of Oracle Financial Services Analytical Application Infrastructure (OFSAAI) User Guide.

2. Execute the Batch for MDB publish.
3. Navigate to the Metadata Browser (Object and Application) window of the respective application.

## 10.2 Viewing HM Objects in Metadata Browser

Hedge Management under Oracle Financial Services Analytical Applications has the Metadata Browser (MDB).

To view HM applications and objects in MDB, perform the following steps:

1. After successful execution of the Batch for MDB Publish, in the Applications tab of the Oracle Financial Services Analytical Applications window, in the Left-Hand Side (LHS) menu under Hedge Management, choose Metadata Browser. You can also access Metadata Browser in the Object Administration tab.
2. Click the Application tab under the Metadata Browser window to view the HM applications.
3. Click the Object tab under the Metadata Browser window to view HM objects:
4. Under Process Metadata > Rules, all the rules defined under the HM window are displayed.

# 11 Appendix B - General Data Protection Regulation Compliance for HM

## 11.1 Overview

General Data Protection Regulation (GDPR) compliance requires Personal Identification Information (PII) data to be protected from unscrupulous access. OFS HM application is enabled to protect PII data using the following approaches.

The list of PII data referenced in OFS HM is Account Number.

### 11.1.1 Data Redaction

Using this approach users are provided access rights at the database level. Users with access rights will be able to view the PII data while the same will be redacted for users without access rights.

There should be a one-to-one mapping between the Account Number and the Original Account Number. The account number should be anonymized.

**Note:** The columns V\_ACCOUNT\_NUMBER, V\_CONTRACT\_CODE, and V\_ORIGINAL\_ACCOUNT\_NUMBER of the Stage tables allow only - (hyphen) and \_ (underscore) special characters.

Data Redaction feature is not supported for Oracle DB version 12.2.0.xx or above.

For more information on GDPR, see the following documents on Oracle Help Center:

- Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack Administration and Configuration Guide

## 12 Appendix C - Criteria for Credit Risk Dominance to be Effective

For the Credit Risk Dominance to be effective, both the Logical and Generic set of the questionnaire must be attempted and the final score should be greater than 60 %. This section explains the functionality of both Logical and Generic questionnaire, for the Credit Risk Dominance to be Effective.

### 12.1 Logic-Based Questionnaire

Based on the data from the Instrument tables, responses for the Logic-based questions are derived. The following table explains the Logic-based questions and the corresponding conditions to obtain answers.

Question	Condition	Comments
Are the counterparties rated?	The value should present (not null) in COUNTERPARTY_RATING columns of at least one of the following tables: <ul style="list-style-type: none"> <li>FSI_D_FUTURES</li> <li>FSI_D_OPTIONS</li> <li>FSI_D_SWAPS</li> </ul>	If the condition is satisfied, the answer is "Yes". In all other cases, the answer is "No".
Are any of the hedging instruments exchange-traded derivatives?	The value of the RECOG_EXCGE_LISTED_FLG column should be "1" in at least one of the following tables: <ul style="list-style-type: none"> <li>FSI_D_FUTURES</li> <li>FSI_D_OPTIONS</li> </ul>	If the condition is satisfied, the answer is "Yes". In all other cases, including if the value is missing in the column, the answer is "No".
Are derivatives settled through an ISDA agreement?	The value should present (not null) in MASTER_AGREEMENT_CD columns of at least one of the following tables: <ul style="list-style-type: none"> <li>FSI_D_FUTURES</li> <li>FSI_D_OPTIONS</li> <li>FSI_D_SWAPS</li> </ul>	If the condition is satisfied, the answer is "Yes". In all other cases, the answer is "No".
Are derivatives settled through Central Counterparty (CCP)?	The value should present (not null) in CLEARED_TRANS_FLG columns of at least one of the following tables: <ul style="list-style-type: none"> <li>FSI_D_FUTURES</li> <li>FSI_D_OPTIONS</li> <li>FSI_D_SWAPS</li> </ul>	If the condition is satisfied, the answer is "Yes". In all other cases, the answer is "No".
Do any of the hedged items represent a pool of POCI assets?	The value should present (not null) in COUNTERPARTY_RATING columns of at least one of the following tables: <ul style="list-style-type: none"> <li>FSI_D_INVESTMENTS</li> <li>FSI_D_LOAN_CONTRACTS</li> </ul>	If the condition is satisfied, the answer is "Yes". In all other cases, including if the value is missing in the column, the answer is "No".

