Oracle Financial Services Enterprise Financial Performance Analytics

User Guide

Release 8.1.0.0.0

May 2015

F30801-01

ORACLE
Financial Services

ORACLE

OFS Enterprise Financial Performance Analytics User Guide

Document Control

Version Number	Revision Date	Change Log
1.0	23-Jun-2020	Created the User Guide for Oracle Financial Services Enterprise Financial Performance Analytics User Guide.

Table of Contents

1 Preface

This section provides information about the Oracle Financial Services Enterprise Financial Performance Analytics Application User Guide.

Topics:

- Audience
- Documentation Accessibility
- Access to Oracle Support
- Structure
- Conventions
- Abbreviations
- Related Information Sources
- Additional Documents to Read

1.1 Audience

This user guide is intended for the users of the Oracle Financial Services Enterprise Financial Performance Analytics application.

See Related Information Sources for more Oracle product information.

1.2 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

1.3 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit:

http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info

1.4 Structure

This user guide has been segregated into the following chapters:

- Introduction
- Overview of Process Flow
- Dimension Loading Process
- Time Dimension Population
- Modification and Mapping of Reporting Lines

- Multi-Currency Reporting
- Fact Ledger Population
- Fact Management Reporting Population from FSI_D_MANAGEMENT_LEDGER Table
- What-If Analysis
- Cube Build Process
- Predictive Modelling
- Overview of OFS EFPA Reports
- Appendix A: How to Define a Dimension
- Appendix B: How to Define a Measure
- Appendix C: How to Develop a New Cube
- Appendix D: Define a Batch

1.5 Document Conventions

The following text conventions are used in this document:

Table 1: Document Conventions

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

1.6 Abbreviations

The following table lists the abbreviations used in this document:

Table 2: Abbreviations

Abbreviation	Meaning
AIX	Advanced Interactive eXecutive
BDP	Big Data Processing
DBA	Database Administrator
DDL	Data Definition Language

Abbreviation	Meaning
DEFQ	Data Entry Forms and Queries
DML	Data Manipulation Language
EAR	Enterprise Archive
EJB	Enterprise JavaBean
ERM	Enterprise Resource Management
ETL	Extract, Transform, Load
FTP	File Transfer Protocol
HDFS	Hadoop Distributed File System
HTTPS	Hypertext Transfer Protocol Secure
J2C	J2EE Connector
J2EE	Java 2 Enterprise Edition
JCE	Java Cryptography Extension
JDBC	Java Database Connectivity
JDK	Java Development Kit
JNDI	Java Naming and Directory Interface
JRE	Java Runtime Environment
JVM	Java Virtual Machine
LDAP	Lightweight Directory Access Protocol
LHS	Left Hand Side
MFA	Multi-Factor Authentication
MOS	My Oracle Support
OFSAA	Oracle Financial Services Analytical Applications
OFSAAI	Oracle Financial Services Analytical Application Infrastructure
OFSAAAI	Oracle Financial Services Advanced Analytical Applications Infrastructure Application Pack
OHC	Oracle Help Center
OLAP	On-Line Analytical Processing
OLH	Oracle Loader for Hadoop
ORAAH	Oracle R Advanced Analytics for Hadoop
OS	Operating System
RAM	Random Access Memory
RDBMS	Relational Database Management System
RHEL	Red Hat Enterprise Linux
RRF	Run Rule Framework

Abbreviation	Meaning
SCD	Slowly Changing Dimension
SFTP	Secure File Transfer Protocol
SID	System Identifier
SSL	Secure Sockets Layer
TNS	Transparent Network Substrate
URL	Uniform Resource Locator
VM	Virtual Machine
WAR	Web Archive
XML	Extensible Markup Language

1.7 Related Information Sources

We strive to keep this and all other related documents updated regularly; visit the OHC Documentation Library to download the latest version available there. The list of related documents is provided here.

OHC Documentation Library for the Oracle Financial Services Profitability Management Applications Pack (OFS PFT Pack) Release 8.1.0.0.0:

Release Notes:

- Oracle Financial Services Profitability Management Applications Pack Release Notes Release 8.1.0.0.0

Installation Guide:

- Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide Release 8.1.0.0.0

User Guides:

- Oracle Financial Services Profitability Management User Guide Release 8.1.0.0.0
- Oracle Financial Services Funds Transfer Pricing User Guide Release 8.1.0.0.0
- Oracle Financial Services Institutional Performance Analytics User Guide Release 8.1.0.0.0
- Oracle Financial Services Retail Performance Analytics User Guide Release 8.1.0.0.0

Oracle Financial Services Profitability Management Applications Pack Security Guides:

- Oracle Financial Services Profitability Management Security Guide Release 8.1.0.0.0
- Oracle Financial Services Funds Transfer Pricing Security Guide Release 8.1.0.0.0
- Oracle Financial Services Enterprise Financial Performance Analytics Security Guide Release 8.1.0.0.0
- Oracle Financial Services Institutional Performance Analytics Security Guide Release 8.1.0.0.0
- Oracle Financial Services Retail Performance Analytics Security Guide Release 8.1.0.0.0

Oracle Financial Services Profitability Management Applications Pack Cloning Reference Guides:

- Oracle Financial Services Profitability Management Cloning Reference Guide Release 8.1.0.0.0
- Oracle Financial Services Funds Transfer Pricing Cloning Reference Guide Release 8.1.0.0.0
- Oracle Financial Services Enterprise Financial Performance Analytics Cloning Reference Guide Release 8.1.0.0.0
- Oracle Financial Services Institutional Performance Analytics Cloning Reference Guide Release 8.1.0.0.0
- Oracle Financial Services Retail Performance Analytics Cloning Reference Guide Release 8.1.0.0.0

1.8 Additional Documents to Read

Oracle Financial Services Enterprise Financial Performance Analytics (OFS EFPA) is built on the Oracle Financial Services Advanced Analytical Applications Infrastructure (OFS AAI). See the following OFS AAI documents as no separate documents are required at the application level for OFS EFPA:

- OFS Advanced Analytical Applications Infrastructure Installation Guide Release 8.1.0.0.0
- OFS Advanced Analytical Applications Infrastructure User Guide Release 8.1.0.0.0
- OFS Advanced Analytical Applications Infrastructure Environment Check Utility Guide Release 8.1.0.0.0
- OFS Advanced Analytical Applications Infrastructure Application Pack Administration and Configuration Guide Release 8.1.0.0.0
- OFS AAAI Application Security Guide Release 8.1.x
- Oracle Financial Services Analytical Applications Infrastructure Cloning Guide Release 8.1.x
- Oracle Financial Services Analytical Applications Technology Matrix

2 OFS Enterprise Financial Performance Analytics

Oracle Financial Services Enterprise Financial Performance Analytics (OFS EFPA) (previously, Oracle Financial Services Profitability Analytics (OFS PA)) is a complete end-to-end web-based Business Intelligence application for generating and analyzing Financial and Management Reports. It provides tools for data integration and includes customizable, pre-built dashboards and reports, a reporting data model, and user-friendly functional subject areas for ad-hoc reporting.

The OFS EFPA is built using:

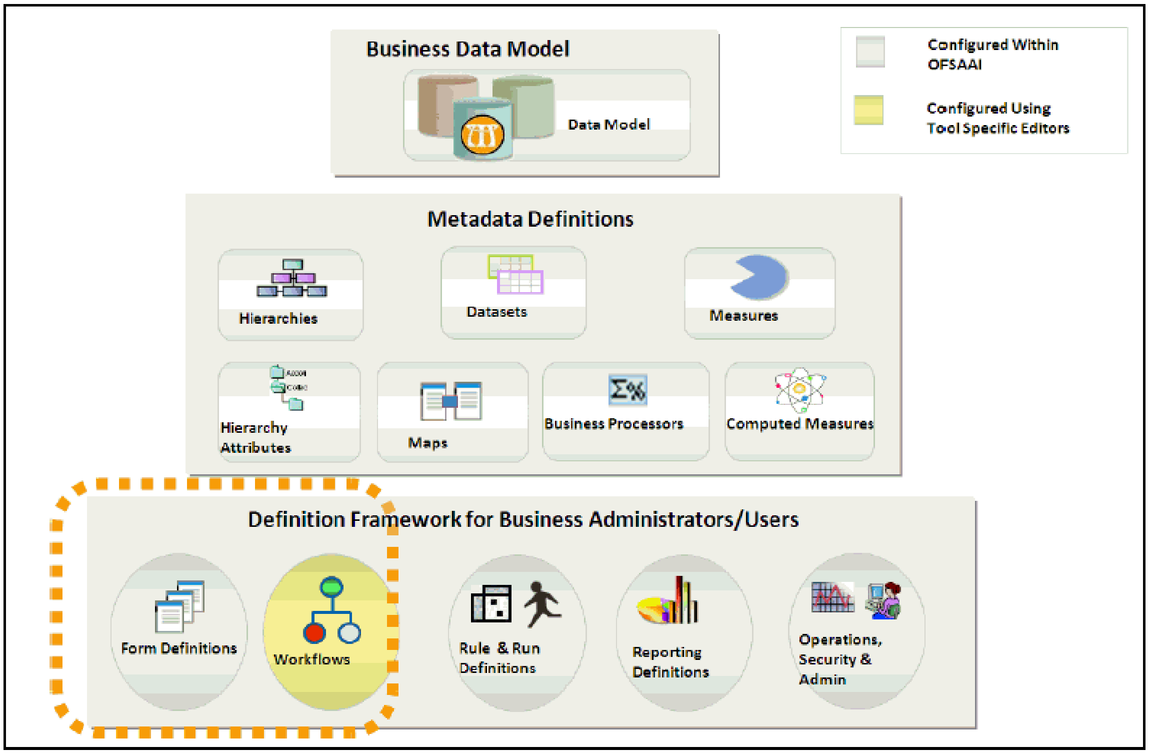
- OFSAAI for ETL, Data Integration, and Cube Build activities
- OBIEE for Dashboard and Reports activities
- Essbase for multi-dimensional Cube storage.

OFS EFPA supports generating reports from both Relational Database and/or Essbase. Hence, Essbase is no longer a prerequisite for OFS EFPA.

This manual deals with OFSAAI, required for OFS EFPA activities, process, and functional details about the dashboards and reports. Also, it includes subject areas that could be used for ad-hoc reporting using the OBIEE Answers tool.

2.1 OFS EFPA Configurability in OFSAAI

Figure 1: OFS EFPA Configuration



2.2 OFS EFPA Run Chart

Run chart, as the name suggests helps the consultant understand the sequence of tasks to be performed to ensure the correctness of data flow in the product. It contains the details about Data loading for all mandatory tables for the product and the sequence of execution of seeded tasks/batches.

OFS EFPA provides the Run Chart listing the tasks required for the population of data for OFS EFPA Reports. This covers the following tasks:

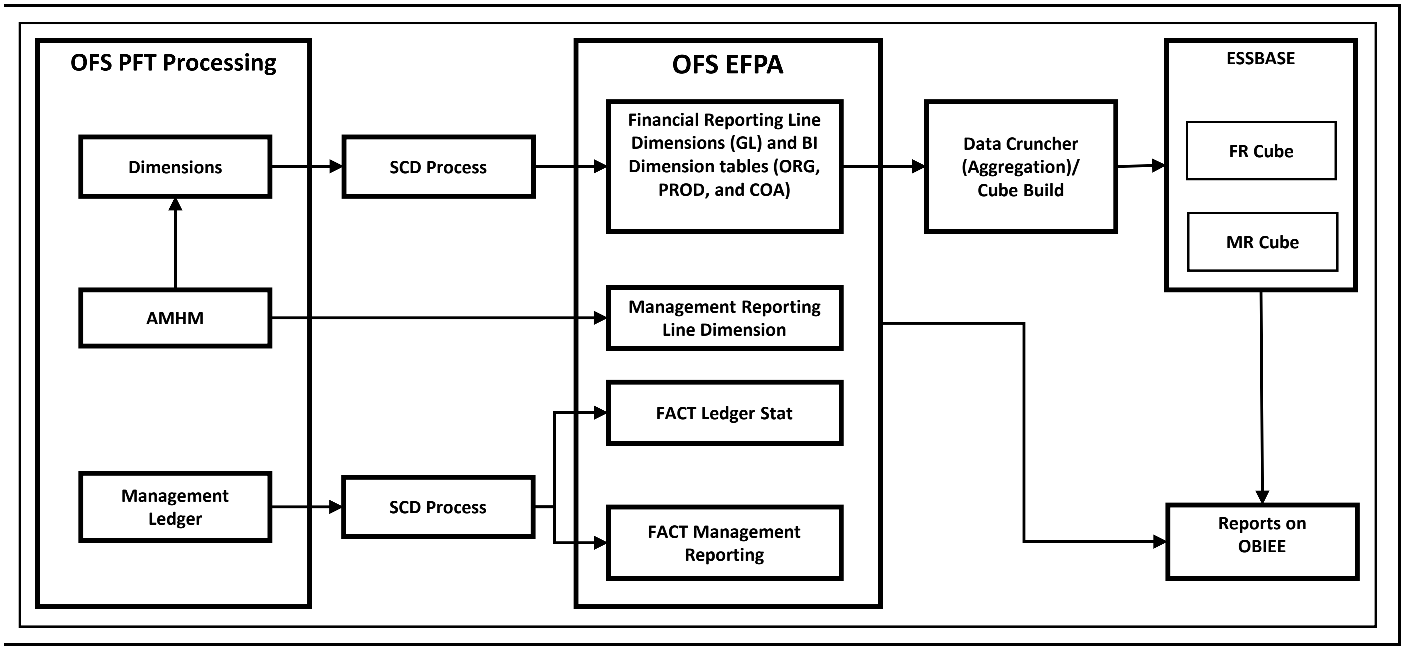
- Stage Dimension Load
- Common data Population (for example Exchange Rate)
- Set up table population
  - Dimensions
  - Facts
- Model Execution
- Derived Entity Refresh
- Cubes Build

Download the OFS EFPA Run Chart from the MOS page.

3 Overview of Process Flow

OFS EFPA utilizes OBIEE technology to present financial reporting and management reporting. For details on OFS EFPA reports and how OBIEE is being utilized, see Overview of OFS EFPA Reports. The OFS EFPA data model has been designed in such a way that it can receive fact and dimension data from the OFSAA Enterprise Performance Management (EPM) data model, which is installed through Oracle Financial Services Profitability Management (OFS PFT) seeded data flow processes or from other systems. The seeded data flow processes from the processing area of OFS PFT to the data model of OFS EFPA utilizes the transformation and load components of OFSAAI. OFS EFPA can be independently licensed and installed to work on top of the OFSAAI infrastructure or can be licensed along with OFS PFT to work in an integrated manner. The following diagram depicts the high-level data flow of OFS EFPA when both OFS PFT and OFS EFPA are installed.

Figure 2: OFS EFPA Data Flow


OFS PFT Processing
Dimensions
AMHM
Management Ledger
SCD Process
SCD Process
OFS EFPA
Financial Reporting Line Dimensions (GL) and BI Dimension tables (ORG, PROD, and COA)
Management Reporting Line Dimension
FACT Ledger Stat
FACT Management Reporting
Data Cruncher (Aggregation)/ Cube Build
ESSBASE
FR Cube
MR Cube
Reports on OBIEE

ATTENTION

From Release 8.1, the Management Ledger replaces the Ledger/Stat table as the central repository for management accounting within OFSAA solutions.

Ledger/Stat will continue to be supported for existing or upgrading customers, but it will not be included as part of a new installation.

3.1 Data Flow: OFS PFT Processing Area to OFS EFPA Reporting Area

The OFS PFT processing area holds dimension data and fact data. Fact data is held primarily in the management ledger table (referred to as Ledger Stat in this document). The seeded data flow processes outlined in this section are for the management ledger table. Similarly, the seeded dimension data movement process definitions are for the standard processing dimensions which come with the OFS PFT Attributes Members Hierarchies Module (AMHM).

For more details on:

- Dimension data movement, see Dimension Loading Process and Time Dimension Population
- Ledger Stat transformation, see Fact Ledger Population

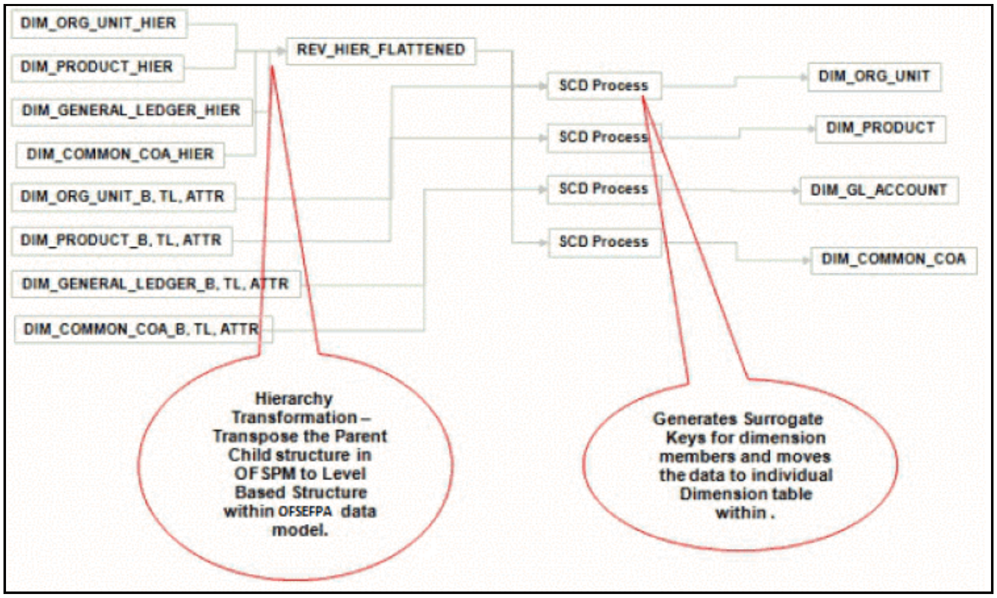
Similar data movement process definitions can be created for any additional user-defined dimensions or custom tables. These extensions are also described in this document.

The data movements from the OFS PFT processing area to the OFS EFPA reporting area utilize the data transfer component of OFSAAI. Data transformation and loading is done with the Data Integrator module and is metadata-driven. For more information on the Usage of the Data Integrator Component, see Oracle Financial Services Analytical Applications Infrastructure User Guide.

3.1.1 Dimension Data Flow

The Dimension data used for processing is stored in individual Member, Attribute, and Hierarchy tables for each dimension, and is part of the OFS PFT AMHM data model. Hierarchies in OFS PFT AMHM have a parent-child storage structure. These are flattened to a level-based structure as part of the data movement process. The flattened Hierarchies for each Dimension along with the Member and Attribute data undergo Slowly Changing Dimension (SCD) to facilitate the movement of data to OFS EFPA dimension tables. The following diagram depicts the process flow:

Figure 3: Dimension Data Flow

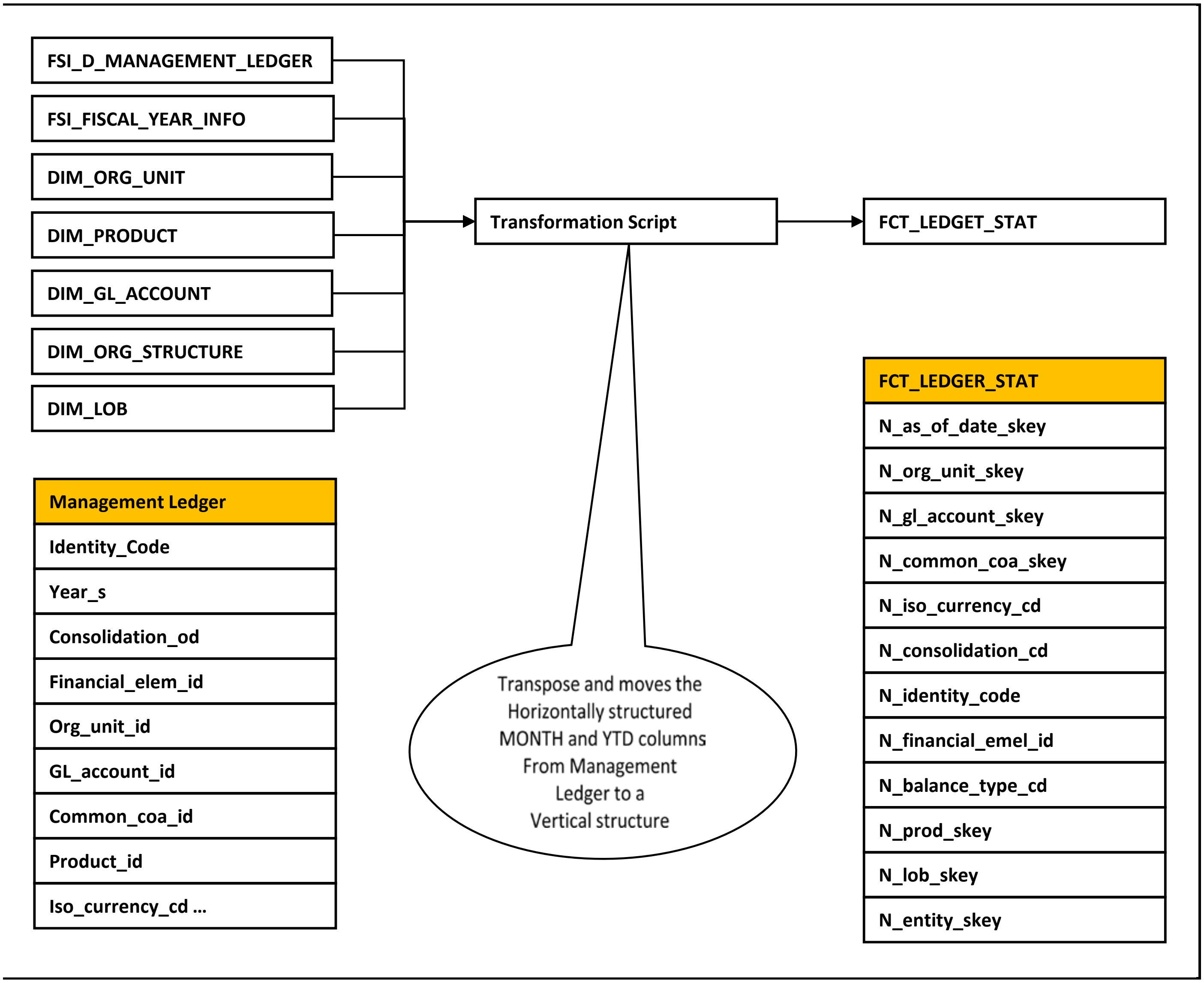

DIM_ORG_UNIT_HIER
DIM_PRODUCT_HIER
DIM_GENERAL_LEDGER_HIER
DIM_COMMON_COA_HIER
DIM_ORG_UNIT_B, TL, ATTR
DIM_PRODUCT_B, TL, ATTR
DIM_GENERAL_LEDGER_B, TL, ATTR
DIM_COMMON_COA_B, TL, ATTR
REV_HIER_FLATTENED
SCD Process
SCD Process
SCD Process
SCD Process
DIM_ORG_UNIT
DIM_PRODUCT
DIM_GL_ACCOUNT
DIM_COMMON_COA
Hierarchy Transformation – Transpose the Parent Child structure in OFSPM to Level Based Structure within OFSEFPA data model.
Generates Surrogate Keys for dimension members and moves the data to individual Dimension table within .

NOTE For more information on dimension management, see the Oracle Financial Services Profitability Management User Guide Release 8.1.0.0.0.

3.1.2 Management Reporting Data Flow

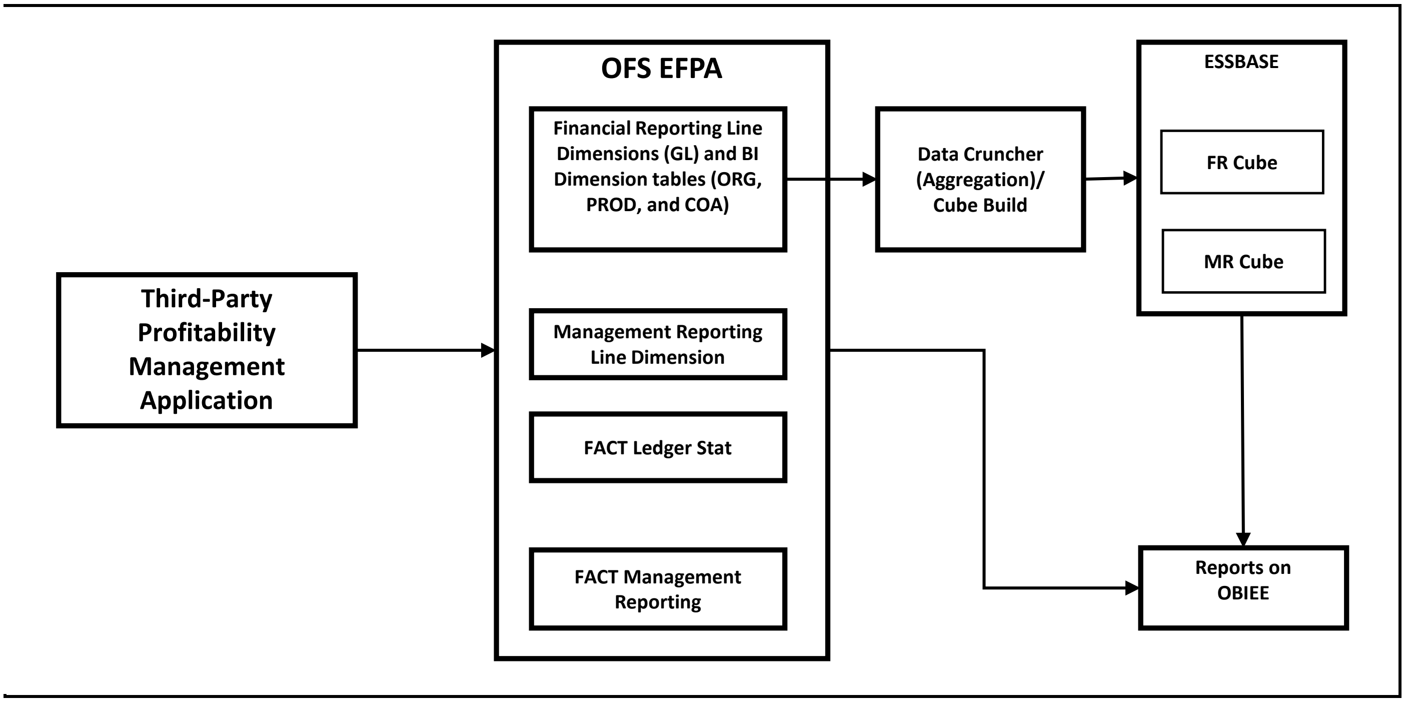
The management transformation program moves data from the `FSI_D_MANAGEMENT_LEDGER` table in the OFS PFT processing area to the Fact Management Reporting Entity of OFS EFPA. The transformation program joins data for all the required dimensions. The following diagram provides a high-level overview of this process. For more details on the process and its execution, see Fact Management Reporting Population from `FSI_D_MANAGEMENT_LEDGER` Table.

Figure 4: Management Reporting Data Flow



3.2 OFS EFPA Data Flow: Third-Party Profitability Management Applications to OFS EFPA Reporting Area

Figure 5: Third-Party Profitability Management Applications to OFS EFPA Reporting Area


OFS EFPA
Financial Reporting Line Dimensions (GL) and BI Dimension tables (ORG, PROD, and COA)
Data Cruncher (Aggregation)/ Cube Build
ESSBASE
FR Cube
MR Cube
Third-Party Profitability Management Application
Management Reporting Line Dimension
FACT Ledger Stat
FACT Management Reporting
Reports on OBIEE

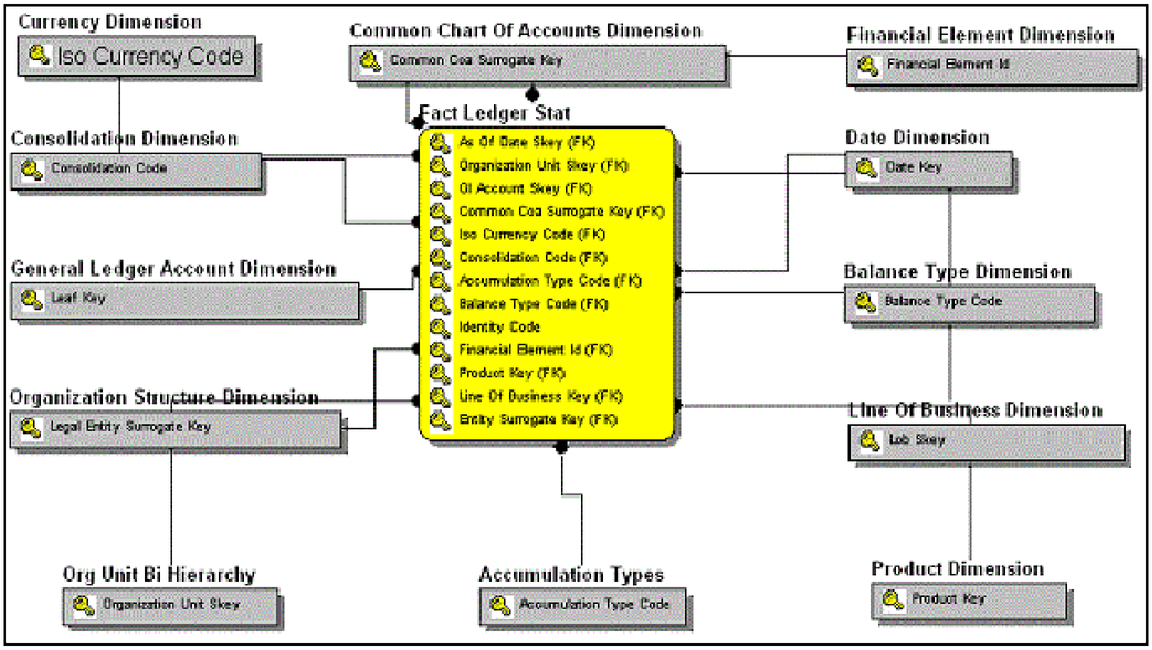
3.3 Data Model

The data model of OFS EFPA is a star schema for the `FCT_LEDGER_STAT` and `FCT_MGMT_REPORTING` fact tables.

The Entity diagrams of the data model are provided below:

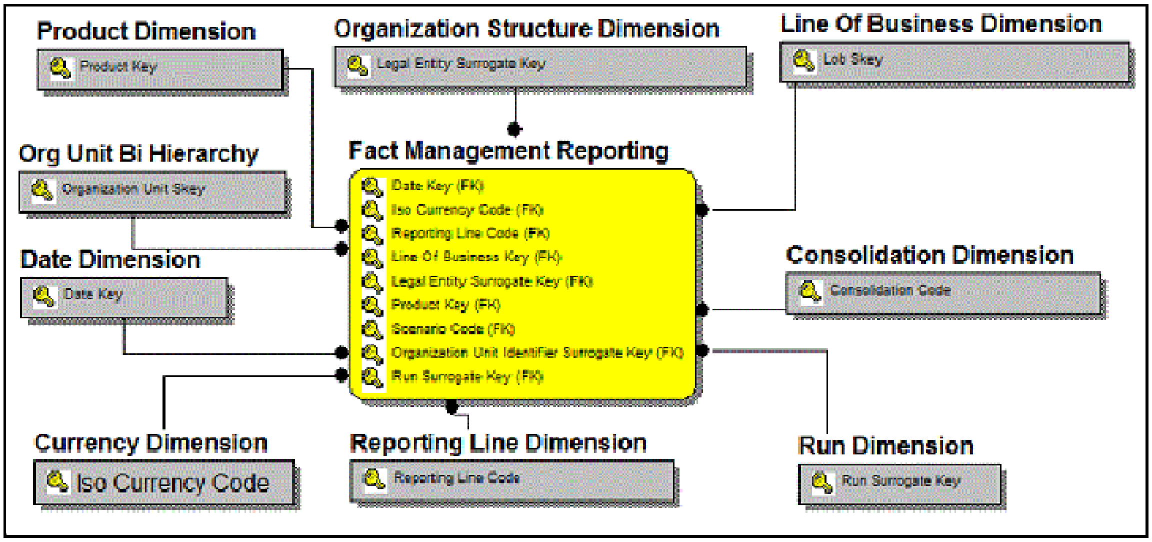
- Fact Ledger Stat

Figure 6: Fact Ledger Stat



- Fact Management Reporting

Figure 1: Fact Management Reporting



3.4 Hierarchy

Standard dimensions such as Product, Organization, Common COA, and General Ledger are populated through the AMHM layer of Profitability Management application (OFS PFT). OFS EFPA assumes that only one hierarchy is present for each dimension in the AMHM layer. This Hierarchy of data for each Dimension is populated in the Dimension Tables through SCDs.

An Entry in the `SETUP_MASTER` table is required for the hierarchy for which the members are to be loaded in the dimension tables. One properly constructed Hierarchy ID should be given in the `COMPONENT_VALUE` column for each dimension.

4 Dimension Loading Process

The hierarchy data is natively stored in a parent-child structure within the Dimension Management component of OFSAAI. Dimension population involves the movement of dimension data from processing dimension tables (maintained by dimension management component of OFSAAI) to the reporting dimension tables used in Business Intelligence (BI) applications.

This data movement process is applicable only when OFS EFPA is installed along with the OFS PFT application.

Dimension loading process has the following two components:

- Hierarchy Transformation
- Dimension Tables Population

The Dimension loading process for the different hierarchies is discussed in the following sections:

- **General Ledger**: The members of this hierarchy are stored within the infrastructure metadata tables for OFS EFPA. Hence the hierarchy needs to be maintained separately for OFS PFT and OFS EFPA. This hierarchy need not be included as part of the hierarchy transformation process but should be part of the SCD process to move General Ledger (GL) dimension members from OFS PFT to OFS EFPA.
- **Financial Element**: The members of this hierarchy are seeded through RDBMS insert scripts by the OFS EFPA application installer. This hierarchy has to be maintained separately for OFS PFT and OFS EFPA.
- **Organization Unit**: This hierarchy in OFS PFT first gets flattened by the Hierarchy Transformation and is then moved to the hierarchy table for Organization Unit (`DIM_ORG_UNIT`) by the Dimension table population component (as explained in chapter Dimension Tables Population). The OFS PFT and OFS EFPA hierarchies can be kept in sync using the above two components.
- **Product**: This hierarchy in OFS PFT first gets flattened through Hierarchy Transformation and is then moved to the hierarchy table for Product (`DIM_PRODUCT`) by the Dimension table population component (as explained in chapter Dimension Tables Population). The OFS PFT and OFS EFPA hierarchies can be kept in sync by using the above two components.
- **Time**: The hierarchy table (`DIM_DATES`) for this hierarchy is loaded by the Time dimension population process (for more details, see Time Dimension Population.
- **Consolidation and Currency**: The hierarchy data for these hierarchies are seeded through RDBMS insert scripts by the OFS EFPA application installer. These hierarchies have to be maintained separately for OFS PFT and OFS EFPA.
- **Legal Entity**: The hierarchy data of Legal Entity is loaded through insert scripts based on the user-defined hierarchy. The above components in detail and the execution methods are explained in the following sections.

4.1 Hierarchy Transformation

Hierarchy Flattening Transformation is used to move the hierarchy data from the parent-child storage structure in OFS PFT AMHM model to a level based storage structure in OFS EFPA. In the OFS PFT AMHM model, hierarchy data for any hierarchy created on seeded or user-defined dimensions using the AMHM is stored within hierarchy tables of respective dimensions. These are moved to the `REV_HIER_FLATTENED` table of OFS EFPA after flattening by the Hierarchy flattening process.

For example, the hierarchy data of one or more Product Hierarchies created on the Product dimension (a seeded dimension) are stored in the `DIM_PRODUCTS_HIER` table.

The hierarchy data in the preceding example would be moved to `REV_HIER_FLATTENED` in the OFS EFPA model by the Hierarchy Flattening Process.

Database components used by this transformation are:

- `REV_BATCHHIERFLATTEN`: Oracle database function
- `REV_HIER_TRANSFORMATON_BIAPPS`: Oracle database Package called by the preceding function.

Some of the features of the Hierarchy Flattening Transformation are:

- The user has the choice to process a single hierarchy or all hierarchies belonging to a particular dimension as part of a single execution.
- Any changes made in the hierarchy using the AMHM Hierarchy Maintenance screen will change the `FLATTENED_ROWS_COMPLETION_CODE` flag in `REV_HIER_DEFINITIONS` table to 'Pending'. This improves the processing efficiency since the Transformation process will avoid hierarchies that have not been modified.

Topics:

- Prerequisites
- Tables Used by the Hierarchy Flattening Transformation
- Executing the Hierarchy Flattening Transformation
- Checking the Execution Status

4.1.1 Prerequisites

The following are the prerequisites for Hierarchy Flattening Transformation:

- All the post-installation steps mentioned in the Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide and the Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide (only if OFS PFT is installed) must be completed.
- Seeded Hierarchies that come with the installation and any hierarchy created using the OFSAAI framework must have proper data in the Tables used by the Hierarchy Flattening Transformation. Hierarchy is maintained in the Dimension Management component of OFSAAI. (Navigate to **Master Maintenance**, select **Dimension Management**, and then select **Hierarchies**).

The following debugging steps need to be performed only if the hierarchy flattening process has failed.

- Check in the database (atomic schema) if the `FLATTENED_ROWS_COMPLETION_CODE` column of the `REV_HIER_DEFINITIONS` table has a value 'Pending' for the Hierarchy ID to be processed.

  This column will have the value 'Pending' for any new hierarchy created or modified using the OFSAAI Hierarchy Management User Interface.

- Check if the `REV_DIMENSIONS_B` table has a row for the dimension that is being processed.

  Execute the following query in the database to find the value and use the value in the dimension ID column for the dimension name/description to be processed.

  ```
  Select b.dimension_id,t.dimension_name,t.description from
  rev_dimensions_b b inner join rev_dimensions_tl t on b.dimension_id =
  t.dimension_id and t.dimension_name like '<dimension name>'
  ```

- Check if the `REV_HIERARCHIES` table has a row for the hierarchy id that is being processed.

  ```
  SELECT * FROM rev_hierarchies rh where dimension_id = <dimension id>
  ```

  - Map the application user to the BATPRO role, which has seeded batch execution function.
  - Create a Batch. For more information refer to Executing the Hierarchy Flattening Transformation.
  - Before executing a batch check if the following services are running on the application server.
  - Iccserver
  - Router
  - AM Server
  - Messageserver
  - Olapdataserver

> **NOTE** For more information on how to check if the services are up and on, and how to start the services if you find them not running, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

4.1.2 Tables Used by the Hierarchy Flattening Transformation

The following tables are used by the Hierarchy Flattening Transformation process:

- **REV_HIERARCHIES**: This is the master table for hierarchies with one row per hierarchy.
- **REV_DIMENSIONS_B**: This is the master table for dimensions with one row per dimension.
- **REV_HIER_DEFINITIONS**: `FLATTENED_ROWS_COMPLETION_CODE` column is checked to determine whether the hierarchy is to be processed.

- **DIM_<DIMENSIONNAME>_HIER**: This table stores the hierarchy data and is the source for the transformation.

  Example:

  - **DIM_PRODUCTS_HIER**: This table stores the hierarchy data of one or more Product Hierarchies created on the Product dimension (a seeded dimension).
- **REV_HIER_FLATTENED**: This is the output table for the transformation into which the flattened hierarchy data gets populated.

4.1.3 Execute the Hierarchy Flattening Transformation

You can execute the Data Transformation from the Operations module of OFSAAI.

The Hierarchy Flattening Transformation for OFS EFPA is seeded with the following processes:

- `PR_DIM_PRODUCT_HIER`
- `PR_DIM_ORG_UNIT_HIER`
- `PR_DIM_COMMON_COA_HIER`
- `PR_DIM_GL_ACCOUNT_HIER`

You can define a new RUN out of these processes and enter Dimension ID and Hierarchy ID in Parameter List.

To define a new task for a Batch definition, follow these steps:

1. Select the check box adjacent to the newly created Batch Name in the Batch Maintenance window.
2. Click the **Add** icon (+) from the Task Details grid.

   The Task Definition window is displayed.
3. Enter the **Task ID** and **Description**.
4. Select the **TRANSFORM DATA** component from the drop-down list.
5. Select the following from the Dynamic Parameters list:
   - **Datastore Type**: Select the appropriate datastore type from the list
   - **Datastore Name**: Select the appropriate datastore name from the list
   - **IP address**: Select the IP address from the list
   - **Rule Name**: Select `BATCH_HIERTRANSFORMATION` from the drop-down list of available transformations. (This is a seeded Data Transformation which is installed as part of the OFS EFPA application Installer. If you don't see this in the list, contact Oracle Support.)
   - **Parameter List**: Enter Dimension ID and Hierarchy ID.

     For the Parameter List, the values are:

     — **Dimension ID**: Execute the following query in the database to find the value, and use the value in the Dimension ID column for the dimension name/description to be processed.

```
Select b.dimension_id,t.dimension_name, and t.description from
rev_dimensions_b b inner join rev_dimensions_tl t on
b.dimension_id = t.dimension_id and t.dimension_name like
'<dimension name>'
```

Replace <dimension name> in the preceding query with the Dimension Name you find in the UI (Financial Services Application > Master Maintenance > Dimension Management) for the dimension on which the Hierarchy you want to flatten.

— **Hierarchy ID**: If all the hierarchies belonging to a dimension are to be processed, then provide null as the parameter value. Else, provide the System Identifier of the hierarchy that needs to be transformed.

Execute the following query in the database, only if a single hierarchy has to be processed, and use the value in HIERARCHY_ID column as a parameter for the hierarchy to be processed.

```
select b.object_definition_id,short_desc,long_desc from
fsi_m_object_definition_b b inner join
fsi_m_object_definition_tl t on b.object_definition_id =
t.object_definition_id and b.id_type = 5
```

For OFS EFPA, it is assumed that only one Hierarchy is processed at a time.

Example: If all the hierarchies for GL Account dimension must be processed, the parameter list should be given as: '2', null

Where '2' is the Dimension ID for the seeded dimension GL Account.

Example: If a particular hierarchy with code 1000018112 must be processed, the parameter list should be given as follows: '2', '1000018112'

Where '1000018112' is the code obtained by executing the preceding query in the database.

6. Click **Save**.

   The Task definition is saved on the selected Batch.

   You can execute the batch from the Batch Execution window by choosing the Batch created following the steps mentioned in the preceding sections. For more details, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

Hierarchy Transformation can also be executed directly on the database through SQLPLUS. The details are:

- **Function Name**: REV_BATCHHIERFLATTEN
- **Parameters**: BATCH_RUN_ID, MIS_DATE, PDIMENSIONID, and PHIERARCHYID
- **Sample Parameter Values**: 'Batch1', '20091231', '2', '1000018112'

NOTE Execute the Hierarchy Transformation Batch only when a new Hierarchy is defined or an existing Hierarchy is modified.

4.1.4 Checking the Execution Status

The Batch execution status can be monitored through the Batch Monitor section of the OFSAAI Operations module.

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The Event Log window in the Batch Monitor section provides execution logs, in which the top row is the most recent. Any errors during the Batch execution are listed in the logs.

ATTENTION It is advisable to check the Event Log for any errors, even if the execution status returns 'Success'.

The execution log can also be accessed on the application server in the directory $FIC_DB_HOME/log/date, where the file name will have the Batch Execution ID.

TIP Check the `.profile` file in the installation home if you are unable to find this path.

The database-level operations log can be accessed by querying the `FSI_MESSAGE_LOG` table. The Batch Run ID column can be filtered for identifying the relevant log. (This is the same log you see in the Event Log window.)

4.2 Dimension Tables Population

Dimensional data changes are handled by the OFS EFPA application using the SCD component.

SCDs are dimensions that have data that changes slowly, rather than changing on a time-based, regular schedule.

For more information on SCDs, see the following sources:

- Oracle Data Integrator Best Practices for a Data Warehouse at:

  https://www.oracle.com/technetwork/middleware/data-integrator/learnmore/odi-best-practice-data-warehouse-168255.pdf

- Oracle Warehouse Builder Data Modeling, ETL, and Data Quality Guide at:

  https://docs.oracle.com/cd/E18283_01/owb.112/e10935/toc.htm

- Additional online sources include:

  http://en.wikipedia.org/wiki/Slowly_changing_dimension http://www.oracle.com/webfolder/technetwork/tutorials/obe/db/10g/r2/owb/owb10gr2_gs/owb/lesson3/slowlychangingdimensions.htm

- You can also refer to The Data Warehouse Toolkit: The Complete Guide to Dimensional Modeling by Ralph Kimball and Margy Ross.

The SCD component of the platform is delivered via a C++ executable. The types of SCD handled by the OFSAAI SCD component for OFS EFPA application are Type 1 and Type 2.

4.2.1 Type 1 Methodology

The Type 1 methodology overwrites old data with new data and therefore does not track historical data. This is useful for making changes to dimension data.

Example:

The application installer will populate one row per dimension for the seeded dimensions in this table.

Table 3: Type 1 Methodology

N_PRODUCT_SKEY	V_PRODUCT_NAME	D_START_DATE	D_END_DATE	F_LATEST_RECORD_INDICATOR
1	PL	5/31/2010	12/31/9999	Y

In this example,

- N_PRODUCT_SKEY is the surrogate key column which is a unique key for each record in the dimension table.
- V_PRODUCT_NAME is the product name.
- D_START_DATE indicates the date from which this product record is valid.
- D_END_DATE indicates the date to which this product record is valid.
- F_LATEST_RECORD_INDICATOR with value 'Y', which indicates this is the latest record in the dimension table for this product and 'N' indicates it is not.

If the V_PRODUCT_NAME column is set as a Type 1 SCD column and if there is a change in the product name to 'Personal Loan' from 'PL' in the above example, in the next processing period, then when SCD is executed for the new processing period the record in the above example changes to:

Table 4: Type 1 Methodology

N_PRODUCT_SKEY	V_PRODUCT_NAME	D_START_DATE	D_END_DATE	F_LATEST_RECORD_INDICATOR
1	Personal Loan	6/30/2010	12/31/9999	Y

4.2.2 Type 2 Methodology

The Type 2 method tracks historical data by creating multiple records for a given natural key in the dimensional tables with separate surrogate keys. With Type 2, the historical changes in dimensional data are preserved. In the above example for the change in product name from 'PL' to 'Personal Loan' if history has to be preserved, then the V_PRODUCT_NAME column has to be set as Type 2 when SCD is processed for the processing period and the change inserts a new record as shown in the following example:

Table 5: Type 2 Methodology

N_PRODUCT_SKEY	V_PRODUCT_NAME	D_START_DATE	D_END_DATE	F_LATEST_RECORD_INDICATOR
1	PL	5/31/2010	12/31/9999	N
1	Personal Loan	6/30/2010	12/31/9999	Y

A new record is inserted into the product dimension table with the new product name. The latest record indicator for this is set as 'Y', indicating this is the latest record for the personal loan product. The same flag for the earlier record was set to 'N'.

Topics:

- Prerequisites
- Tables Used by the SCD Component
- Executing the SCD Component

4.2.3 Prerequisites

The following are the prerequisites for populating the Dimension Tables:

- The Hierarchy Flattening Transformation should have been executed successfully.
- The SCD executable should be present under <installation home>ficdb/bin. The file name is scd and the user executing the SCD component must have execute rights on this file.
- The setup tables accessed by the SCD component (`SETUP_MASTER`, `SYS_TBL_MASTER`, and `SYS_STG_JOIN_MASTER`) should have the required entries. The `SETUP_MASTER` table does not come seeded with the installation; the required entries must be added manually. The required columns are mentioned in the Tables Used by the SCD Component. The tables `SYS_TBL_MASTER` and `SYS_STG_JOIN_MASTER` are seeded for the Org unit, GL Account, Product, Common COA (Chart of Accounts) dimensions along with application installation and you must only add entries in these tables if you add new dimensions.
- Database Views with name DIM_<Dimension Name>_V come seeded, for the seeded dimensions which come as part of the installation. These views source data from the Profitability dimension tables as well as the flattened hierarchy data. `DIM_PRODUCT_V` is the view available for the product dimension. New views will have to be added for any new dimension, added in addition to the seeded dimensions.

4.2.4 Tables Used by the SCD Component

The following are the database tables and columns used by the SCD component:

- **SETUP_MASTER**
  - **V_COMPONENT_CODE**: This column is not used by the OFS EFPA application.
  - **V_COMPONENT_DESC**: This column value is hardcoded in the database view definitions for `DIM_PRODUCT_V`, `DIM_GL_ACCOUNT_V`, `DIM_COMMON_COA_V`, and `DIM_ORG_UNIT_V`

to obtain the Hierarchy ID from the REV_HIER_FLATTENED table. For this reason, the value for this column should be unique.

ATTENTION The value in V_COMPONENT_DESC must exactly match with the value used in the SQL to create the DIM_<dimension>_V view. The View SQL contains a section referencing the SETUP_MASTER table. You must use the same upper and/or lower case letters in V_COMPONENT_DESC as used in this section of the View SQL.

- **V_COMPONENT_VALUE**: This is the hierarchy ID to be processed and this can be obtained by executing the following query:

  ```
  select b.object_definition_id,short_desc,long_desc from
  fsi_m_object_definition_b b inner join fsi_m_object_definition_tl t
  on b.object_definition_id = t.object_definition_id and b.id_type = 5
  ```

  Example:

Table 6: SETUP_MASTER

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
COMMON_COA_HEIR	COMMON_COA_HEIR1	1000063952
GL_ACCOUNT_HEIR	GL_ACCOUNT_HEIR1	200000808
ORG_HIER	ORG_UNIT_HIER1	200282
PRODUCT_HIER	PRODUCT_HIER1	1000004330

NOTE For any newly defined Hierarchy, a row must be inserted to this table manually for SCD to process that Hierarchy. You can only specify one Hierarchy for each dimension.

- SYS_TBL_MASTER

  The application installer populates one row per dimension for the seeded dimensions in this table.

  SCD for GL Dimension fails if V_COMPONENT_VALUE is used with DEFAULT value. To avoid this failure, run the following query:

  ```
  SELECT
       distinct hierarchy_id
  FROM
       dim_general_ledger_hier;
  ```

  This query fetches the hierarchy IDs (in numbers). You can use any of the fetched hierarchy IDs to update the SETUP_MASTER table with the following query:

```
UPDATE setup_master
SET
     v_component_value = '<AMHM HierarchyID to be used for SCD>'
WHERE
     v_component_code = 'GL_ACCOUNT_HIER';
```

Table 7: SYS_TBL_MASTER

COLUMN NAME	DATA TYPE	COLUMN DESCRIPTION
MAP_REF_NUM	NUMBER(3) NOT NULL	The Mapping Reference Number for this unique mapping of a Source to a Dimension Table.
TBL_NM	VARCHAR2(30) NOT NULL	Dimension Table Name.
STG_TBL_NM	VARCHAR2(30) NOT NULL	Staging Table Name.
SRC_PRTY	NUMBER(2) NULL	The priority of the Source when multiple sources are mapped to the same target.
SRC_PROC_SEQ	NUMBER(2) NOT NULL	The sequence in which the various sources for the DIMENSION will be taken up for processing.
SRC_TYP	VARCHAR2(30) NULL	The type of the Source for a Dimension, that is, Transaction Or Master Source.
DT_OFFSET	NUMBER(2) NULL	The offset for calculating the Start Date based on the Functional Requirements Document (FRD).
SRC_KEY	NUMBER(3) NULL	

Example:

This is the row inserted by the application installer for the product dimension.

Table 8: Product Dimension

MAP_REF_NUM	128
TBL_NM	DIM_PRODUCT
STG_TBL_NM	DIM_PRODUCT_V
SRC_PRTY	
SRC_PROC_SEQ	1
SRC_TYP	MASTER
DT_OFFSET	0

NOTE For any newly defined dimension, a row must be inserted to this table manually.

- SYS_STG_JOIN_MASTER

  The application installer populates this table for the seeded dimensions.

Table 9: SYS_STG_JOIN_MASTER

COLUMN NAME	DATA TYPE	COLUMN DESCRIPTION
MAP_REF_NUM	NUMBER(3) NOT NULL	The Mapping Reference Number for this unique mapping of a Source to a Dimension Table.
COL_NM	VARCHAR2(30) NOT NULL	Name of the column in the Dimension Table.
COL_TYP	VARCHAR2(30) NOT NULL	Type of column.
STG_COL_NM	VARCHAR2(60) NULL	Name of the column in the Staging Table.
SCD_TYP_ID	NUMBER(3) NULL	SCD type for the column.
PRTY_LOOKUP_REQD_FLG	CHAR(1) NULL	Column to determine whether Lookup is required for Priority of Source against the Source Key Column or not.
COL_DATATYPE	VARCHAR2(15) NULL	The possible values are VARCHAR, DATE, and NUMBER, based on the underlying column data type.
COL_FORMAT	VARCHAR2(15) NULL	

The possible values for column type (the `COL_TYPE` column) in `SYS_STG_JOIN_MASTER` table are:

- PK: Primary Dimension Value (can be the multiple of the given Mapping Reference Number)
- SK: Surrogate Key
- DA: Dimensional Attribute (multiple for a given "Mapping Reference Number")
- SD: Start Date
- ED: End Date
- LRI: Latest Record Indicator (Current Flag)
- CSK: Current Surrogate Key
- PSK: Previous Surrogate Key
- SS: Source Key

- LUD: Last Updated Date/Time
- LUB: Last Updated By
- NN: Not Null

Example:

This is the row inserted by the application installer for the product dimension.

Table 10: Product Dimension

MAP_REF_NUM	128
COL_NM	V_PRODUCT_NAME
COL_TYP	DA
STG_COL_NM	V_PRODUCT_NAME
SCD_TYP_ID	2
PRTY_LOOKUP_REQD_FLG	N
COL_DATATYPE	VARCHAR
COL_FORMAT	

NOTE For any newly defined dimension, the column details must be inserted to this table manually.

- DIM_< dimension name >_V: The database view which SCD uses as the source.

  Example: `DIM_PRODUCTS_V`

  These views come as part of the installation for the dimensions seeded with the application.

NOTE For any newly defined dimension, a view must be created, which is similar to that of `DIM_PRODUCTS_V`.

A sequence should be created for every user-defined dimension, using the below query:

Example:

```
create sequence SEQ_< DIMENSION > minvalue 1
maxvalue 999999999999999999999999999
increment by 1
```

4.3 Executing the SCD Component

You can execute the SCD component from the Operations module of OFSAAI.

The SCD component for OFS EFPA has been seeded with the process `PR_EFPA_DF`, which can be executed from the Batch Execution section of OFSAAI.

You can also define a new Batch and an underlying Task definition from the Batch Maintenance window of OFSAAI. For more information on defining a new Batch, refer to section Appendix D: Define a Batch.

To define a new task for a Batch definition, do the following:

1. Select the check box adjacent to the newly created Batch Name in the Batch Maintenance window.
2. Click the **Add** icon (+) from the Task Details grid.

   The Task Definition window is displayed.
3. Enter the **Task ID** and **Description**.
4. Select **Run Executable** component from the drop-down list.
5. Select the following from the Dynamic Parameters list:
   - **Datastore Type**: Select the appropriate datastore type from the list
   - **Datastore Name**: Select the appropriate datastore name from the list
   - **Executable**: Enter scd,<map ref num>

     For example, scd,2
   - **Wait**: Click **Yes** if you want to wait till the execution is complete or click No to proceed with the next task.

     Select Yes if you want the ICC component to wait for the process to complete the execution and update the status as either Success or Failure. If you select No, the component will trigger the processes and update the status as Success.

- **Batch Parameter**: Click **Yes** in Batch Parameter field if you want to pass the batch parameters to the executable and click No otherwise. Always select Yes in Batch Parameter.

6. Click **Save**.

   The Task definition is saved for the selected Batch.
7. Click **Parameters**. Select the following from the Dynamic Parameters List and then click **Save**:

   The map ref number values available for the **Executable** parameter are:
   - **-1**, if you want to process all the dimensions. The Executable parameter mentioned earlier is: **scd,-1**.
   - If you want to process for a single dimension, query the database table SYS_TBL_MASTER and give the number in the MAP_REF_NUM column for the dimension you want to process. These are the ones that come seeded with the install. If you want to process for the Product dimension, the Executable parameter mentioned earlier is: **scd,6**.

Table 11: Dynamic Parameters

MAP_REF_NUM	TBL_NM
126	DIM_ORG_UNIT
127	DIM_GL_ACCOUNT
128	DIM_PRODUCT

MAP_REF_NUM	TBL_NM
129	DIM_COMMON_COA

You can execute a Batch definition from the Batch Execution section of the OFSAAI Operations module.

4.3.1 Checking the Execution Status

The Batch execution status can be monitored through the Batch Monitor section of the OFSAAI Operations module.

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can also be accessed on the application server in the directory `FIC_DB_HOME/log/ficgen`, where the file name will have the Batch Execution ID.

The detailed SCD component log can be accessed on the application server in the directory `$FIC_HOME` by accessing the following path `/ftpshare/<infodom name>/logs`.

NOTE The Event Log window in the Batch Monitor section provides execution logs, in which the top row is the most recent. Any errors during the Batch execution are listed in the logs.

4.3.2 Legal Entity

It is a manual upload. Optionally it can be done by using the process `PR_DIM_ORG_STRUCTURE`.

The `PR_DIM_ORG_STRUCTURE process` triggers the DT and loads the `DIM_Org_Structure` Table.

Parameter List: NULL

DT uses data from the below tables:

- `STG_LEGAL_ENTITY_B_INTF`
- `STG_LEGAL_ENTITY_TL_INTF`
- `STG_LEGAL_ENTITY_ATTR_INTF`
- `STG_LEGAL_ENTITY_HIER_INTF`

4.4 Parent-Child Hierarchy

OBIEE can handle Hierarchies in Parent-Child format as well. For this, the Level based Hierarchy of AMHM has to be converted to a Parent-Child Hierarchy to support Hierarchies in reports. Parent-Child hierarchy is applicable for:

- Reporting Line (DIM_REP_LINE)
- General Ledger (DIM_GL_ACCOUNT)
- Organization Structure (DIM_ORG_STRUCTURE)

After the above dimension tables are loaded, their respective Parent-Child Relation tables also must be populated. The following are the dimension tables with their respective Parent-Child Relation tables:

- DIM_REP_LINE: REP_LINE_PARENT_CHILD_RELATION
- DIM_GL_ACCOUNT: GL_PARENT_CHILD_RELATION
- DIM_ORG_STRUCTURE: ORG_STR_PARENT_CHILD_RELATION

The following DTs populate the Parent-Child Relation tables:

1. FN_REP_LINE_PARENT_CHILD

   The database components used to populate REP_LINE_PARENT_CHILD_RELATION are:

   - Database function FN_REP_LINE_PARENT_CHILDWR
   - Database function FN_REP_LINE_PARENT_CHILD, which is called by the function FN_REP_LINE_PARENT_CHILDWR mentioned above.

   Process PR_DIM_REP_LINE
   triggers the DT and loads the REP_LINE_PARENT_CHILD_RELATION table.

   Parameter List: Hierarchy Name and Folder Name

   Example: 'Repline Hierarchy','EPM61SEG'

   The following query retrieves the Hierarchy Name and the Folder Name:

   ```
   select distinct FODTL.SHORT_DESC, FODB.FOLDER_NAME
   from fsi_m_object_definition_tl FODTL, fsi_m_object_definition_bFODB
   where FODTL.object_definition_id in
   (select object_definition_id
   from fsi_m_object_definition_b
   where table_name = 'DIM_REPORTING_LINE_HIER')
   and FOLDER_NAME = '<OFSAA segment name>';
   ```

   There is a foreign key (FK) reference from table FCT_MGMT_REPORTING (N_REP_LINE_CD column) to table DIM_REP_LINE (N_REP_LINE_CD column). This foreign key, FK_FCT_MGMT_REPORTING_3 should be disabled if the Data Transformation (DT) FN_REP_LINE_PARENT_CHILD has to run again, as this DT deletes the DIM_REP_LINE table and reloads again. You can enable the FK after the successful execution of the DT.

2. FN_GL_PARENT_CHILD

The database components used to populate GL_PARENT_CHILD_RELATION are:

- Database function FN_GL_PARENT_CHILDWR
- Database function FN_GL_PARENT_CHILD, which is called by the function FN_GL_PARENT_CHILDWR mentioned above.

Process PR_DIM_GL_ACCOUNT triggers the DT and loads the GL_PARENT_CHILD_RELATION table.

Parameter List: NULL

3. FN_ORG_PARENT_CHILD

The database components used to populate ORG_STR_PARENT_CHILD_RELATION are:

- Database function FN_ORG_PARENT_CHILDWR
- Database function FN_ORG_PARENT_CHILD, which is called by the function FN_ORG_PARENT_CHILDWR mentioned above.

Process PR_DIM_ORG_UNIT triggers the DT and loads the

ORG_STR_PARENT_CHILD_RELATION table.

Parameter List: NULL

NOTE Whenever there are changes to any of the three dimensions mentioned above, the corresponding Parent-Child relation DT should be executed. The OBIEE reports and the Parent-Child relation tables require the Parent ID to be null for the root node of the respective Hierarchy in the corresponding dimension table.

4.5 Multiple Hierarchies

The current flow of hierarchy data movement from AMHM tables to Reporting dimension tables considers the following objects:

- Four AMHM tables (<Dimension>_B/TL/ATTR/HIER)
- REV_HIER_FLATTENED table
- SETUP_MASTER table
- Dimension specific view
- SCD to load data from View to Reporting Dimension table

The out-of-the-box (OOTB) product has been configured to support data movement of not only one hierarchy but also to support more than one hierarchy. The information mentioned specifies the points at a high-level that one has to consider to support more than one hierarchy.

The following steps describe the data movement in two hierarchies (Product dimension is considered as an example):

1. Create two hierarchies for Product dimension in AMHM (For example 200183, 301741)

2. Run Hierarchy Flattening transformation to load the flattened structure of both in `REV_HIER_FLATTENED`.
3. Load SETUP_MASTER table with two entries identified by `V_COMPONENT_DESC` values `PRODUCT_HIER1` and `PRODUCT_HIER2`.

Table 12: SETUP_MASTER

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
PRODUCT_HEIR	PRODUCT_HEIR1	301741
PRODUCT_HIER2	PRODUCT_HIER2	200183

4. Modify the view definition `DIM_PRODUCT_V` to include both hierarchies. Find below both the OOTB and the modified view definitions.
   - `DIM_PRODUCT_V`
   - `DIM_PRODUCT__MULTI_HIER_V`

In both the hierarchies, level 10 to level 1 represent the first hierarchy and level 20 to level 11 represent the second hierarchy. Both the hierarchies share leaf nodes.

Use the `DIM_PRODUCT__MULTI_HIER_V.sql`, which is a sample view on the product dimension. It can be used in the SCD process to move multiple alternate hierarchies defined in the AMHM to the flattened tables used for BI analytics.

This sample view considers two alternate hierarchies. You can extend this for additional hierarchies that may be required. Also, the sample is based on the Product dimension but can be modified for other dimensions by replacing the relevant tables.

5 Time Dimension Population

Business data commonly represents information as of a point in time (for example, a balance as of a point in time) or as of a particular time (for example, income for March month). The rollup of a particular balance depending on their nature could be a simple additive rollup wherein the child member balances are added up to arrive at the parent node balance (for example, Ending Balance) or non-additive rollups wherein a node formula are used to specify how to rollup the child member balances (for example, three months rolling average).

The database components, used by the transformations are:

- Database function `FN_DIM_DATES`
- Database procedure `PROC_DIM_DATES_POPULATION` that is called by the function `FN_DIM_DATES` mentioned earlier.

> **NOTE** OFS EFPA does not use `D_FISCAL_YEAR_START_DATE`, `D_FISCAL_YEAR_END_DATE`, or `N_DAY_OF_WEEK` columns.

Topics:

- Prerequisites
- Tables used by the Time Dimension Population Transformation
- Executing the Time Dimension Population Transformation
- Checking the Execution Status

5.1 Prerequisites

The following are the prerequisites for Time Dimension Population Transformation:

- All the post-installation steps mentioned in the Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide and the Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide (only if OFS PFT is installed) must be completed.
- The Application User must be mapped to a role that has a seeded batch execution function (BATPRO).
- Before executing a Batch, check if the following services are running on the application server:
    - Iccserver
    - Router
    - AM Server
    - Messageserver
    - Olapdataserver

NOTE For more information on how to check if the services are up and on, and how to start the services if you find them not running, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

Batches must be created for executing the function. For more details, see Appendix D: Define a Batch.

5.2 Tables used by the Time Dimension Population Transformation

For more details on viewing the structure of earlier tables, refer to Oracle Financial Services Analytical Applications Data Model Data Dictionary or the OFS EFPA Erwin Data Model.

5.3 Executing the Time Dimension Population Transformation

You can execute the function from the Operations (formerly Information Command Center (ICC) framework) module of OFSAAI.

This component for OFS EFPA is seeded with the Process `PR_DIM_DATES`, which can be executed from the Run Rule Framework by defining a new Run out of the Process given above section of OFSAAI. In the Parameter List, enter the number of months.

You can also define a new Batch and an underlying Task definition from the Batch Maintenance window of OFSAAI. For more information on defining a new Batch, refer to section Appendix D: Define a Batch.

To define a new task for a Batch definition, follow these steps:

1. Select the check box adjacent to the newly created Batch Name in the Batch Maintenance window.
2. Click the **Add** icon (+) from the Task Details grid.

   The Task Definition window is displayed.
3. Enter the **Task ID** and **Description**.
4. Select the **Transform Data** component from the drop-down list.
5. Select the following from the Dynamic Parameters list:
   - **Datastore Type**: Select the appropriate datastore type from the drop-down list.
   - **Datastore Name**: Select the appropriate datastore name from the drop-down list.
   - **IP address**: Select the IP address from the drop-down list.
   - **Rule Name**: Select Dim_Dates_Population from the drop-down list of available transformations. (This is a seeded Data Transformation which is installed as part of the OFS EFPA application installer. If you don't see this in the list, contact Oracle support)
   - **Parameter List**: Enter the Start Date and End Date.

- **Start Date**: This is the starting date, from which the Transformation will populate the DIM_DATES table. This date should be specified in the YYYYMMDD format.

  For example, '20081131'.

- **End Date**: This is the end date, to which the Transformation will populate the `DIM_DATES` table. This date should also be specified in the YYYYMMDD format.

  For example, '20091231'.

6. Click **Save**.

   The Task definition is saved for the selected Batch.

7. Execute the batch.

   You can execute a Batch definition from the Batch Execution section of the OFSAAI Operations module.

   The function can also be executed directly on the database through SQLPLUS Details are:

   - **Function Name**: `FN_DIM_DATES`
   - **Parameters**: `P_BATCH_RUN_ID`, `P_AS_OF_DATE`, `P_ST_DT`, and `P_ED_DT`
   - **Sample Parameter Values**: 'Batch1', '20091231', '20081131', and '20091231'

   This DT should be executed for each year for which data is present in the source table.

5.4 Checking the Execution Status

The Batch execution status can be monitored through the Batch Monitor section of the OFSAAI Operations module.

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can also be accessed on the application server in the directory $FIC_DB_HOME/log/date, where the file name will have the Batch Execution ID.

You can access the database level operations log by querying the `FSI_MESSAGE_LOG` table. Filter the Batch Run ID column for identifying the relevant log.

TIP Check the `.profile` file in the installation home if you are unable to find this path.

6 Modification and Mapping of Reporting Lines

Reporting lines are configured as hierarchies within the Business Metadata of Oracle Financial Services Analytical Applications Infrastructure (OFSAAI). Reporting Line hierarchy originates in the Reporting layer so it is enabled in AMHM. User needs to click on the Application Preferences screen to be able to create a new hierarchy of Reporting Line.

- **Reporting Lines for Financial Reporting**: Financial Reporting Line is based on the General Ledger dimension. (`DIM_GL_ACCOUNT` table).

  This reporting line hierarchy is a REGULAR parent-child hierarchy, based on the members of the GL dimension.

- **Reporting Lines for Management Reporting**: Management Reporting Line is based on the Reporting Line dimension (`DIM_REP_LINE` table).

  This reporting line hierarchy is a REGULAR parent-child hierarchy based on the members of the Reporting line dimension.

Topics:

6.1 Summary of Configuration for Financial Reporting and Management Reporting

The summary of the configuration required covers Financial Reporting and Management Reporting.

6.1.1 Financial Reporting (FR)

Reporting Line is based on the General Ledger dimension. Therefore, all the GL codes for this subject area should functionally relate to Income Statement line items. The idea of this report is to show the un-allocated data coming in from the source system. The Income Statement General Ledger accounts in the source system need to be understood and be categorized as either income or expense GLs. The tag of income/expense can be achieved by putting in the appropriate Financial Element Code (FE) (for example, 420 for Interest, 455 for Non-Interest Income, and 457 for Non-Interest Expense). Each leaf level GL will be categorized as either Income or Expense with the appropriate FE mapping. Financial Reporting Income Statement hierarchy can then be constructed by using the leaf level GLs and rolling them up to higher-level nodes. Assign the rollup signage (+/-) to each leaf/node while constructing the hierarchy. Data is expected to be present only for the leaf level GL codes. Once the FR Income Statement hierarchy (can also be called as Income Statement from source ledger data) is constructed same can be made visible in Financial Reporting Dashboard by running the hierarchy transformation and SCD of GL dimension.

6.1.2 Management Reporting (MR)

Management Reporting covers Income Statement (MR-IS) and Balance Sheet (MR-BS).

6.1.2.1 Income Statement (MR-IS)

Management Reporting Income Statement (MR-IS) is seeded in the system and is available in the system using the reporting line codes present in the `DIM_REP_LINE` table. MR-IS line items are much more granular and data is created for them using the allocation engine (for example, OFS PFT). The allocated data is expected to be present in the `FSI_D_MANAGEMENT_LEDGER` table. Line items of MR-IS are constructed based on Reporting line codes, but the data availability is expected into the seeded Financial Element Codes. EFPA seeds 9000 series FEs and allocation should be done to this series. Once the allocation engine provides data for these Financial Elements, the MR-IS will show results in the OBIEE dashboards. There is a mapping table `DIM_REPORTING_LINE_ATTR` that ties up Reporting Line codes and Financial Elements. The seeded Financial Element list is provided in the install guide of OFS EFPA. The mapping between Reporting Lines and Financial Elements is 1:1 and one FE can only be mapped to a single leaf level Reporting Line code of MR Income Statement hierarchy.

6.1.2.2 Balance Sheet (MR-BS)

Management Reporting Balance Sheet (MR-BS) is seeded in the system and is available in the system using the reporting line codes present in the `DIM_REP_LINE` table. Mapping of Balance Sheet General Ledger codes to Reporting Lines is explained in section Mapping of Balance Sheet Leaf Nodes to General Ledger.

6.2 Addition and Modification of Reporting Lines Using AMHM

This section describes the modification of the Financial Reporting Line and Management Reporting Line.

6.2.1 Modify the Financial Reporting Line

Financial Reporting line hierarchy can be modified to include new members and modify existing members. As a prerequisite, if the member to be added is a leaf, the GL dimension table (`DIM_GL_ACCOUNT`) needs to have these leaf members.

- **GL member**: When creating a new GL member in AMHM, the signage attribute should be properly mapped to the GL. This signage will be used as rollup signage in the GL hierarchy for node-level calculation.
- **GL Hierarchy**: General ledger Hierarchy is used for Financial Reporting. The hierarchy should build with proper parent and child level mapping from the topmost root to the leaf level. The node-level GL entries should not be present in the source table, which is `FSI_D_MANAGEMENT_LEDGER`. Only leaf-level GLs are allowed to have data.

New members can be created from the Financial Services Applications > Dimension Management screen of OFSAAI

6.2.2 Modify the Management Reporting Line

Management Reporting line hierarchy can be modified to include new members and modify existing members. As a prerequisite, if the member to be added is a leaf, the Reporting Line dimension table (`DIM_REP_LINE`) needs to have these leaf members.

The table DIM_REP_LINE table is populated using AMHM tables, which is DIM_REPORTING_LINE_B, DIM_REPORTING_LINE_TL, DIM_REPORTING_LINE_ATTR, and DIM_REPORTING_LINE_HIER. The hierarchy must be modified from the Dimension Management section of OFSAAI so that relevant changes are captured in the AMHM tables mentioned above. Once the hierarchy is saved, the DT has to be executed to populate DIM_REP_LINE and REP_LINE_PARENT_CHILD_RELATION tables.

Additional reporting line hierarchy can also be created using existing nodes using the AMHM framework of OFSAAI. If there are reporting line codes created, then you should create all such custom reporting lines using a sequence of numbers that is different from the numbers used in the seeded reporting line hierarchy. It is recommended that you should create custom reporting lines with a six-digit number starting with 500000, 500001, and so on.

6.3 Map Reporting Line Items

The reporting lines are seeded in the application and are used during hierarchy rollups in OBIEE reports. These reporting lines can be classified broadly into two types, that is Income Statement (IS) reporting lines and Balance Sheet (BS) reporting lines. All reporting lines are part of either IS hierarchy or BS hierarchy.

All reporting line codes of the DIM_REPORTING_LINE_ATTR or REP_LINE_GL_MAP tables must be at leaf level reporting lines. When creating a new Reporting line item in AMHM, the signage attribute must be properly assigned to the Reporting line. This signage will be used as rollup signage in the Reporting Line hierarchy for node-level calculation.

When a new financial element needs to be seeded into the application, you should manually seed the data into the below tables with unique FE IDs:

- DIM_FINANCIAL_ELEMENTS_B
- DIM_FINANCIAL_ELEMENTS_TL
- DIM_FINANCIAL_ELEMENTS_ATTR

After the above tables are loaded, DIM_FINANCIAL_ELEMENT must be populated. The database components used to populate the DIM_FINANCIAL_ELEMENT are:

- Database function FN_DIM_FINANCIAL_ELEM_UPDATEWR
- Database function FN_DIM_FINANCIAL_ELEM_UPDATE, which is called by the function FN_DIM_FINANCIAL_ELEM_UPDATEWR mentioned above.

The seeded Process PR_DIM_FINANCIAL_ELEMENT triggers the DT that loads the DIM_FINANCIAL_ELEMENT table.

- **Parameter List**: OFSAA User

  Example: 'OFSAAUSER'

6.3.1 Map Income Statement Leaf Nodes to Financial Elements

IS reporting lines are seeded into the application and a default mapping is provided between Financial Element (FE) and Reporting Lines. The mapping of FE and IS reporting lines are present in the DIM_REPORTING_LINE_ATTR table. This mapping can be enhanced based on the requirements and the data need to be created as tabulated below:

Columns: REPORTING_LINE_ID and FINANCIAL_ELEM_ID

Table 13: DIM_REPORTING_LINE_ATTR

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
REPORTING_LINE_ID	Column to stores Reporting Line Identifiers	
ATTRIBUTE_ID	Column to store the type of attribute used for Mapping	1-Financial Element 2-Signage
DIM_ATTRIBUTE_NUMERIC_MEMBER	Column to store the actual attribute, that is. Financial Element or Signage	1. Actual Financial Element Code is used in this column in case the ATTRIBUTE_ID = 1 2. Signage value 1 or 2 is used in this column to signify positive signage or negative signage. Signage is applicable only when ATTRIBUTE_ID=2

- It is not required to process the mapping of financial elements 140 and 100 to reporting lines (Average Bal and End Bal).
- A single reporting line should be mapped only to one financial element.
- IS reporting lines are applicable for allocated data from OFS PFT.
- Management Reporting - Income Statement: The Identity Codes available in the FSI_D_MANAGEMENT_LEDGER table, having source_type as 100 are considered for populating Income Statement reporting lines in the FCT_MGMT_REPORTING table.

  Select identity_code from FSI_DATA_IDENTITY where source_type = 100;

6.3.2 Map Balance Sheet Leaf Nodes to General Ledger

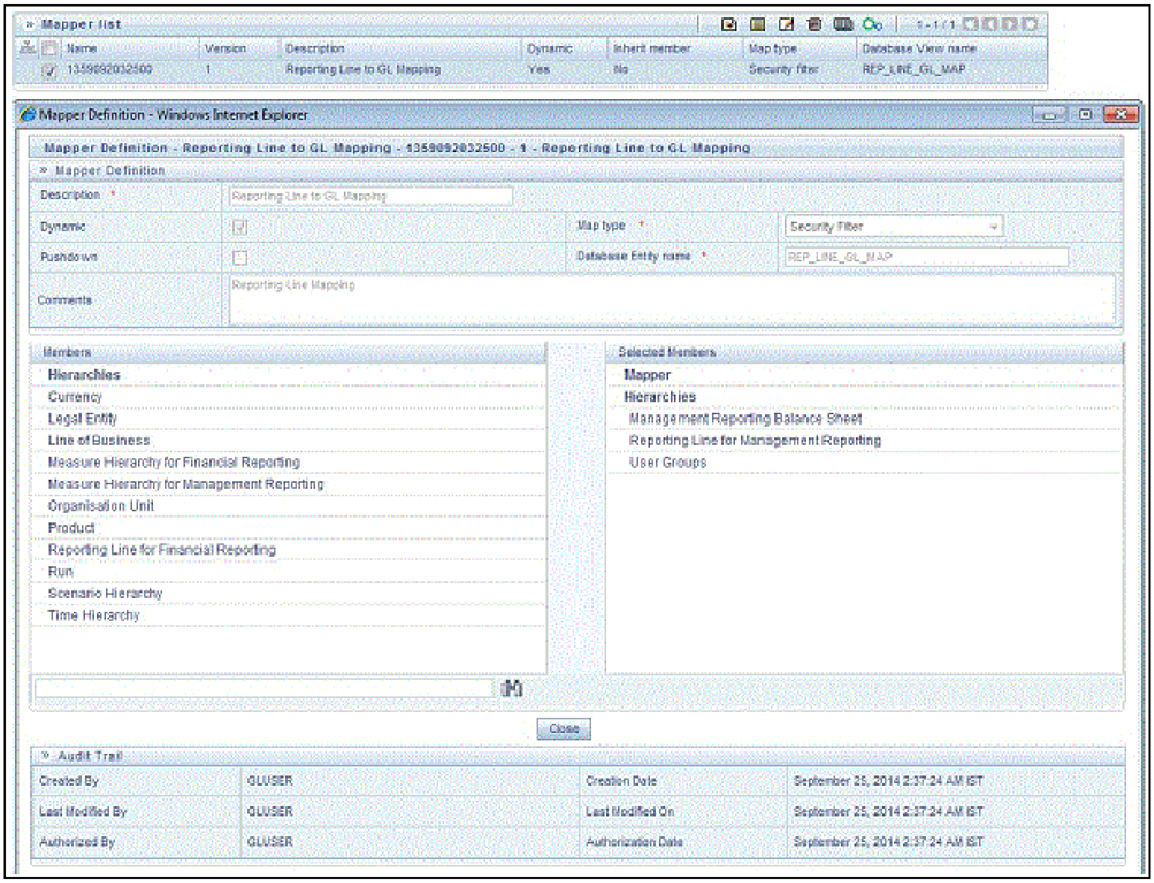
Balance Sheet reporting lines are seeded in OFS EFPA application. The mapping of BS reporting lines is based on General Ledger codes, as they are available to OFS EFPA from Profitability Management. The data considered for BS hierarchy is un-allocated, that is the data available in the OFS PFT in an un-allocated form (for all those IDENTITY_CODE where SOURCE_TYPE is '0' in the FSI_DATA_IDENTITY table). However, default mapping cannot be provided as the general ledger codes can differ at the customer site. The mapping of BS reporting lines and general ledger codes are done from the Map Maintenance section of OFSAAI. Map definition has been seeded in the OFS EFPA application for users to create the mapping of reporting lines (leaf nodes) of the Reporting Line hierarchy with the general ledger hierarchy (leaf nodes). The general ledger hierarchy is evolved from the DIM_GL_ACCOUNT table through HEPMGLBS. In the SETUP_MASTER table configuration (key-value pair) has been seeded to allow the mapping.

Table 14: SETUP_MASTER Table

V_COMPONENT_CODE	V_COMPONENT_DESC	V_COMPONENT_VALUE
REP_LINE_GL_MAPPER	REP_LINE_GL_MAPPE	R REP_LINE_GL_MAP

A new map definition can be created from the in Map Maintenance section of OFSAAI and the new table name against the key provided (REP_LINE_GL_MAPPER) in SETUP_MASTER table can be used.

Figure 7: Reporting Line to GL Mapping



Mapper list

Name	Version	Description	Dynamic	Inherit member	Map type	Database View name
1359092032500	1	Reporting Line to GL Mapping	Yes	No	Security filter	REP_LINE_GL_MAP

Mapper Definition - Windows Internet Explorer

Mapper Definition - Reporting Line to GL Mapping - 1359092032500 - 1 - Reporting Line to GL Mapping

Mapper Definition

Description *	Reporting Line to GL Mapping		
Dynamic	☑	Map type *	Security Filter
Pushdown	□	Database Entity name *	REP_LINE_GL_MAP
Comments	Reporting Line Mapping		

Members	Selected Members
Hierarchies	Mapper
Currency	Hierarchies
Legal Entity	Management Reporting Balance Sheet
Line of Business	Reporting Line for Management Reporting
Measure Hierarchy for Financial Reporting	User Groups
Measure Hierarchy for Management Reporting	
Organisation Unit	
Product	
Reporting Line for Financial Reporting	
Run	
Scenario Hierarchy	
Time Hierarchy	

Audit Trail

Created By	GLUSER	Creation Date	September 25, 2014 2:37:24 AM IST
Last Modified By	GLUSER	Last Modified On	September 25, 2014 2:37:24 AM IST
Authorized By	GLUSER	Authorization Date	September 25, 2014 2:37:24 AM IST

- Mapping of more than one general ledger leaf node can be done to a single reporting line.
- V_COMPONENT_VALUE is the column that should be changed in case a new mapper is created on the OFSAAI platform.

You can map the Balance Sheet leaf-level GLs to leaf-level Balance sheet Reporting Lines from the Map Maintenance screen of OFSAAI. However, this mapping can also be done directly in the database table that stores the mapping. Use the following table details to map leaf-level codes in the map table:

- **Table Name**: REP_LINE_GL_MAP
- **GL ID Column**: V_MEMBER_1

  Leaf level General Ledger ID that needs to be mapped to the leaf level Node of seeded Balance Sheet Reporting Line.
- **Balance Sheet Reporting Line Code**: V_MEMBER_2

Leaf level Balance Sheet Reporting Line Code. The Balance Sheet Reporting line hierarchy is seeded in the application and it starts with node 107003.

- **Map ID**: `V_Map_ID`

  1359092032500 (It is the seeded ID of the mapper that is present after installation).

- **User Group Name**: `V_Member_3`

- **User Group**: It is the user group to which the logged-in user belongs. You can run the following query to find it (in config schema).

  ```
  SELECT * FROM cssms_usr_group_map where v_usr_id = <>
  ```

  Example:

  ```
  Insert into REP_LINE_GL_MAP (V_MAP_ID, N_MAP_ID, N_INHERIT_MAP_ID,
  V_MEMBER_1, V_MEMBER_2, V_MEMBER_3, V_MEMBER_4, V_MEMBER_5, V_MEMBER_6,
  V_MEMBER_7, V_MEMBER_8, V_MEMBER_9)
  ```

  ```
  Values ('1359092032500', null, null, '12345700000149', '50100',
  'TESTGRP', null, null, null, null, null, null)
  ```

  12345700000149: n_gl_account_id in `DIM_GL_ACCOUNT` table of dev env.

  50100: Leaf level node from Balance Sheet hierarchy (Refer to the attached excel).

  TESTGRP: test user group.

  The Financial Elements (FE) supported for the MR- Balance Sheet are 100 and 140. Therefore, the GL IDs for which FE is either 100 or 140 will be picked up to populate the Balance Sheet reporting line ID in the `FCT_MGMT_REPORTING` table.

> **NOTE** The Identity Codes available in the `FSI_D_MANAGEMENT_LEDGER` table, having source_type as 0 are considered for populating Balance Sheet reporting lines in the `FCT_MGMT_REPORTING` table.
>
> ```
> Select identity_code from FSI_DATA_IDENTITY
> where source_type = 0;
> ```

6.3.3 New Reporting Line (Repline) Hierarchies

Two new replines are introduced, to calculate Net Income Before Tax (NIBT) at selected and desired Repline levels. These are as follows:

- **81000**: Other Interest Income

  All children of 82000 now report to 81000. 81000 reports to 82000.

- **81001**: Other Interest Expenses

  All children of 82001 now report to 81001. 81001 reports to 82001.

7 Multi-Currency Reporting

A bank may want to represent the reports in different currencies depending on the geographic presence, regulatory requirements, and so on. The functionality of multi-currency reporting enables the reports to be displayed in multiple currencies.

The following three different currency types are supported:

- Local Currency
- Regional Currency
- Reporting Currency

Each currency type must be mapped to a currency and the reports can then be viewed in the corresponding currency. Using the exchange rate prevailing at the time the data is loaded, the conversion from the reporting currency (which is the default currency type) to another currency is done. The selection of the currency in which reports are to be viewed is done through dashboard prompts.