- FSI\_D\_CREDIT\_LINES
- FSI\_D\_LEASES

## 12.2 Generic Questions

Users should respond to the Generic Questions. The following table lists the Generic Questions and the expected answers.

Generic Questions	Answers	Comments
Were any of the hedged items bought at a heavy discount?	No	The expected answer is "No". If the answer is "Yes" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.
Are the derivatives cash collateralized?	Yes	The expected answer is "Yes". If the answer is "No" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.
Do any of the hedged items represent an inventory of forecast transactions?	No	The expected answer is "No". If the answer is "Yes" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.
Is there a clause to call for highly liquid collateral in case of a rating downgrade or deterioration in financial position?	Yes	The expected answer is "Yes". If the answer is "No" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.
Are there mutual master netting agreements?	Yes	The expected answer is "Yes". If the answer is "No" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.
Does the derivative agreement impose an initial margin on both parties?	Yes	The expected answer is "Yes". If the answer is "No" or blank, this question will be valued as incorrect, while considering for Credit Risk Dominance Effectiveness.



## 13 Appendix D - Multi-Language Support

With the introduction of Multi-Locale Support, the user interfaces can be viewed in various languages. The display language is a selection in the login screen. In addition to the base language (American English, for example, en\_US), the following languages are currently supported for Hedge Management, by installing the associated Language Pack.

Depending on the type of the rule, the Name/Description specified during create/edit is either attached to the login-locale or is stored independent of the login-locale. The selection of the login-locale, therefore, governs which assumption/rules are visible, and which are not visible. The following illustrates the visibility of assumptions and rules, across languages in the 8.0.0.0.0 release. This applies to all Summary screens, embedded selections in subsequent screens, and so on.

Language Name	Java Locale
Arabic	AR_EG
Portuguese	PT_BR
French	FR_FR
German	DE_DE
Indonesian	IN_ID
Italian	IT_IT
Japanese	JA_JP
Korean	KO_KR
Russian	RU_RU
Simplified Chinese	ZH_CN
Spanish	ES_ES
Thai	TH_TH
Traditional Chinese	ZH_TW
Vietnamese	VI_VN
Turkish	TR_TR

Hebrew	iw_IL
French Canada	fr_CA

**Note:** Starting from AAI 7.3.3.0.0, all Dimension Management Objects, as well as Filters and Expressions, would be visible in all languages (and therefore available for embedding), regardless of the language in which they were created.

Assumption / Rules	Visible across all languages	Visible only in the creation-language*
Common Object Maintenance		
Process Tuning	Yes	
Simplified Batch	Yes	Yes
Holiday Calendar **		
Dimension Management (Attributes, Members, and Hierarchies)	See the OFSAAI User Guide to verify the behavior.	
Filters		
Expressions		
SQL Rules	See the OFSAAI User Guide to verify the behavior.	
Data Entry Forms and Queries	See the OFSAAI User Guide to verify the behavior.	
Common Object Maintenance> Rate Management		
Interest Rate Codes **	Yes	
Currencies **	Yes	

Economic Indicators **	Yes	
HM Maintenance	Yes	
Payment Patterns **	Yes	
Repricing Patterns **	Yes	
Time Buckets **	Yes	
Valuation Assumption Specification		
Product Characteristics		Yes
Discount Methods		Yes
Prepayments		Yes
Prepayment Models		Yes
Forecast Rate Scenarios		Yes
Hedge Assumption Specification		Yes
Hedge Definition		Yes
Hedge Processing		Yes
HM Valuations Process		Yes
Hedge Effectiveness Process		Yes
Cash Flow Edits		Yes

\* A future release (TBD) will expand visibility for many of these application object types, to provide visibility regardless of logged-in locale.

\*\* These object-types are visible across all languages because the Name and Descriptions are not stored in translation-compatible structures, which is different from the storage format for AAI objects like Dimension Management, Filters, and Expressions.