8 Fact Ledger Population

Fact Ledger population involves populating the FCT_LEDGER_STAT table from the FSI_D_MANAGEMENT_LEDGER table.

The FSI_D_MANAGEMENT_LEDGER table is optimized for processing purposes but is not a convenient structure for reporting purposes. In generating FACT_LEDGER_STAT, time from LEDGER_STAT is transformed into an explicit dimension in FACT_LEDGER_STAT.

Fact Ledger Population transformation is used to populate the FCT_LEDGER_STAT table from the Profitability FSI_D_MANAGEMENT_LEDGER table. The horizontally structured MONTH and YTD columns in the Management Ledger table are transposed to a vertical structure. The twelve Month Columns in FSI_D_MANAGEMENT_LEDGER are replaced by a single N_AS_OF_DATE_SKEY column in FCT_LEDGER_STAT with each month value stored in N_VALUE column.

Similarly, the YTD column value is stored in N_VALUE_YTD. This is done to make reporting easier, considering Time is a dimension in most of the reports.

The database components, used by the Fact Ledger Population transformations are:

- Database function FSI_LEDGER_STAT_TRM
- Database function LEDGER_STAT_TRM which is called by the function FSI_LEDGER_STAT_TRM as mentioned earlier.

Topics:

- Prerequisites
- Tables Used by the Fact Ledger Population Transformation
- Map New Dimensions
- Executing the Fact Ledger Population Transformation
- Checking the Execution Status
- Optional Load from Ledger Class Entities for Fact Ledger Population
- Identity Codes Used in Financial Reporting

8.1 Prerequisites

The following are the prerequisites for Fact Ledger Population Transformation:

- All the post-installation steps mentioned in the Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide and the Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide (only if OFS PFT is installed) must be completed.
- Application User must be mapped to a role that has a seeded batch execution function (BATPRO).
- Ensure that your FISCAL year information is configured properly. It has the following two columns.
    - **FISCAL_PERIOD**: This gives the number of months in the given FISCAL period

  - **START_MONTH**: This indicates which month of the calendar year is the FISCAL starting month. For example, a value '1' for this column means FISCAL year starts from January, and the value of '4' indicates that the FISCAL year starts from April.

- Before executing a batch, check if the following services are running on the application server.
  - Iccserver
  - Router
  - AM Server
  - Messageserver
  - Olapdataserver

> **NOTE** For more information on how to check if the services are up and on, and how to start the services if you find them not running, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

Batches must be created for executing the function. For more information, see Appendix D: Define a Batch.

8.2 Tables Used by the Fact Ledger Population Transformation

The Fact Ledger Population Transformation uses the following tables:

- **FSI_FISCAL_YEAR_INFO**: This table has the FISCAL year info. The entries required in this table are mentioned in the Prerequisites.
- **FSI_BI_SETUP_TABLE**: This table has the setup information used by the Transformation. They are:
  - **TARGET_TABLE_NAME**: This is the destination table name for transformation.
  - **TARGET_COLUMN_NAME**: This is the Destination column name in the `FCT_LEDGER_STAT` table.
  - **MEMBER_COL_NAME**: This is the column Name in the `FSI_D_MANAGEMENT_LEDGER` table.
  - **SOURCE_DIM_TABLE_NAME**: This is the dimension table to which the Ledger data has to be joined to get the surrogate key value.
  - **SOURCE_COLUMN_NAME**: This is the column in the dimension table to which the `LEDGER STAT ID` column is joined.
  - **SKEY_COLUMN_NAME**: This is the column in the dimension table which has the surrogate key value.
  - **JOIN_REQUIRED**: This provides the information, whether the column to be moved to `FCT_LEDGER_STAT` is directly available in `FSI_D_MANAGEMENT_LEDGER` or a join has to be taken with dimension table to get the skey.

- **FSI_D_MANAGEMENT_LEDGER**: This table is the source for the transformation.
- **DIM_<dimension Name>**: The flattened dimension tables used in Business Intelligence (BI) reporting are accessed to obtain the surrogate key to be populated to FCT_LEDGER_STAT dimension columns.

  For example, DIM_ORG_UNIT, DIM_PRODUCT, and so on.
- **FCT_LEDGER_STAT**: This is the output table for the transformation.

For more details on viewing the structure of these tables, see Oracle Financial Services Analytical Applications Data Model Data Dictionary or the OFS EFPA Erwin Data Model.

8.2.1 Map New Dimensions

For user-defined dimensions, a manual update to the DIM_<DIMENSION>_V is required. To update manually, follow these steps:

1. Backup the current DIM_<CUSTOM_DIM>_V.
2. Update the following line of the view:

   ```
   INNER JOIN DIM_<CUSTOM_DIM>_TL D ON
   D.<CUSTOM_DIM_ID>=A.<CUSTOM_DIM_ID> AND

   A.<CUSTOM_DIM_ID> not in (-1,0)
   ```

   With the following:

   ```
   INNER JOIN DIM_<CUSTOM_DIM>_TL D ON
   D.<CUSTOM_DIM_ID>=A.<CUSTOM_DIM_ID> AND

   A.<CUSTOM_DIM_ID> not in (-1,0)and D.LANGUAGE =
   A.DEFINITION_LANGUAGE
   ```

   The change required is to add the additional language condition**** AND D.LANGUAGE = A.DEFINITION_LANGUAGE ****."

The Custom Dimensions can be added to the target table, FCT_LEDGER_STAT by updating the configuration table FSI_BI_SETUP_TABLE. DIM_LOB and Dim_Org_Structure can be loaded manually or by using the AMHM tables and batch.

NOTE All nodes in the FCT_LEDGER_STAT table must be part of the respective hierarchies for which the SCDs run. Otherwise, the cube will fail.

8.2.2 Hierarchy Configuration for LOB and Legal Entity

- **DIM_LOB**: The hierarchy to be built for LOB (Line of Business) is a level-based hierarchy. All leaf nodes of this hierarchy are mapped to a single root. The branch navigation of the hierarchy starts from the root node which is the Level 1 column of the DIM_LOB table. The Leaf node has to be placed at the appropriate column between Level 1 and Level 16 of the DIM_LOB table. This step is required only if the reports are working out of ESSBASE cubes.

- **DIM_ORG_STRUCTURE**: The hierarchy to be built for the `DIM_ORG_STRUCTURE` is a parent-child hierarchy. The parent node of the root has to be kept blank in the `V_PARENT_CODE` column. The hierarchy can then be built appropriately by putting a child node - parent node combination in the `V_ENTITY_CODE` and `V_PARENT_CODE` columns of the `DIM_ORG_STRUCTURE` table. This metadata setup supports only one hierarchy for Legal Entity.

The new data transformation `FN_ORG_PARENT_CHILD` has to be re-executed with respect to any change in the `DIM_ORG_STRUCTURE` table. This process loads the `ORG_STR_PARENT_CHILD_RELATION` table data, which is sourced from the `DIM_ORG_STRUCTURE` table.

8.3 Execute the Fact Ledger Population Transformation

You can execute the function from the Operations (formerly Information Command Center (ICC) framework) module of OFSAAI.

This component for OFS EFPA is seeded with the following Processes `PR_LEDGER_STAT` and `PR_MGMT_REPORTING`, which can be executed from the Run Rule Framework section of OFSAAI. In the Parameter List, include pstart_month, pend_month, pyears, pidentity_code, psource_type, pre_run_flg, and prcy. For example, 1,12,1994,'','','Y','USD'.

You can also define a new Batch and an underlying Task definition from the Batch Maintenance window of OFSAAI. For more information on defining a new Batch, see Appendix D: Define a Batch.

To define a new task for a Batch definition, follow these steps:

1. Select the check box adjacent to the newly created Batch Name in the Batch Maintenance window.
2. Click the **Add** icon (+) from the Task Details grid.

   The Task Definition window is displayed.
3. Enter the **Task ID** and **Description**.
4. Select **Run Executable** component from the drop-down list.
5. Select the following from the Dynamic Parameters list:
   - **Datastore Type**: Select the appropriate datastore type from the list.
   - **Datastore Name**: Select the appropriate datastore name from the list.
   - **IP address**: Select the IP address from the list.
   - **Rule Name**: Select `FSI_LEDGER_STAT_TRM` from the drop-down list of available transformations. (This is a seeded Data Transformation which is installed as part of the OFS EFPA application installer. If you don't see this in the list, contact Oracle support).
   - **Parameter List**: Enter `pStart_Month`, `pEnd_Month`, `pYears`, `pIdentity_Code`, `pSource_Type`, `pRe_Run_Flg`, and `pRCY`.
   - **pStart_Month**: This parameter indicates the starting Month.
   - **pEnd_Month**: This parameter indicates the ending Month.
   - **pYears**: This is a mandatory parameter that indicates the Year value.
   - **pIdentity_Code**: This is an optional parameter that indicates the Identity Code.

This is the identity code in the OFS PFT's `FSI_D_MANAGEMENT_LEDGER` table. The value '0' in this field indicates, only the rows in `FSI_D_MANAGEMENT_LEDGER` with source code '0' should get processed. Source code '0' indicates rows in `FSI_D_MANAGEMENT_LEDGER` loaded by the ledger load program. This results in the movement of rows loaded by ledger load program to `FCT_LEDGER_STAT` in OFS EFPA application. Similarly, any particular allocation output values can be moved by filtering on the identity code.

- **pSource_Type**: This is an optional parameter that indicates the Source Type.

  Source Type indicates which process populated a row in `FSI_D_MANAGEMENT_LEDGER` of Profitability Management application. For example, '0' indicates it was loaded by the Ledger Load program and '100' indicates the allocation rule populated it, and so on.

- **pRe_Run_Flg**: This is an optional parameter that indicates the Re-run Flag. If the value is 'Y', the existing data in the fact table will be removed and reloaded.
- **pRCY**: This indicates the reporting currency with Default Value 'USD'.

6. Click **Save**.

   The Task definition is saved for the selected Batch.

7. Execute the Batch.

   You can execute a Batch definition from the Batch Execution section of the OFSAAI Operations module.

   Ledger Stat Transformation can also be directly executed on the database through SQLPLUS.

   Details are:

   - **Function Name**: `FSI_LEDGER_STAT_TRM`
   - **Parameters** : pBatch_Id, pAs_of_date, pStart_Month, pEnd_Month, pYears, pIdentity_Code, pSource_Type, pRe_Run_Flg, and prcy.

   Sample parameter values are 'Batch1', '20091231', 1, 8, 2009, 0, 0, 'Y', and 'GBP' respectively.

8.4 Check the Execution Status

The Batch execution status can be monitored through the Batch Monitor section of the OFSAAI Operations module.

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can also be accessed on the application server in the directory `$FIC_DB_HOME/log/date`, where the file name will have the Batch Execution ID.

You can access the database level operations log by querying the `FSI_MESSAGE_LOG` table. Filter the Batch Run ID column for identifying the relevant log.

TIP Check the `.profile` file in the installation home if you are unable to find this path.

8.5 Optional Load from Ledger Class Entities for Fact Ledger Population

Process Name: `PR_LEDGER_STAT`

Task1: Loads data from `FSI_D_MANAGEMENT_LEDGER` to `FCT_LEDGER_STAT`

Parameter to be configured: [DRCY]=To_Currency_Code

Example:

[DRCY]=USD

Data will be loaded for the data selected while running the batch.

8.6 Identity Codes Used in Financial Reporting

Financial Reporting reports are used to show the custom-built GL hierarchy. This GL hierarchy is treated as a Reporting LIne dimension in Financial Reporting (FR) Dashboard pages. The idea of reports in FR is to show the unallocated data that has been downloaded from the source system and rule out the allocated data records. To filter out the unallocated data, a `SETUP_MASTER` configuration table entry is required with the `V_COMPONENT_DESC` column value as `IDENTITY_CODE_PFTBI_FR_UNALLOCATED_DATA`. The other two columns of `SETUP_MASTER` can be populated as:

- `V_COMPONENT_CODE`: Identity Code corresponding to unallocated data.
- `V_COMPONENT_VALUE`: Identity Code corresponding to unallocated data.

See the `FSI_DATA_IDENTITY` table to find out the IDENTITY CODES. Generally, source_type = 0 highlights the records that are unallocated.

9 Fact Management Reporting Population from FSI_D_MANAGEMENT_LEDGER Table

Fact Management Reporting Population involves populating the `FCT_MGMT_REPORTING` table from the `FSI_D_MANAGEMENT_LEDGER` table.

This transformation populates the `FCT_MGMT_REPORTING` table from `FSI_D_MANAGEMENT_LEDGER`.

The database components used by the Fact Management Reporting transformation are:

- Database function `FN_MGMT_REP_MGMT_LEDGER_TRM`
- Database function `MGMT_REPORTING_MGMT_LEDGER_TRM`, which is called by the function `FN_MGMT_REP_MGMT_LEDGER_TRM` mentioned above.
- Database functions `MGMT_REPORTING_MGMT_LEDGER_TRM` and `FN_MGMT_REP_MGMT_LEDGER_TRM` allow you to specify source table name. This will allow the procedure to run multiple times to load various management Ledger sources into a single FCT table for reporting

Topics:

- Prerequisites
- Tables Used by the Fact Management Reporting Transformation
- Map New Dimensions
- Executing the Fact Management Reporting Transformation
- Checking the Execution Status

9.1 Prerequisites

The following are the prerequisites for Fact Management Reporting Transformation:

- All the post-installation steps mentioned in the Oracle Financial Services Analytical Applications Infrastructure Installation and Configuration Guide and the Oracle Financial Services Profitability Management Applications Pack Installation and Configuration Guide (only if OFS PFT is installed) must be completed.
- Application User must be mapped to a role that has a seeded batch execution function (BATPRO).
- Ensure that your FISCAL year information is configured properly. It has the following two columns:
  - **FISCAL_PERIOD**: This gives the number of months in the given FISCAL period.
  - **START_MONTH**: This indicates which month of the calendar year is the FISCAL starting month. For example, a value '1' for this column means FISCAL year starts from January, and the value of '4' indicates that the FISCAL year starts from April.
- Before executing a batch, check if the following services are running on the application server:
  - Iccserver
  - Router

- AM Server
- Messageserver
- Olapdataserver

> **NOTE** For more information on how to check if the services are up and on, and how to start the services if you find them not running, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

The following seeded Process should be available for execution: PR_MGMT_REPORTING.

9.2 Tables Used by the Fact Management Reporting Transformation

The Fact Management Reporting Transformation uses the following tables:

- **FSI_FISCAL_YEAR_INFO**: This table has the FISCAL year info. The entries required in this table are mentioned in the Prerequisites section.
- **FSI_BI_SETUP_TABLE:** This table has the setup information used by the Fact Management Reporting Transformation. They are:
  - **TARGET_TABLE_NAME**: This is the destination table name for transformation.
  - **TARGET_COLUMN_NAME**: This is the Destination column name in the FCT_MGMT_REPORTING table.
  - **MEMBER_COL_NAME**: This is the column Name in source tables.
  - **SOURCE_DIM_TABLE_NAME**: This is the table to which the Ledger data has to be joined to get the surrogate key value.
  - **SOURCE_COLUMN_NAME**: This is the column in the dimension table
  - **SKEY_COLUMN_NAME**: This is the column in the dimension table which has the surrogate key value.
  - **JOIN_REQUIRED**: This provides the information, whether the column to be moved to the FCT_MGMT_REPORTING table is directly available in the FSI_D_MANAGEMENT_LEDGER table or a join has to be taken with the dimension table to get the skey.
  - **GROUP_BY_REQUIRED**: The group by is used to find the unique records of fsi_d_management_ledger for which the key column should exist as part of the target table's primary key.
  - **FSI_D_MANAGEMENT_LEDGER**: This table is the source for the transformation.
  - **DIM_<dimension Name>**: The flattened dimension tables used in Business Intelligence (BI) reporting are accessed to obtain the surrogate key to be populated to FCT_MGMT_REPORTING dimension columns.

  For example, DIM_ORG_UNIT, DIM_PRODUCT, and so on.

- **FCT_MGMT_REPORTING**: This is the output table for the transformation

For more details on viewing the structure of these tables, see Oracle Financial Services Analytical Applications Data Model Data Dictionary or the OFS EFPA Erwin Data Model.

9.3 Map New Dimensions

The dimensions which you can customize during OFS EFPA implementation are known as Custom Dimensions. Custom Dimensions can be added to the target `FCT_MGMT_REPORTING` table by updating the configuration table `FSI_BI_SETUP_TABLE`, `DIM_LOB`, and `DIM_ORG_STRUCTURE` are two Custom Dimension tables, for which the dimension data has to be entered manually during implementation.

> **NOTE** All nodes in the `FCT_MGMT_REPORTING` table must be part of the respective hierarchies for which the SCDs run. Otherwise, the cube will fail.

9.4 Executing the Fact Management Reporting Transformation

You can execute the Fact Management Reporting Transformation function from the Operations module of OFSAAI.

This component is seeded with the Processes `PR_LEDGER_STAT` and `PR_MGMT_REPORTING`, which can be executed from the Run Rule Framework of OFSAAI. In the Parameter List, include `pstart_month`, `pend_month`, `pyears`, `prcy`, `pre_run_flg`, and `pTable_name`. A detailed description of each parameter is provided under point 5 below.

For example: `1, 8, 2018, 'USD', 'Y', 'FSI_D_MANAGEMENT_LEDGER'`

You can also define a new Batch and an underlying Task definition from the Batch Maintenance of OFSAAI. For more information on defining a new Batch, see Appendix D: Define a Batch.

To define a new task for a Batch definition, follow these steps:

1. Select the check box adjacent to the newly created Batch Name in the Batch Maintenance window.
2. Click the **Add** icon (+) from the Task Details grid.

   The Task Definition window is displayed.
3. Enter the **Task ID** and **Description**.
4. Select the **Run Executable** component from the drop-down list.
5. Select the following from the Dynamic Parameters the drop-down list:
   - **Datastore Type**: Select the appropriate datastore type from the drop-down list.
   - **Datastore Name**: Select the appropriate datastore name from the drop-down list.
   - **IP address**: Select the IP address from the drop-down list.

- **Rule Name**: Select `FCT_MGMT_TRANSFORMATION` from the drop-down list of available transformations. (This is a seeded Data Transformation which is installed as part of the OFS EFPA application installer. If you don't see this in the list, contact Oracle Support).
- **Parameter List**: Enter `pstart_month`, `pend_month`, `pyears`, `prcy`, `pre_run_flg`, and `pTable_name`
- **pStart_Month**: This parameter indicates the starting Month.
- **pEnd_Month**: This parameter indicates the ending Month.
- **pYears**: This is a mandatory parameter that indicates the Year value.
- **prcy**: This indicates the reporting currency with default value 'USD'.
- **pRe_Run_Flg**: This is an optional parameter that indicates the Re-run Flag. If the value is 'Y', the existing data in the fact table will be removed and reloaded.
- **pTable_name**: This is a mandatory parameter that takes the source table `'FSI_D_MANAGEMENT_LEDGER'` as a value.

6. Click **Save**.

   The Task definition is saved for the selected Batch.

7. Execute the Batch.

   You can execute a Batch definition from the Batch Execution section of the OFSAAI Operations module. Fact Management Reporting Transformation can also be directly executed on the database through SQLPLUS. Details are:

   - Function Name: `fn_mgmt_rep_mgmt_ledger_trm`
   - Parameters: `pBatch_Id, pAs_of_date, pStart_Month, pEnd_Month, pYears, pRCY, pRe_Run_Flg and pTable_name`

     Sample Parameter Values are 'Batch1', '20091231', 1, 8, 2009, 'USD', 'Y' and 'FSI_D_MANAGEMENT_LEDGER' respectively.

This transformation deletes only the management ledger data which was loaded earlier for the same reporting date, keeping any other data intact in the table `FCT_MGMT_REPORTING`.

9.5 Checking the Execution Status

The Batch execution status can be monitored through the Batch Monitor section of the OFSAAI Operations module.

The status messages in the batch monitor are:

- N: Not Started
- O: On Going
- F: Failure
- S: Success

The execution log can also be accessed on the application server in the directory `$FIC_DB_HOME/log/date`, where the file name will have the Batch Execution ID.

You can access the database level operations log by querying the `FSI_MESSAGE_LOG` table. Filter the Batch Run ID column for identifying the relevant log.

You can access the SQL queries fired as part of this transformation in the `FSI_SQL_LOG` table.

10 What-If Analysis

The What-If Analysis report enables the user to account for the change in profitability owing to any probable changes in the projected components of profitability. The probable change can be defined by the user and is termed as 'Variation'. The user could define the parameters to which variation is being applied and the magnitude of variation. The net effect on profitability as a result of these variations can be applied.

The effect of variations on profitability can be analyzed at differing levels of granularity like enterprise, LOB, Product, Customer, and Account. This selection is enabled to the user through dashboard prompt selections. The projected data of income statement is available at an account level. Aggregations are done based on the desired level of granularity. The projections are created based on historical data of the account.

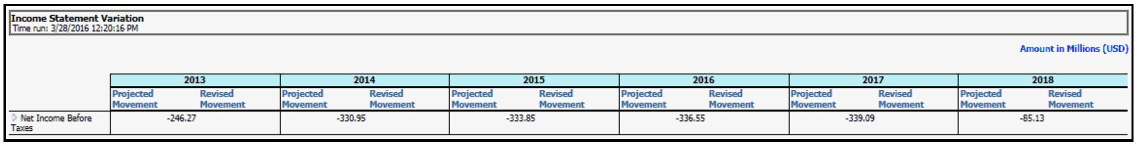
Users could define the variations through the UI, which when imposed on the income statement provide the resulting net income. The resulting income statement post applying the variations is called as a 'Scenario'. The projections are by default created for five years, but the change in projection may not necessarily be applied for the entire 5 years. The tenure for which the specified variation is applicable can also be defined while specifying the variation. The magnitude of variation being applied can be specified either in 'percentage' or 'absolute'. If the variation is specified as a percentage then the value of the component to which variation is being applied changes by the corresponding percentage value for the specified time. Similarly, when the variation is applied in absolute terms the value of the component to which variation is being applied changes by the corresponding absolute value for the specified time.

Certain users should have the authority to save a scenario which can later be accessed by other users for reference. The variations once applied can be applied on the income statement by either of the following two methods:

- **Basic**: The variations that are applied get simply aggregated with the modified values of components to show the resulting net income. The basic version supports variations to be applied to multiple parameters at the same time.
- **Advanced**: The variations that are applied also affect the other components it is correlated to and the modified values of all such parameters get aggregated to show the resulting net income. In the Advanced version, variation can be applied to only a single component at a time.

The scenarios that are thus created can be used to analyze the outcome on the profitability of any probable change in the future. Certain users should have the authority to save a scenario which can later be accessed by other users for reference. It is also possible to create a scenario on an existing scenario by applying variations to the components of the income statement in the scenario.

Figure 8: Income Statement Variation



Income Statement Variation
Time run: 3/28/2016 12:20:16 PM

Amount in Millions (USD)

	2013		2014		2015		2016		2017		2018	
	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement
Net Income Before Taxes	-246.27		-330.95		-333.85		-336.55		-339.09		-85.13	

The following input parameters are applicable for OFS EFPA:

Table 15: What-If Input Parameters

V_PARAMETER_NAME	V_PARAMETER_VALUE
VAR_STRT_DT_EFPA	This input parameter indicates the start date for the variance calculation.
VAR_END_DT_EFPA	This input parameter indicates the end date for the variance calculation.
TSHLD_FCTR_EFPA	This input parameter indicates the threshold factor for replines.
EXCL_LMT_EFPA	This input parameter indicates the maximum outlier exclusion percentage.

NOTE There is a limitation on the graph. Default upper limit for the graph will be based on underlying data in a fact table. Variations applied above the normal can be applied using the grid. If the user wants to apply variation beyond the upper limit shown in the graph, it is not possible through the graph and hence, it should be applied through the grid.

The same applies to Negative Values. The graph does not allow applying negative variations. That is, the graph nodes cannot be dragged below the X-Axis. This change needs to be done using the grid mode.

Topics:

- Configuration for What-If Analysis
- OFS EFPA Integration with OFS Price Creation and Discovery (OFS PCD)
- Reporting Line Correlation Calculations
- What-If Analysis Limitation

10.1 Configuration for What-If Analysis

The configure What-If Analysis, follow these steps:

1. Configure the connection to the What-If Variation application page in OFSAAI in the Create Scenario Analysis.

   OFSAAI is Oracle Financial Services proprietary tool, which uses Java to enable users to apply variations on the projected data.

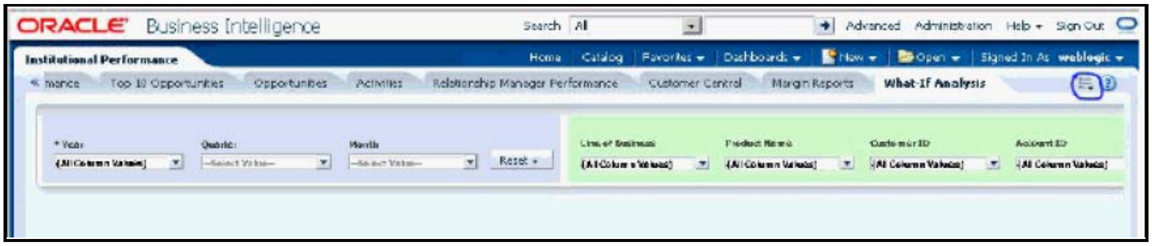
   For example: Assume that the OFSAA hostname is bank_host and the OBIEE analytics port is 8080, then the OBIEE analytics access URL would be: `http://bank_host:8080/PFT81`.

   To configure the What-If analysis framework, follow these steps:

   a. Navigate to What-If Analysis Dashboard Page in the Dashboard - Institutional Performance for OFSIPA, Retail Performance for OFSRPA, and Income Statement for EFPA.

b. Edit the **Dashboard Page**.

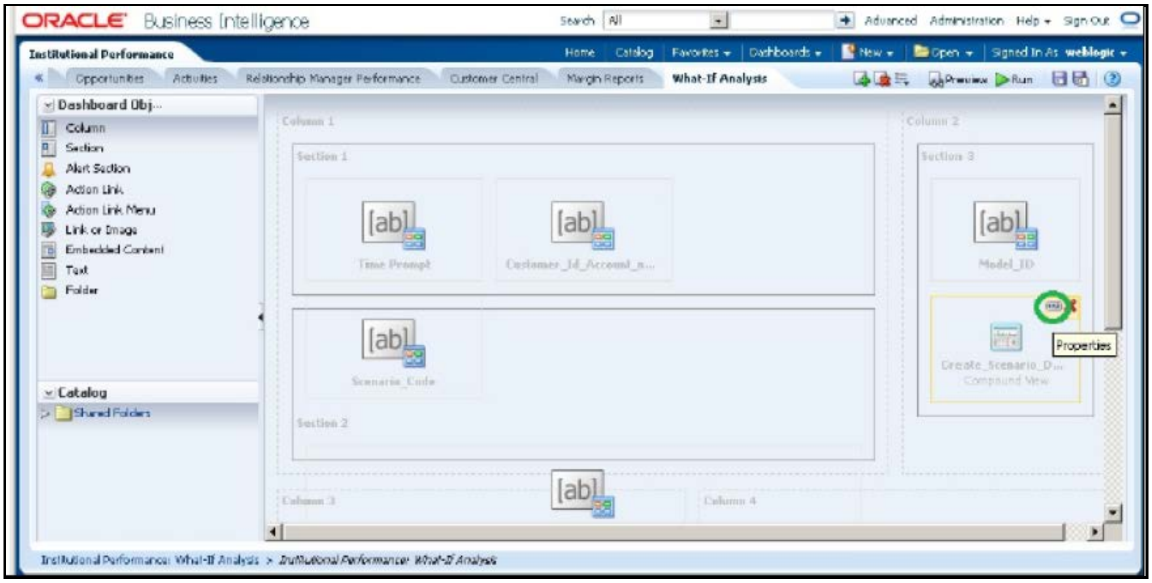
Figure 9: Business Intelligence


ORACLE Business Intelligence
Search All
Advanced Administration Help Sign Out
Institutional Performance
Home Catalog Favorites Dashboards New Open Signed In As weblogic
mance Top 10 Opportunities Opportunities Activities Relationship Manager Performance Customer Central Margin Reports What-If Analysis
* Year
Quarter
Month
(All Column Values)
--Select Value--
--Select Value--
Reset
Line of Business
Product Name
Customer ID
Account ID
(All Column Values)
(All Column Values)
(All Column Values)
(All Column Values)

c. Edit the analysis **Create Scenario**.

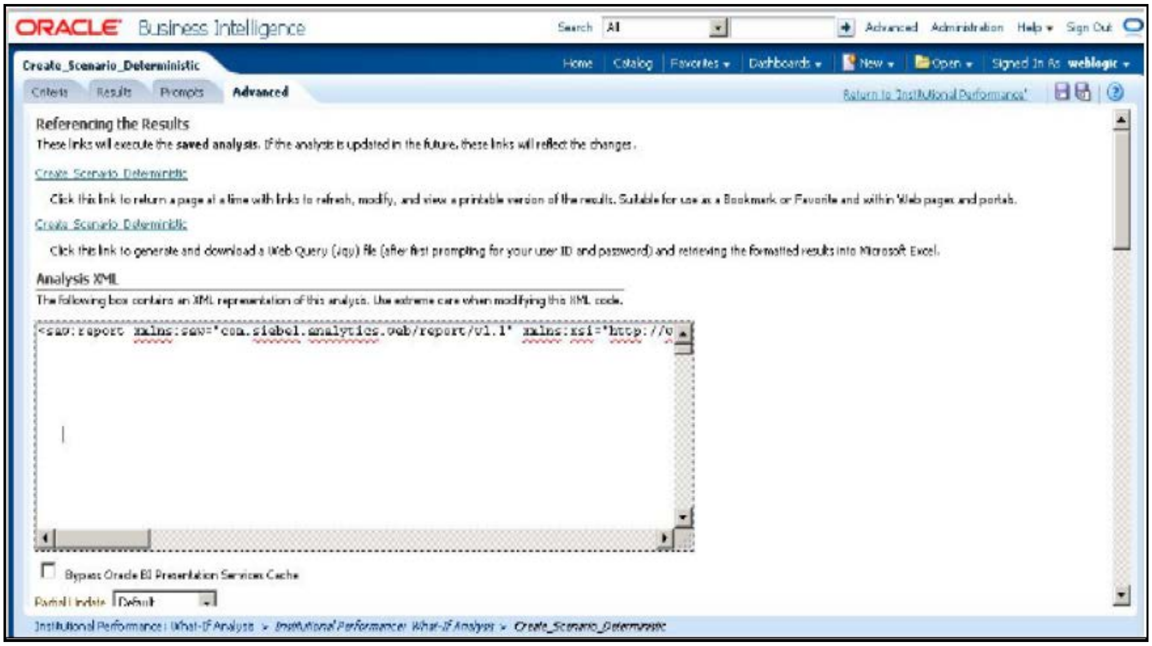
> **NOTE** The OBIEE users mapped to the role of BI Author or higher will be able to configure the What-If Analysis framework.

Figure 10: Business Intelligence - What-If Tab


ORACLE Business Intelligence
Search All
Advanced Administration Help Sign Out
Institutional Performance
Home Catalog Favorites Dashboards New Open Signed In As weblogic
Opportunities Activities Relationship Manager Performance Customer Central Margin Reports What-If Analysis
Preview Run
Dashboard Obj...
Column
Section
Alert Section
Action Link
Action Link Menu
Link or Image
Embedded Content
Text
Folder
Catalog
Shared Folders
Column 1
Section 1
Time Prompt
Customer_Id_Account_n...
Scenario_Code
Section 2
Column 2
Section 3
Model_ID
Properties
Create_Scenario_D...
Compound View
Column 3
Column 4
Institutional Performance: What-If Analysis > Institutional Performance: What-If Analysis

d. Navigate to the **Advanced XML** section and edit the contents of the **Analysis XML**.

Figure 11: Create Scenario - Advanced Search



Referencing the Results

These links will execute the **saved analysis**. If the analysis is updated in the future, these links will reflect the changes.

Create Scenario Deterministic

Click this link to return a page at a time with links to refresh, modify, and view a printable version of the results. Suitable for use as a Bookmark or Favorite and within Web pages and portals.

Create Scenario Deterministic

Click this link to generate and download a Web Query (.iqy) file (after first prompting for your user ID and password) and retrieving the formatted results into Microsoft Excel.

Analysis XML

The following box contains an XML representation of this analysis. Use extreme care when modifying this XML code.

```
<saw:report xmlns:saw="com.siebel.analytics.web/report/v1.1" xmlns:xsi="http://w
```

☐ Bypass Oracle BI Presentation Services Cache

Partial Update: Default

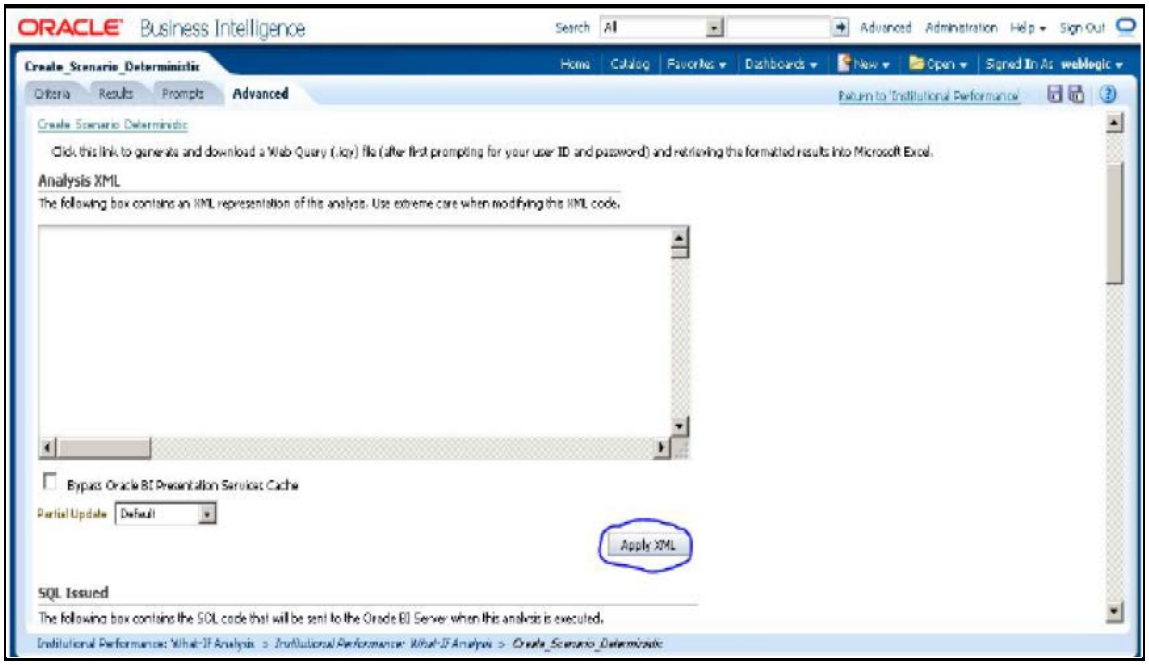
Institutional Performance: What-If Analysis > Institutional Performance: What-If Analysis > Create_Scenario_Deterministic

e. Replace all occurrences as follows:

- `##ofsaa_hostname##` with the OFSAAI user hostname (For example: bank_host)
- `##ofsaa_port##` with the OFSAAI servlet port (For example: 8080)
- `##ofsaa_context##` with the context of the OFSAAI instance (For example: PFT81).

f. Click **Apply XML**. Save the analysis after the occurrences of placeholders have been replaced and the XML contents have been pasted.

Figure 12: Create Scenario Definition - Analysis XML



Create Scenario Deterministic

Click this link to generate and download a Web Query (.iqy) file (after first prompting for your user ID and password) and retrieving the formatted results into Microsoft Excel.

Analysis XML

The following box contains an XML representation of this analysis. Use extreme care when modifying this XML code.

☐ Bypass Oracle BI Presentation Services Cache

Partial Update: Default

SQL Issued

The following box contains the SQL code that will be sent to the Oracle BI Server when this analysis is executed.

Institutional Performance: What-If Analysis > Institutional Performance: What-If Analysis > Create_Scenario_Deterministic

2. Configure the **OBIEE URL** in the **What-If Model Definition** setup tables to navigate between the OFSAAI and OBIEE screens.

   Example:

   Assume that the user hostname is bank_host and the OBIEE analytics port is 7001, then the OBIEE analytics access URL would be `http://bank_host:7001/analytics`.

   To configure the details on the What-If analysis framework, the user needs to execute the following update on the atomic schema:

   ```
   update fsi_m_wif_model_defn set output_page =

   replace(replace(output_page,'##hostname##', 'bank_host' ),
   '##port##','7001')

      /

      Commit

      /
   ```

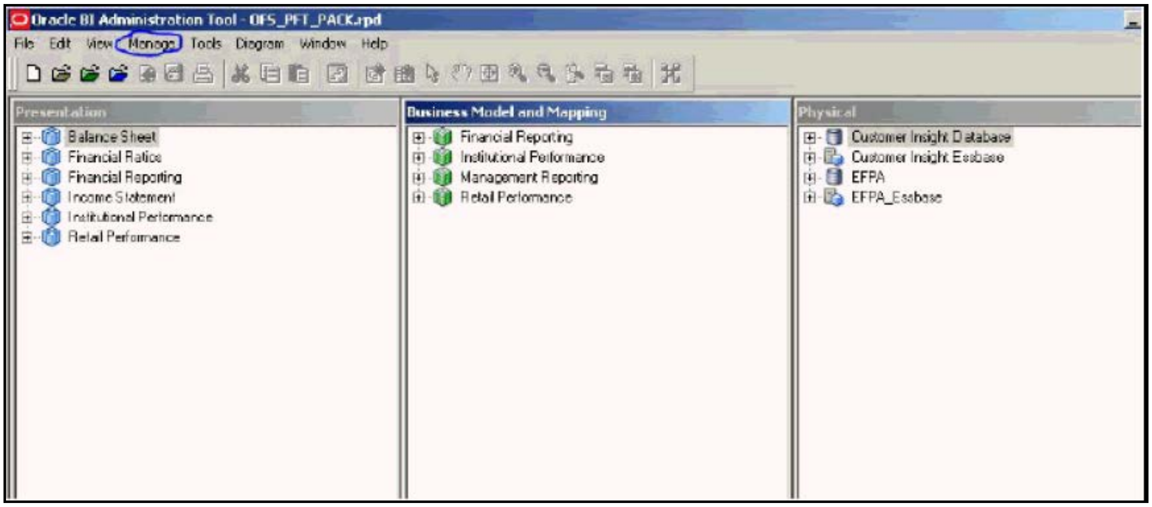
   Where the hostname and port replaced would be the user's corresponding hostname and port instead of the examples mentioned.

3. Configure the What-If Admin Role in RPD to configure security roles to restrict Scenario Creation.

   If a user is not mapped to the role of a What-If Analysis administrator, the user will only have access to Display Results. The results of this operation will not be persisted beyond one session per user.

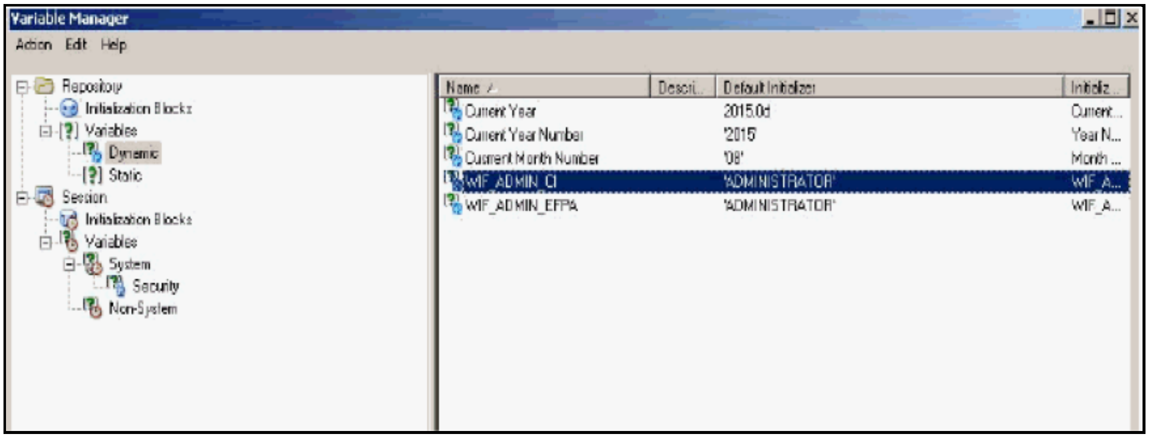
   - Open the **OFS_PFT_PACK RPD** and navigate to the **Variable Definition** Screen.

Figure 13: Oracle BI Administration Tool



   - Modify the WIF_ADMIN_CI Repository Dynamic Variable.

Figure 14: Variable Manager

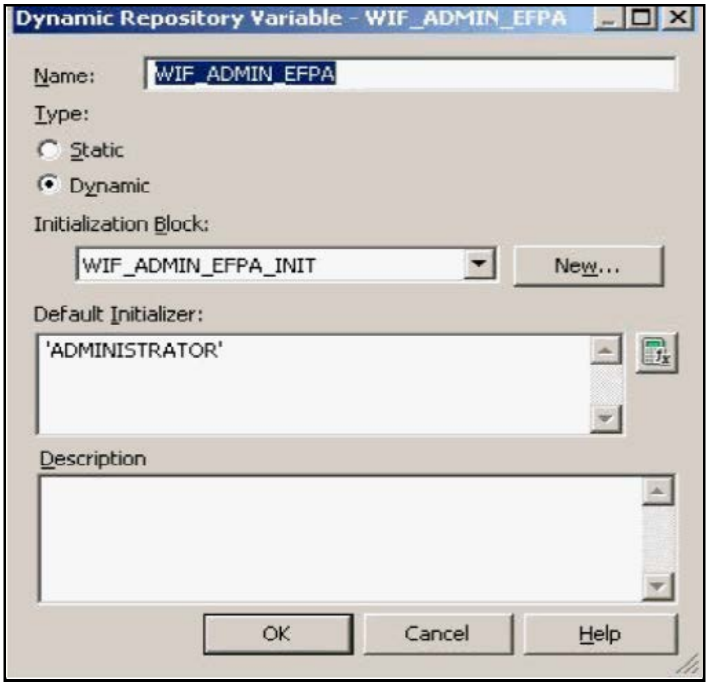


Name	Descri...	Default Initializer	Initializ...
Current Year		2015.0d	Current...
Current Year Number		'2015'	Year N...
Current Month Number		'08'	Month ...
WIF_ADMIN_CI		'ADMINISTRATOR'	WIF_A...
WIF_ADMIN_EFPA		'ADMINISTRATOR'	WIF_A...

- Edit the default initializer to enter the desired What-If Administrator role.

NOTE The user mapped to the role of Administrator has the privilege to create and save a scenario. Users who are not mapped to the role of Administrator will only be able to create a scenario, but not save it.

Figure 15: Dynamic Repository Variable



Name: WIF_ADMIN_EFPA

Type:

○ Static

● Dynamic

Initialization Block: WIF_ADMIN_EFPA_INIT

Default Initializer: 'ADMINISTRATOR'

Description

If the webserver is Tomcat of version >= 8.0.18, the following additional configuration needs to be done to avoid performance issues while performing What-If Analysis.

a. Add the following tags in the server.xml file under tomcat_folder/conf/:

Insert the following tag in the Context tag as the first nested tag:

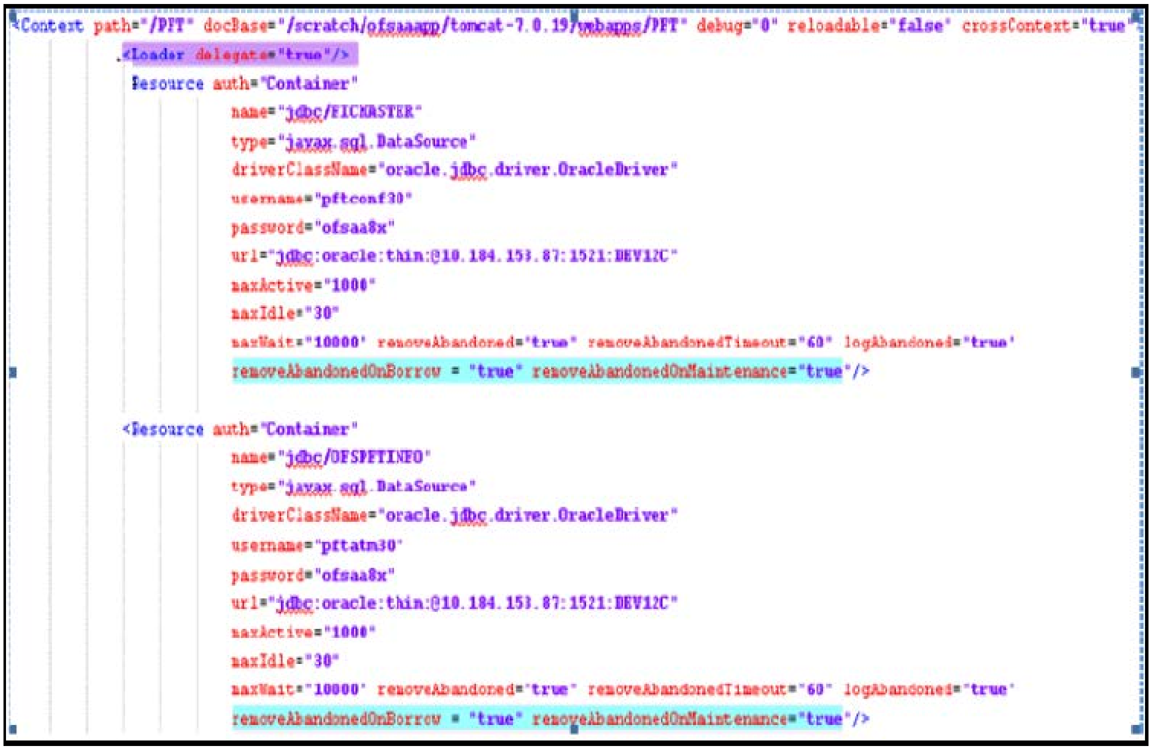
```
<Loader delegate="true"/>
```

b. Insert the following attributes for all the Resource tags in the Context tag:

```
removeAbandonedOnBorrow = "true"
removeAbandonedOnMaintenance = "true"
```

Example:

Figure 16: server.xml File



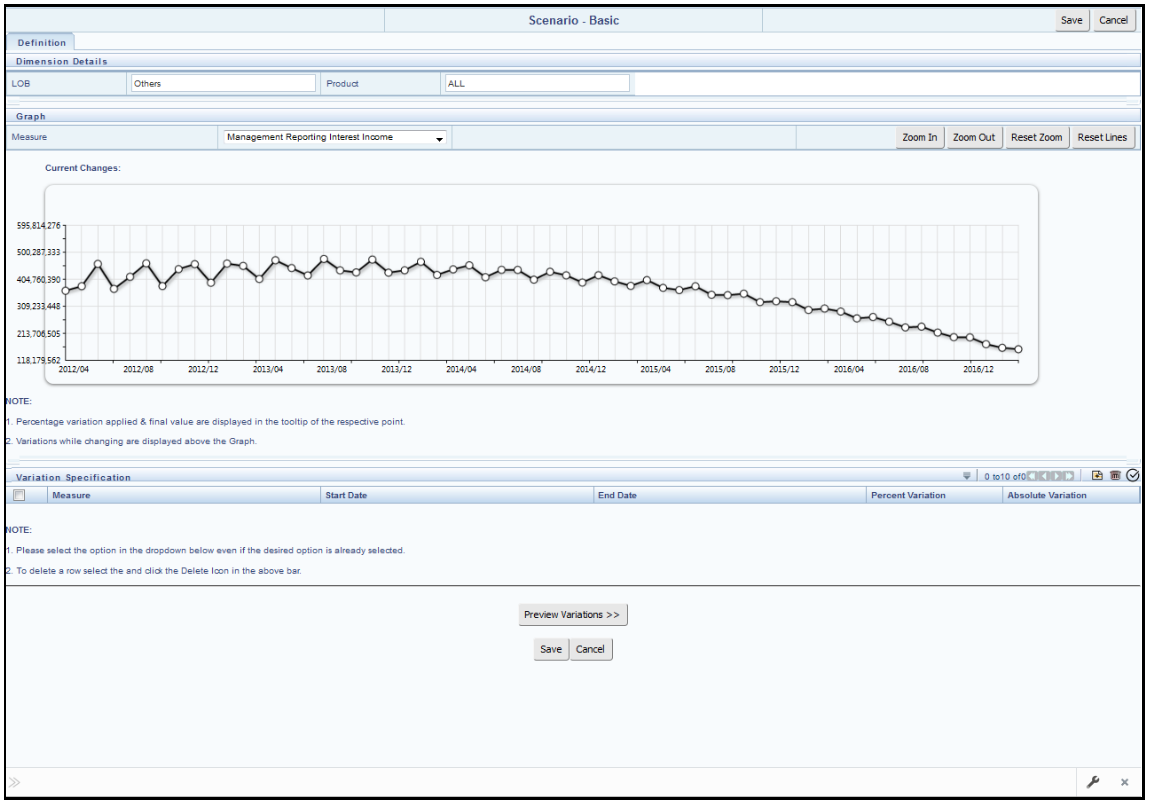
```
<Context path="/PFT" docBase="/scratch/ofsaaapp/tomcat-7.0.19/webapps/PFT" debug="0" reloadable="false" crossContext="true">
        <Loader delegate="true"/>
        <Resource auth="Container"
                name="jdbc/FICMASTER"
                type="javax.sql.DataSource"
                driverClassName="oracle.jdbc.driver.OracleDriver"
                username="pftconf30"
                password="ofsaa8x"
                url="jdbc:oracle:thin:@10.184.153.87:1521:DEV12C"
                maxActive="1000"
                maxIdle="30"
                maxWait="10000" removeAbandoned="true" removeAbandonedTimeout="60" logAbandoned="true"
                removeAbandonedOnBorrow = "true" removeAbandonedOnMaintenance="true"/>

        <Resource auth="Container"
                name="jdbc/OFSPFTINFO"
                type="javax.sql.DataSource"
                driverClassName="oracle.jdbc.driver.OracleDriver"
                username="pftatm30"
                password="ofsaa8x"
                url="jdbc:oracle:thin:@10.184.153.87:1521:DEV12C"
                maxActive="1000"
                maxIdle="30"
                maxWait="10000" removeAbandoned="true" removeAbandonedTimeout="60" logAbandoned="true"
                removeAbandonedOnBorrow = "true" removeAbandonedOnMaintenance="true"/>
```

10.1.1 Basic Scenario

To create a variation, follow these steps:

1. Navigate to the **OBIEE Dashboard** page of **What-If Analysis**.
2. Click **Create Scenario** after selecting the relevant dimensions to display the **Scenario - Basic** screen.

Figure 17: Basic Scenario



Scenario - Basic

Definition

Dimension Details

LOB	Others	Product	ALL

Graph

Measure: Management Reporting Interest Income

Current Changes:

NOTE:

1. Percentage variation applied & final value are displayed in the tooltip of the respective point.
2. Variations while changing are displayed above the Graph.

Variation Specification

☐	Measure	Start Date	End Date	Percent Variation	Absolute Variation

NOTE:

1. Please select the option in the dropdown below even if the desired option is already selected.
2. To delete a row select the and click the Delete Icon in the above bar.

3. Apply the necessary Dimension Details for the following:
   - Account
   - Customer
   - LOB
   - Product
4. Select the relevant repline **Measure** from the drop-down list to which you want to apply the variation.
5. Select a point on the graph and drag to apply the desired variations. Percentage variation and applied, final values in the drop-down are displayed on the graph and as a tooltip on the point that is being changed.
6. Select the relevant details for the following under the **Variation Specification** section of the screen.
   - Measure
   - Start Date
   - End Date
   - Percent Variation: Enter the % value. If you enter this, you cannot enter the Absolute Variation.
   - Absolute Variation: Enter the absolute value. If you enter this, you cannot enter the Percent Variation.

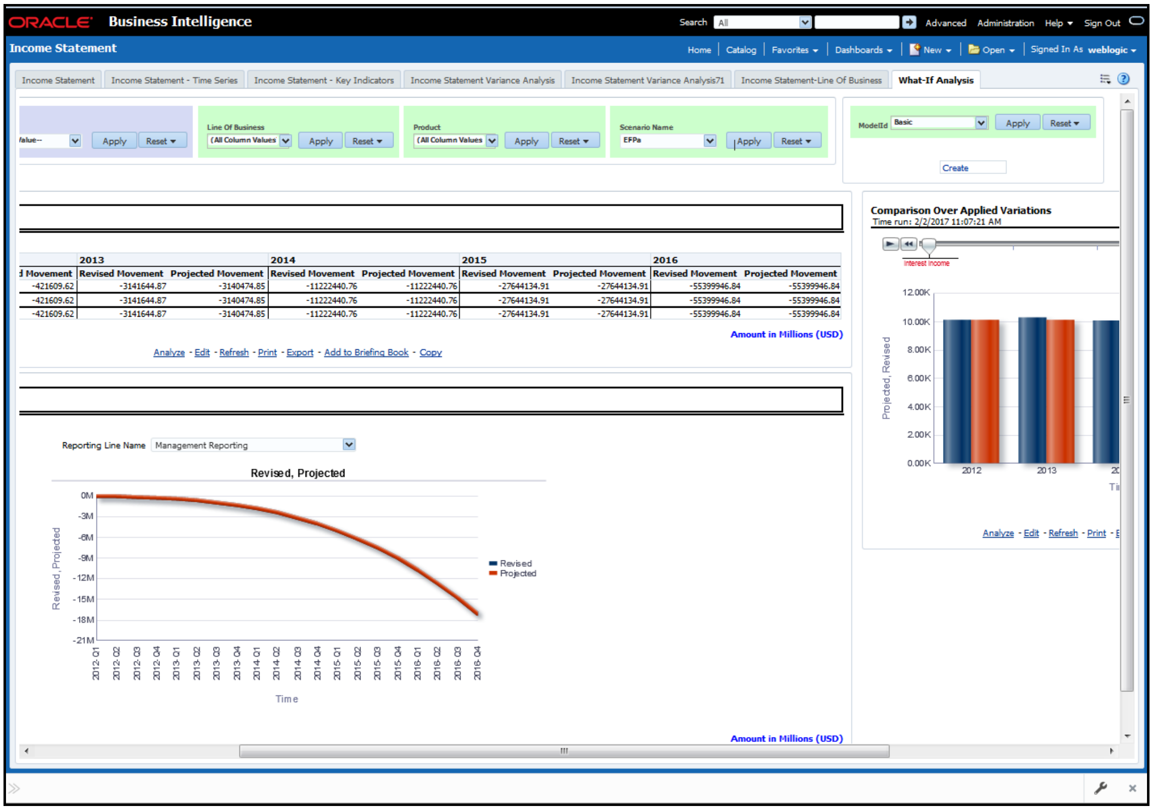
If there is an overlap in dates among various variation specification rows, the same can be overridden to apply the respective change.

Always the most recent changed value is considered for variation and the other value will be cleared.

7. Click **Preview Variations** to see the results.
8. Click **Save** after confirming the variations. After this, you will be redirected to the OBIEE screen where the applied variations can be seen and analyzed further.

The OBIEE screen is displayed as shown below:

Figure 18: OFS EFPA BI – Income Statement Basic


ORACLE Business Intelligence
Search All
Advanced Administration Help Sign Out
Income Statement
Home Catalog Favorites Dashboards New Open Signed In As weblogic
Income Statement
Income Statement - Time Series
Income Statement - Key Indicators
Income Statement Variance Analysis
Income Statement Variance Analysis71
Income Statement-Line Of Business
What-If Analysis
Apply
Reset
Create
Comparison Over Applied Variations
Interest Income
12.00K
10.00K
8.00K
6.00K
4.00K
2.00K
0.00K
Projected, Revised
2012
2013
Revised, Projected
0M
-3M
-6M
-9M
-12M
-15M
-18M
-21M
Revised,Projected
Revised
Projected
2012-01
2012-02
2012-03
2012-04
2013-01
2013-02
2013-03
2013-04
2014-01
2014-02
2014-03
2014-04
2015-01
2015-02
2015-03
2015-04
2016-01
2016-02
2016-03
2016-04
Time
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

alue--
Line Of Business: (All Column Values)
Product: (All Column Values)
Scenario Name: EFPa
ModelId: Basic

Time run: 2/2/2017 11:07:21 AM

	2013		2014		2015		2016	
d Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84

Amount in Millions (USD)

Reporting Line Name: Management Reporting

Amount in Millions (USD)

10.1.2 Advanced Scenario

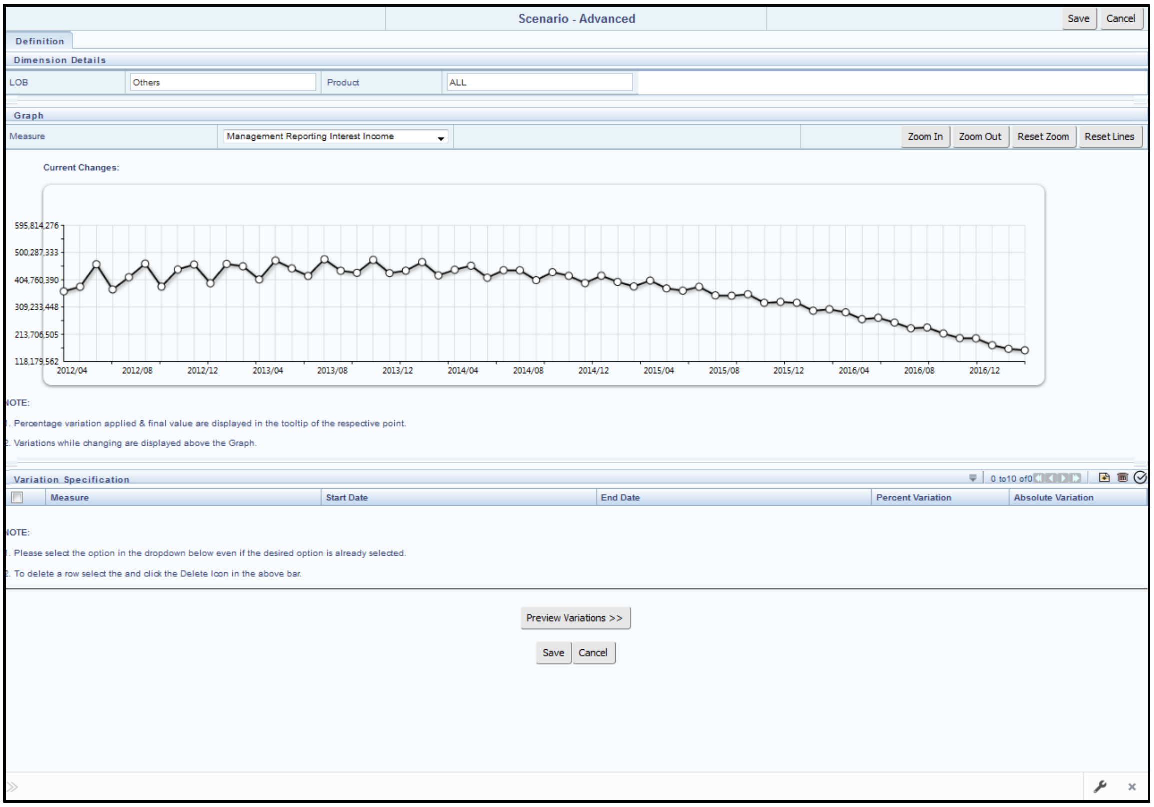
In the advanced scenario, when a change is applied to a repline, then all its corresponding correlated changes affecting other replines are also made. These correlated changes can be preview in the preview results view by clicking on the Preview Variation button at the bottom of the page.

To create a variation, follow these steps:

1. Navigate to the **What If Definition** dashboard to display the **Scenario - Advanced** screen.

   This screen allows you to zoom in, zoom out, and reset the zoom.

Figure 19: Scenario Advanced



LOB: Others

Product: ALL

Measure: Management Reporting Interest Income

NOTE:

1. Percentage variation applied & final value are displayed in the tooltip of the respective point.
2. Variations while changing are displayed above the Graph.

□	Measure	Start Date	End Date	Percent Variation	Absolute Variation

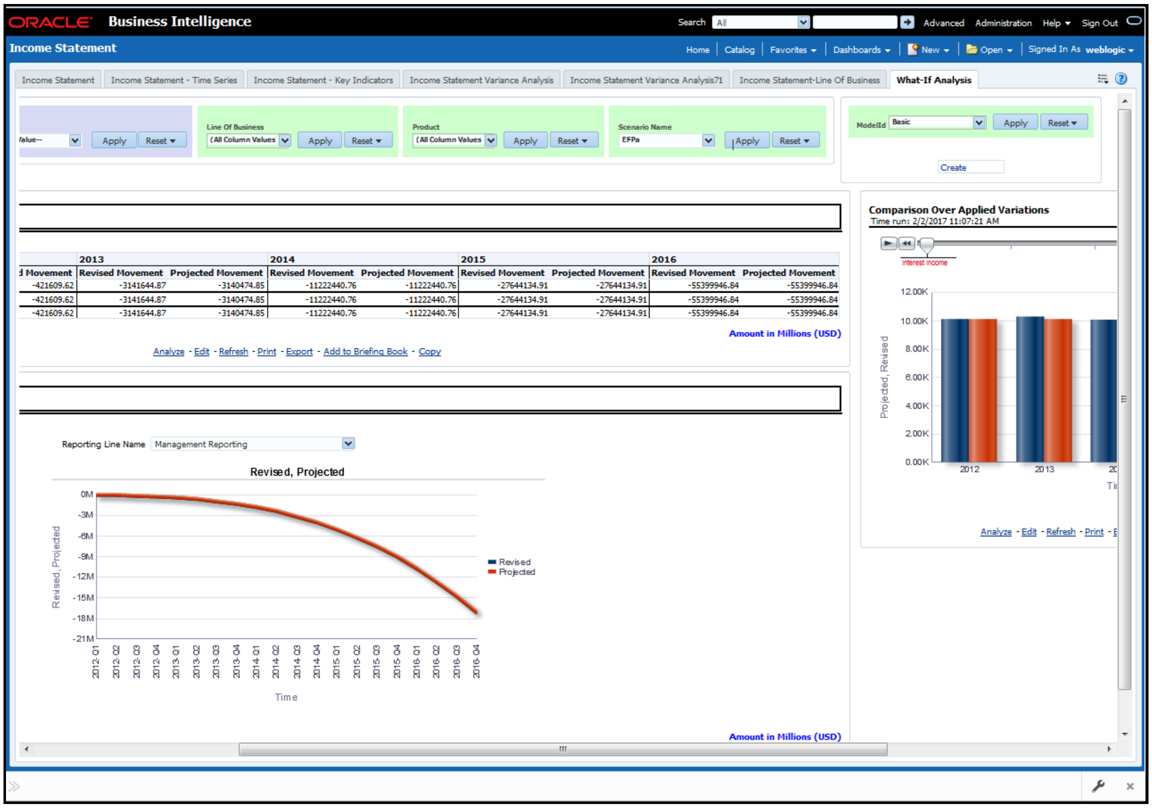
NOTE:

1. Please select the option in the dropdown below even if the desired option is already selected.
2. To delete a row select the and click the Delete Icon in the above bar.

2. Apply the necessary **Dimension Details** for the following:
   - Account
   - Customer
   - LOB
   - Product
3. Select the relevant repline **Measure** to which you want to apply the variation.
4. Select a point on the graph and drag to apply the desired variations.
5. Click **Preview Variations** to see the results.
6. Click **Save** after confirming the variations. After this, you will be redirected to the OBIEE screen where the applied variations can be seen and analyzed further.

   The OBIEE screen is displayed as shown below:

Figure 20: OFS EFPA BI – Income Statement



Line Of Business: (All Column Values

Product: (All Column Values

Scenario Name: EFPa

ModelId: Basic

Comparison Over Applied Variations
Time run: 2/2/2017 11:07:21 AM

	2013		2014		2015		2016	
d Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement	Revised Movement	Projected Movement
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84
-421609.62	-3141644.87	-3140474.85	-11222440.76	-11222440.76	-27644134.91	-27644134.91	-55399946.84	-55399946.84

Amount in Millions (USD)

Reporting Line Name: Management Reporting

Amount in Millions (USD)

10.2 OFS EFPA Integration with OFS Price Creation and Discovery (OFS PCD)

The input from OFS EFPA to OFS PCD has been enhanced from the current setup with projected values for extended future periods based on the available current actual data for each customer account. Output on current and projected values have been determined for each product type through various measures such as EOP Balance, Fee Income, Other Income of Customers, Expenses, Credit utilization ratio, and credit card revolving rate.

10.3 Reporting Line Correlation Calculations

For the reporting lines, regression coefficients are calculated using the R-model based on the threshold values. It is considered that a pairwise relationship exists between independent and dependent reporting lines.

In what-if analysis, you can make variations to the value of a variable. Variations can be applied only to the following reporting lines in the income statement:

- Interest Income
- Interest Expenses
- Transfer Pricing Charge
- Transfer Pricing Credit

- Non-Interest Income
- Operating Expenses
- Net Credit Losses
- Other Revenue

The following parameters are available in the FSI_MODEL_PARAMETERS table:

- The start date of the reference period
- The end date of the reference period
- The percentage of values that lie within the threshold
- The percentage of outliers that need to be removed

The following steps are used in the repline correlation calculation:

- **Excluding Outliers**: For each variable, the sigma and mean are calculated within the reference period as defined in the database. If the value of the variable lies outside the threshold provided, the respective pairs are excluded for all associated variables.

  Pairs are excluded based on the Mahalanobis distance, i.e., pairs are excluded in descending order of their absolute distance from the mean.

- **Testing for Stationarity**: After the outliers are excluded, the ADF test is used to check for stationarity on the time replines. The stationary is checked for each repline at two levels: I(0) and I(1). If any time repline is not found to be stationary, do a differencing of data, and repeat the test.

  `add.test` is a function of the R-library. A limitation of the R-library is that the stationary value can be calculated only if the records or data points are more than or equal to 6.

  Results are reported and used in the co-integration test.

- **Testing for Cointegration**: After the stationary test is done, the causal relations between regression variables are checked. Then co-integration is done.

  The following table shows the action that is performed for pairwise stationarity and pairwise integration based on the stationarity level:

Table 16: Testing for Co-integration

Pairwise Stationarity	Pairwise Co-integration	Action
Both I(1)	Exists	Do regression without any transformation.
	Does not exist	Do regression after differencing.
Both(0)	NA	Do regression without any transformation.
One I(1) other I(0)	NA	Do regression after differencing I(1) series

10.4 What-If Analysis Limitation

There is a limitation on the graph. Default upper limit for the graph will be based on underlying data in the fact table. Variations applied above the normal can be applied using the grid. If the user wants to apply variation beyond the upper limit shown in the graph, it is not possible through the graph and hence, it should be applied through the grid.

The same applies to Negative Values. The graph does not allow applying negative variations. That is, the graph nodes cannot be dragged below the X-Axis. This change needs to be done using the grid mode.

11 Cube Build Process

Reports of OFS EFPA application can be configured to work on a Relational database or Essbase cubes. The Source of data for the reports is determined by the priority set for each Logical Table Source (LTS) in OBIEE RPD. Multi-dimensional databases store aggregated data for better performance and provide mechanisms for performing non-additive rollup within a hierarchy and defining complex derived measures using cross-dimensional operations. OFSAA Infrastructure is used for defining metadata about the cube and for building the cubes. Cubes are an optional source of data for Institutional Performance application.

OFS EFPA application has the following seeded cubes:

- Cube for Financial Reporting - ADPAFNRE
  - Purpose: The purpose of this cube is to store data for reports belonging to the Financial Reporting Dashboard.
  - Dataset: DSPAFR

    This cube is based on the FCT_LEDGER_STAT fact table.
- Cube for Management Reporting - ADPAMNRE
  - Purpose: The purpose of this cube is to store data for reports belonging to the Management Reporting Dashboard.
  - Dataset: DSPAMR

    This cube is based on the FCT_MGMT_REPORTING fact table.

Topics:

- Create Configuration Files
- Build Of Cubes
- Check the Execution Status
- Create Multiple Ledger Essbase Cubes from OFSAA UI

11.1 Create Configuration Files

The metadata tables of the config schema hold the details of the cube. Also, the Measure Hierarchy details are seeded in the REV_BIHIER and the REV_LOCALE_HIER tables in the atomic schema.

Other Hierarchy data with their Measures are loaded into these REV tables after the following steps are performed:

- Individual re-save of each Hierarchy
- Individual re-save of each Dimension
- Metadata Authorization (If any Forms are to be authorized)
- Save Metadata

Each cube has a configuration file that contains the details of Dimensions and Measures which are part of the cube. Essbase outline is created using the configuration file. The configuration file is created during the saving of the cube definition.

To save the cube definition, follow these steps:

1. In OFSAAI, navigate to the **Home page**, select **Unified Metadata Manager**, select **Business Metadata Management**, and then select **Cubes**.
2. Click Search.

   All the available cubes are displayed in the Cube popup.
3. Select the **Cube** name that needs to be built, and click **OK** to return to the **Cube Definition** window.
4. Click **Save** to save the cube.

A pop up appears with a message 'Operation Successful'.

NOTE	Cube definition is saved only when the UI component detects any change event. To trigger the change event, type a blank space in the 'Long Description' text-box and remove the same or a dimension that can be removed from the selected list. Again, the same dimension re-selected, variation applied for the dimension and saved.

11.2 Build Cubes

The Cube build process in OFSAA Infrastructure contains the following steps:

- Generating an aggregate DATA file containing the measure values for each dimension leaf that are part of the cube definition. This is performed by the AGGREGATE DATA component task within the batch definition.
- Creating the cube outline on the Essbase server. This is performed by the CREATE CUBE component task within the batch definition.
- Loading the data to the cube. This is performed by the CREATE CUBE task within the batch definition.

12 Predictive Modelling

What-If analysis reports use the reporting line forecast values that are generated using the Arima Algorithm in the R code seeded with the application. R has a base package called 'stats' which provides the function called 'arima()'. This function enables the usage of the ARIMA technique for time series forecasting.

12.1 Guidelines

The guidelines associated with respect to the execution R code are mentioned below:

- Data should be generated for at least one group for more than 12 continuous MIS dates. 12 is the parameter n Consider where we are setting how many records are significant to be considered for prediction.
- The assumption is that the data is chronological for consecutive end of month dates. By default, the prediction will be done for 60 months starting with the immediate month after the last available MIS Date.
- If the data provided is not for the chronological end of month dates, results generated will not be accurate.
- ARIMA is a statistical technique used for time-series predictions. It accepts a host of parameters of which the basic parameters are p,d, and q. p is the order of Autoregressive Process, q is the parameter for the Moving Average process and d is the number of differences after which the data can be considered stationary with the desired confidence level. It has more parameters that can be customized.
- Detailed documentation of the technique can be found at:

  http://www.dms.umontreal.ca/~duchesne/chap7.pdf

  Documentation of implementation of ARIMA in R can be found at:

  http://stat.ethz.ch/R-manual/R-patched/library/stats/html/arima.html

Logging for the individual groups' ARIMA model summaries will happen in a file named out.log. This log file will be generated in the $FIC_DB_HOME/bin folder. If a particular group has unstable data and prediction fails, the corresponding error will also be documented in the out.log file against that particular group.

12.2 Files Used

There are two files that are required for R script execution. Both the files are present at the $FIC_DB_HOME/bin folder. Provide execute permissions to the following files:

- RExec executable
- EFPA_ARIMA_MR_IS_PV.r

12.3 Errors

Following are the errors:

- Logging for the individual groups' arima model summaries will happen in a file named "out.log". This log file will be generated in the $FIC_DB_HOME/bin folder. If a particular group has unstable data and prediction fails, the corresponding error will also be documented in the out.log file against that particular group.
- Error : Error in if ((lv > nr) || (lv == 0L && nr > 0L) || (nr%%lv != 0L)) stop(gettextf("replacement data has %s rows, data has %s", :

  Missing value where TRUE/FALSE needed means and if a condition is receiving null and is unable to evaluate true or false.

13 Overview of OFS EFPA Reports

OFS EFPA offers the following dashboards that organize different kinds of reports by subject area.

- Financial Reporting
  - Financial Reporting
- Management Reporting
  - Balance Sheet
  - Income Statement
  - Key Trends
  - Performance Measures
- Forecast Reports
  - Balance Sheet Reports
  - Income Statement Reports

Topics:

- Consolidated List of OFS EFPA Reports
- Structure of Reporting Line Items
- Hard-Coded Dimension Members
- OBIEE: Catalogs Related Configuration
- Dashboards

13.1 Consolidated List of OFS EFPA Reports

Table 17: Consolidated List of OFS EFPA Reports

Data Source	Business Intent	Dashboard Name	Page Name	Report Name
Initial loads to the management ledger (that is,exclusive of any data generated by allocation rules and/or transfer pricing rules). The reporting line is General Ledger Account.	Represent Income Statement reporting lines across Legal Entity and Time dimension	Financial Reporting	Income Statement	Income Statement
		Financial Reporting	Income Statement-Time Series	Income Statement-Time Series
		Financial Reporting	Income Statement Variance Analysis	Income Statement Variance Analysis
Data from Fact Management table. Reporting line is Reporting Line Dimension	Represent balance sheet and show balances across dimensions	Balance Sheet	Balance Sheet	Balance Sheet
		Balance Sheet	Balance Sheet-Time Series	Balance Sheet-Time Series
		Balance Sheet	Balance Sheet-Key Indicators	Total Assets
		Balance Sheet	Balance Sheet-Key Indicators	Total Liabilities
		Balance Sheet	Balance Sheet-Key Indicators	Capital
		Balance Sheet	Balance Sheet-Key Indicators	Total Customer Assets
		Balance Sheet	Balance Sheet-Key Indicators	Total Customer Total Liabilities
Data from Fact Management table. Reporting line is Reporting Line Dimension	Represent Income Statement reporting lines across dimensions	Income Statement	Income Statement	Income Statement

		Income Statement	Income Statement- Time Series	Income Statement- Time Series
		Income Statement	Income Statement - Key Indicators	Net Interest Income
		Income Statement	Income Statement - Key Indicators	Commission
		Income Statement	Income Statement - Key Indicators	Fees
		Income Statement	Income Statement - Key Indicators	Net Credit Loss
		Income Statement	Income Statement Variance Analysis	Income Statement Variance Analysis
		Income Statement	Income Statement- Line Of Business	Income Statement across Line Of Business
		Income Statement	Income Statement - Line Of Business	Key Statistics from the Balance Sheet
		Income Statement	Income Statement - Line Of Business	No. of Customers
		Income Statement	Income Statement - Line Of Business	Other Key Indicators
Data from Fact Management table. Reporting line is Reporting Line Dimension	Show trends for balance and movement measures for key line items relevant to the business	Key Trends	Key Trends	Break-up of Total Assets
		Key Trends	Key Trends	Break-up of Total Assets
		Key Trends	Key Trends	Break-up of Total Assets by Line of Business
		Key Trends	Key Trends	Break-up of Total Liabilities by Line of Business
		Key Trends	Key Trends	NIM Speedometer

		Key Trends	Key Trends	Balance Sheet
		Key Trends	Key Trends	Income Statement
		Key Trends	Net Loss Analysis	Net Loss Rate Time Series
		Key Trends	Net Loss Analysis	Net Loss Across Line of Business
		Key Trends	Net Loss Analysis	Net Loss Across Products
		Key Trends	Net Loss Analysis	Net Loss Rate Across Scenarios
		Key Trends	NII Impact Analysis	NII at a Glance
		Key Trends	NII Impact Analysis	Impact of FX Fluctuation
		Key Trends	NII Impact Analysis	Impact of Volume Movement
		Key Trends	NII Impact Analysis	Impact of Yield and Margin Rates
		Key Trends	Balance Trends	Details By Product
		Key Trends	Balance Trends	Top 10 Products – Balance
		Key Trends	Balance Trends	Top 10 Products - MOM Variance
Data from Fact Management table. Reporting line is Reporting Line Dimension	Show key performance measures relevant to the business	Performance Measures	Performance Measures	Return on Total Assets
		Performance Measures	Performance Measures	Return on Equity
		Performance Measures	Performance Measures	RAROC
		Performance Measures	Performance Measures	Profitability by Product over Reporting Period
		Performance Measures	Capital Analysis	Capital Analysis
Data is directly sourced from the BSP cube	Tabular and graphical representation of forecast balances for the selected intersection points (Chart of Account, Entity, Currency, Version, Scenario,	Forecast Reports	Balance Sheet Report	Forecast Reports

	Strategy, Period, Years, and Financial Element). FEs represented are: • Beginning balance • Current Position Beginning Balance • Current Position End Balance • Current Position Interest • Current Position Payment Runoff • Current Position Prepayment Runoff • Ending Balance • Interest • New Business Beginning Balance • New Business Ending Balance • New Business Interest • New Business Payment Runoff • New Business Prepayment Runoff • Non Interest Expense • Non-Interest Income • Payment Runoff			
	Tabular and Graphical representation of a comparison between two scenarios for the selected Time period	Forecast Reports	Balance Sheet Reports	Scenario Comparison
	Tabular and Graphical representation of a comparison between Base Strategy and an alternate Strategy for the selected Time period	Forecast Reports	Balance Sheet Reports	Strategy Comparison

	Tabular and Graphical representation of Interest vs. Average balances for the selected intersection points	Forecast Reports	Income Statement Reports	Interest Vs. Average Balance
	Tabular and Graphical representation of Non-Interest Fee Percentage vs Ending Balance for the selected intersection points	Forecast Reports	Income Statement Reports	Non-Interest Fee Percentage Vs. Ending Balance
	Tabular and Graphical representation of Spread Analysis (Yield % vs. Cost %) for the selected intersection points	Forecast Reports	Income Statement Reports	Spread Analysis

13.2 Structure of Reporting Line Items

Reporting line items describe the financial meaning of the report.

The following spreadsheet contains the Management versus Financial Reporting Line Item Definitions.

EFPA_FE_Repline_mapping_MR_IS.xlsx

13.3 Hard-Coded Dimension Members

The node-level reporting lines (including higher-level nodes) of the reporting line hierarchy that are used in the OBIEE components (Web Catalog and RPD) are mentioned below for reference.

These reporting line codes should not be modified.

Table 18: Reporting Line Dimensions

Catalog/RPD	Repline Code	Repline Name
catalog	107001	Management Reporting
catalog	107002	Income Statement
catalog	107003	Balance Sheet
catalog	98000	Net Income Before Taxes
catalog	51000	Cash
catalog	54000	Trading Assets
catalog	61000	Investments
catalog	63000	Fixed Assets
catalog	64000	Other Assets
catalog	60000	Loans and Advances to Customers
catalog	72000	Total Liabilities
catalog	74900	Allocated Capital
catalog	77000	Shareholders Equity
catalog	72000	Total Liabilities
catalog	75000	Share Capital
catalog	76000	Reserves
catalog	60000	Loans and Advances to Customers
catalog	68000	Customer Liabilities
catalog	85000	Net Interest Revenue
catalog	85100	Commission
catalog	85200	Fees
catalog	91910	Credit Losses
catalog	91920	Recoveries of amounts previously written-off
RPD	95000	Operating Income before Taxes
RPD	99500	Provisions for Credit Losses
RPD	91910	Credit Losses
RPD	107100	Number of Customers

Catalog/RPD	Repline Code	Repline Name
RPD	52000	Interest-bearing Assets
RPD	74900	Allocated Capital
RPD	88000	Non-Interest Revenue
RPD	107120	Number of Closed Customers
RPD	83000	Credit for Float
RPD	82100	Interest Income
RPD	91920	Recoveries of amounts previously written-off
RPD	107300	Attrition Rate
RPD	60000	Loans and Advances to Customers
RPD	85000	Net Interest Revenue
RPD	83200	Interest Expenses

13.3.1 Other Dimensions

The following are the other dimensions than the hardcoded reporting line dimensions:

- Run Dimension is hard-coded with a value zero.
- Legal Entity and Line of Business are hard-coded to -1 in the initial load. When the custom dimensions are added into FSI_D_MANAGEMENT_LEDGER and FACT tables, the corresponding values are used in the reports.

13.3.2 Reporting Currency Calculation

The base currency values are converted into reporting currency and are populated to RCY columns of Fact table using `FSI_EXCHNG_RATE_DIRECT_ACCESS` or `FSI_EXCHANGE_RATE_HIST` tables. In these tables, data should exist for the available currency combinations for the particular `FIC_MIS_DATE` column, for which the user is running the fact transformations that are `FCT_LEDGER_STAT` and `FCT_MGMT_REPORTING` tables. In EFPA, by default exchange rate is calculated by referring `FSI_EXCHNG_RATE_DIRECT_ACCESS`. However, it can be configured in the `SETUP_MASTER` table to use `FSI_EXCHANGE_RATE_HIST` if needed.

Currency Type: OFS EFPA BI reports work for Local, Base, and Reporting currencies.

13.4 OBIEE: Catalogs Related Configuration

This section explains the necessary configurations for OBIEE with respect to catalogs.

13.4.1 Currency Label Modification

The currency label in the catalogs has to be configured in such a way that the amounts are displayed in a single currency unit. For Example the Amount in $ millions.

To configure the currency label, follow these steps:

1. Open the **RPD** in online mode.
2. Click the **Variables** option in the **Manage** menu.
3. Change the value of the **RV_Reporting_Currency** variable as required. For example, the **Amount in Millions (USD)**.
4. Set the **RV_Base_Currency** repository variable to the appropriate Base currency.
5. Update the connection details of the **OFS EFPA Connection Pool** and **OFS EFPA Init Block** in Physical Layer of RPD, to view the Local Currency label.
6. Click **Save** and check the global consistency of the RPD.

13.4.2 Amount Unit Modification

To configure the amount unit, follow these steps:

1. Open the **RPD** in online mode.
2. Click the **Variables** option in the **Manage** menu.
3. Change the value of the variable **ABBREVIATE_VALUE** as required. For example 1000000.
4. Click **Save** and check the global consistency of the RPD.

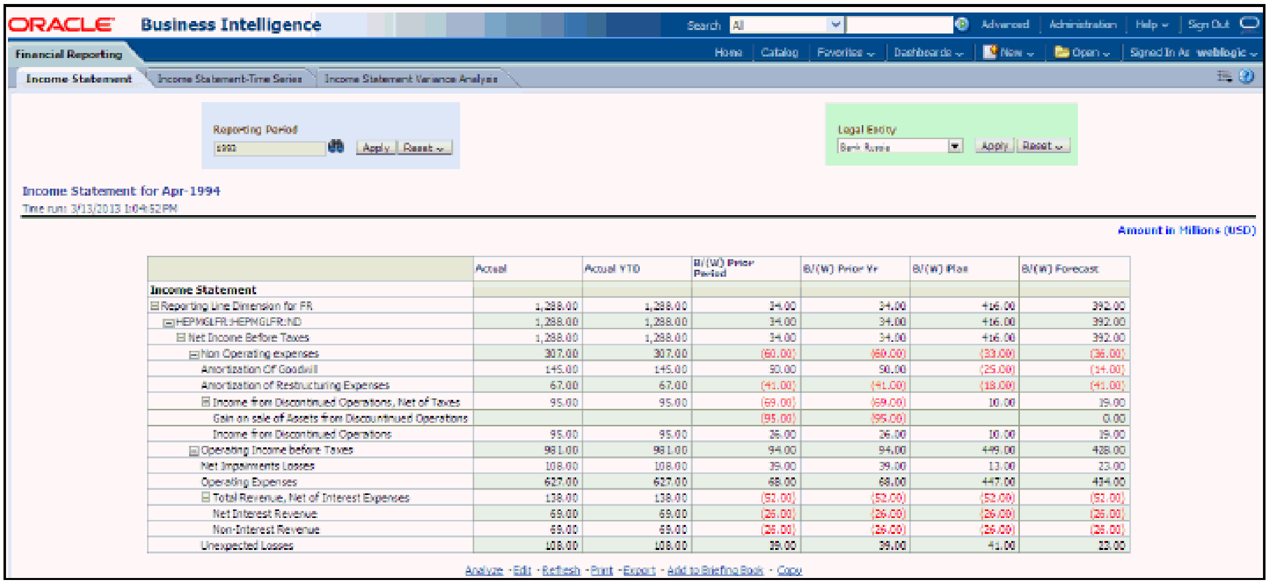
13.5 Dashboards

The following sections provide the dashboard screens that demonstrate the OFSEPA reports.

Financial Reporting

The business intent of the Financial Reporting dashboard is to analyze the General Ledger Account-based Income Statement and Balance Sheet reporting. Currency Type prompt allows data to be viewed for Reporting Currency and Base Currency for Financial Reporting reports.