## 14 Appendix E – Standard Navigation Paths

This appendix gives you information to navigate through the pages referred to in this guide.

### 14.1 Standard Navigation Paths

Typical Oracle Financial Services Hedge Management navigation paths are shown in this table. Access all of these pages through the HM Administrator or HM Analyst responsibility.

Page	Navigation Path
Application Preferences Home	Hedge Management > Hedge Maintenance > Application Preferences
Global Preferences	Hedge Management > Hedge Maintenance > Global Preferences
Fair Value Determination Process Definitions	Hedge Management > Fair Value Determination Process Definitions
Run Management	Hedge Management > Run Management
Hedge Definitions	Hedge Management > Hedge Definitions

## 15 Appendix F - Offline Object Migration

Object Migration framework within the Infrastructure facilitates you to define a set of objects to migrate across Information Domains within the same setup or across different setups.

You can migrate the following HM objects using the Command Line Utility.

**Note:** The dimension members have to be imported before performing Object Migration.

Object Name	Object Code
Hedge Definition	901
HM Fair Value Definition	904
HM_RUN_DEFINITION	905
Profit/Loss Accounting	906

Update the values of these objects in the OBJECTMIGRATION.xml file present in \$FIC\_HOME/utility/Migration/conf directory.

For more information, see Object Migration Chapter and Command Line Utility to Migrate Objects section in the Oracle Financial Services Analytical Applications Infrastructure User Guide available in Oracle Help Center Documentation Library.

The dependent objects and Batches associated with Fair Value Run and Profit/Loss Accounting definitions are also migrated during this process.

## 16 Appendix G - OFS HM Error Messages

Error Message	Error Condition	Error Code	Effect of Error on Processing
<Assumption rule type> in Oracle HM Process Rule <Assumption rule name> not found in database	Assumption Rule cannot be found in the database.	105	If the rule is critical for processing, the processing is stopped.
No Match for IRC	Interest Rate Code cannot be found in the active Historical Rates database.	110	When the instrument reprices, it will receive a zero rate.
No Data for IRC	Interest Rate Code exists in the active Historical Rates database, but there are no corresponding rate values.	115	When the instrument reprices, it will receive a zero rate.
Dimension Types mismatch: COL vs. Application Preference for dimension: <dimension number>	Definition for dimension chosen as product dimension in Application Preferences has changed or no longer exists in the database. Also can relate to the Organizational Unit dimension if two-dimension output processing is defined.	120	Processing is stopped.
No of Buckets mismatch Time Bucket in <Assumption Rule>	Assumption Rule was created when the active Time Bucket Rule held more/fewer buckets than it has currently; therefore, the Assumption Rule contains more/less bucket information than necessary.	325	If the Assumption Rule holds more buckets than what currently exists, only the buckets within the current modeling term will be used. If the Assumption Rule holds fewer buckets than what currently exists, the assumption for the last bucket will be carried forward for the remainder of the modeling term.
Inconsistent. Run: No Options Selected for Sel. Reproc.	No Options Selected for Selective Reprocessing in the Process Rule.	330	Processing is stopped.
Inconsistent. Run: No Instrument Tables selected	There are no Instrument Tables selected in the Process Rule.	330	Processing is stopped.

Inconsist. Run: Inconsistent Sel. Reproc. buckets	The number of modeling buckets in results is not consistent with the number of modeling buckets in the active Time Bucket Rule during a selective reprocessing run.	330	Processing is stopped.
Inconsist. Run: Duplicate AutoBal leaves	Duplicate Auto Balance leaves defined in Application Preferences.	330	Processing is stopped.
Inconsist. Run: Not all AutoBal leaves defined	Not all Auto Balancing leaves are defined.	330	Processing is stopped.
Can't hit target for Leaf member: <leaf number> bucket: <bucket number>	It is impossible to calculate a new add balance that will satisfy the conditions required for new business balances.	335	No new business will be added to this bucket.
No Product Char. for leaf member: <leaf number>	Payment and repricing data have not been set up in the current Product Characteristics Rule for leaf members being processed.	340	Default characteristics will be used: amortization type = 700 payment frequency = original term percent taxable = 100% accrual basis = 30/360 repricing frequency = 0
Invalid record: Invalid Amortization Code leaf member: <leaf number>	Amortization code is not equal to 100, 200, 400, 500, 600, 700, 710, 820, 830, 840, 850	345	Oracle HM will assume an amortization code of 700
Invalid record: Maturity Date in the past leaf member: <leaf number>	The Maturity Date is less than the date	345	Record is not processed.
Invalid record: Remaining number of payments <= 0 leaf member: <leaf number>	The remaining number of payments is less than or equal to zero.	345	Record is not processed.
Invalid record: Pmt Freq = 0 leaf member: <leaf number>	Payment frequency is equal to zero on an amortizing instrument.	345	Record is not processed.