Figure 21: Financial Reporting - Income Statement



Reporting Period: 1993

Legal Entity: Bank Russia

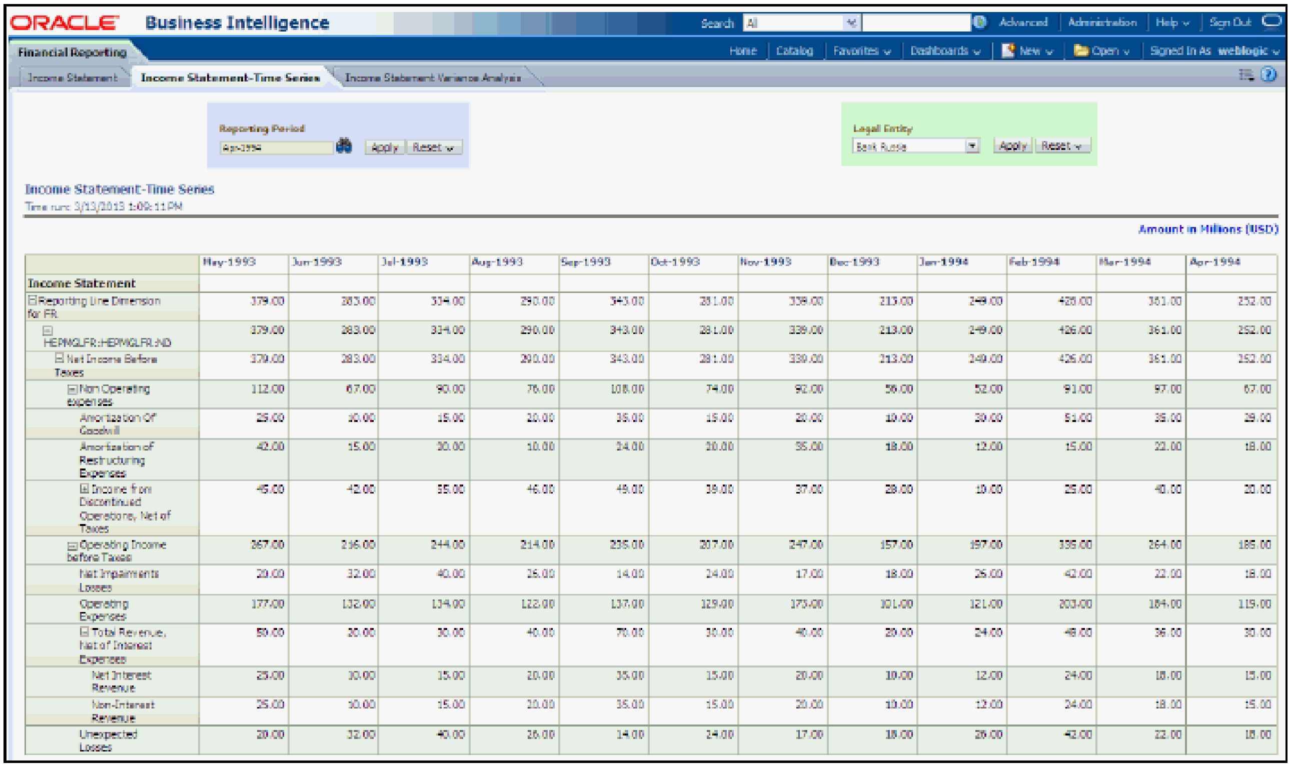
Income Statement for Apr-1994

Time run: 3/13/2013 1:04:52 PM

Amount in Millions (USD)

	Actual	Actual YTD	B/(W) Prior Period	B/(W) Prior Yr	B/(W) Plan	B/(W) Forecast
Income Statement						
⊟ Reporting Line Dimension for FR	1,288.00	1,288.00	34.00	34.00	416.00	392.00
⊟ HEPMGLFR:HEPMGLFR:ND	1,288.00	1,288.00	34.00	34.00	416.00	392.00
⊟ Net Income Before Taxes	1,288.00	1,288.00	34.00	34.00	416.00	392.00
⊟ Non Operating expenses	307.00	307.00	(60.00)	(60.00)	(33.00)	(36.00)
Amortization Of Goodwill	145.00	145.00	50.00	50.00	(25.00)	(14.00)
Amortization of Restructuring Expenses	67.00	67.00	(41.00)	(41.00)	(18.00)	(41.00)
⊟ Income from Discontinued Operations, Net of Taxes	95.00	95.00	(69.00)	(69.00)	10.00	19.00
Gain on sale of Assets from Discontinued Operations			(95.00)	(95.00)		0.00
Income from Discontinued Operations	95.00	95.00	26.00	26.00	10.00	19.00
⊟ Operating Income before Taxes	981.00	981.00	94.00	94.00	449.00	428.00
Net Impairments Losses	108.00	108.00	39.00	39.00	13.00	23.00
Operating Expenses	627.00	627.00	68.00	68.00	447.00	404.00
⊟ Total Revenue, Net of Interest Expenses	138.00	138.00	(52.00)	(52.00)	(52.00)	(52.00)
Net Interest Revenue	69.00	69.00	(26.00)	(26.00)	(26.00)	(26.00)
Non-Interest Revenue	69.00	69.00	(26.00)	(26.00)	(26.00)	(26.00)
Unexpected Losses	108.00	108.00	39.00	39.00	41.00	23.00

Figure 22: Financial Reporting - Income Statement - Time Series



Reporting Period: Apr-1994

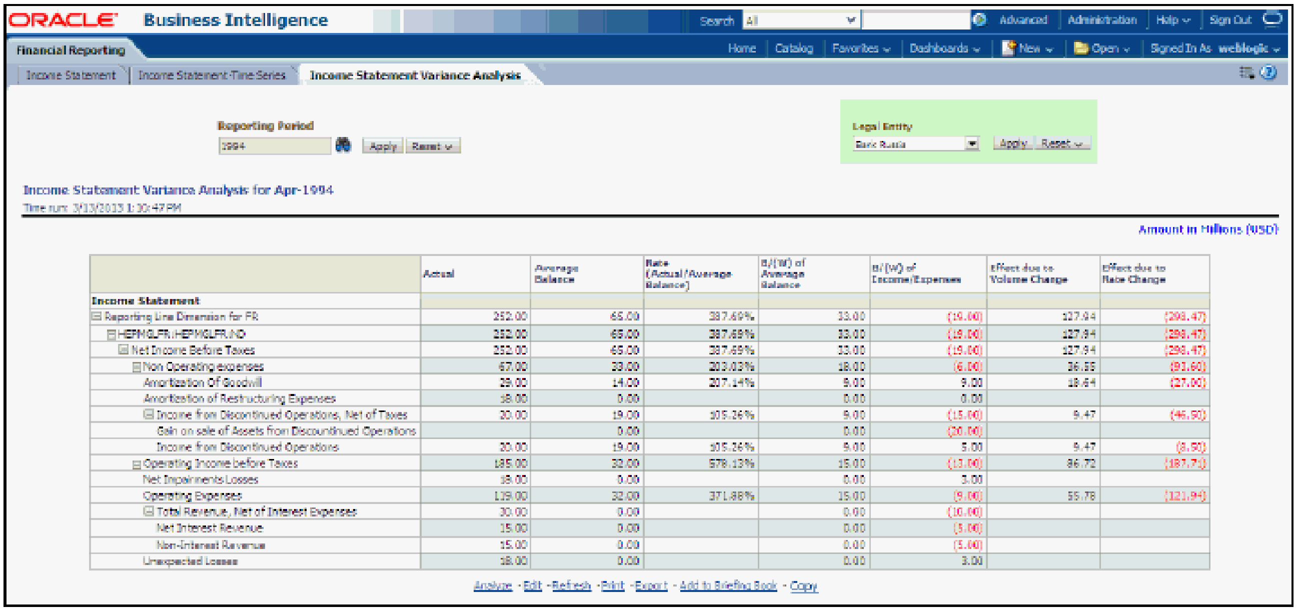
Legal Entity: Bank Russia

Income Statement-Time Series
Time run: 3/13/2013 1:09:11 PM

Amount in Millions (USD)

Income Statement	May-1993	Jun-1993	Jul-1993	Aug-1993	Sep-1993	Oct-1993	Nov-1993	Dec-1993	Jan-1994	Feb-1994	Mar-1994	Apr-1994
⊟ Reporting Line Dimension for FR	379.00	283.00	334.00	290.00	343.00	281.00	339.00	213.00	249.00	426.00	361.00	252.00
⊟ HEPMGLFR:HEPMGLFR.ND	379.00	283.00	334.00	290.00	343.00	281.00	339.00	213.00	249.00	426.00	361.00	252.00
⊟ Net Income Before Taxes	379.00	283.00	334.00	290.00	343.00	281.00	339.00	213.00	249.00	426.00	361.00	252.00
⊟ Non Operating expenses	112.00	67.00	90.00	76.00	108.00	74.00	92.00	56.00	52.00	91.00	97.00	67.00
Amortization Of Goodwill	25.00	10.00	15.00	20.00	35.00	15.00	20.00	10.00	20.00	51.00	35.00	29.00
Amortization of Restructuring Expenses	42.00	15.00	20.00	10.00	24.00	20.00	35.00	18.00	12.00	15.00	22.00	18.00
⊞ Income from Discontinued Operations, Net of Taxes	45.00	42.00	55.00	46.00	49.00	39.00	37.00	28.00	20.00	25.00	40.00	20.00
⊟ Operating Income before Taxes	267.00	216.00	244.00	214.00	235.00	207.00	247.00	157.00	197.00	335.00	264.00	185.00
Net Impairments Losses	20.00	32.00	40.00	26.00	14.00	24.00	17.00	18.00	26.00	42.00	22.00	18.00
Operating Expenses	177.00	132.00	134.00	122.00	137.00	129.00	173.00	101.00	121.00	203.00	184.00	119.00
⊟ Total Revenue, Net of Interest Expenses	50.00	20.00	30.00	40.00	70.00	30.00	40.00	20.00	24.00	48.00	36.00	30.00
Net Interest Revenue	25.00	10.00	15.00	20.00	35.00	15.00	20.00	10.00	12.00	24.00	18.00	15.00
Non-Interest Revenue	25.00	10.00	15.00	20.00	35.00	15.00	20.00	10.00	12.00	24.00	18.00	15.00
Unexpected Losses	20.00	32.00	40.00	26.00	14.00	24.00	17.00	18.00	26.00	42.00	22.00	18.00

Figure 23: Financial Reporting - Time Series - Variance Analysis



Reporting Period: 1994

Legal Entity: Bank Russia

Income Statement Variance Analysis for Apr-1994
Time run: 3/13/2013 1:30:47 PM

Amount in Millions (USD)

Income Statement	Actual	Average Balance	Rate (Actual/Average Balance)	B/(W) of Average Balance	B/(W) of Income/Expenses	Effect due to Volume Change	Effect due to Rate Change
⊟ Reporting Line Dimension for FR	252.00	65.00	387.69%	33.00	(19.00)	127.94	(298.47)
⊟ HEPMGLFR:HEPMGLFR.ND	252.00	65.00	387.69%	33.00	(19.00)	127.94	(298.47)
⊟ Net Income Before Taxes	252.00	65.00	387.69%	33.00	(19.00)	127.94	(298.47)
⊟ Non Operating expenses	67.00	33.00	203.03%	18.00	(6.00)	36.55	(93.60)
Amortization Of Goodwill	29.00	14.00	207.14%	9.00	9.00	18.64	(27.00)
Amortization of Restructuring Expenses	18.00	0.00		0.00	0.00		
⊟ Income from Discontinued Operations, Net of Taxes	20.00	19.00	105.26%	9.00	(15.00)	9.47	(46.50)
Gain on sale of Assets from Discountinued Operations		0.00		0.00	(20.00)		
Income from Discontinued Operations	20.00	19.00	105.26%	9.00	5.00	9.47	(8.50)
⊟ Operating Income before Taxes	185.00	32.00	578.13%	15.00	(13.00)	86.72	(187.71)
Net Impairments Losses	18.00	0.00		0.00	3.00		
Operating Expenses	119.00	32.00	371.88%	15.00	(9.00)	55.78	(121.94)
⊟ Total Revenue, Net of Interest Expenses	30.00	0.00		0.00	(10.00)		
Net Interest Revenue	15.00	0.00		0.00	(5.00)		
Non-Interest Revenue	15.00	0.00		0.00	(5.00)		
Unexpected Losses	18.00	0.00		0.00	3.00		

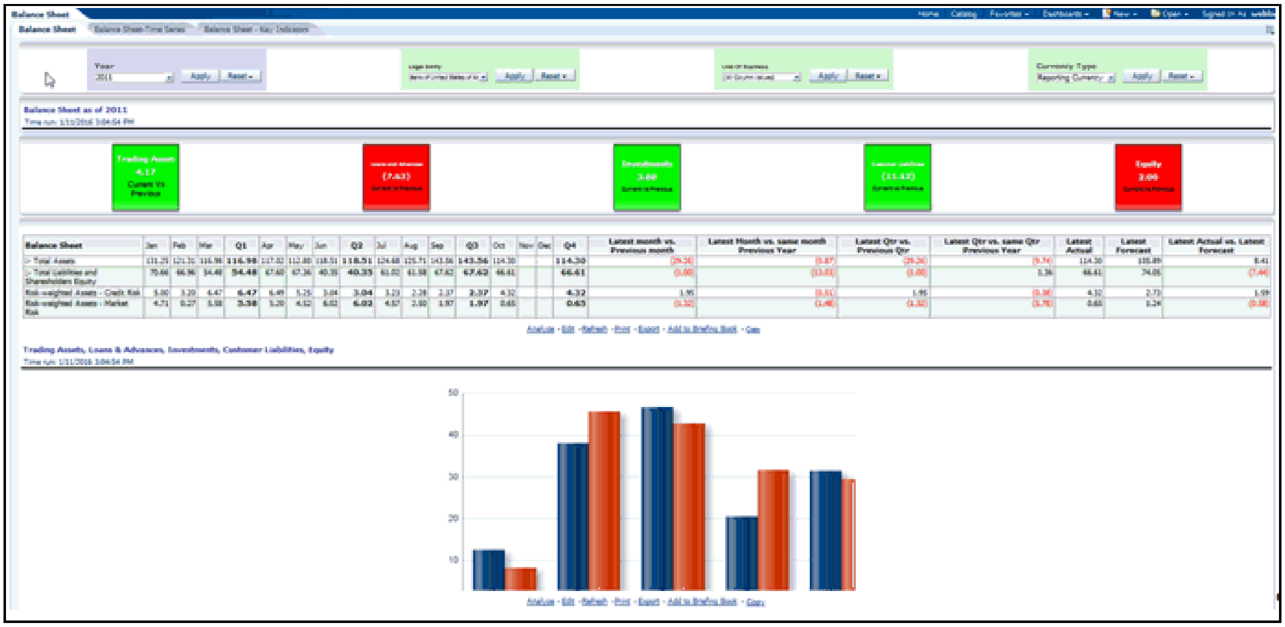
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

13.5.1 Management Reporting

The business intent of the Management Reporting dashboard is to analyze the Financial Element based on the Income Statement and Balance Sheet reporting (management). Currency

Type prompt allows data to be viewed for Reporting Currency, Local Currency, and Base Currency for Management Reporting reports.

Figure 24: Management Reporting - Balance Sheet - Balance Sheet



Year: 2011

Legal Entity: Bank of United States of A

Line Of Business: All Grouped Values

Currency Type: Reporting Currency

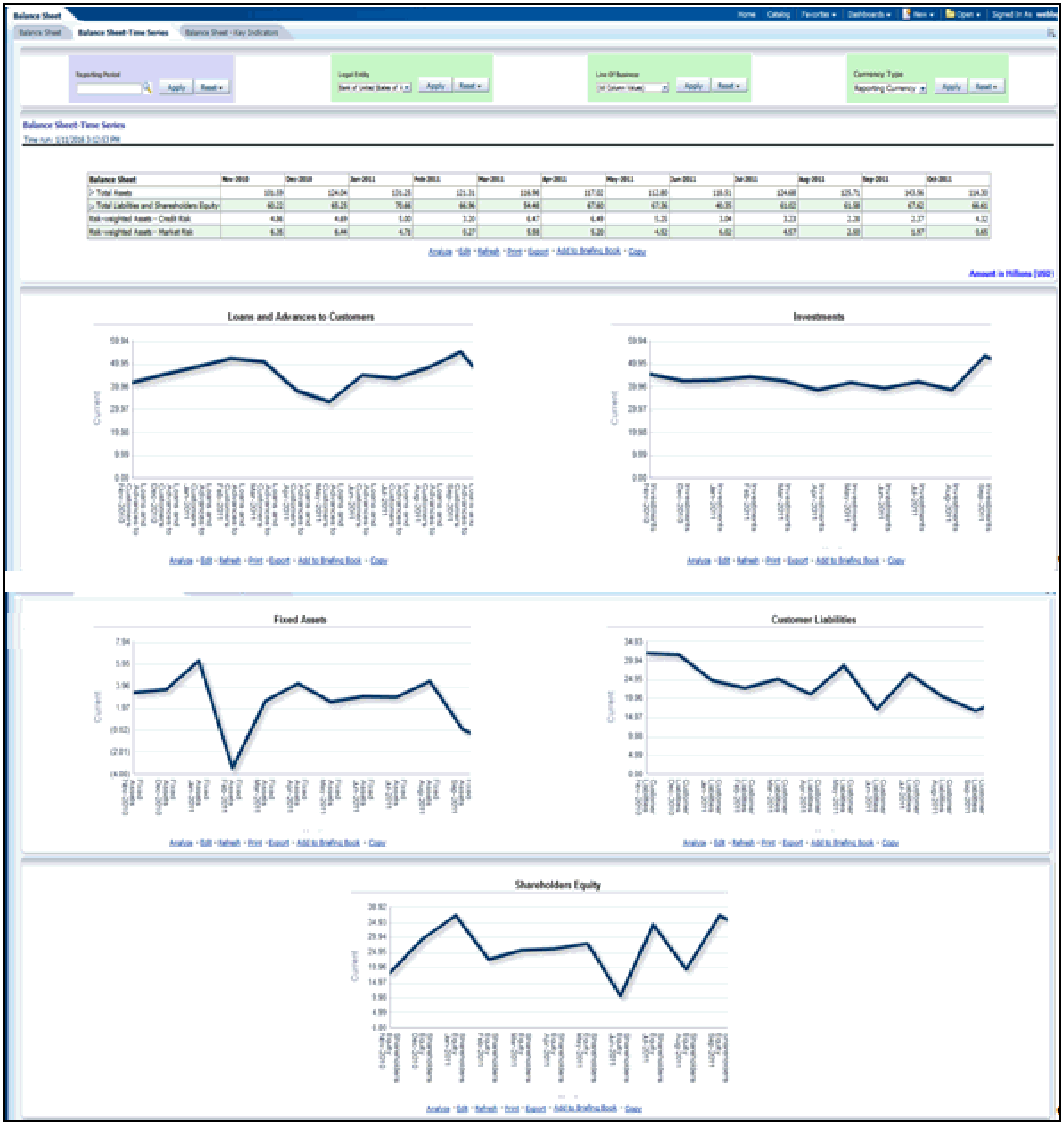
Balance Sheet as of 2011
Time run: 1/11/2016 3:04:54 PM

Balance Sheet	Jan	Feb	Mar	Q1	Apr	May	Jun	Q2	Jul	Aug	Sep	Q3	Oct	Nov	Dec	Q4
Total Assets	131.25	121.31	116.98	116.98	117.02	112.80	118.51	118.51	124.68	125.71	143.56	143.56	114.30			114.30
Total Liabilities and Shareholders Equity	70.66	66.96	54.48	54.48	67.40	67.36	40.35	40.35	61.02	61.58	67.62	67.62	66.61			66.61
Risk-weighted Assets - Credit Risk	5.00	3.29	6.47	6.47	6.49	5.25	3.04	3.04	3.23	2.28	2.37	2.37	4.32			4.32
Risk-weighted Assets - Market Risk	4.71	0.27	5.98	3.38	1.20	4.12	6.02	6.02	4.57	2.50	1.97	1.97	0.65			0.65

Balance Sheet	Latest month vs. Previous month	Latest Month vs. same month Previous Year	Latest Qtr vs. Previous Qtr	Latest Qtr vs. same Qtr Previous Year	Latest Actual	Latest Forecast	Latest Actual vs. Latest Forecast
Total Assets	(29.26)	(0.87)	(29.26)	(9.54)	114.30	105.89	8.41
Total Liabilities and Shareholders Equity	(1.00)	(13.01)	(1.00)	1.36	66.61	74.05	(7.44)
Risk-weighted Assets - Credit Risk	1.95	(0.51)	1.95	(0.38)	4.32	2.73	1.59
Risk-weighted Assets - Market Risk	(1.32)	(1.48)	(1.32)	(1.78)	0.65	1.24	(0.58)

Trading Assets, Loans & Advances, Investments, Customer Liabilities, Equity
Time run: 1/11/2016 3:04:54 PM

Figure 25: Management Reporting - Balance Sheet - Time Series



Balance Sheet-Time Series

Time run: 3/11/2016 3:02:03 PM

Balance Sheet	Nov-2010	Dec-2010	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011	Oct-2011
▷ Total Assets	101.59	124.04	131.25	121.31	116.98	117.02	112.80	118.51	124.68	125.71	143.56	114.30
▷ Total Liabilities and Shareholders Equity	60.22	65.25	75.66	66.96	54.48	67.60	67.36	40.35	61.02	61.58	67.62	66.61
Risk-weighted Assets - Credit Risk	4.86	4.69	5.00	3.20	4.47	6.49	5.26	3.04	3.23	2.28	2.37	4.32
Risk-weighted Assets - Market Risk	6.35	6.44	4.76	0.27	5.58	5.20	4.52	6.02	4.57	2.58	1.97	0.65

Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy
Amount in Millions (USD)
Loans and Advances to Customers
Current
59.94
49.95
39.96
29.97
19.98
9.99
0.00
Loans and Advances to Customers Nov-2010
Loans and Advances to Customers Dec-2010
Loans and Advances to Customers Jan-2011
Loans and Advances to Customers Feb-2011
Loans and Advances to Customers Mar-2011
Loans and Advances to Customers Apr-2011
Loans and Advances to Customers May-2011
Loans and Advances to Customers Jun-2011
Loans and Advances to Customers Jul-2011
Loans and Advances to Customers Aug-2011
Loans and Advances to Customers Sep-2011
Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy
Investments
Current
59.94
49.95
39.96
29.97
19.98
9.99
0.00
Investments Nov-2010
Investments Dec-2010
Investments Jan-2011
Investments Feb-2011
Investments Mar-2011
Investments Apr-2011
Investments May-2011
Investments Jun-2011
Investments Jul-2011
Investments Aug-2011
Investments Sep-2011
Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy
Fixed Assets
Current
7.94
5.95
3.96
1.97
(0.02)
(2.01)
(4.00)
Fixed Assets Nov-2010
Fixed Assets Dec-2010
Fixed Assets Jan-2011
Fixed Assets Feb-2011
Fixed Assets Mar-2011
Fixed Assets Apr-2011
Fixed Assets May-2011
Fixed Assets Jun-2011
Fixed Assets Jul-2011
Fixed Assets Aug-2011
Fixed Assets Sep-2011
Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy
Customer Liabilities
Current
34.93
29.94
24.95
19.96
14.97
9.98
4.99
0.00
Customer Liabilities Nov-2010
Customer Liabilities Dec-2010
Customer Liabilities Jan-2011
Customer Liabilities Feb-2011
Customer Liabilities Mar-2011
Customer Liabilities Apr-2011
Customer Liabilities May-2011
Customer Liabilities Jun-2011
Customer Liabilities Jul-2011
Customer Liabilities Aug-2011
Customer Liabilities Sep-2011
Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy
Shareholders Equity
Current
39.92
34.93
29.94
24.95
19.96
14.97
9.98
4.99
0.00
Shareholders Equity Nov-2010
Shareholders Equity Dec-2010
Shareholders Equity Jan-2011
Shareholders Equity Feb-2011
Shareholders Equity Mar-2011
Shareholders Equity Apr-2011
Shareholders Equity May-2011
Shareholders Equity Jun-2011
Shareholders Equity Jul-2011
Shareholders Equity Aug-2011
Shareholders Equity Sep-2011
Analyze · Edit · Refresh · Print · Export · Add to Briefing Book · Copy

Figure 26: Management Reporting - Balance Sheet - Key Indicators

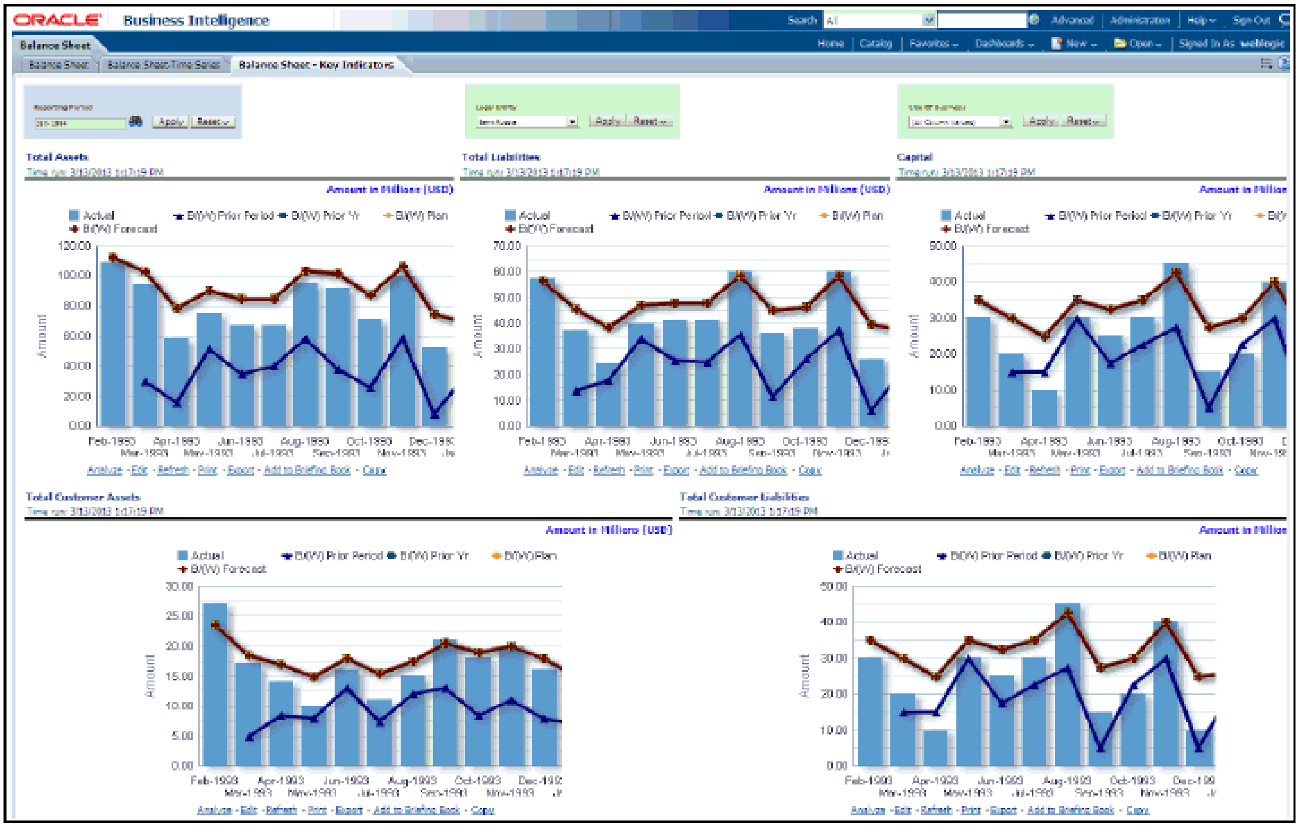
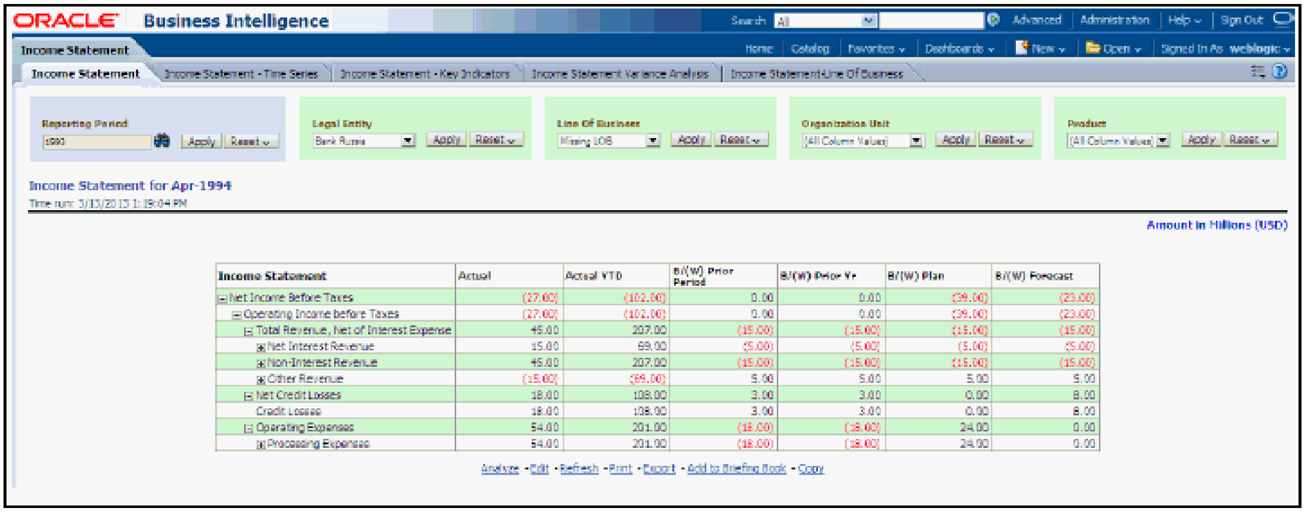

ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Balance Sheet
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Balance Sheet | Balance Sheet Time Series | Balance Sheet - Key Indicators
Reporting Period
Apply | Reset
Legal Entity
Line of Business
Total Assets
Time run: 3/13/2013 1:17:19 PM
Amount in Millions (USD)
Actual
B/(W) Prior Period
B/(W) Prior Yr
B/(W) Plan
B/(W) Forecast
Amount
Feb-1993
Mar-1993
Apr-1993
May-1993
Jun-1993
Jul-1993
Aug-1993
Sep-1993
Oct-1993
Nov-1993
Dec-1993
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Total Liabilities
Time run: 3/13/2013 1:17:19 PM
Capital
Time run: 3/13/2013 1:17:19 PM
Total Customer Assets
Time run: 3/13/2013 1:17:19 PM
Total Customer Liabilities
Time run: 3/13/2013 1:17:19 PM

Figure 27: Management Reporting - Income Statement - Income Statement


ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Income Statement
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Income Statement | Income Statement - Time Series | Income Statement - Key Indicators | Income Statement Variance Analysis | Income Statement-Line Of Business
Apply | Reset
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Reporting Period: 1990

Legal Entity: Bank Russia

Line Of Business: Missing LOB

Organization Unit: [All Column Values]

Product: [All Column Values]

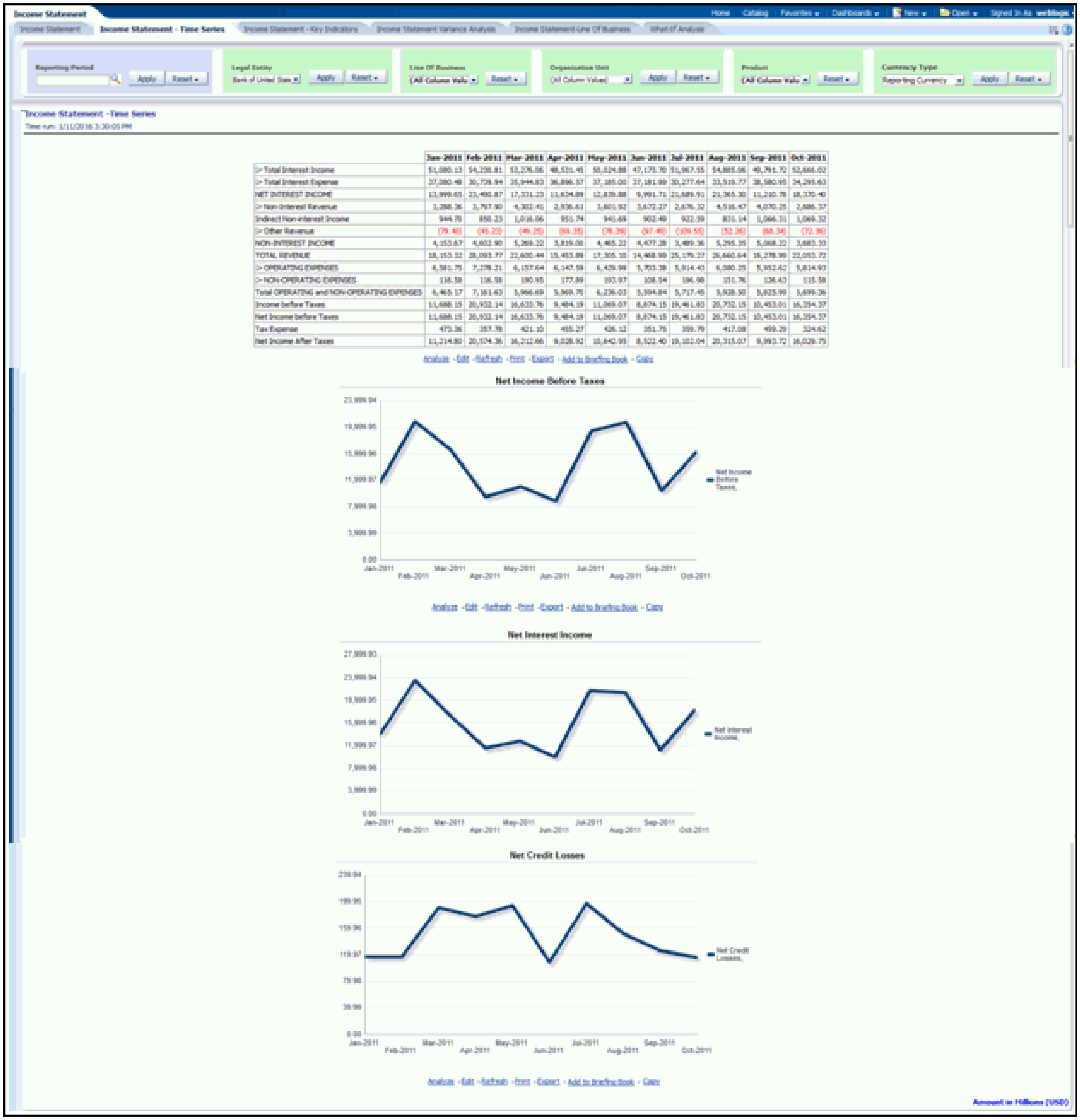
Income Statement for Apr-1994

Time run: 3/13/2013 1:19:04 PM

Amount in Millions (USD)

Income Statement	Actual	Actual YTD	B/(W) Prior Period	B/(W) Prior Yr	B/(W) Plan	B/(W) Forecast
⊟ Net Income Before Taxes	(27.00)	(102.00)	0.00	0.00	(39.00)	(23.00)
⊟ Operating Income before Taxes	(27.00)	(102.00)	0.00	0.00	(39.00)	(23.00)
⊟ Total Revenue, Net of Interest Expense	45.00	207.00	(15.00)	(15.00)	(15.00)	(15.00)
⊞ Net Interest Revenue	15.00	69.00	(5.00)	(5.00)	(5.00)	(5.00)
⊞ Non-Interest Revenue	45.00	207.00	(15.00)	(15.00)	(15.00)	(15.00)
⊞ Other Revenue	(15.00)	(69.00)	5.00	5.00	5.00	5.00
⊟ Net Credit Losses	18.00	108.00	3.00	3.00	0.00	8.00
Credit Losses	18.00	108.00	3.00	3.00	0.00	8.00
⊟ Operating Expenses	54.00	201.00	(18.00)	(18.00)	24.00	0.00
⊞ Processing Expenses	54.00	201.00	(18.00)	(18.00)	24.00	0.00

Figure 28: Management Reporting - Income Statement - Time Series


Income Statement
Home
Catalog
Favorites
Dashboards
New
Open
Signed In As weblogic
Income Statement
Income Statement - Time Series
Income Statement - Key Indicators
Income Statement Variance Analysis
Income Statement-Line Of Business
What-If Analysis
Apply
Reset
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Reporting Period:

Legal Entity: Bank of United Stat

Line Of Business: (All Column Valu

Organization Unit: (All Column Values)

Product: (All Column Valu

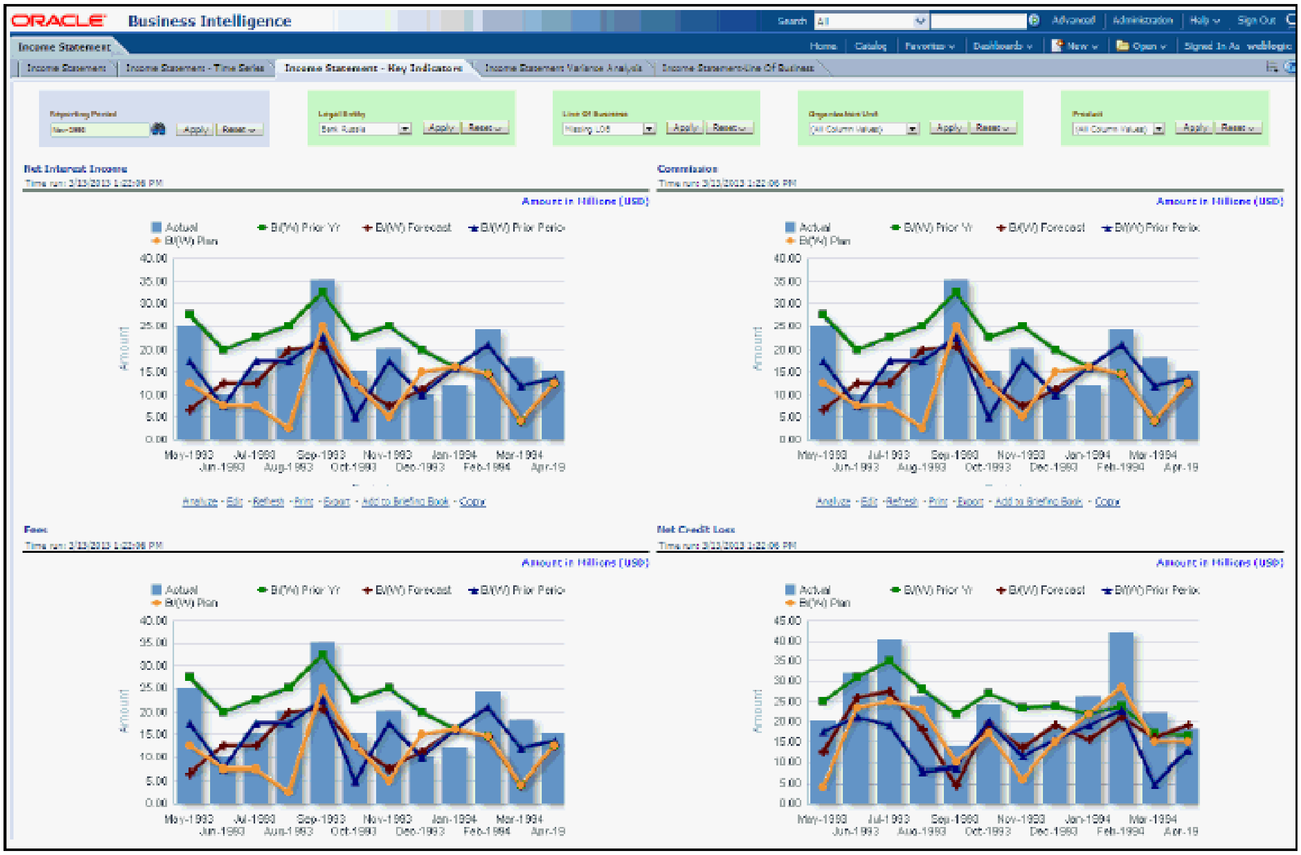
Currency Type: Reporting Currency

Income Statement - Time Series

Time run: 1/11/2016 3:30:05 PM

	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011	Oct-2011
> Total Interest Income	51,080.13	54,230.81	53,276.06	48,531.45	50,024.88	47,173.70	51,967.55	54,885.06	49,791.72	52,666.02
> Total Interest Expense	37,080.48	30,739.94	35,944.83	36,896.57	37,185.00	37,181.99	30,277.64	33,519.77	38,580.95	34,295.63
NET INTEREST INCOME	13,999.65	23,490.87	17,331.23	11,634.89	12,839.88	9,991.71	21,689.91	21,365.30	11,210.78	18,370.40
> Non-Interest Revenue	3,288.36	3,797.90	4,302.41	2,936.61	3,601.92	3,672.27	2,676.32	4,516.47	4,070.25	2,686.37
Indirect Non-interest Income	944.70	858.23	1,016.06	951.74	941.69	902.49	922.59	831.14	1,066.31	1,069.32
> Other Revenue	(79.40)	(45.23)	(49.25)	(69.35)	(78.39)	(97.49)	(109.55)	(52.26)	(68.34)	(72.36)
NON-INTEREST INCOME	4,153.67	4,602.90	5,269.22	3,819.00	4,465.22	4,477.28	3,489.36	5,295.35	5,068.22	3,683.33
TOTAL REVENUE	18,153.32	28,093.77	22,600.44	15,453.89	17,305.10	14,468.99	25,179.27	26,660.64	16,278.99	22,053.72
> OPERATING EXPENSES	6,581.75	7,278.21	6,157.64	6,147.59	6,429.99	5,703.38	5,914.40	6,080.25	5,952.42	5,814.93
> NON-OPERATING EXPENSES	116.58	116.58	190.95	177.89	193.97	108.54	196.98	151.76	128.43	115.58
Total OPERATING and NON-OPERATING EXPENSES	6,465.17	7,161.63	5,966.69	5,969.70	6,236.03	5,594.84	5,717.45	5,928.50	5,825.99	5,699.36
Income before Taxes	11,688.15	20,932.14	16,633.76	9,484.19	11,069.07	8,874.15	19,461.83	20,732.15	10,453.01	16,354.37
Net Income before Taxes	11,688.15	20,932.14	16,633.76	9,484.19	11,069.07	8,874.15	19,461.83	20,732.15	10,453.01	16,354.37
Tax Expense	473.36	357.78	421.10	455.27	426.12	351.75	359.79	417.08	459.29	324.62
Net Income After Taxes	11,214.80	20,574.36	16,212.66	9,028.92	10,642.95	8,522.40	19,102.04	20,315.07	9,993.72	16,029.75

Figure 29: Management Reporting - Income Statement - Key Indicators


ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Income Statement
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Income Statement | Income Statement - Time Series | Income Statement - Key Indicators | Income Statement Variance Analysis | Income Statement-Line Of Business
Reporting Period
Nov-1993
Apply | Reset
Legal Entity
Bank Russia
Apply | Reset
Line Of Business
Missing LOB
Apply | Reset
Organization Unit
(All Column Values)
Apply | Reset
Product
(All Column Values)
Apply | Reset

Net Interest Income
Time run: 3/13/2013 1:22:06 PM

Commission
Time run: 3/13/2013 1:22:06 PM

Fees
Time run: 3/13/2013 1:22:06 PM

Net Credit Loss
Time run: 3/13/2013 1:22:06 PM

Figure 30: Management Reporting - Income Statement - Variance Analysis

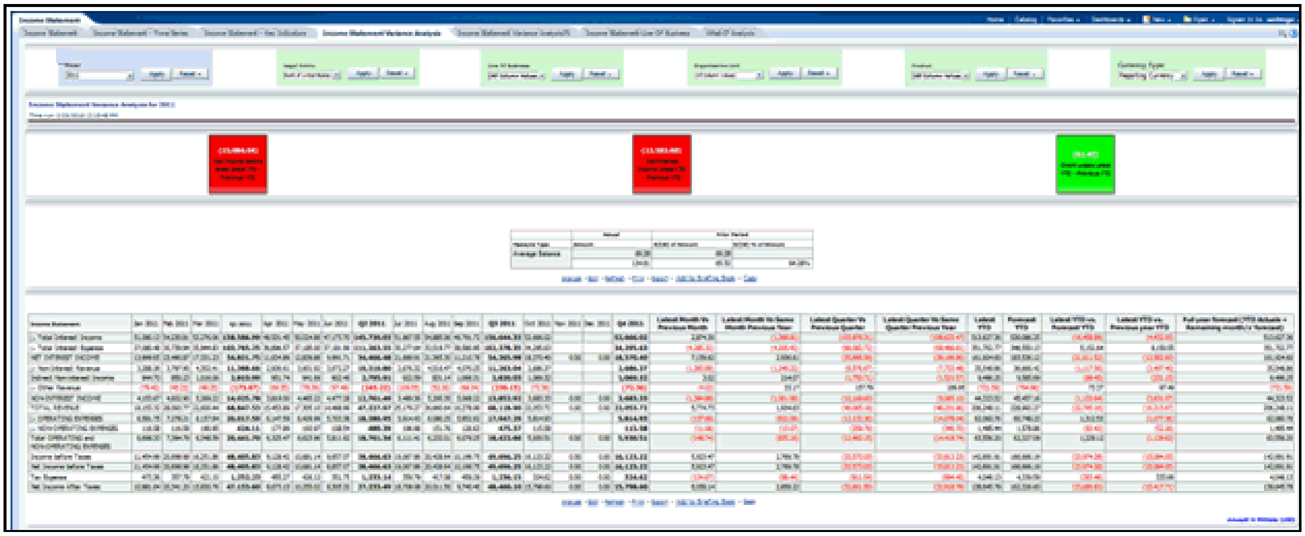
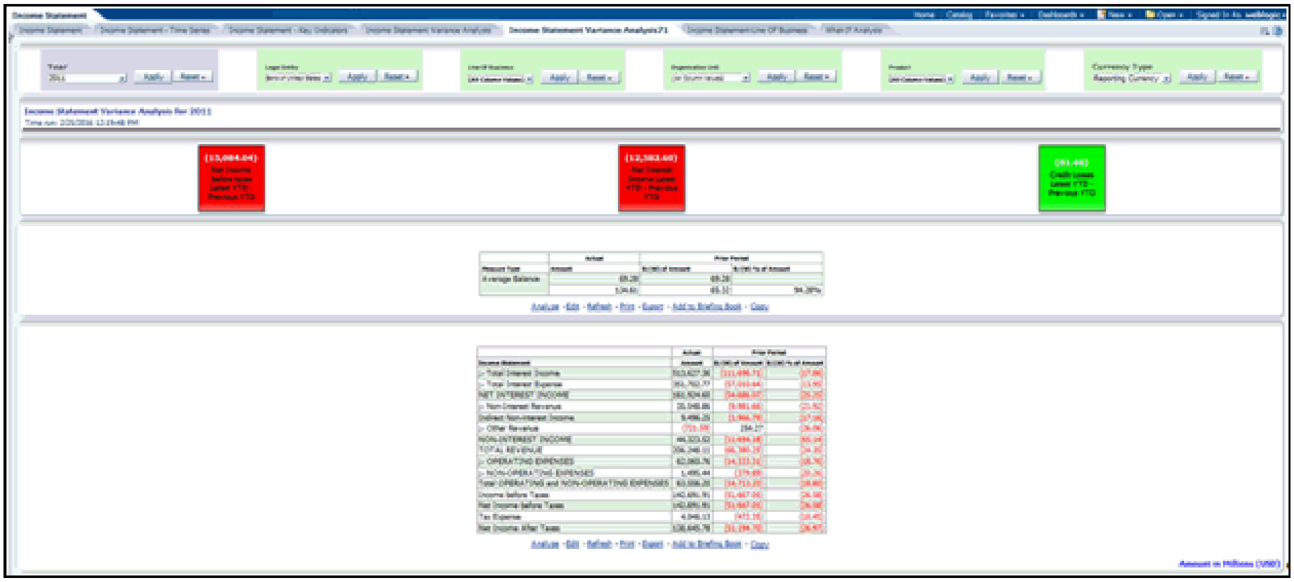


Figure 31: Management Reporting - Income Statement - Variance Analysis 1



Income Statement
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Income Statement | Income Statement - Time Series | Income Statement - Key Indicators | Income Statement Variance Analysis | Income Statement Variance Analysis71 | Income Statement-Line Of Business | What-If Analysis
Apply | Reset
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Year: 2011

Legal Entity

Line Of Business: (All Column Values)

Organization Unit

Product: (All Column Values)

Currency Type: Reporting Currency

Income Statement Variance Analysis for 2011

Time run: 2/25/2016 12:29:48 PM

(13,004.04) Net Income before taxes Latest YTD - Previous YTD

(12,583.68) Net Interest Income Latest YTD - Previous YTD

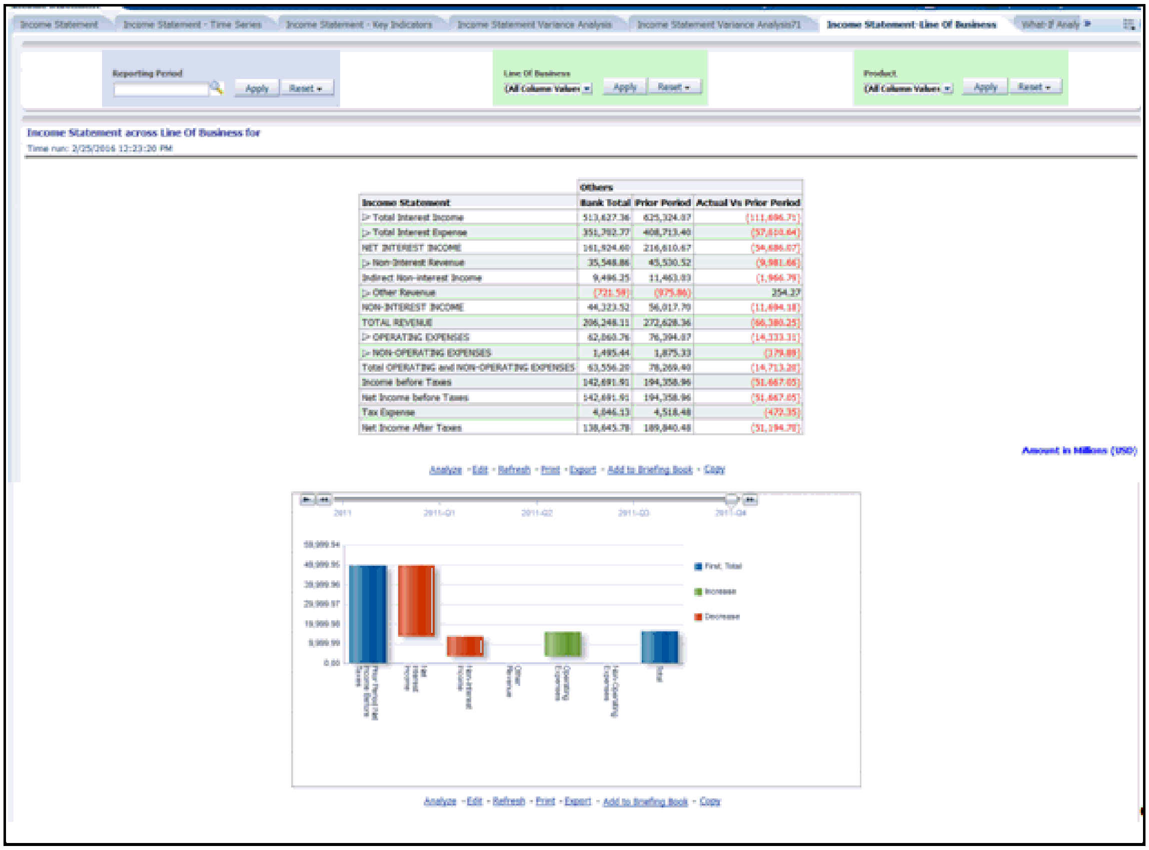
(61.46) Credit Losses Latest YTD - Previous YTD

	Actual	Prior Period	
Measure Type	Amount	B/(W) of Amount	B/(W) % of Amount
Average Balance	69.28	69.28	
	124.61	65.31	94.38%

	Actual	Prior Period	
Income Statement	Amount	B/(W) of Amount	B/(W) % of Amount
▷ Total Interest Income	513,627.36	(111,696.71)	(17.86%)
▷ Total Interest Expense	351,702.77	(57,010.64)	(13.95%)
NET INTEREST INCOME	161,924.60	(54,686.07)	(25.25%)
▷ Non-Interest Revenue	35,548.86	(9,981.66)	(21.92%)
Indirect Non-interest Income	9,496.25	(1,966.79)	(17.16%)
▷ Other Revenue	(721.59)	254.27	(26.06%)
NON-INTEREST INCOME	44,323.52	(11,694.18)	[illegible]
TOTAL REVENUE	206,248.11	(66,380.25)	(24.35%)
▷ OPERATING EXPENSES	62,060.76	(14,333.31)	(18.76%)
▷ NON-OPERATING EXPENSES	1,495.44	(379.89)	(20.26%)
Total OPERATING and NON-OPERATING EXPENSES	63,556.20	(14,713.20)	(18.80%)
Income before Taxes	142,691.91	(51,667.05)	(26.58%)
Net Income before Taxes	142,691.91	(51,667.05)	(26.58%)
Tax Expense	4,046.13	(472.35)	(10.45%)
Net Income After Taxes	138,645.78	(51,194.70)	(26.97%)

Amount in Millions (USD)

Figure 32: Management Reporting - Income Statement - Line Of Business



Income Statement | Income Statement - Time Series | Income Statement - Key Indicators | Income Statement Variance Analysis | Income Statement Variance Analysis71 | Income Statement-Line Of Business | What-If Analy
Apply | Reset
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
2011
2011-Q1
2011-Q2
2011-Q3
2011-Q4
59,999.94
49,999.95
39,999.96
29,999.97
19,999.98
9,999.99
0.00
Prior Period Net Income Before Taxes
Net Interest Income
Non-Interest Income
Other Revenue
Operating Expenses
Non-Operating Expenses
Total
First, Total
Increase
Decrease
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Reporting Period

Line Of Business: (All Column Values)

Product: (All Column Values)

Income Statement across Line Of Business for

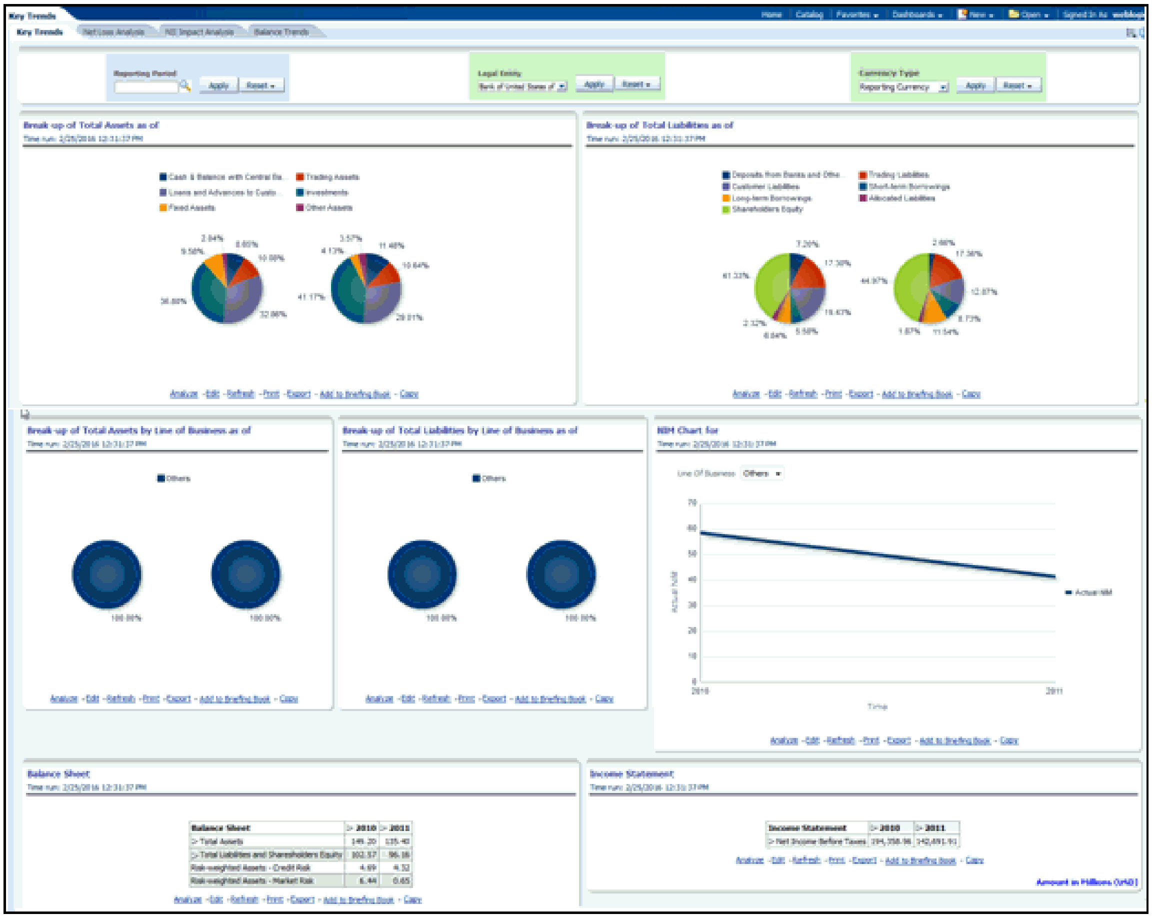
Time run: 2/25/2016 12:23:20 PM

	Others		
Income Statement	Bank Total	Prior Period	Actual Vs Prior Period
▷ Total Interest Income	513,627.36	625,324.07	(111,696.71)
▷ Total Interest Expense	351,702.77	408,713.40	(57,010.64)
NET INTEREST INCOME	161,924.60	216,610.67	(54,686.07)
▷ Non-Interest Revenue	35,548.86	45,530.52	(9,981.66)
Indirect Non-interest Income	9,496.25	11,463.03	(1,966.79)
▷ Other Revenue	(721.59)	(975.86)	254.27
NON-INTEREST INCOME	44,323.52	56,017.70	(11,694.18)
TOTAL REVENUE	206,248.11	272,628.36	(66,380.25)
▷ OPERATING EXPENSES	62,060.76	76,394.07	(14,333.31)
▷ NON-OPERATING EXPENSES	1,495.44	1,875.33	(379.89)
Total OPERATING and NON-OPERATING EXPENSES	63,556.20	78,269.40	(14,713.20)
Income before Taxes	142,691.91	194,358.96	(51,667.05)
Net Income before Taxes	142,691.91	194,358.96	(51,667.05)
Tax Expense	4,046.13	4,518.48	(472.35)
Net Income After Taxes	138,645.78	189,840.48	(51,194.70)

Amount in Millions (USD)

Figure 33: Management Reporting - Income Statement - What-If Analysis

Figure 1: Management Reporting - Key Trends - Key Trends


Key Trends
Home | Catalog | Favorites ▾ | Dashboards ▾ | New ▾ | Open ▾ | Signed In As weblogic
Key Trends | Net Loss Analysis | NII Impact Analysis | Balance Trends
Apply | Reset ▾
Apply | Reset ▾
Apply | Reset ▾
Break-up of Total Assets as of
Time run: 2/25/2016 12:31:37 PM
Cash & Balance with Central Ba...
Trading Assets
Loans and Advances to Custo...
Investments
Fixed Assets
Other Assets
2.04%
0.65%
9.50%
10.00%
38.80%
32.86%
3.57%
11.48%
4.17%
10.64%
41.17%
29.01%
Break-up of Total Liabilities as of
Time run: 2/25/2016 12:31:37 PM
Deposits from Banks and Othe...
Trading Liabilities
Customer Liabilities
Short-term Borrowings
Long-term Borrowings
Allocated Liabilities
Shareholders Equity
7.26%
17.30%
61.33%
15.47%
2.32%
0.04%
5.58%
2.66%
17.36%
44.97%
12.87%
8.73%
1.87%
11.54%
Break-up of Total Assets by Line of Business as of
Time run: 2/25/2016 12:31:37 PM
Others
100.00%
100.00%
Break-up of Total Liabilities by Line of Business as of
Time run: 2/25/2016 12:31:37 PM
Others
100.00%
100.00%
NIM Chart for
Time run: 2/25/2016 12:31:37 PM
Line Of Business
Others ▾
70
60
50
40
30
20
10
0
Actual NIM
2010
2011
Time
Actual NIM
Balance Sheet
Time run: 2/25/2016 12:31:37 PM
Income Statement
Time run: 2/25/2016 12:31:37 PM
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Amount in Millions (USD)

Reporting Period:

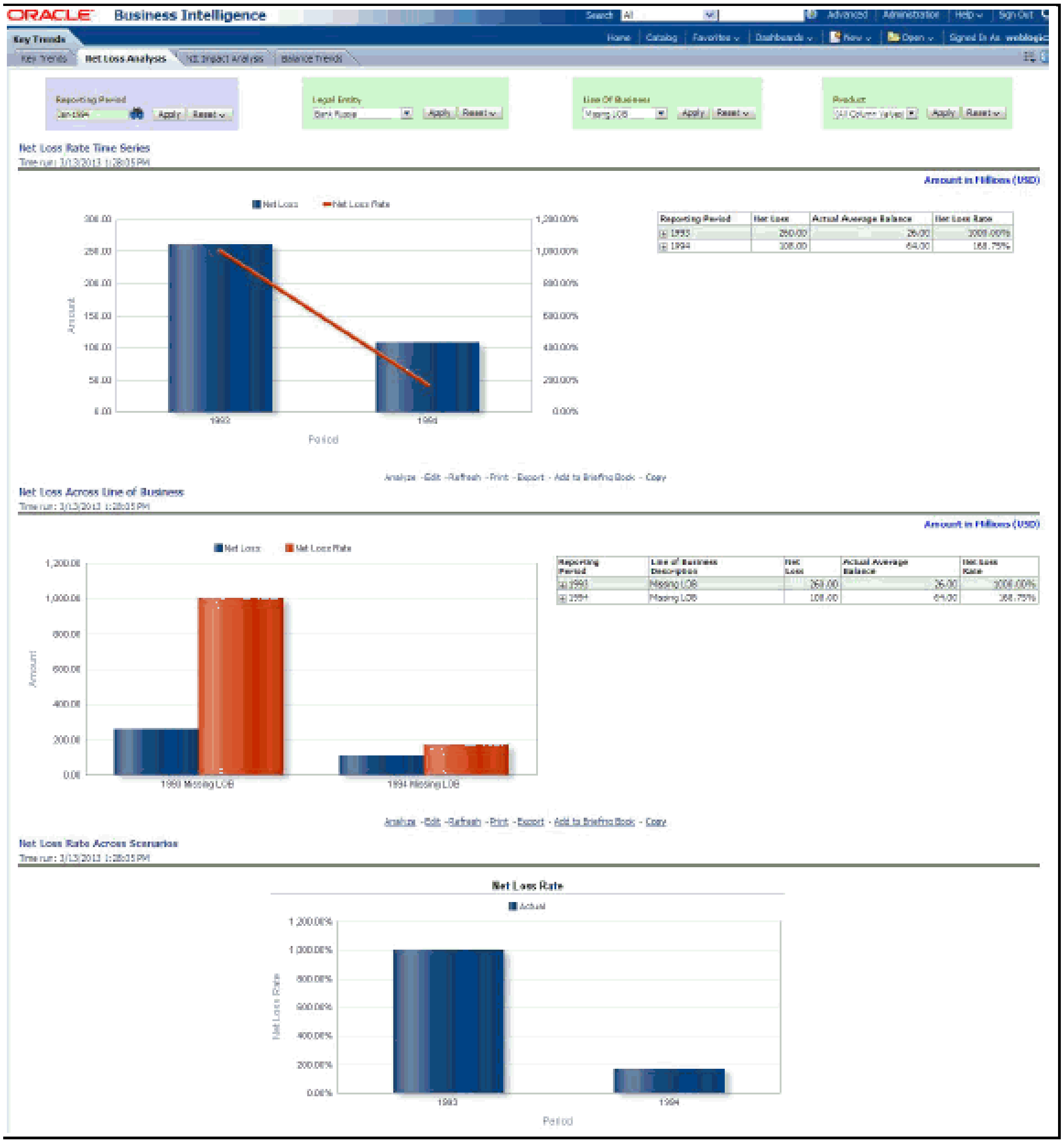
Legal Entity: Bank of United States of

Currency Type: Reporting Currency

Balance Sheet	> 2010	> 2011
> Total Assets	149.20	135.40
> Total Liabilities and Shareholders Equity	102.57	96.16
Risk-weighted Assets - Credit Risk	4.69	4.32
Risk-weighted Assets - Market Risk	6.44	0.65

Income Statement	> 2010	> 2011
> Net Income Before Taxes	194,358.96	142,491.91

Figure 34: Management Reporting - Key Trends - Net Loss Analysis


ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Key Trends
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Key Trends | Net Loss Analysis | NI Impact Analysis | Balance Trends
Reporting Period
Apply | Reset
Legal Entity
Apply | Reset
Line Of Business
Apply | Reset
Product
Apply | Reset

Reporting Period: Jan-1994

Legal Entity: Bank Futura

Line Of Business: Missing LOB

Product: All Column Values

Net Loss Rate Time Series

Time run: 3/13/2013 1:28:05 PM

Amount in Millions (USD)

Reporting Period	Net Loss	Actual Average Balance	Net Loss Rate
⊞ 1993	260.00	26.00	1000.00%
⊞ 1994	108.00	64.00	168.75%

Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Net Loss Across Line of Business

Time run: 3/13/2013 1:28:05 PM

Amount in Millions (USD)

Reporting Period	Line of Business Description	Net Loss	Actual Average Balance	Net Loss Rate
⊞ 1993	Missing LOB	260.00	26.00	1000.00%
⊞ 1994	Missing LOB	108.00	64.00	168.75%

Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Net Loss Rate Across Scenarios

Time run: 3/13/2013 1:28:05 PM

Figure 35: Management Reporting - Key Trends - NII Impact Analysis

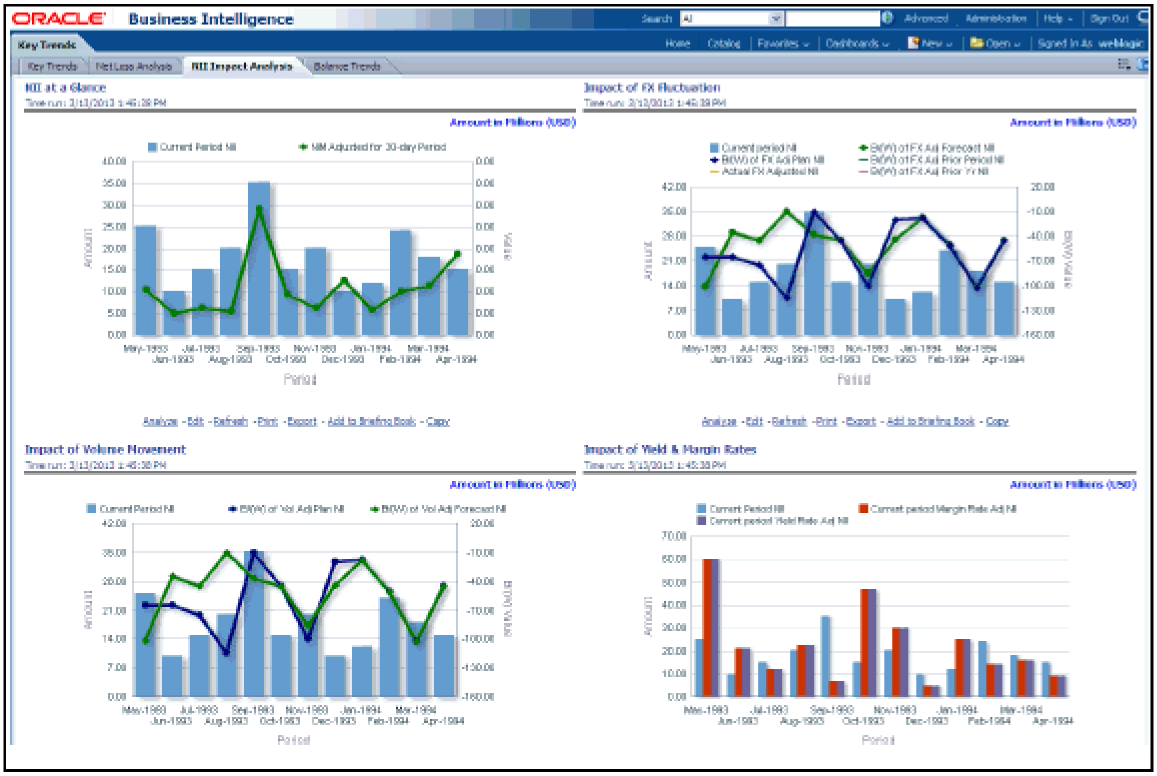
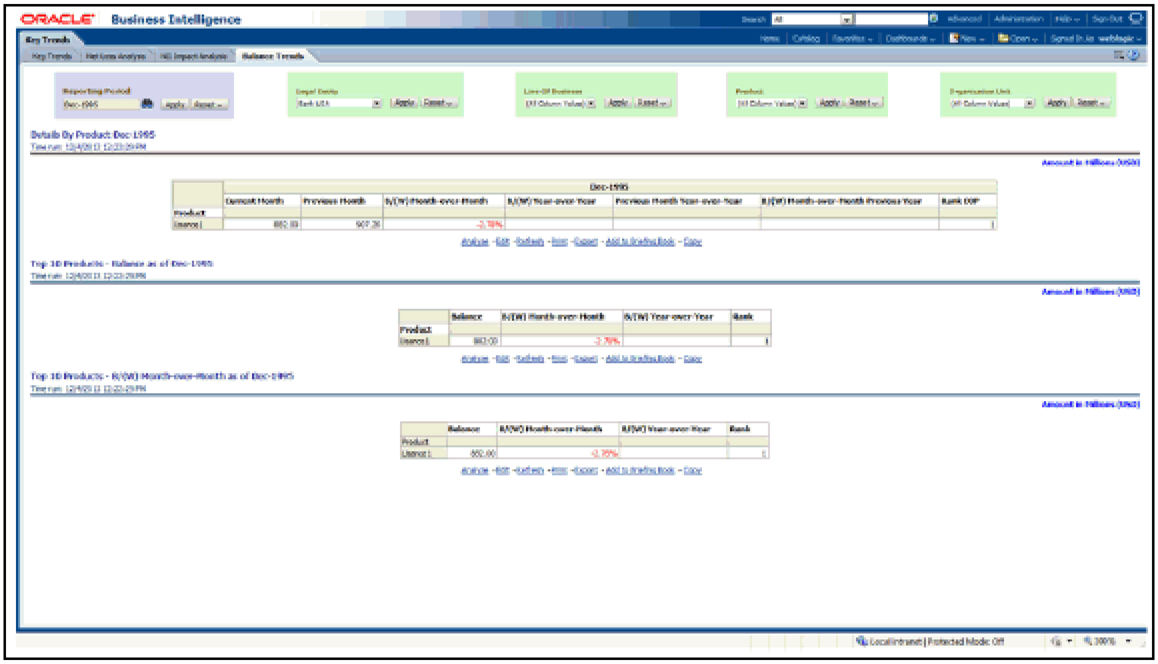

ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Key Trends
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Key Trends | Net Loss Analysis | NII Impact Analysis | Balance Trends
NII at a Glance
Time run: 3/13/2013 1:46:38 PM
Amount in Millions (USD)
Current Period NII
NII Adjusted for 30-day Period
Amount
Value
Period
May-1993 Jun-1993 Jul-1993 Aug-1993 Sep-1993 Oct-1993 Nov-1993 Dec-1993 Jan-1994 Feb-1994 Mar-1994 Apr-1994
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Impact of FX Fluctuation
Time run: 3/13/2013 1:46:38 PM
Amount in Millions (USD)
Current period NII
B(W) of FX Adj Plan NII
Actual FX Adjusted NII
B(W) of FX Adj Forecast NII
B(W) of FX Adj Prior Period NII
B(W) of FX Adj Prior Yr NII
Amount
B(W) Value
Period
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Impact of Volume Movement
Time run: 3/13/2013 1:46:38 PM
Amount in Millions (USD)
Current Period NII
B(W) of Vol Adj Plan NII
B(W) of Vol Adj Forecast NII
Amount
B(W) Value
Period
Impact of Yield & Margin Rates
Time run: 3/13/2013 1:46:38 PM
Amount in Millions (USD)
Current Period NII
Current period Margin Rate Adj NII
Current period Yield Rate Adj NII
Amount
Period

Figure 36: Management Reporting - Key Trends - Balance Trends


ORACLE Business Intelligence
Search All
Advanced | Administration | Help | Sign Out
Key Trends
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblogic
Key Trends | Net Loss Analysis | NII Impact Analysis | Balance Trends
Reporting Period
Apply | Reset
Legal Entity
Line Of Business
Product
Organization Unit
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Local intranet | Protected Mode: Off
100%

Reporting Period: Dec-1995
Legal Entity: Bank USA
Line Of Business: (All Column Values)
Product: (All Column Values)
Organization Unit: (All Column Values)

Details By Product: Dec-1995
Time run: 12/4/2013 12:23:29 PM

Amount in Millions (USD)

	Dec-1995						
	Current Month	Previous Month	B/(W) Month-over-Month	B/(W) Year-over-Year	Previous Month Year-over-Year	B/(W) Month-over-Month Previous Year	Rank DIP
Product							
Loans1	882.00	907.20	-2.78%				1

Top 10 Products - Balance as of Dec-1995
Time run: 12/4/2013 12:23:29 PM

Amount in Millions (USD)

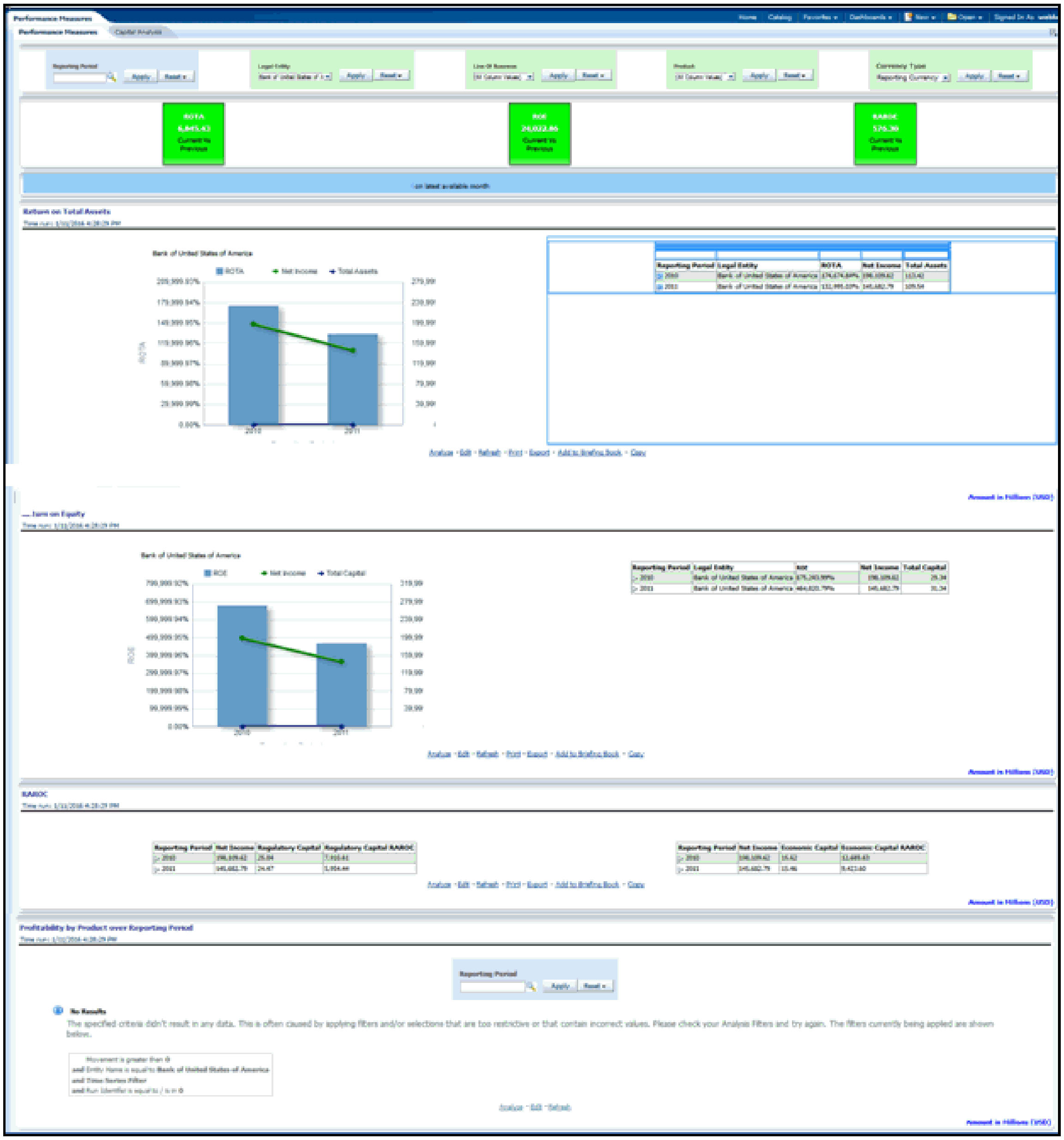
	Balance	B/(W) Month-over-Month	B/(W) Year-over-Year	Rank
Product				
Loans1	882.00	-2.78%		1

Top 10 Products - B/(W) Month-over-Month as of Dec-1995
Time run: 12/4/2013 12:23:29 PM

Amount in Millions (USD)

	Balance	B/(W) Month-over-Month	B/(W) Year-over-Year	Rank
Product				
Loans1	882.00	-2.78%		1

Figure 37: Management Reporting - Performance Measures - Performance Measures


Performance Measures
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As
Performance Measures | Capital Analysis
Reporting Period | Apply | Reset
Legal Entity | Bank of United States of | Apply | Reset
Line Of Business | (All Column Values) | Apply | Reset
Product | (All Column Values) | Apply | Reset
Currency Type | Reporting Currency | Apply | Reset
ROTA
6,845.43
Current Vs Previous
ROE
24,032.86
Current Vs Previous
RAROC
576.30
Current Vs Previous
on latest available month
Bank of United States of America
ROTA
Net Income
Total Assets
2010
2011
ROE
Total Capital
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy
Amount in Millions (USD)

Return on Total Assets

Time run: 1/11/2016 4:28:29 PM

Reporting Period	Legal Entity	ROTA	Net Income	Total Assets
2010	Bank of United States of America	174,674.89%	198,109.62	113.42
2011	Bank of United States of America	132,999.33%	145,682.79	109.54

Return on Equity

Time run: 1/11/2016 4:28:29 PM

Reporting Period	Legal Entity	ROE	Net Income	Total Capital
2010	Bank of United States of America	875,243.89%	198,109.62	25.34
2011	Bank of United States of America	464,820.79%	145,682.79	31.34

RAROC

Time run: 1/11/2016 4:28:29 PM

Reporting Period	Net Income	Regulatory Capital	Regulatory Capital RAROC
2010	198,109.62	25.84	7,665.41
2011	145,682.79	24.47	5,954.44

Reporting Period	Net Income	Economic Capital	Economic Capital RAROC
2010	198,109.62	15.62	12,689.43
2011	145,682.79	15.46	9,423.60

Profitability by Product over Reporting Period

Time run: 1/11/2016 4:28:29 PM

Reporting Period

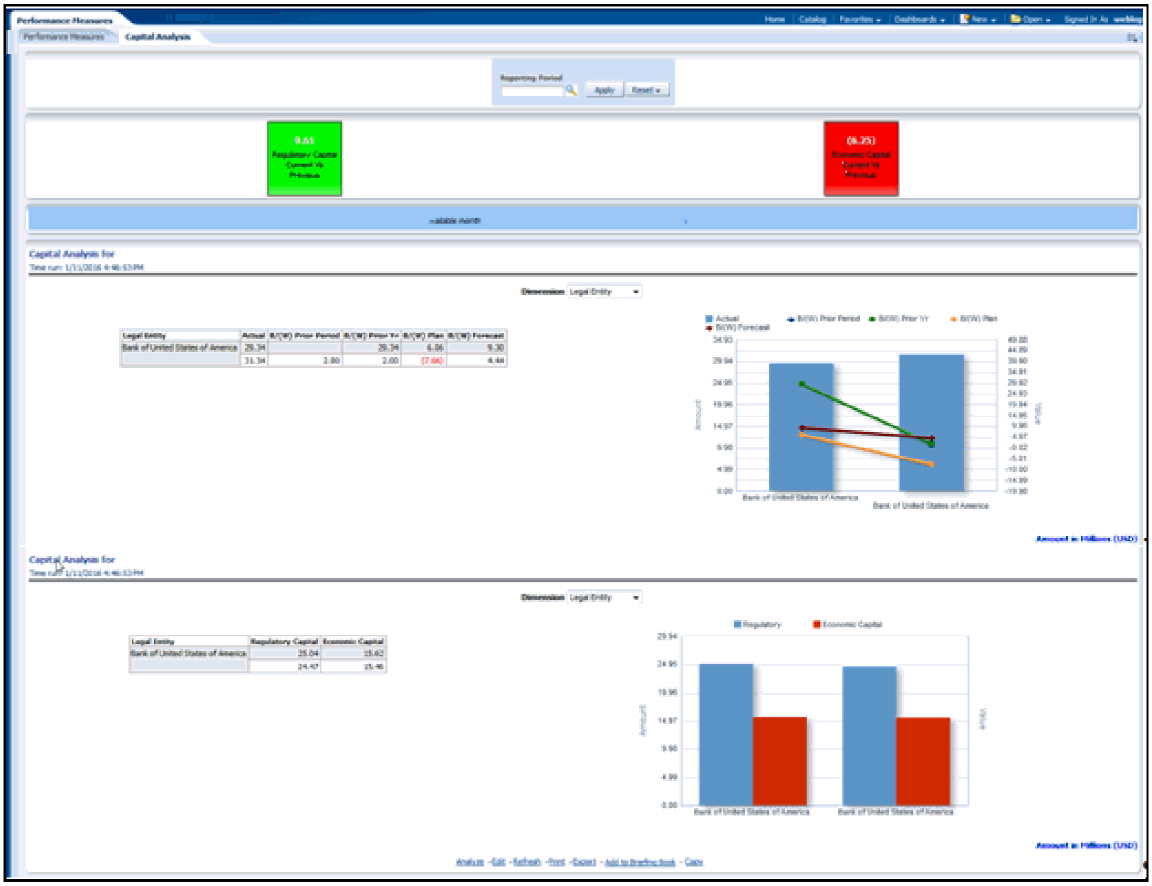
No Results

The specified criteria didn't result in any data. This is often caused by applying filters and/or selections that are too restrictive or that contain incorrect values. Please check your Analysis Filters and try again. The filters currently being applied are shown below.

Movement is greater than 0
and Entity Name is equal to Bank of United States of America
and Time Series Filter
and Run Identifier is equal to / is in 0

Analyze - Edit - Refresh

Figure 38: Management Reporting - Performance Measures – Capital Analysis


Performance Measures
Home | Catalog | Favorites | Dashboards | New | Open | Signed In As weblog
Performance Measures
Capital Analysis
Reporting Period
Apply
Reset
9.61
Regulatory Capital Current Vs Previous
(6.25)
Economic Capital Current Vs Previous
Actual
B/(W) Prior Period
B/(W) Prior YY
B/(W) Plan
B/(W) Forecast
34.93
29.94
24.95
19.96
14.97
9.98
4.99
0.00
49.00
44.89
39.90
34.91
29.92
24.93
19.94
14.95
9.96
4.97
-0.02
-5.01
-10.00
-14.99
-19.98
Amount
Value
Bank of United States of America
Bank of United States of America
Regulatory
Economic Capital
29.94
24.95
19.96
14.97
9.98
4.99
0.00
Amount
Value
Bank of United States of America
Bank of United States of America
Analyze - Edit - Refresh - Print - Export - Add to Briefing Book - Copy

Capital Analysis for
Time run: 1/11/2016 4:46:53 PM

Dimension: Legal Entity

Legal Entity	Actual	B/(W) Prior Period	B/(W) Prior Yr	B/(W) Plan	B/(W) Forecast
Bank of United States of America	29.34		29.34	6.06	9.30
	31.34	2.00	2.00	(7.66)	4.44

Amount in Millions (USD)

Capital Analysis for
Time run: 1/11/2016 4:46:53 PM

Dimension: Legal Entity

Legal Entity	Regulatory Capital	Economic Capital
Bank of United States of America	25.04	15.62
	24.47	15.46

Amount in Millions (USD)

13.5.2 Forecast Reporting

The business intent of the Forecast Reporting dashboard is to analyze the Financial Element based on the Income Statement and Balance Sheet reporting (forecast). Currency Type prompt allows data to be viewed for Reporting Currency, Local Currency, and Base Currency for Forecast Reporting reports.