Invalid record: AmrtTerm < OrgTerm on amortizing instrument leaf member: <leaf number>	The amortization term is less than the original term for amortizing instrument.	345	Re-amortization of payment will be affected.
Invalid record: Next payment date in the past leaf member: <leaf number>	The next payment date is less than the as of date.	345	If the next payment date is much less than the as of date, it may cause the system to run out of memory.
Invalid record: Invalid net margin code leaf member: <leaf number>	Net margin code <> 0 or 1	345	Oracle HM will default the net margin code to 0: Floating Net Rate
Invalid record: Current payment = 0 on amortizing instrument leaf member: <leaf number>	Current payment equal to zero and amortization code is other than simple / non amortizing.	345	For amortization codes of 100, 500, and 600, interest will be capitalized as principal. For the amortization code of 820, no principal payments will be made.
Invalid record: Valid rate cap < current rate leaf member: <leaf number>	Rate Cap is not equal to zero and it is less than the current rate.	345	Rate cap will be imposed on the first repricing date.
Invalid record: Valid rate floor > current rate leaf member: <leaf number>	The rate Floor is not equal to zero and it is greater than the current rate.	345	Rate floor will be imposed on the first repricing date.
Invalid record: Next repricing date in the past on repricing instrument leaf member: <leaf number>	Repricing frequency is not equal to zero and the next repricing date is less than the as of date.	345	If the next repricing date is very far in the past, it may cause the system to run out of memory.
Invalid record: Invalid int rate code on repr instr leaf member: <leaf number>	Reprice frequency is greater than zero and Interest Rate Code is not found in the active Historical Rates database.	345	The instrument will not reprice.
Invalid record: Original term = 0 leaf member: <leaf number>	member: <leaf number> Original term is equal to zero.	345	This will produce erratic results if the instrument is Rule of 78's; amortization term is also zero, or payment frequency is also zero on a nonamortizing instrument.
Invalid record: Current net rate <= 0 on amortizing instrument leaf member: <leaf number>	Amortization code is 100, 500, 600, 820 and current net rate <= 0.	345	Negative income will be generated for positive balances.
Invalid record: Inconsistency of repricing freq and amortization leaf member: <leaf number>	Amortization code is 500 or 600 and reprices frequency is zero or amortization code is 100	345	Reprice frequency will overwrite characteristics defined by the amortization type code.