Figure 39: Forecast Reports - Balance Sheet Reports – Forecast Balances

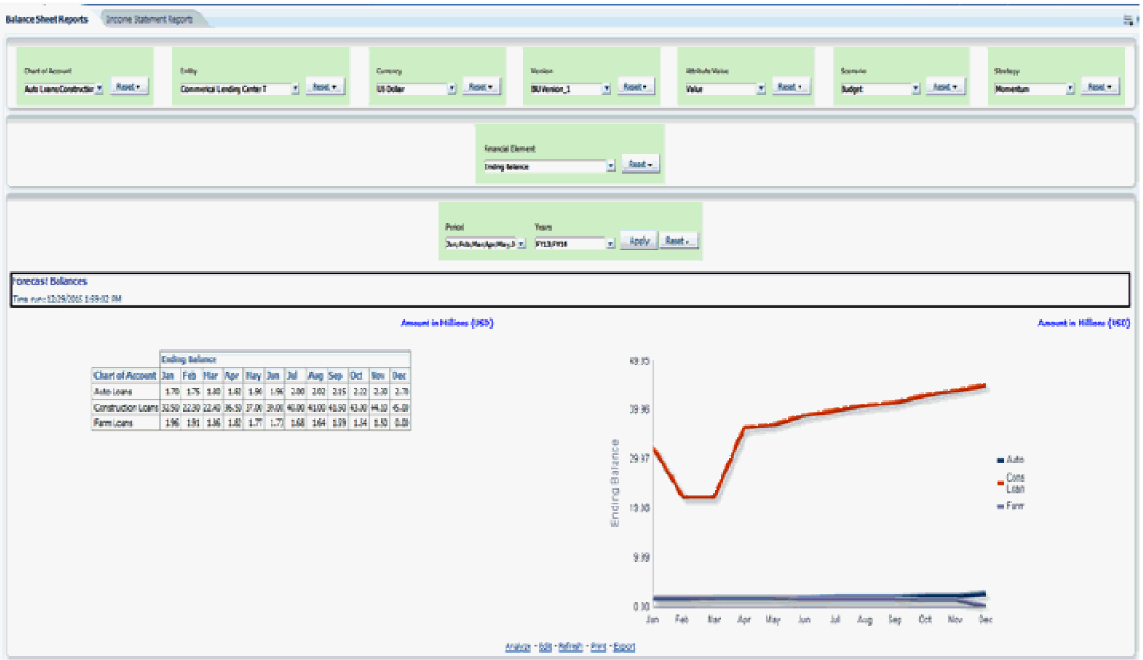


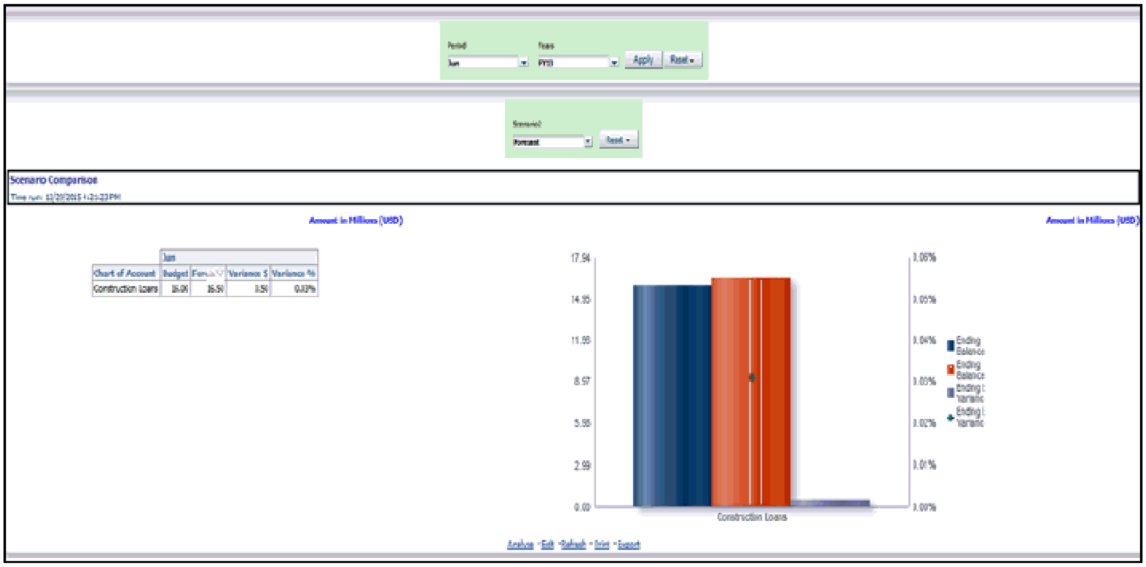
Chart of Account: Auto Loans/Constructio
Entity: Commercial Lending Center T
Currency: US Dollar
Version: BU Version_1
Attribute Value: Value
Scenario: Budget
Strategy: Momentum
Financial Element: Ending Balance
Period: Jan,Feb,Mar,Apr,May,J
Years: FY13,FY14

Forecast Balances
Time run: 12/29/2015 1:59:02 PM

Amount in Millions (USD)

	Ending Balance											
Chart of Account	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Auto Loans	1.70	1.75	1.80	1.82	1.90	1.96	2.00	2.02	2.15	2.22	2.30	2.78
Construction Loans	32.50	22.30	22.40	36.50	37.00	39.00	40.00	41.00	41.50	43.00	44.10	45.00
Farm Loans	1.96	1.91	1.86	1.82	1.77	1.77	1.68	1.64	1.59	1.54	1.55	0.00

Figure 40: Forecast Reports - Balance Sheet Reports – Scenario Comparison



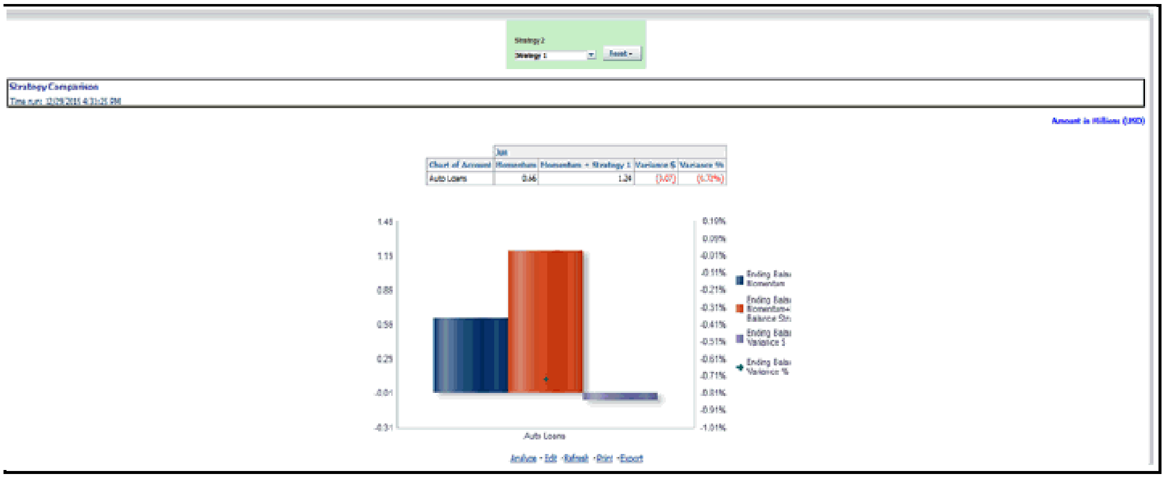
Period: Jun
Years: FY13
Scenario2: Forecast

Scenario Comparison
Time run: 12/29/2015 4:21:23 PM

Amount in Millions (USD)

	Jun			
Chart of Account	Budget	Fore	Variance $	Variance %
Construction Loans	16.00	16.50	0.50	0.03%

Figure 41: Forecast Reports - Balance Sheet Reports – Strategy Comparison



Strategy 2: Strategy 1

Strategy Comparison
Time run: 12/29/2015 4:31:25 PM

Amount in Millions (USD)

	Jan			
Chart of Account	Momentum	Momentum + Strategy 1	Variance $	Variance %
Auto Loans	0.66	1.24	(3.07)	(6.72%)

Figure 42: Forecast Reports - Income Statement Reports – Interest Vs. Average Balance

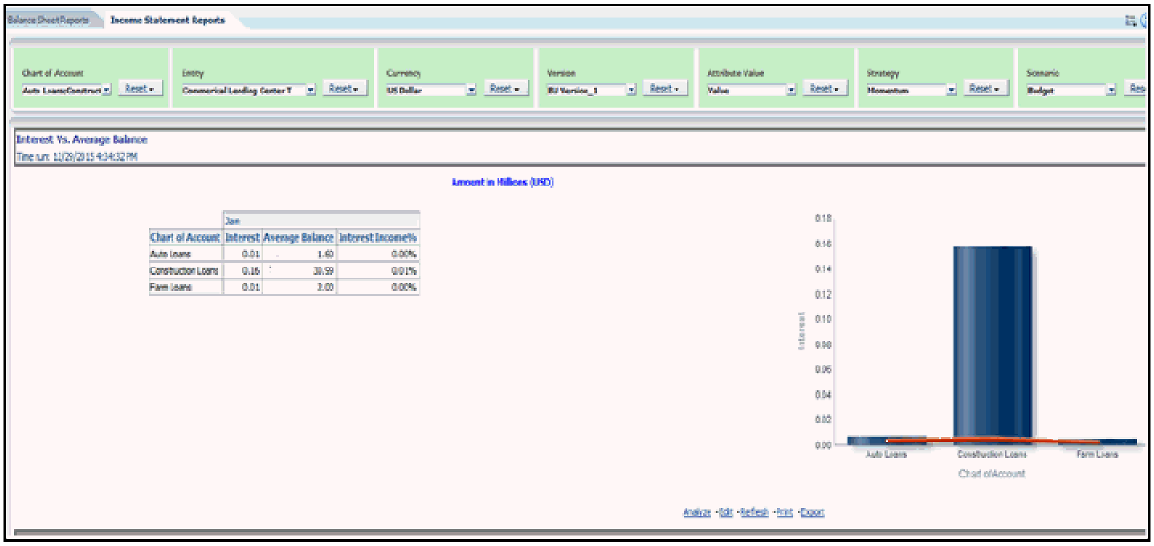


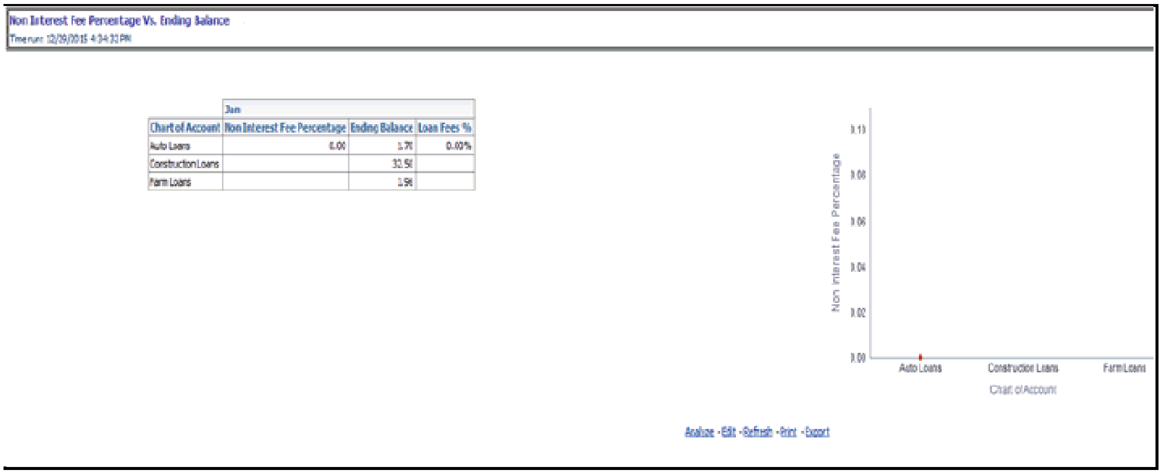
Chart of Account: Auto Loans;Construct
Entity: Commercial Lending Center T
Currency: US Dollar
Version: BU Version_1
Attribute Value: Value
Strategy: Momentum
Scenario: Budget

Interest Vs. Average Balance
Time run: 11/29/2015 4:34:32 PM

Amount in Millions (USD)

	Jan		
Chart of Account	Interest	Average Balance	Interest Income%
Auto Loans	0.01	1.60	0.00%
Construction Loans	0.16	30.59	0.01%
Farm loans	0.01	2.00	0.00%

Figure 43: Forecast Reports - Income Statement Reports – Non-Interest Fee Percentage Vs. Ending Balance

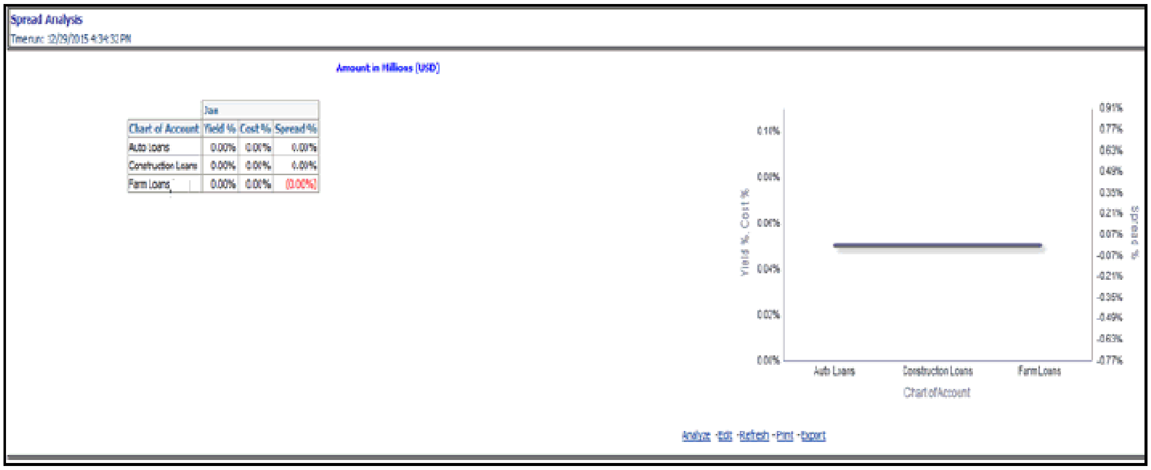


Non Interest Fee Percentage Vs. Ending Balance

Time run: 12/29/2015 4:34:32 PM

	Jan		
Chart of Account	Non Interest Fee Percentage	Ending Balance	Loan Fees %
Auto Loans	0.00	1.78	0.00%
Construction Loans		32.58	
Farm Loans		1.98	

Figure 44: Forecast Reports - Income Statement Reports – Spread Analysis



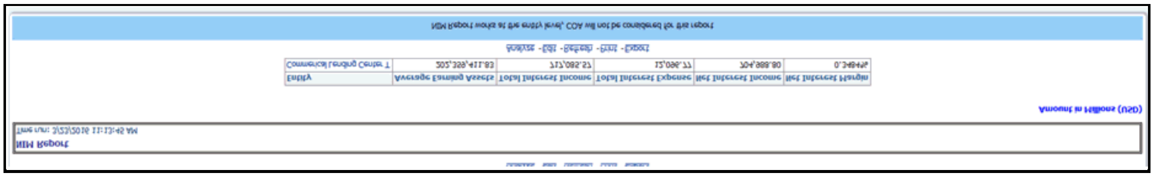
Spread Analysis

Time run: 12/29/2015 4:34:32 PM

Amount in Millions (USD)

	Jan		
Chart of Account	Yield %	Cost %	Spread %
Auto Loans	0.00%	0.00%	0.00%
Construction Loans	0.00%	0.00%	0.00%
Farm Loans	0.00%	0.00%	(0.00%)

Figure 45: Forecast Reports - Income Statement Reports – NIM Report



NIM Report

Time run: 3/23/2016 11:13:45 AM

Amount in Millions (USD)

Entity	Average Earning Assets	Total Interest Income	Total Interest Expense	Net Interest Income	Net Interest Margin
Commercial Lending Center 1	202,359,411.83	717,085.57	12,096.77	704,988.80	0.3484%

NIM Report works at the entity level, COA will not be considered for this report

14 Appendix A: How to Define a Dimension

As a prerequisite, dimension tables should be added in the data model and the fact table needs to have the referential key with the dimension table. These dimension tables hold the dimension members and can be level-based or parent-child. Level based dimension tables contain columns for each level of the hierarchy, while parent-child dimension tables contain columns for storing the relationship between the parent and child members. These dimension tables can be loaded from external systems or can be maintained within the Dimension Management component of OFSAAI. If the user intends to maintain the dimension within OFSAAI for adding dimension tables, see the Oracle Financial Services Analytical Applications Data Model Utilities User Guide. If the dimension data is fetched from OFS PFT, it reads only the nodes/leafs belonging to a single hierarchy. Therefore, before fetching dimension data from OFS PFT, ensure that the AMHM tables belonging to a single dimension have data present for only one hierarchy.

Dimension definition process involves the following sub-processes:

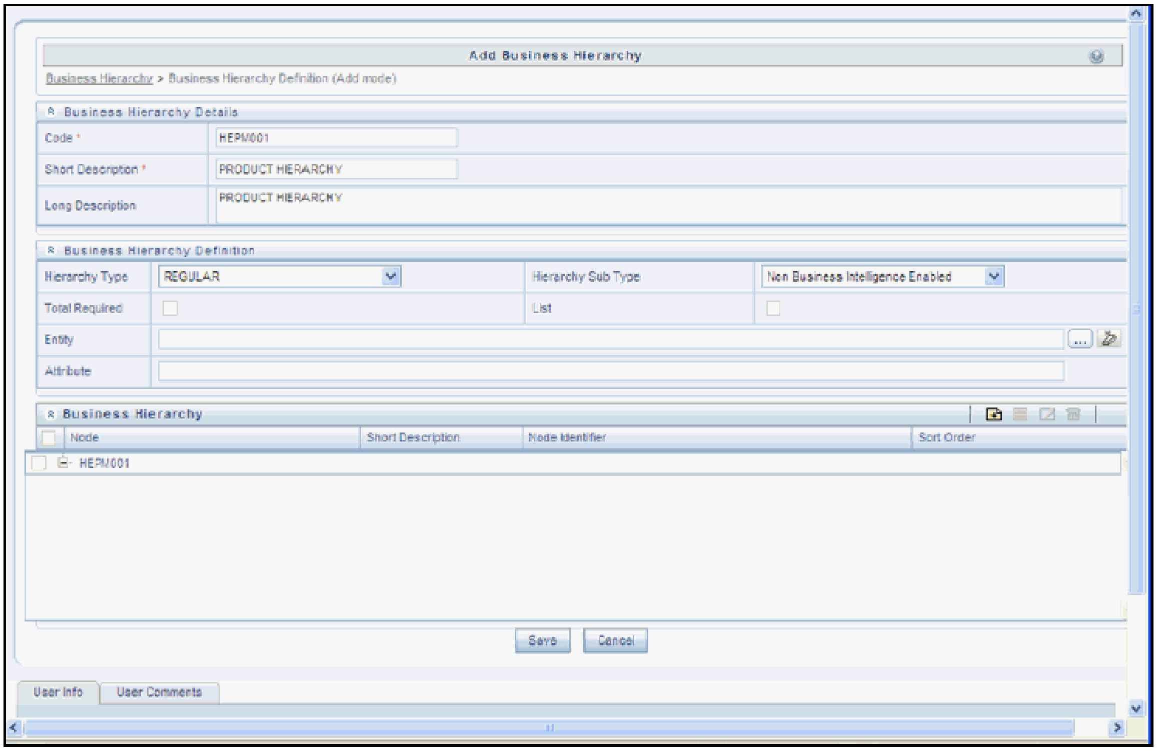
- Create a Business Hierarchy
- Create a Business Dimension
- Modify a Dataset

14.1 Create a Business Hierarchy

To create a business hierarchy, follow these steps:

1. From the **Unified Metadata Manager**, select **Business Metadata Management**, and then select **Business Hierarchy**.

Figure 46: Business Hierarchy



Add Business Hierarchy

Business Hierarchy > Business Hierarchy Definition (Add mode)

Business Hierarchy Details

Code *	HEPM001
Short Description *	PRODUCT HIERARCHY
Long Description	PRODUCT HIERARCHY

Business Hierarchy Definition

Hierarchy Type	REGULAR	Hierarchy Sub Type	Non Business Intelligence Enabled
Total Required	□	List	□
Entity			
Attribute			

Business Hierarchy

□	Node	Short Description	Node Identifier	Sort Order
□	HEPM001			

2. Click the **Add** icon to create a Business hierarchy definition. In the **Business Hierarchy Definition (Add mode)** window, select the **Hierarchy Type**. The Hierarchy Type can be:
   - **Regular**: for representing non-time and non-measure dimensions in a hierarchical format. Examples of this type are Product, Organization Unit, and so on.
   - **Measure**: for representing the measures in the hierarchical format. An example of this type is the Management Reporting Line.
   - **Time**: for representing the calendar or date dimension in a hierarchical format. An example of this type is the Calendar hierarchy.
3. Select the **Hierarchy Sub Type**. The Hierarchy Sub Type can be:
   - **Non-Business Intelligence Enabled**: for representing the hierarchy with underlying data store containing just leaves and nodes are built within the metadata of the hierarchy. This subtype is useful for modelling bucket/range, ragged and non-additive hierarchies.
   - **Business Intelligence Enabled**: for representing the hierarchy with the underlying data store as a level-based dimension table. This sub-type is useful for modelling balanced hierarchies.
   - **Parent-Child**: for representing the hierarchy with the underlying data store as a parent-child dimension table. This subtype is useful for modelling ragged hierarchies.
4. Select the **Total Required** property, if a TOTAL is required to be included as the root node of the hierarchy.
5. Select the **List** property, if the hierarchy is a flat list of members without any levels.
6. Select the **Entity** and **Attribute** on which the hierarchy is based.

   The components for the hierarchy definition differ for each subtype of the hierarchy.
   - If subtype is Non-Business Intelligence Enabled, then the user can add nodes and the order in which the node should appear in the hierarchy (sort-order). Node identifiers are SQL expressions that are specified for leaf members and data is classified based on the node identifiers.
   - If subtype is Business Intelligence Enabled, then the user can specify the levels and SQL expressions for each level within the hierarchy.
   - If subtype is Parent-Child, then the user can specify the column that contains the parent member and the column that contains the child member.

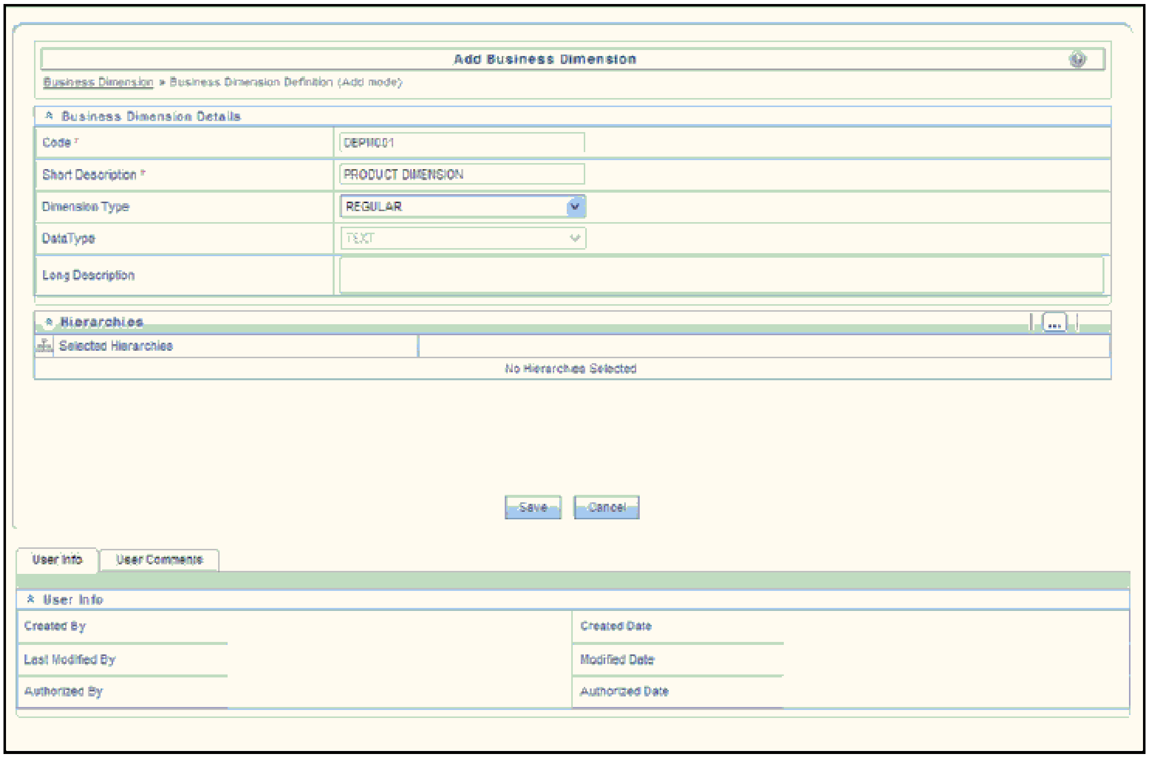
For more details, see the Oracle Financial Services Analytical Applications Infrastructure User Guide.

14.2 Create a Business Dimension

To create a business dimension, follow these steps:

1. From the **Unified Metadata Manager**, select **Business Metadata Management**, and then select **Business Dimension**.

Figure 47: Business Hierarchy Details Page



Add Business Dimension

Business Dimension » Business Dimension Definition (Add mode)

Business Dimension Details

Code *	DEPM001
Short Description *	PRODUCT DIMENSION
Dimension Type	REGULAR
DataType	TEXT
Long Description	

Hierarchies

Selected Hierarchies

No Hierarchies Selected

User Info

Created By		Created Date	
Last Modified By		Modified Date	
Authorized By		Authorized Date	

2. Click the **Add** icon to create a Business dimension definition. In the **Business Dimension Definition (Add mode)** window, select the **Dimension Type**. Dimension type is the same as the Hierarchy type and helps to filter the hierarchies that will be part of the dimension.

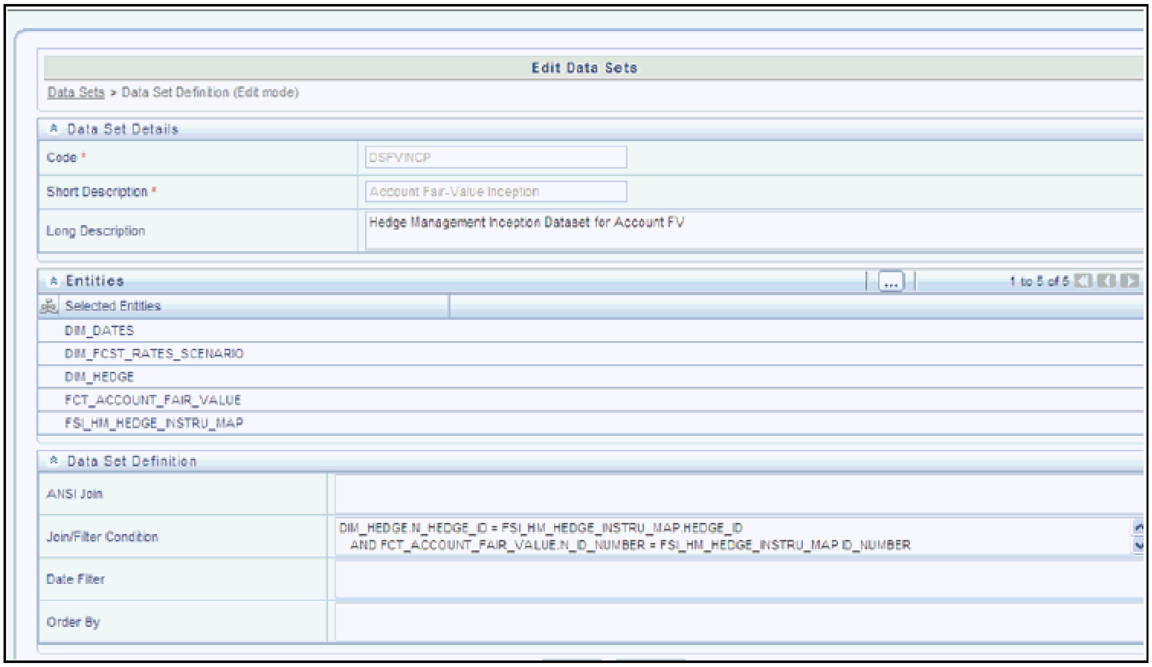
   A dimension will contain one or many hierarchies. Select the hierarchies that are part of the dimension.

14.3 Modify a Dataset

To modify a dataset, follow these steps:

1. From **Unified Metadata Manager**, select **Business Metadata Management**, and then select **Data Sets**.

Figure 48: Data Set Details Page



Edit Data Sets

Data Sets > Data Set Definition (Edit mode)

Data Set Details

Code *	DSFVINCP
Short Description *	Account Fair-Value Inception
Long Description	Hedge Management Inception Dataset for Account FV

Selected Entities
DIM_DATES
DIM_FCST_RATES_SCENARIO
DIM_HEDGE
FCT_ACCOUNT_FAIR_VALUE
FSI_HM_HEDGE_INSTRU_MAP

Data Set Definition

ANSI Join	
Join/Filter Condition	DIM_HEDGE.N_HEDGE_ID = FSI_HM_HEDGE_INSTRU_MAP.HEDGE_ID AND FCT_ACCOUNT_FAIR_VALUE.N_ID_NUMBER = FSI_HM_HEDGE_INSTRU_MAP.ID_NUMBER
Date Filter	
Order By	

2. Identify data sets that are based on the modified fact table.
3. Edit the data set definition.
4. Include the new dimension table in the data set.
5. Modify the data set JOIN to include the join clause between the fact table and the new dimension table.
6. Save the data set.

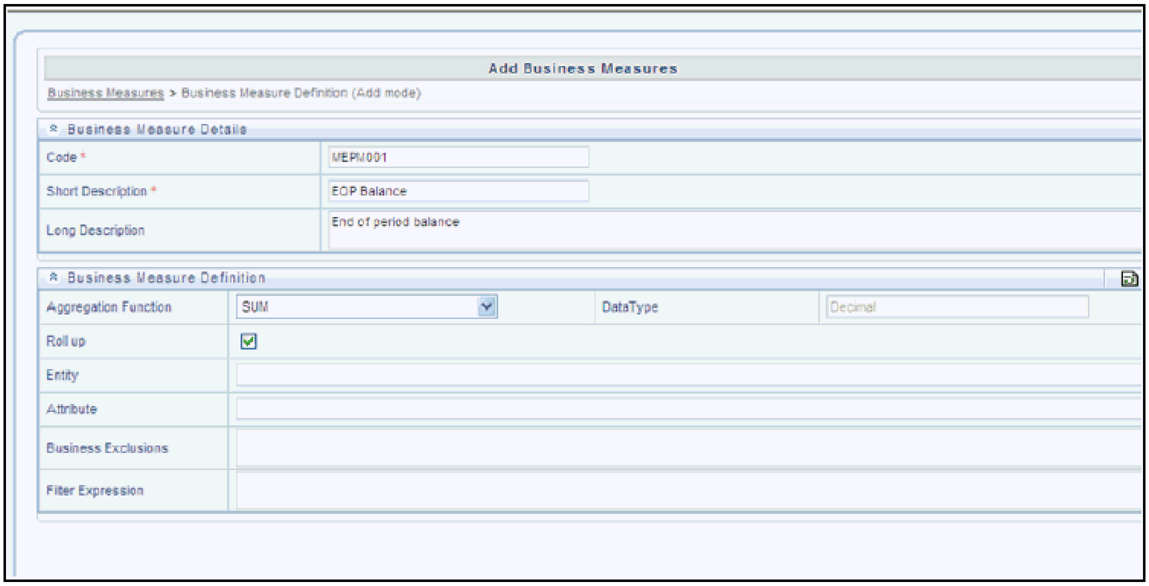
15 Appendix B: How to Define a Measure

As a prerequisite, the fact table needs to have the column that holds values for the new measure.

To create a business measure, follow these steps:

1. From the Unified Metadata Manager, select Business Metadata Management, then select Business Measures.

Figure 49: Business Measure Details Page



Add Business Measures

Business Measures > Business Measure Definition (Add mode)

Business Measure Details

Code *	MEPM001
Short Description *	EOP Balance
Long Description	End of period balance

Business Measure Definition

Aggregation Function	SUM	DataType	Decimal
Roll up	☑		
Entity			
Attribute			
Business Exclusions			
Filter Expression			

2. Click the **Add** icon to create a Business measure definition. In the **Business Measure Definition (Add mode)** window, Select the **Aggregation Function**. The Aggregation Function can be:
   - **SUM**: for summing up the values in the column of the fact table.
   - **COUNT**: for determining the number of records in the fact table.
   - **MAXIMUM**: for identifying the maximum value of a column in the fact table.
   - **MINIMUM**: for identifying the minimum value of a column in the fact table.
   - **COUNT DISTINCT**: for determining the distinct count of records in the fact table.
3. Specify if this measure needs to be rolled up against hierarchies.
4. Select the fact table as part of the Entity.
5. Select the column of the fact table as part of the Attribute. This column will hold the value of the measure.
6. Specify **Business Exclusions** and **Filters**, if required.
7. Save the measure.

16 Appendix C: How to Develop a New Cube

This section details the steps to be performed by the user for developing a new cube. Ensure that the existing cubes do not provide the required analytics or reporting coverage before deciding to define a new cube. In case the user would like to see measures against a new dimension that is not part of the existing seeded metadata, then suggest including the new dimension as part of the existing cubes instead of creating a new cube. As a prerequisite, a user should have defined datasets, measures, hierarchies, and dimensions before defining a cube.

16.1 Procedures to Develop a New Cube

1. Add Cube

   From the **Unified Metadata Manager**, select **Business Metadata Management**, and then select **Cube**. Specify the MDB details that will be created in ESSBASE.

2. Include Dimensions

   Include the dimensions that are part of the cube definition. Users mandatorily need to include TIME and MEASURE dimensions.

3. Specify Variations

   Specify the variations between each of the measures to the respective dimensions. All the measures that are part of the cube need not vary against all of the dimensions. Depending on business needs, variations can be specified to control the rollup of measures against a set of dimensions.

4. Specify Dataset

   Specify the dataset corresponding to the selected dimensions and measures. The data set supplies the required data to the cube.

5. Specify Node Level Formula

   If node level formulae are required for the nodes within the hierarchy, then they can be specified on this screen.

6. Save and Build

   Save the cube. Define and execute batch in ICC to build the cubes.

For more information on Cubes, see the Cubes section under the Unified Metadata Manager chapter in the Oracle Financial Services Analytical Applications Infrastructure User Guide.

17 Appendix D: Define a Batch

Batch refers to a set of executable processes based on a specified rule. Batch Maintenance framework within OFSAAI facilitates you to create and maintain the Batch Definitions. You can process the Batch scheduled for execution from Batch Maintenance and also from other modules.

You need to have a Data Centre Manager function role mapped to access the Operations framework within OFSAAI. You can access Batch Maintenance by expanding the Operations section within the tree structure of the LHS menu. The Batch Maintenance window displays a list of Batches scheduled for maintenance with the other details such as Batch ID, Batch Description, and the editable state of the Batch.

17.1 Batch Creation

To create a batch, follow these steps:

1. From the **OFSAAI Home** menu, navigate to **Operations**, and then select **Batch Maintenance**.
2. In the Batch Maintenance window, select the + icon from the Batch Name toolbar.

   The New Batch Definition window is displayed.
3. Enter the following Batch details:
   - Batch Name: The Batch Name is auto-generated by the system. You can edit to specify a Batch name based on the following conditions:
     - The Batch Name should be unique across the\ Information Domain.
     - The Batch Name must be alpha-numeric and should not start with a number.
     - The Batch Name should not exceed 41 characters in length.
     - The Batch Name should not contain special characters "." and "-".
   - Batch Description: Enter a description for the Batch based on the Batch Name.
   - Duplicate Batch: (Optional) Select the check box to create a new Batch by duplicating the existing Batch details.

     On selection, the Batch ID field is enabled.
   - Batch ID (If duplicate Batch is selected): It is mandatory to specify the Batch ID if Duplicate Batch option is selected.

     Select the required Batch ID from the list.
   - Sequential Batch: Select the check box if the Batch has to be created sequentially based on the task specified. For example, if there are 3 tasks defined in a Batch, task 3 should have precedence as task 2, and task 2 should have precedence as task 1.
4. Click **Save** to save the Batch definition details.

   The new Batch definition details are displayed in the Batch Name section of the Batch Maintenance window with the specified Batch ID.

For more comprehensive coverage of configuration and execution of a batch, refer to the Operations Chapter in Oracle Financial Services Analytical Applications Infrastructure User Guide.

18 Appendix E: Run

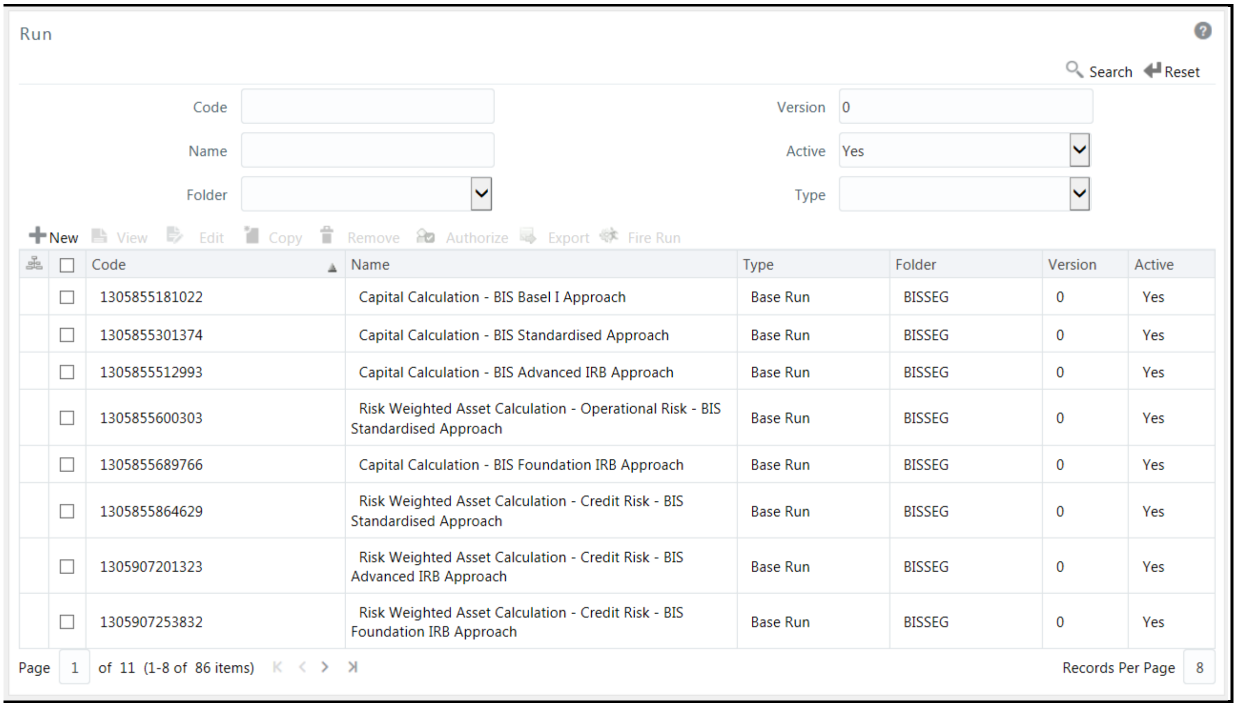
The Run feature in the Rules Run Framework helps you to combine various components and/or processes together and execute them with different underlying approaches. Further, run conditions and/or job conditions can be specified while defining a run.

Two types of runs can be defined namely Base Run and Simulation Run.

- **Base Run** allows you to combine different rules and processes together as jobs and apply run conditions and job conditions.
- **Simulation Run** allows you to compare the resultant performance/ calculations with respect to the baseline runs by replacing an existing job with a simulation job (a job can be a rule or a process). This comparison provides useful insights into the effect of anticipated changes to the business.
- **Instance Run** allows you to combine Base Runs and Simulation Runs in addition to other components from multiple information domains as Jobs. This eliminates the need for having different Run definitions if some Jobs are available in Hive Information Domain and some are present in RDBMS Information Domain.

The Roles mapped for Run module are Run Access, Run Advanced, Run Authorize, Run Read Only, Run Write, and Run Phantom. Based on the roles mapped to your user group, you can access various screens in the Run module.

Figure 50: Run Parameters



Run

Search Reset

Code		Version	0
Name		Active	Yes
Folder		Type	

□	Code	Name	Type	Folder	Version	Active
□	1305855181022	Capital Calculation - BIS Basel I Approach	Base Run	BISSEG	0	Yes
□	1305855301374	Capital Calculation - BIS Standardised Approach	Base Run	BISSEG	0	Yes
□	1305855512993	Capital Calculation - BIS Advanced IRB Approach	Base Run	BISSEG	0	Yes
□	1305855600303	Risk Weighted Asset Calculation - Operational Risk - BIS Standardised Approach	Base Run	BISSEG	0	Yes
□	1305855689766	Capital Calculation - BIS Foundation IRB Approach	Base Run	BISSEG	0	Yes
□	1305855864629	Risk Weighted Asset Calculation - Credit Risk - BIS Standardised Approach	Base Run	BISSEG	0	Yes
□	1305907201323	Risk Weighted Asset Calculation - Credit Risk - BIS Advanced IRB Approach	Base Run	BISSEG	0	Yes
□	1305907253832	Risk Weighted Asset Calculation - Credit Risk - BIS Foundation IRB Approach	Base Run	BISSEG	0	Yes

Page 1 of 11 (1-8 of 86 items) Records Per Page 8

The *Run* window displays the runs created in the current Information Domain with the metadata details such as Code, Name, Type, Folder, Version, and Active status. For more information on how object access is restricted, see Object Security.

You can search for specific runs based on Code, Name, Folder, Version, Active status, or Type. The **Folder** drop-down list displays all Public folders, shared folders to which your user group is mapped, and Private folders for which you are the owner. The Pagination option helps you to manage the view of existing runs within the system.

18.1 Create Run

You can create run definitions using the existing metadata objects. The various components that can be used to form run definitions are mentioned in Process Hierarchy Members. The Write role should be mapped to your user group, from the *User Group Role Map* window.

The following filter conditions can also be applied to a run definition:

Table 19: Filter Conditions applied for Run Definition

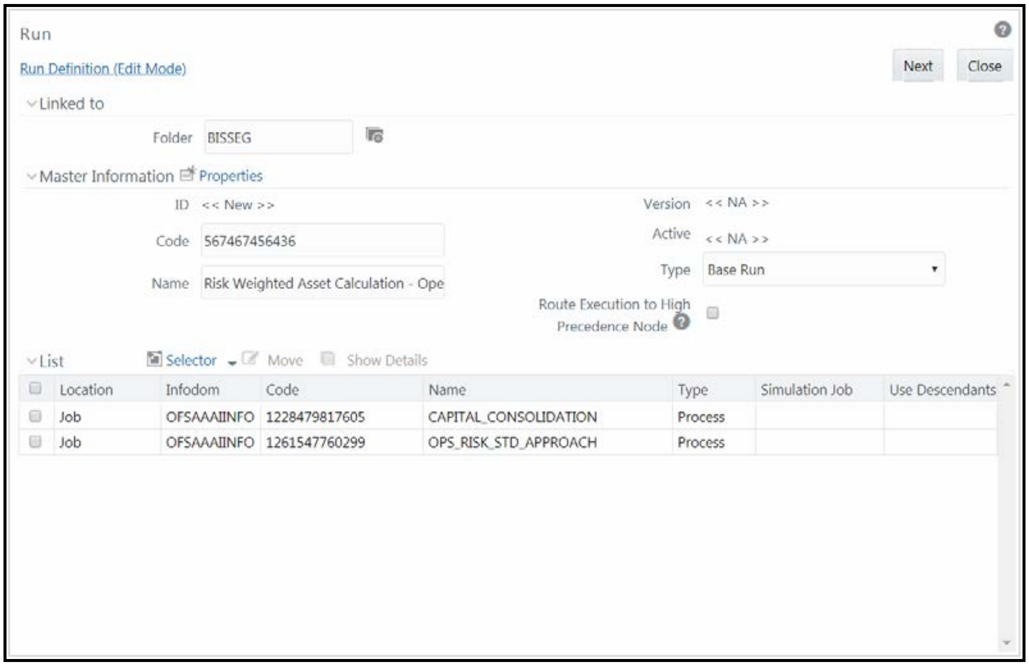
Condition Type	Description
Run Condition	A Run Condition is defined as a filter and all hierarchies (defined in the current information domain) are available for selection. You can select up to 9 run conditions. A Run condition is defined for all Jobs. But it will be applied to a Job only if the underlying target/destination entities of both Job and Hierarchy are common.
Job Condition	A Job Condition is a further level of filter that can be applied at the component level. This is achieved through a mapping process by which you can apply a Job Condition to the required job. You can select only one Job Condition and the hierarchy that you have already selected as a run condition cannot be selected as the Job Condition again.

NOTE Filter conditions are not applicable for Instance Runs.

To create a run definition in the *Run* window, follow these steps:

1. Click the ✚ icon (**New**) from the toolbar. The *Run Definition (New Mode)* window is displayed.

Figure 51: Run Definition (Edit Mode)



Run

Run Definition (Edit Mode)

Linked to

Folder: BISSEG

Master Information Properties

ID: << New >>

Code: 567467456436

Name: Risk Weighted Asset Calculation - Ope

Version: << NA >>

Active: << NA >>

Type: Base Run

Route Execution to High Precedence Node: □

List

□	Location	Infodom	Code	Name	Type	Simulation Job	Use Descendants
□	Job	OFSAAAIINFO	1228479817605	CAPITAL_CONSOLIDATION	Process		
□	Job	OFSAAAIINFO	1261547760299	OPS_RISK_STD_APPROACH	Process		

2. Click the 📁 icon adjacent to the **Folder** field in the *Linked to* the pane. The *Folder Selector* window is displayed. The folders to which your user group is mapped are displayed.

   a. Select the checkbox adjacent to the required folder. Click **OK**.

   b. Click the + icon (**New**) from the List toolbar to create a new folder/segment. For more information, see Segment Maintenance.

   c. Search for a folder by specifying any keyword and clicking 🔍 button.

3. Enter the details of the Master information pane as tabulated below:

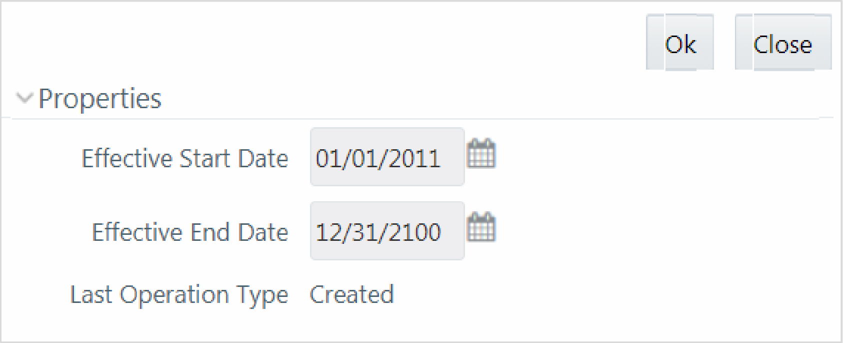
Table 20: Master Information

Field Name	Description
ID	Refers to system-generated ID for a newly created run. When you create a rule, it is displayed as **<<New >>.**
Code	Enter a valid code for the run. Ensure that the code value specified is a maximum of 30 characters in length and it does not contain any special characters except “_”. The code is unique and case sensitive. It is used to identify a run definition during execution. **Note**: You cannot use the same code of a rule which has been deleted from the UI.

Field Name	Description
Name	Enter a valid name for the run. Ensure that Run Name is alphanumeric and does not contain any of the following special characters: #, %, &, +, ", and ~. Note that the name is not required to be unique.
Version	By default, the version field is displayed as **<<NA>>** for the new run being created. Once the run definition is saved, an appropriate version is assigned as either **-1** or **0** depending on the authorization permissions. For more information, see Run Definition Versioning.
Active	By default, the Active field is displayed as **<<NA>>** for the new run being created. Once the run definition is saved, the status becomes **Yes** if you are an authorizer or **No** if the created Run needs to be authorized by an authorizer.
Type	Select the type of the run from the drop-down list. The available types are **Base Run, Simulation Run,** and **Instance Run**.
Route Execution to High Precedence Node	Select the checkbox if you want to route the execution of this Process definition to the high precedence node set up in the AM server.

4. Click the icon (**Properties**) in the Master information grid. The *Properties* window is displayed.

Figure 52: Run Properties



Effective Start Date 01/01/2011

Effective End Date 12/31/2100

Last Operation Type Created

You can edit the following details in the *Properties* window:

- **Effective Start Date** and **Effective End Date**: Effective Dates is not implemented for Run definition.
- **Last Operation Type**: By default, this field displays the last change done to the run definition. While creating a run, the field displays the operation type as Created.

5. Click **OK**. The properties are saved for the current Run definition.

18.1.1 Select Run Condition for Run

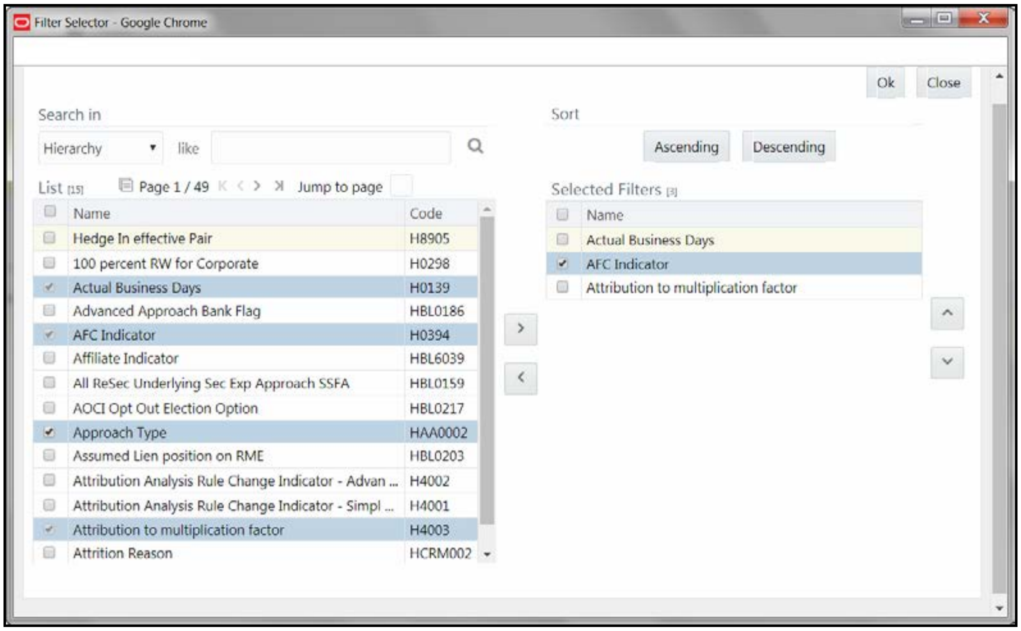
You can select conditions to preset the initialization mechanism of a run definition.

NOTE Run Condition is not applicable for Instance Run.

To select a condition for a run in the *Run Definition (New Mode)* window, follow these steps:

1. Click the icon (**Selector**) from the List toolbar and select the icon (**Run Condition**). The *Filter Selector* window is displayed.

   Figure 53: Filter Selector

   Search in: Hierarchy ▾ like

   List [15] Page 1 / 49 Jump to page

□	Name	Code
□	Hedge In effective Pair	H8905
□	100 percent RW for Corporate	H0298
☑	Actual Business Days	H0139
□	Advanced Approach Bank Flag	HBL0186
☑	AFC Indicator	H0394
□	Affiliate Indicator	HBL6039
□	All ReSec Underlying Sec Exp Approach SSFA	HBL0159
□	AOCI Opt Out Election Option	HBL0217
☑	Approach Type	HAA0002
□	Assumed Lien position on RME	HBL0203
□	Attribution Analysis Rule Change Indicator - Advan ...	H4002
□	Attribution Analysis Rule Change Indicator - Simpl ...	H4001
☑	Attribution to multiplication factor	H4003
□	Attrition Reason	HCRM002

   Selected Filters [3]

□	Name
□	Actual Business Days
☑	AFC Indicator
□	Attribution to multiplication factor

   The List pane displays Hierarchies or Filters based on the option selected in the drop-down list in the *Search in* the pane. The options are:

   - Hierarchy- Displays all Business Hierarchies defined in the information domain.
   - Filter-Data Element- Displays all Data Element Filters defined in the information domain.
   - Filter-Hierarchy - Displays all Hierarchy Filters defined in the information domain.
   - Filter-Group - Displays all Group Filters defined in the information domain.
   - Filter-Attribute - Displays all Attribute Filters defined in the information domain.

2. Select the checkbox adjacent to the Hierarchy or Filter that you want to select as the Run condition and click the › icon.

   To know about the operations you can do in this window, see Filter Selector Hierarchy Selectorwindow.

3. Click **OK**. The selected Hierarchies are listed in the *Run Definition (New Mode)* window.

4. If the selected Run condition is a Parent-Child hierarchy, the **Use Descendants** checkbox is displayed. If the checkbox is selected for a hierarchy, the descendants will be automatically applied and need not be selected in node selection from the Hierarchy Browser window.

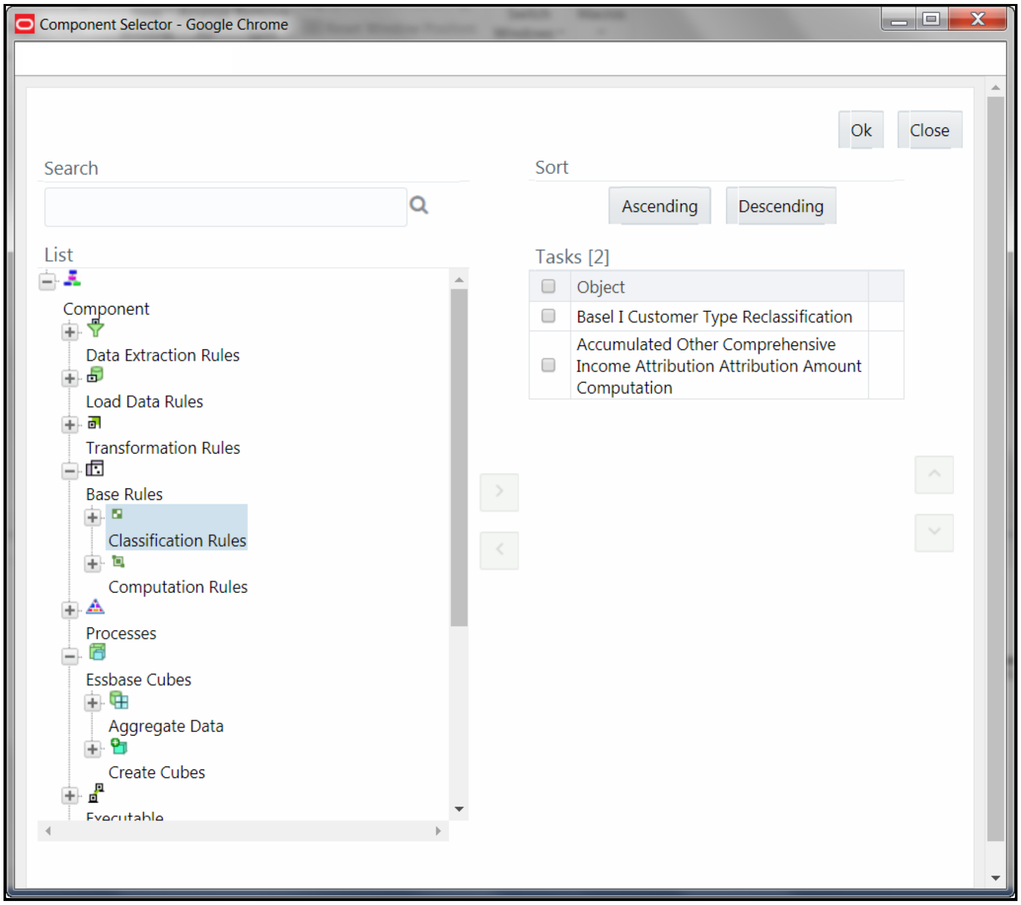
18.1.2 Select Jobs for Run

You can select the required jobs for the run definition being created.

To select jobs for Base and Simulation Run, follow these steps:

1. Click the icon (**Selector**) from the List toolbar and select the icon (**Job**). The *Component Selector* window is displayed.

Figure 54: Component Selector



	Object
□	Basel I Customer Type Reclassification
□	Accumulated Other Comprehensive Income Attribution Attribution Amount Computation

On the **List** pane, you can click the button to expand the members and view the job components. For more information, see Process Hierarchy Members.

2. Select a job component and click the › icon to move the component to the Tasks pane.

> **NOTE** You cannot select different Jobs with the same unique code in a run definition. In such cases, the Jobs should be added to a process and the process should be added to the run definition.

In *Job Selector* window you can also:

- Search for a component by specifying the nearest keyword and clicking . It may not display search results if the branch of that component has not been expanded.
- Click **Ascending** or **Descending** button to sort the selected components in ascending or descending alphabetical order.
- Click the icon or the icon to re-order the selected components.
- Click the icon to add parameters for the selected components.

> **NOTE** Parameters can be given in the format "param1","param1VALUE" or "$PARAM2","param2VALUE". Single quotes should not be used.

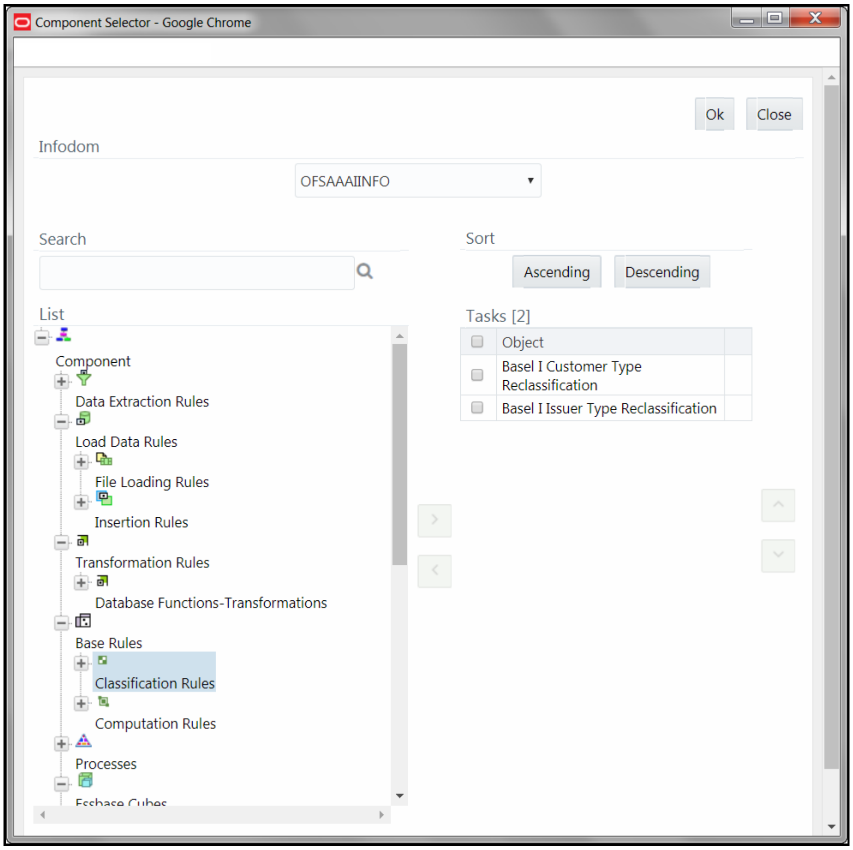
- Click the icon to remove the selected components from the Tasks pane.

3. Click **OK**. The components are listed under the List pane in the *Run Definition* window.

To select Jobs for Instance Run

4. Click the icon (**Selector**) from the List toolbar and select the icon (**Job**). The *Component Selector* window is displayed.

Figure 55: Component Selector



Infodom: OFSAAAIINFO

Tasks [2]

□	Object
□	Basel I Customer Type Reclassification
□	Basel I Issuer Type Reclassification

For Instance Run, you can add Base Run and Simulation Run as Jobs.

5. Select the information domain in which the job component you want to add is present, from the **Infodom** drop-down list. By default, the selected Application's Information Domain is displayed. The drop-down list displays all information domains to which your user group is mapped except sandbox information domains.

6. Select a job component and click the > icon to move the component to the Tasks pane.

   - If you want to add a job component from another information domain, select the required information domain from the drop-down list. The Component list refreshes and you can add the required Job components.
   - For more information see Job Selector.

7. Click **OK**. The components are listed under the List pane in the *Run Definition* window.

18.1.3 Select Job Condition for Run

You can select only a single job condition for the execution of predefined jobs in a run. A hierarchy, which is already selected as a run condition, cannot be selected as a job condition.

NOTE The Cumulative Node Expression for Hierarchy Nodes used as Job Condition in a Run definition should not cross 4000 characters. If it is exceeded, you will get an error while executing the Run definition.

Job Condition is not applicable for Instance Run.

To select the job condition for a run, follow these steps:

1. Click the icon (**Selector**) from the List toolbar and select the ⊞ icon (**Job Condition**). The *Filter Selector* window is displayed.

2. Select the checkbox adjacent to the hierarchy that you want to select as the Job condition and click the > icon.

   To know about the operations you can do in this window, see Filter Selector Hierarchy_Selectorwindow.

NOTE Ensure that you have selected only one Job Condition and the same hierarchy is not selected as both Run and Job conditions.

3. Click **OK**.

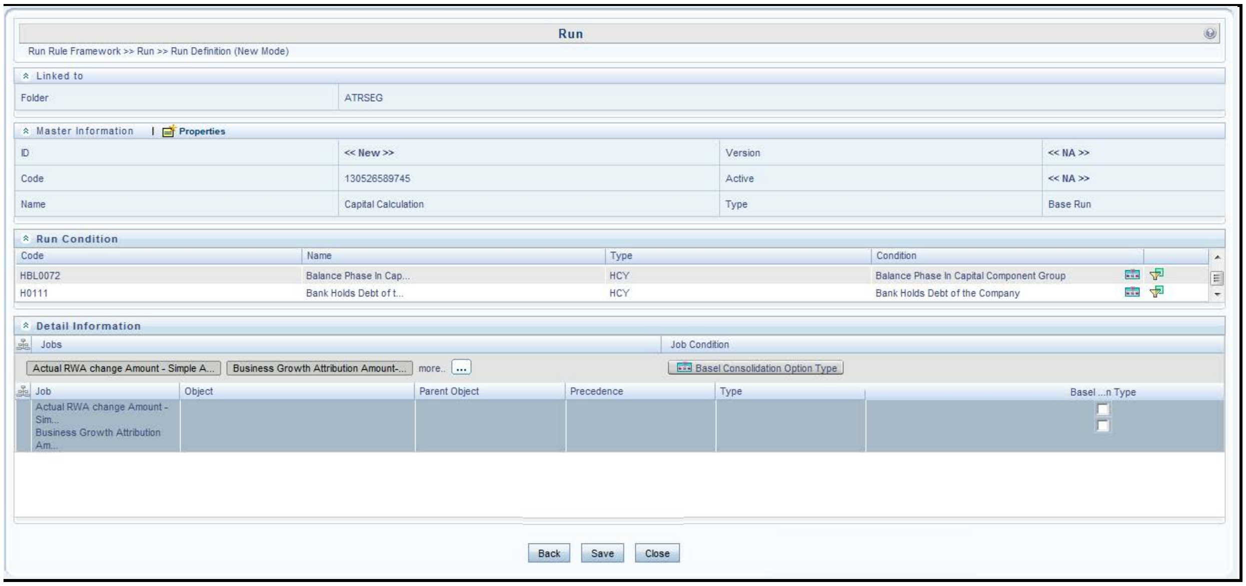
   From the List grid in the *Run Definition (New Mode)* window, you can also:

   - Click the ✎ icon (**Move**) to change a selected run condition to job condition and conversely. For Instance Run, the ✎ **Move** is disabled.

- Click the icon (**Show Details**) to view the metadata information of the selected member.
- If the selected Job condition is a Parent-Child hierarchy, the **Use Descendants** checkbox is displayed. If the checkbox is selected for a hierarchy, the descendants will be automatically applied and need not be selected in node selection from the Hierarchy Browser window.

Once all the necessary information in the first window of the Run Definition (New Mode) is populated, click **Next** to navigate to the concurrent procedures of defining a Rule.

Figure 56: Run Rule Framework – Run Definition New Mode



Run

Run Rule Framework >> Run >> Run Definition (New Mode)

Linked to

Folder	ATRSEG

Master Information | Properties

ID	<< New >>	Version	<< NA >>
Code	130526589745	Active	<< NA >>
Name	Capital Calculation	Type	Base Run

Run Condition

Code	Name	Type	Condition
HBL0072	Balance Phase In Cap...	HCY	Balance Phase In Capital Component Group
H0111	Bank Holds Debt of t...	HCY	Bank Holds Debt of the Company

Detail Information

Jobs: Actual RWA change Amount - Simple A... | Business Growth Attribution Amount-... | more.. ...

Job Condition: Basel Consolidation Option Type

Job	Object	Parent Object	Precedence	Type	Basel ...n Type
Actual RWA change Amount - Sim...					☐
Business Growth Attribution Am...					☐

The second window of *Run Definition (New Mode)* window displays all the information you have provided in the Linked to and Master information grids. You can view the selected filters in the Run Condition grid and selected jobs along with the job condition in the Detail Information grid in case of Base Run and Simulation Run. For Instance Run, only jobs will be displayed.

Expand a job which is a process, then the Object, Parent Object, Precedence, and Type columns are populated.

18.1.4 Hierarchical Member Selection

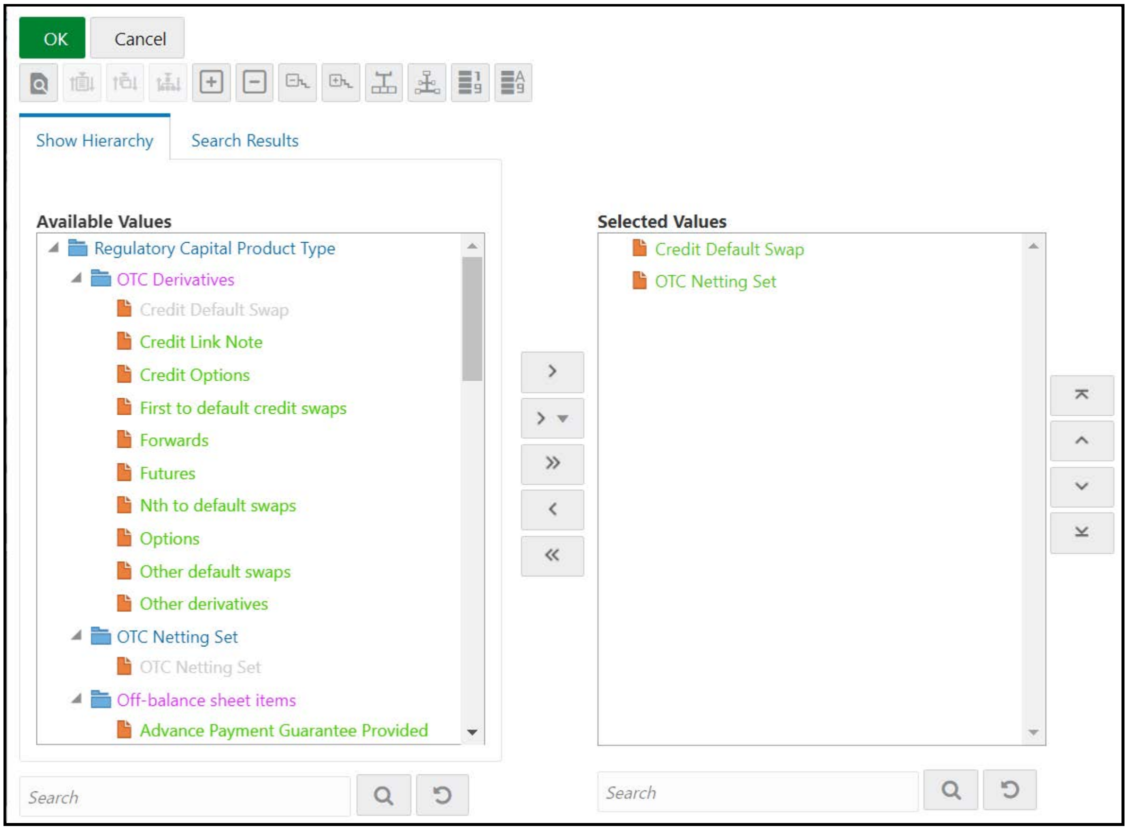
In the Run Condition grid, you can modify the run conditions by including hierarchical members.

> **NOTE** This option will be available only if you have selected Hierarchy as the Run condition.

To modify a run condition, follow these steps:

1. Click the icon corresponding to the run condition you want to modify. The *Hierarchy Browser* window is displayed.

Figure 57: Hieracrchy Selection



2. Select a member/node and click the › ▾ icon to select the same. Click the ▾ icon to select the member as Self, Self & Descendants, Self & Children, Parent, Siblings, Children, Descendants, or Last Descendants. For more information, see Hierarchical Member Selection Modes.

   In the *Hierarchy Browser* window you can also:

   - Click the icon to sort members based on the path.
   - Click the icon to sort the hierarchy (top to bottom).
   - Click the icon to sort based on level.
   - Click the ⊟ icon to collapse or click the ⊞ icon to expand the members under a node respectively.
   - Click the icon to collapse or click the icon to expand the selected branch respectively.
   - Click the icon to focus only on the selected branch. The *Available Values* pane shows the members of the selected branch only. Click the icon to go back to the normal view.

- Click the icon to display member's numeric codes on the right. The icon changes to .
- Click the icon to display member's numeric codes on the left. The icon changes to .
- Click the icon to show only member names. This is the default view. The icon changes to .
- Click the icon to display member's alphanumeric codes on the right. The icon changes to .
- Click the icon to display member's alphanumeric codes on the left. The icon changes to .
- Click the icon to display only member names. This is the default view. The icon changes to .
- Select a member and click the icon or the icon to re-arrange the members in the *Selected Values* pane.
- Select a member and click the icon to move it to the top or click the icon to move it to the bottom.
- Click the icon to launch the Search panel. Here you can search based on **Dimension Member Numeric Code**, **Dimension Member Name,** or **Dimension Member Alphanumeric Code**. You can also search in the grid based on member name using the **Search** field.

3. Click the icon corresponding to the run condition to view the SQL query. The SQL query is formed based on the hierarchical member selection mode. The *Preview SQL Query* window is displayed with the resultant SQL equivalent of the run condition.

   The *Detail Information* grid displays the jobs and job condition defined for the run definition.

   - Click the icon adjacent to the job names to re-order the selected jobs.
   - Click the icon beside the job condition to launch the *Hierarchy Browser* window. This option will be available only if a Hierarchy is selected as the Job condition.
   - Select the checkbox corresponding to the job if you want to apply the Job condition to that job.
   - Click a job to view its definition details. For example, if it is a Rule, the *Show Details* window displays the *Rule Definition (View Mode)* window.

   You can click **Back** to navigate back to the first page of the *Run Definition (New Mode)* window to modify any details.

Once all the necessary details are entered, click **Save**. If you are an authorizer, the version of the run definition will be **0**, else it will be **-1**.

The Audit Trail section at the bottom of the *Run Definition (New Mode)* window displays metadata information about the Run definition created. The User Comments section facilitates you to add or update additional information as comments.

18.2 View Run Definition

You can view individual run definition details at any given point. To view the existing Run definition details in the *Run* window, follow these steps:

1. Select the checkbox adjacent to the Run Code whose details are to be viewed.
2. Click the icon in the List toolbar.

   The *Run Definition (View Mode)* window is displayed with all the details of the selected Run. Click **Next** and **Back** buttons to navigate back and forth in the Run *Definition (View Mode*) window.

18.3 Edit Run Definition

You can modify all the details except ID, Code, Version, Active Status, and Type of a run definition. To modify an existing run definition in the *Run* window, follow these steps:

1. Select the checkbox adjacent to the Run Code whose details are to be updated.
2. Click the icon (**Edit**) in the List toolbar. The Edit button is disabled if you have selected multiple Runs. The *Run Definition (Edit Mode)* window is displayed.
3. Edit the Run details as required. For more information, see Create Run.
4. Click **Save** to save the changes.

18.3.1 Run Definition Versioning

For an authorizer:

When you create a new run, its version will be **0.** When you edit an existing run and try to save, you are prompted whether to save it as a new version or not. If you click **Yes**, a new run is created with the version as **0** and the run having version as **0** will be saved with the version as maximum version +1. If you click **No**, the existing run is overwritten and the version will be as it is.

For a non-authorizer:

When you create a new run, its version will be **-1**. Once the run is approved by an authorizer, the version becomes **0**. When you edit an existing run and try to save, you are prompted whether to save it as a new version or not. If you click **Yes**, a new run is created with the version as **-1**. Once the run is approved, its version becomes **0** and the run having version as **0** will be saved with the version as maximum version +1. If you click **No**, the existing run is overwritten, and the **Active** flag of the run becomes **N** (which you can view from the *Summary* window). The version remains the same. Once the run gets approved, its **Active** flag changes to **Y**.

NOTE

- The run with version 0 is the latest one and it can have many versions say 1 to n, where 1 is the oldest run and n is the next to the latest.
- A run with version -1 will always be in an Inactive state.

You can view all the versions of a particular rule by providing the run's name or code and clicking **Search** in the Search and Filter grid. (Ensure the **Version** field is cleared since it is auto-populated with **0**).

18.4 Copy Run Definition

This option facilitates you to quickly create a new run definition based on an existing run by updating the values of the required fields.

To copy an existing Run Definition in the *Run* window, follow these steps:

1. Select the checkbox adjacent to the Run Code whose details are to be duplicated.
2. Click the icon (**Copy**) in the List toolbar to copy a selected Run definition. The *Run Definition (Copy Mode)* window is displayed. Copy button is disabled if you have selected multiple Runs.

   In the *Run Definition (Copy Mode)* window you can:

   - Create a new Run definition with existing variables. Specify a new **Run Code** and **Folder**. Click **Save**.
   - Create a new Run definition by updating the required variables. Specify a new **Run Code**, **Folder**, and update other required details. For more information, see Create Run. Click **Save**.

The new Run definition details are displayed in the *Run* window. By default, version **0** is set if you have authorization rights, else the version is set to **-1**.

18.5 Authorize Run Definition

All the actions in a run definition should be approved by an authorizer. An authorizer can approve a pre-defined run definition for further execution or reject an inappropriate run definition listed within the *Run* window. To approve/ reject run definitions in the *Process* window, you need to have the Authorize role mapped to your user group.

If you are an authorizer, the run definition is auto-approved as you save it and the **Active** status is set to **Yes**. Otherwise, the **Active** status is set to **No** and an authorizer needs to approve it to change the **Active** status to **Yes**.

To approve/reject runs, follow these steps:

1. Select the checkbox(s) adjacent to the required Run Codes.
2. Do one of the following:

   - To approve the selected run definitions, click **Authorize,** and select **Approve**.

- To reject the selected run definitions, click **Authorize** and select **Reject**.

A run is made available for use only after the approval. For a rejected definition a comment with the rejection details will be added.

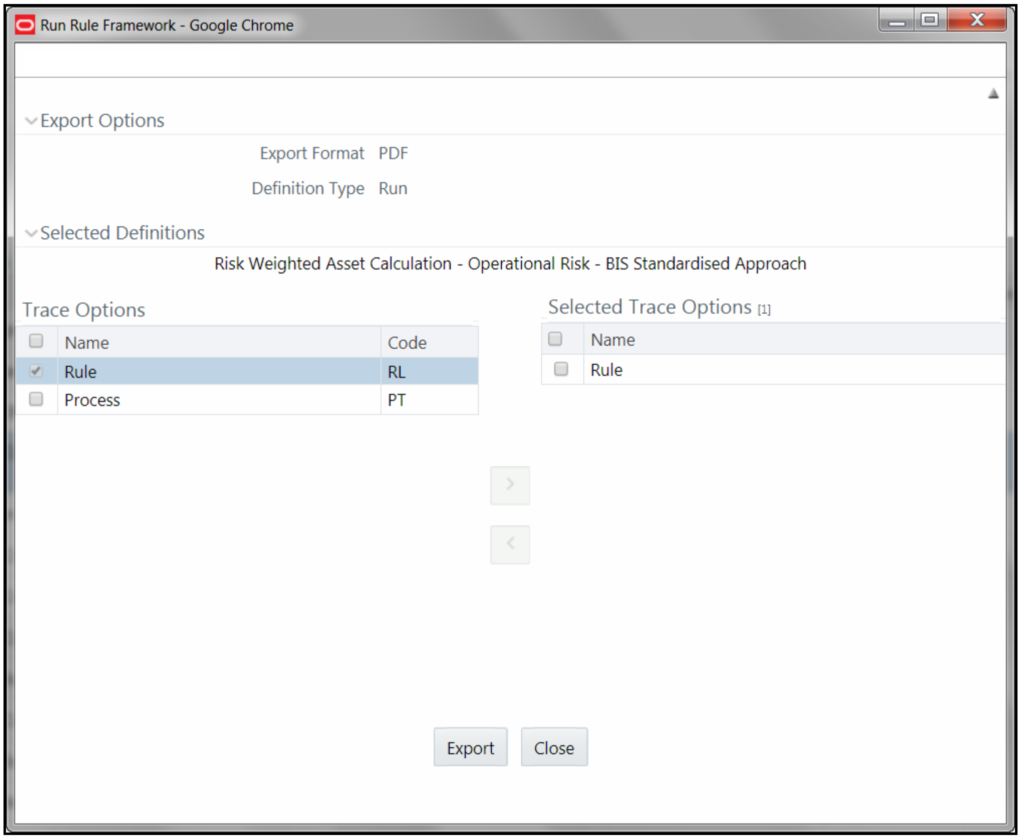
18.6 Export Run to PDF

This option allows you to export multiple run definitions to a PDF file. You have the option to export only the rules or processes in the run definition to PDF by selecting the required Trace Options. In the case of Instance Run, you can select Runs that you want to export, apart from Rules and Processes.

To export the run definitions in the *Run* window, follow these steps:

1. Select the checkbox(s) adjacent to the required Run Codes.
2. Click the icon (Export) in the List toolbar and click the PDF button in the pop-up window. The Export dialog box is displayed.

Figure 58: Run Rule Framework – Export Options



Export Options

Export Format PDF

Definition Type Run

Selected Definitions

Risk Weighted Asset Calculation - Operational Risk - BIS Standardised Approach

Trace Options

□	Name	Code
☑	Rule	RL
□	Process	PT

Selected Trace Options [1]

□	Name
□	Rule

The Export dialog displays the Export Format, Definition Type, the names of the Selected Definitions, and the Trace Options.

- Select the checkbox adjacent to Rule or Process if you want to export only the rule details or Process details respectively. If you do not select any checkbox, all details of the selected run definitions will be exported.
- Click the > .icon. The selected options are displayed in the Selected Trace Options pane. You can also select a trace option and click the < icon to deselect it from the Selected Trace Options pane.

3. Click **Export**. The process is initiated and is displayed in a pop-up specific to the current download. Once the PDF is generated, you can open/save the file from the File Download dialog.

You can either save the file on the local machine or view the file contents in a PDF viewer. The downloaded PDF displays all the details such as Linked to, Properties, Master info, Audit Trail, List, and Comments of all the Run definitions selected.

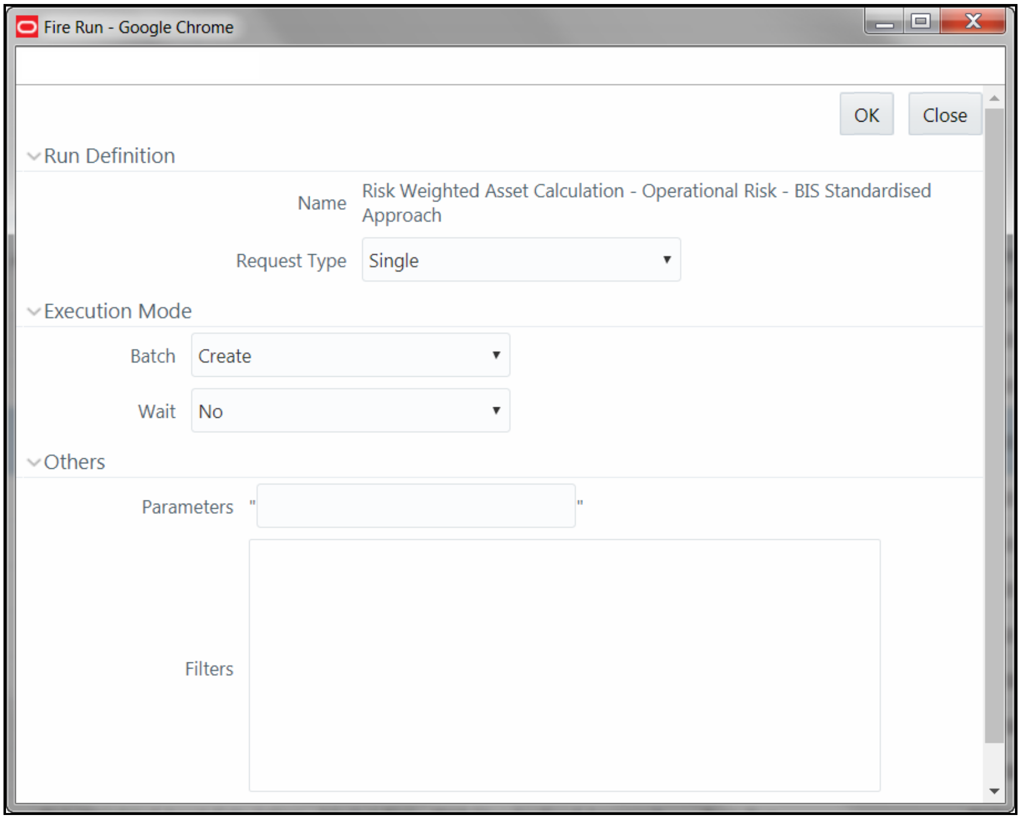
18.7 Fire Run

This feature facilitates you to execute a previously created Run. You can execute the run definition as a batch from the Operations module.

To execute a run definition, follow these steps:

1. Select the checkbox adjacent to the Run Code which you want to execute and click **Fire Run** in the List toolbar. The *Fire Run* window is displayed.

Figure 59: Fire Run



Fire Run - Google Chrome

Run Definition

Name Risk Weighted Asset Calculation - Operational Risk - BIS Standardised Approach

Request Type Single

Execution Mode

Batch Create

Wait No

Others

Parameters " "

Filters

2. Enter the field details as below:
   a. **Name**: This field displays the name of the selected run.
   b. **Request** Type: Select the request type either as **Single** or as **Multiple** from the drop-down list.
      — **Single Request:** You need to provide the MIS Date during Batch execution from the Operations module.
      — **Multiple Request**: You can run the batch with the same MIS date multiple times from the Operations module.
   c. **Batch**: Select the Batch either as Create or as Create & Execute from the drop-down list
      — **Create**: The batch will be created and needs to be executed from the Operations module.
      — **Create & Execute**: The batch will be created and executed. You can monitor it from the Operations module.
   d. MIS Date: Click the 📅 to display the Calendar. Select the MIS Date from the calendar.

      This field is displayed only if you have selected Request Type as **Multiple** with any of the Batch mode or Request Type as **Single** with Batch mode as **Create & Execute**.
   e. Wait: Select **Yes** and provide the Duration in seconds after which the run definition should be executed.

      Select **No** to execute it immediately.
   f. Parameters: Enter the required parameters in the field provided.

      The parameter provided in this field is considered for Run execution.
   g. Filters: Enter the filter details in the field provided.

      The filters provided in this field are considered for Run execution.
3. Click **OK**. The details are saved and the run definition is executed as per the Fire Run details. For information on runtime parameters supported during run execution, see Passing Runtime Parameters section.

18.8 Delete Run Definition

You can remove the Run definition(s) which are no longer required in the system by deleting from *Run* window. However, it is a soft deletion only. An authorizer has to approve the deletion.

To delete a run definition, follow these steps:

1. Select the checkbox(s) adjacent to the Run Codes whose details are to be removed.
2. Click the 🗑 icon from the List toolbar.
3. Click **OK** in the information dialog to confirm the deletion.

An information dialog is displayed confirming the deletion of the Run definitions and asking the authorization of the same.

OFSAA Support

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

Send Us Your Comments

Oracle welcomes your comments and suggestions on the quality and usefulness of this publication. Your input is an important part of the information used for revision.

- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?

If you find any errors or have any other suggestions for improvement, indicate the title and part number of the documentation along with the chapter/section/page number (if available) and contact the Oracle Support.

Before sending us your comments, you might like to ensure that you have the latest version of the document wherein any of your concerns have already been addressed. You can access My Oracle Support site that has all the revised/recently released documents.

ORACLE