	and reprice frequency is non zero.		
Invalid record: No of Events>16000	The number of events is greater than 16,000.	345	
Invalid record: OrgTerm and PmtFreq = 0	Both original term and payment frequency are equal to zero.	345	Record is ignored.
Invalid record: Invalid Account Type	Invalid Account Type	345	Logs an error, continues execution.
Invalid record: Deferred calculations do not converge	Deferred calculations do not converge.	345	Logs an error and recognizes all deferred income at maturity.
Invalid record: YTM Calculations do not converge. leaf: <leaf number>	YTM calculations do not converge.	345	Logs an error and the YTM for the record is assumed to be zero.
Invalid record: EIR Calculations do not converge. leaf: <leaf number>	EIR calculations do not converge.	345	Logs an error and the EIR for the record is assumed to be zero.
Invalid record: Invalid Effective Interest Rate on instrument record; Market value, Yield to Maturity, Duration, Modified Duration, Convexity values have been calculated using 0 Effective Interest Rate. leaf: <leaf number>	The effective Interest Rate in the instrument record is less than 0 or greater than 99 and the discount method is EIR and in the calculation block Market value is selected and EIR is not selected.	345	Logs an error and the Market value, Yield to Maturity, Duration, Modified Duration, Convexity values will be calculated using 0 Effective Interest Rate.
Invalid record: Invalid Average Life. leaf: <leaf number>	The calculated Average life value for the record is 0.	345	Logs an error
Bucket Number Mismatch	Assumption Rule was created when the active Time Bucket Rule held more/fewer buckets than it has currently; therefore, the Assumption Rule contains more/less bucket information than necessary.	350	If the Assumption Rule holds more buckets than what currently exists, only the buckets within the current modeling term will be used. If the Assumption Rule holds fewer buckets than what currently exists, the assumption for the last bucket will be carried forward for the remainder of the modeling term.
No Target for Roll/Auto leaf member: <leaf number> bucket: <bucket number>	Forecast Balance methods of Target Average or Target End cannot be used for a Leaf member value used as a roll-into leaf or as	360	Targeting methods cannot be used for leaves specified as roll-into or auto-balancing. The targeted balances will be ignored.

	an auto-balancing leaf member.		
Res_det: Security violation	The current user does not have the rights to create an Oracle HM results table.	365	Processing is stopped.
Res_det: Truncate fail	The results table for the current processing rule could not be cleared of old data.	365	Processing is stopped.
Res_det: Creation fail	Results table for new processing Rule could not be created.	365	Processing is stopped.
Res_det the structure of the result_detail table was invalid for selective reprocessing	The structure of the current Result Detail table does not match the IDT Result Detail Table Template.	365	Processing is stopped.
Account Type not defined for leaf member (leaf number)	In Dimension Member Set-Up, an account type attribute has not been specified for the current leaf member.	370	Account type will default to Earning Assets.
No. of the scene in results > expected leaf member: <leaf number>	The number of scenarios in the results set is greater than the number of scenarios expected from querying the current Forecast Rates Assumption Rule while processing Autobalancing.	380	Auto-balancing will only be processed for the scenarios included in the current Forecast Rates Assumption Rule.
Invalid interest type - defaulted to interest in arrears	Interest type code is not equal to 0 or 1.	385	The instrument is defaulted to "interest in arrears".
Invalid Pmt pattern: pmt pattern code. <Payment Pattern Code> for new business - abs val.	Payment Pattern assigned to new business has a constant payment amount.	390	Error is logged.
No Amrt Type in Product characteristics for leaf member:<leaf number>	No amortization type code has been assigned in Product Characteristics for the current leaf member.	395	An error message is logged and the instrument defaults to simple interest.
Invalid Currency Gain/Loss Basis. Defaulted to "Temporal"		406	

Pay-Equivalent Compounding Convention. Defaulted to "Do Not Adjust"		407	
Negative FullIndexGrs Rate for leaf member: <leaf number>	A negative fully indexed gross rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative FullIndexNet Rate for leaf member: <leaf number>	A negative fully indexed net rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurGrsRate Rate for leaf member: <leaf number>	A negative current gross rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurNetRate Rate for leaf member: <leaf number>	A negative current net rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Negative CurTrRate Rate for leaf member: <leaf number>	A negative current transfer rate was calculated on a repricing event.	505	The negative rate will be assigned to the instrument.
Rate Not Found	Forecasted rates do not exist for the interest rate code on the current instrument.	520	When the instrument reprices, it will receive a zero rate.
1st point used	Reprice date occurs before the forecasting period; forecasted rates do not exist.	525	This may occur if the data holds a reprice date that is less than the As of Date. The instrument will reprice to the rate as of the As of Date.
The last point used	Reprice date occurs beyond the forecasting period; forecasted rates do not exist.	530	This may occur when calculating market values beyond the modeling term or calculating the last reprice/payment event for accruals in the last bucket. The instrument will reprice to the rate as of the last forecasted date.
Code found only	Interest rate code exists in the Forecast Rates Assumption Rule, but no rates have been forecast.	535	When the instrument reprices, it will receive a zero rate.
Prepayment tier not selected, zero prepayment rate used.	Market Rate and Quote Basis have been defined in the Prepayment Rule, but no tiers or prepayment percents	540	No prepayments will occur on this Leaf member.

	have been created.		
The last payment date is before the origination date.	The last payment date from the instrument record is before the origination date on the instrument record.	545	Logs error and continues. For Transaction Strategy, the last reprice date is set to the origination date.
No, reprice frequency for the adjustable record.	The instrument is coded as adjustable, but the repricing frequency is equal to zero.	550	The instrument will be treated at a fixed rate.
No schedule was found for the record.	No match can be found in the payment schedule table for the current record.	555	Logs error and defaults to simple interest record if payment frequency does not = 0.
Pattern data can not be found for AMRT_ TYPE:<payment pattern code>	No payment pattern information has been defined for the documented amortization type code.	560	Log error and default to simple interest.
No pattern information was found for the record.	Documented amortization type code exists in the database, but no supporting details are available.	565	Currently is used to notify users about invalid adjustable type code. Record defaults to fixed.
The maturity date from the record does not match schedule data.	The maturity date on the instrument record does not exist in the payment schedule table for the current record.	570	Logs error. Uses maturity date for schedule.
Conv art with interest in advance defaulted to arrears.	The conventionally amortizing instrument is classified as interest in advance. This combination is not supported.	575	The instrument will default to interest in arrears.
Invalid Art. Type detected. Defaulted to Simple Int.	An unknown Amortization Type Code was used.	585	The instrument will default to simple interest.
No Repricing Pattern was found for the record.	An unknown Adjustable Type Code was used.	600	The instrument will default to Other Adjustable.
Invalid Event_Det_Seq (Adj_Type_CD:<Adjustable type code>); Evt_dtl_seq should start from 0.	For an Event Sequence, the Event Detail Sequence has started from a non-zero value.	635	The repricing pattern is ignored and will produce erratic results if this repricing pattern is used.

1st point used.	Reprice date occurs before the forecasting period; forecasted rates do not exist.	725	This may occur if the data holds a reprice date that is less than the As of Date. The instrument will reprice to the rate as of the As of Date.
The last point used.	Reprice date occurs beyond the forecasting period; forecasted rates do not exist.	730	This may occur when calculating market values beyond the modeling term or calculating the last reprice/payment event for accruals in the last bucket. The instrument will reprice to the rate as of the last forecasted date.
Negative Transfer Rate.		740	
Invalid duration generated for this row.		795	
Divide by zero		810	

## 17 Appendix H – Frequently Asked Questions

This Appendix includes the frequently asked questions about the OFS HM application.

1. **Only 12 Instrument Types are available in the UI, but there are around 34 listed in the User Guide. Am I missing something in installation or setup?**

The 12 instrument types are specific to Level 1 and Level 2. OFS ALM is a prerequisite for OFS HM. Once installed, the entire list of instrument types will appear and these (beyond the initial 12) are eligible for Level 3 valuation only.

2. **From which table the aforementioned instrument types are retrieved?**

DIM\_INSTRUMENT\_TYPE

3. **Is bond the only instrument Type supported by the proxy method in level 2? In that case, how to lookup near values in level 2 for other Instrument Types? Or, is level 2 value calculation skipped for another instrument type?**

Amongst all Instrument Types, it is possible for Bonds to be valued under a proxy approach where the fair values of similar instruments with similar characteristics are picked up (of the instrument being valued) and then a weighted average is computed to arrive at the final FV.

4. **How does "Market Data Provider" (n\_market\_data\_provider\_id) link to the market data? Which tables are the lookup tables? Does n\_market\_data\_provider\_id represent interest\_rate\_cd?**

The user needs to select the Market Data provider for each Instrument Type through the User Interface. The dimension table is fsi\_mkt\_data\_provider\_cd/fsi\_mkt\_data\_provider\_mls which is populated via the AMHM screens. For more information, see Creating a Fair Value Definition section.

5. **Is fsi\_d\_market\_quote the table for lookup quotation? If so, how to link to this table in the setup?**

This table stores download information for all market quotes and depending upon the preferred market data provider selected (refer to question 4), the application picks the corresponding quote as the fair value.

6. **Is fct\_account\_fair\_value the only result table for FV calculation? Which columns if updated to instrument tables?**

There are two output tables for FV. FCT\_ACCOUNT\_FAIR\_VALUE stores the fair value per run. FCT\_HM\_ACCOUNT\_GAIN\_LOSS stores the Fair value gain or loss.

## 18 Glossary

This section provides details on the terms used in this document.

### **Aggregation**

To summarize detailed instruments to a table in the database which can be used for faster processing in ALM.

### **Answers**

Answers are the Oracle Business Intelligence Enterprise Edition (OBIEE) and ad-hoc reporting tool.

### **As of Date**

The date at which the data is current.

### **Asset/Liability Management Committee**

The Asset/Liability Management Committee (or ALCO) is an organization within a financial institution whose charter is to manage interest rate and liquidity risk.

### **At-Risk Period**

The time horizon for Value-at-Risk, such as the difference between the time in the future when we evaluate a portfolio loss and the As of Date.

### **Base Rates**

The segment in Oracle Asset Liability Management that stores the interest rates associated with the data As-of-Date.

### **Basis Points**

1/100th of a percent (abbreviated as "bps")

### **Cash Flow Instrument Table**

An instrument table that contains all of the OFSAA cash flow columns required by the cash flow engine.

### **Cash Flow Column**

A column in an instrument table is used by the OFSAA cash flow engine to perform cash flow analysis on a record.

### **CPR**

Constant Prepayment Rate (CPR) is a measure of an annualized prepayment rate.

### **Credit Risk**

The risk that a loan holder will be unable to repay any portion of the loan.

**Current Rate Risk Profit**

Component of funding center rate risk results attributed to current mismatches of assets and liabilities.

**Data Filter Rule**

Data Filters are used to define which data should go into a processing run.

**Data Input Helper**

A dialog box facilitates the definition of a series of input values (dates or numbers) by allowing several methods for defining structured patterns in the data.

**DDA**

Demand Deposit Account. An example of a DDA is a checking account.

**De-annualize**

To compute the monthly equivalent rate of an annual rate.

**Duration**

Duration is the rate of market value change concerning discount rate changes. It is a measure of market value sensitivity: the lower the value, the less sensitive the market value to changes in interest rates.

**Embedded Rate Risk Profit**

A portion of the funding center rate risk result is attributed to prior rate bets.

**Funding Center**

The area in a financial institution that receives the transfer pricing charge and credit for funds.

**Funds Transfer Pricing**

A method for valuing all sources and uses of funds for a balance sheet.

**General Ledger**

The main data source that defines an institution's financial reality. General Ledger reflects all accounting entries.

**Form**

A logical grouping of cells often surrounded by scroll bars.

**Hierarchy**

The hierarchical structure for dimension members in OFS applications (for example: organizational and product type).



**Historical Rates Table**

OFSAA repository for all historical actual interest rates.

**Instrument**

Synonymous with an account record or an individual contract.

See also: Instrument Table

**Instrument Table**

A type of table contained in the OFSAA database is used to store account-level information.

**Instrument Records**

Rows in the OFSAA database that carry transaction account level information (for example deposit account by deposit account).

**Interest Rate Code**

User-defined code to reference a yield curve or single rate index for historical analysis, transfer pricing, and interest rate forecasting purposes.

**Last Repricing Date**

The date of the rate last changed for an adjustable-rate instrument and the origination date for a fixed-rate instrument.

**Leaf Fields**

OFSAA database fields are used to define the hierarchical segmentation of data. They also draw a relationship between the instrument data and the General Ledger data in Ledger or Stat. Also known as key dimensions.

**Leaf Values**

Specific numeric values that make up the Leaf Fields. These are dimension members that can never be used as parent nodes on a hierarchy. The fact data should always be populated with dimension member - leaf values only.

**Ledger Stat**

The table in the OFSAA database that stores all General Ledger as well as statistical information for current and historical periods.

**Liquidity Premiums**

A charge levied on a long-term instrument to compensate for the illiquidity of the funds.

**Log in**

To access the programs and database of any OFSAA application by providing a valid user name and password.

**Long Run Rate**

One of the user-input parameters of the Vasicek (discrete-time) term structure model; represents the equilibrium value of the one-month annually compounded rate.

**Market Price of Risk**

In financial economics theory, the market price of risk is a measure of inter-temporal risk-aversion of the aggregate investor; for example, a high market price of risk during some future period means that investors will be more risk-averse and that rates for that term should be higher to compensate for this risk; in practical terms, the market price of risk is the "plug" that makes the risk-neutral rates price risk-free bonds correctly.

**Market Value**

In Monte Carlo, the average of the (scenario specific) present values. In deterministic processing, it is the present value of the cash flows of the specific scenario.

**Matched Rate Transfer Pricing**

Method of Transfer Pricing where all accounts have transfer rates that reflect their specific maturity and repricing characteristics.

**Matched Spread**

The interest profit margin for any account, measured as the Note Rate minus the Transfer Rate for asset accounts and the Transfer Rate minus the Note Rate for Liability and Equity accounts.

**Monthly Rate**

The yield on a loan contracted at the beginning of a month for one month assuming a continuous compounding basis; the monthly rate is a function of time and scenario; the Rate Generator also computes rates for a different term than a month.

**Next Repricing Term**

Repricing frequency for an adjustable-rate instrument and the original term to maturity for a fixed-rate instrument.

**Oracle Business Intelligence Enterprise Edition**

OBIEE is Oracle's market-leading business intelligence product. OFSAA applications are fully integrated with OBIEE through the OFSAA BI applications, including Oracle Financial Services Asset Liability Management Analytics and Oracle Financial Services Profitability Analytics.

**Oracle Financial Services Analytical Applications Infrastructure**

OFSAAI is a set of powerful administrative tools that provide management of the OFSAA environment and access to the database by OFS application users. Infrastructure is a required component for all OFSAA applications except Balance Sheet Planning.

**Oracle Financial Services Advanced Analytical Applications Infrastructure**

The advanced infrastructure provides the modeling framework and stress testing framework as additional complementary components to supplement core analytic applications.

**Operating Cost**

The non-interest-related cost of running a business.

**Option Costs**

Costs are assigned to measure the value of any customer option on an instrument (for example prepayments on mortgage loans). These costs are typically added to the base transfer rate to compute an all-in funding rate.

**Portfolio Fields**

Fields in the OFSAA database that are common to multiple instrument tables. The OFSAA Administrator determines the portfolio fields.

**Prepayment**

A reduction in the principal balance of a transaction record before the contracted schedule date.

**Present Value**

In Monte Carlo, the sum of cash flows paid by security along with a particular rate scenario, discounted by the stochastic discount factor. In deterministic processing, the sum of the cash flows is discounted by the deterministic discount factor.

**PSA**

A prepayment specification method established by the Public Securities Association, which relates the CPR to the age of that instrument.

**Reconciliation**

The process of comparing information from one data source to another.

**Record**

Usually a single account or transaction, or aggregation of accounts, is stored in the database (also called a row).

**Reporting Currency**

An active currency to which balances in other currencies are consolidated, often used for reporting.

**Single Rate**

An interest rate code with only one point defined (for example prime rate and 11th District Cost of Funds Index).

**Speed of Mean Reversion**

One of the user-input parameters of the Vasicek and Extended Vasicek (discrete-time) term structure models; represents the long-run drift factor.

**SQL**

Structured Query Language. A direct method of accessing the raw OFSAA database.

**Stochastic Discount Factor**

Present value (along with a rate scenario) of one dollar received at a future time; it is a function of future time, OAS, and scenario.

**Transfer Pricing Rule**

An OFSAA Rule used to specify the method for transfer pricing each balance sheet account.

**Volatility**

One of the user-input term parameters of all (discrete-time) term structure models; represents a standard deviation of the one-month annually compounded rate.

**Yield Curve**

The term structure of annually compounded zero-coupon bond yield, as recorded in Rate Management is greater than Historical Rates.

## OFSAA Support

Raise a Service Request (SR) in [My Oracle Support \(MOS\)](#) for queries related to the OFSAA applications.

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